KWEL ROAD STRUCTURE PLAN

VARIOUS LOTS – KWEL ROAD, ALDERSON STREET AND POLLARD STREET
PINJARRA

OUR REF: 7767 1/09/2016

ROWEGROUP

DOCUMENT CONTROL

Printed 07 September 2020 7767_16aug01R_rd

Version	File Name	Prepared by	Approved by	Date
1	7767_14may01R_pf	Sam Jeleric	Peter Fitzgerald	30/03/2014
2	7767_14nov01R_rd	Reyne Dial	Kim Kyle	11/12/2014
3	7767_15sep01R_rd	Reyne Dial	Kim Kyle	09/10/2015
4	7767_nov01R_rd	Reyne Dial	Kim Kyle	20/01/2016
5	7767_16aug01R_rd	Reyne Dial	George Hajigabriel	01/09/2016

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RECORD OF ENDORSEMENT

This structure plan is prepared under the provisions of the Shire of Murray Town Planning Scheme No.4

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON: 6 October 2016

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, in the presence of:

_____ Witness

7 October 2016 Date

Date of Expiry: 30 June 2030

TABLE OF AMENDMENTS

Amendment No.	Summary of Amendment	Amendment Type	Date approved by WAPC
1	1. Clarifying the purpose and effect of the 500m buffer from the nearby canola oilseed processing plant located on Lot 812 Greenlands Road, Pinjarra. 2. Deleting 'Investigation Area' from the structure plan and deleting related provisions from Part 1 and the explanatory text in Part 2. 3. Modifying several figures consistent with the above.	Standard	19 August 2020

EXECUTIVE SUMMARY

The structure plan covers an area of approximately 22.6 hectares of Residential Development zoned land in South Pinjarra approximately 500m west of the Pinjarra townsite. The site is bordered by the Pollard Street to the west. To the north and east, the site adjoins Kwel Road and Alderson Street, which abuts both Regional Open Space and low density residential land. Paceway Court borders the southern boundary of the site.

The structure plan will accommodate single residential lots (approximately 330 dwellings) at a range of densities (from R25 to R40) and a small commercial site to act as a local centre for the structure plan area (subject to rezoning). The structure plan proposes an area of contiguous Public Open Space, which accommodates drainage function and vegetation retention as well as providing opportunities for recreational activities.

The structure plan is based on contemporary planning principles with density yields appropriate to the area in line with current strategic planning principles.

The preparation of this structure plan has been undertaken in liaison with both the Shire of Murray and Department of Planning.

Structure Plan Summary Table

Item	Data	Section number referenced in report (Part 2)
Total area covered by the structure plan	22.6 hectares	1.2.2
Area of each land use proposed:		4.1
Residential	14.2 hectares	
Industrial	0 hectares	
Commercial	0.24 hectares	
Estimated lot yield	340 lots (excluding Commercial zone)	4.3
Estimated number of dwellings	340 dwellings	4.3
Estimated residential site density	23.2 dwellings per site hectare 14.6 dwellings per gross hectare	4.3
Estimated population	884 people	4.3
Number of high schools	0 high schools	4.6
Number of primary schools	0 primary schools	4.6
Estimated commercial floor space (for activity centres if appropriate)	500m^2 (Local Centre)	4.7
Estimated area and % of public open space:	2.5 hectares, 11.1%	4.2
Regional open space	0 hectares, 0%	
District open space	0 hectares, 0%	
Estimated area and number		4.2
neighbourhood parks	1.9 hectares, 1 park	
local parks	0.6 hectares, 1 park	
Estimated number and area of natural area and biodiversity assets	nil	4.2

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12. Movement Network Plan
13. Indicative Staging Plan

TECHNICAL APPENDICES

Appendix Number	Document Title	Nature of Document	Referral/Approval Agency	Summary of Document Modifications
1.	Certificates of Title	Information only	-	
2.	Local Water Management Strategy	Approval Required	Department of Water	
3.	Transport Assessment Report	Supporting	Shire of Murray	
4.	Vegetation Assessment	Supporting	Department of Parks and Wildlife	
5.	Fire Management Plan	Approval Required	Department of Fire and Emergency Services	
6.	DPAW Correspondence	Supporting	Department of Parks and Wildlife	
7.	Engineering Services Report	Supporting	Shire of Murray	
8.	Indigenous Heritage Survey	Supporting	Shire of Murray	
9.	Landscape Master Plan	Supporting	-	

Part One
IMPLEMENTATION

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1. Structure Plan Area

The Kwel Road Structure Plan (hereafter referred to as the structure plan) applies to Lots 11, 193, 196 & 198 Alderson Street and Lot 10 Paceway Court and Lots 195 & 197 Pollard Street, Pinjarra being the land contained within the inner edge of the line denoting the structure plan boundary on the structure plan map (Plan 1).

2. Operation

The date this structure plan comes into effect is the date of the structure plan being approved by the Western Australian Planning Commission.

3. Staging

Subdivision and development should proceed in stages, generally in accordance with Figure 13.

4. Subdivision and Development Requirements

The structure plan outlines land use zones and reserves applicable within the structure plan area in accordance with the zones and reserves listed in the local planning scheme.

4.1 Industrial Buffer Requirements

4.1.1 Oilseed Processing Plant Buffer

Portion of the structure plan area is located within a 500 metre nominal buffer from the oilseed processing plant located on Lot 812 (No. 172) Greenlands Road, Pinjarra and may be impacted by potential odour impacts arising from the operations of the processing plant. The extent of the nominal buffer is consistent with the recommendations of the Environmental Protection Authority's *Guidance Statement No.3: Separation Distances between Industrial and Sensitive Land Uses* and *State Planning Policy 4.1: State Industrial Buffer Policy.*

4.2 Response To Hazards And Separation Requirements

Bushfire attack level contour maps or assessments and, if required, bushfire management plans may need to be prepared and submitted for subdivision applications within the structure plan area, demonstrating compliance with the requirements of *State Planning Policy 3.7: Planning in Bushfire Prone Areas.* Bushfire attack level assessments should consider the impact of surrounding bush fire prone areas on the subdivision and development of land within the structure plan area and account for the staging of development.

Dwellings located in areas identified as requiring increased building protection measures are to be constructed in accordance with the requirements of the *Australian Standard 3959: Construction of buildings in bushfire-prone areas* under the *Building Code of Australia*.

4.3 Public Open Space

Public Open Space should be provided in accordance with the structure plan, when approved.

4.4 Residential Densities and Development Standards

4.4.1 Dwelling Targets and Residential Density

<u>Dwelling Targets</u>

It is intended that the structure plan area accommodate a minimum of 340 dwellings, with an average of at least:

a) 22 dwellings per site hectare across the structure plan area; and

b) 15 dwellings per gross hectare across the structure plan area.

Residential Density

Plan 1 sets out the residential density codes that apply to the structure plan area.

Subdivision applications should demonstrate how the proposed subdivision meets (as a minimum) the density targets set out above. In doing so, the landowner/applicant should include a summary of the proposed dwelling yield of the subdivision.

4.4.2 Variation of Residential Design Codes Provisions

A local planning policy should be adopted or local development plans should be approved to vary the provisions of *State Planning Policy 3.1: Residential Design Codes* for residential lots fronting Paceway Court, Pollard Street, Alderson Street and Kwel Road. These provisions should be varied to ensure that these lots are developed in a manner that provides an appropriate transition to surrounding land zoned Rural and Special Use: Residential/horse training, trotting and stabling zoned land in the local planning scheme.

4.5 Commercial Development Standards

Land identified for commercial development in the structure plan is to be appropriately rezoned under the local planning scheme prior to it being developed for commercial purposes. In this regard, the current zoning of the structure plan area under the local planning scheme, Residential Development does not allow for commercial development.

Development of land identified for commercial development, in the structure plan, should be in accordance with a local development plan approved by the Shire of Murray.

The site identified for commercial development should have a maximum net lettable area of 500m^2. Any development proposal which seeks a larger net lettable area should be supported by a retail needs assessment which justifies the need for the additional net lettable area. This assessment should be endorsed by the Shire of Murray.

5. Local Development Plans

Local development plans may need to be prepared for lots:

a) identified for commercial;

b) identified for Residential and fronting Paceway Court, Pollard Street, Alderson Street and Kwel Road where development should provide a suitable transition to surrounding land zoned Rural or Special Use: Residential/horse training, trotting and stabling in the local planning scheme;

c) immediately adjoining public open space;

d) abutting a rear laneway;

e) where it is important to control vehicle access and egress;

f) of an irregular shape or with an area of less than 350m^2;

g) which are narrow and require special conditions to be set;

h) subject to fire management requirements; and

i) where otherwise deemed appropriate by the Shire of Murray.

Where necessary, local development plans should address the following matters:

a) Building envelope(s) – ground and upper floor setbacks, building envelopes, north boundary setback for solar access, nil setbacks.

b) Parking – location (mandatory or desired), potential additional parking for duplex-sized lots.

c) Vehicle access – location of vehicle access points, particularly where laneway access is available.

d) Fencing – heights, detailing, retaining walls, developer-provided fencing.

e) Services – easements.

f) Private open space – location of strategically important outdoor living area.

g) Landscaping – location of existing trees to be retained in the street or in lots (as agreed with the Local Government).

h) Ancillary dwellings and/or studio dwellings, home business or home workspace – potential location and size, parking provision and location.

i) Encroachments – reciprocal rights of way, party walls.

j) Variations from *State Planning Policy 3.1: Residential Design Codes*.

k) Mechanisms for expiry or variations of local development plans.

Local development plans should be consistent with the *Framework for Local Development Plans*.

6. Other Requirements

6.1 Notifications

Notifications may be placed on the certificate of title of lots in the following circumstances:

a) those lots affected by the structure plan's buffer area, a notification on title may be required to alert prospective landowners of potential odour impacts arising from Lot 812 Greenlands Road, Pinjarra;

b) those lots affected by bushfire risk, in accordance with the Western Australian Planning Commission's State Planning Policy No 3.7 – Planning in Bushfire Prone Areas and associated Guidelines; and

c) those lots affected by mosquito breeding areas (as identified in future subdivision stage). the potential odour impacts that may arise from the operations of the oilseed processing plant located on Lot 812 Greenlands Road, Pinjarra

6.2 Infrastructure Requirements

With regard to the structure plan area, it may be necessary to require developers contribute to:

a) ceding and developing land for public open space in accordance with the structure plan and *Liveable Neighbourhoods*;

b) the construction and/or upgrading or roads and footpaths within the surrounding structure plan area. Works should include the provision of dual use paths, undergrounding of overhead power lines, intersection treatments, drainage and street trees;

c) the construction of vehicular and pedestrian connections to the Pinjarra townsite to the north;

d) acquiring land required for road widening purposes;

e) acquiring land required for drainage purposes and the construction of internal and external drainage infrastructure necessary to drain the structure plan area;

f) implement relevant bushfire risk management measures within the structure plan area as required by any bushfire management plan and in accordance with the requirements of *State Planning Policy 3.7: Planning in Bushfire Prone Areas*; and

g) The cost of preparing and administering developer contributions.

6.3 Funding Arrangements

Due to the fragmented nature of land ownership within the structure plan area, it will be necessary to coordinate contributions (made by landowners and/or developers) towards infrastructure and the ceding of land required to support the subdivision and development of land within the structure plan area. In this respect, a development contribution plan should be prepared for the structure plan area, which should be finalised and given effect prior to the granting of subdivision approval for land in the structure plan area.

6.4 Development of Lot 196 Alderson Street, Pinjarra

Prior to any residential subdivision or development of Lot 196 Alderson Street, Pinjarra, the following technical reports are to be prepared and finalised:

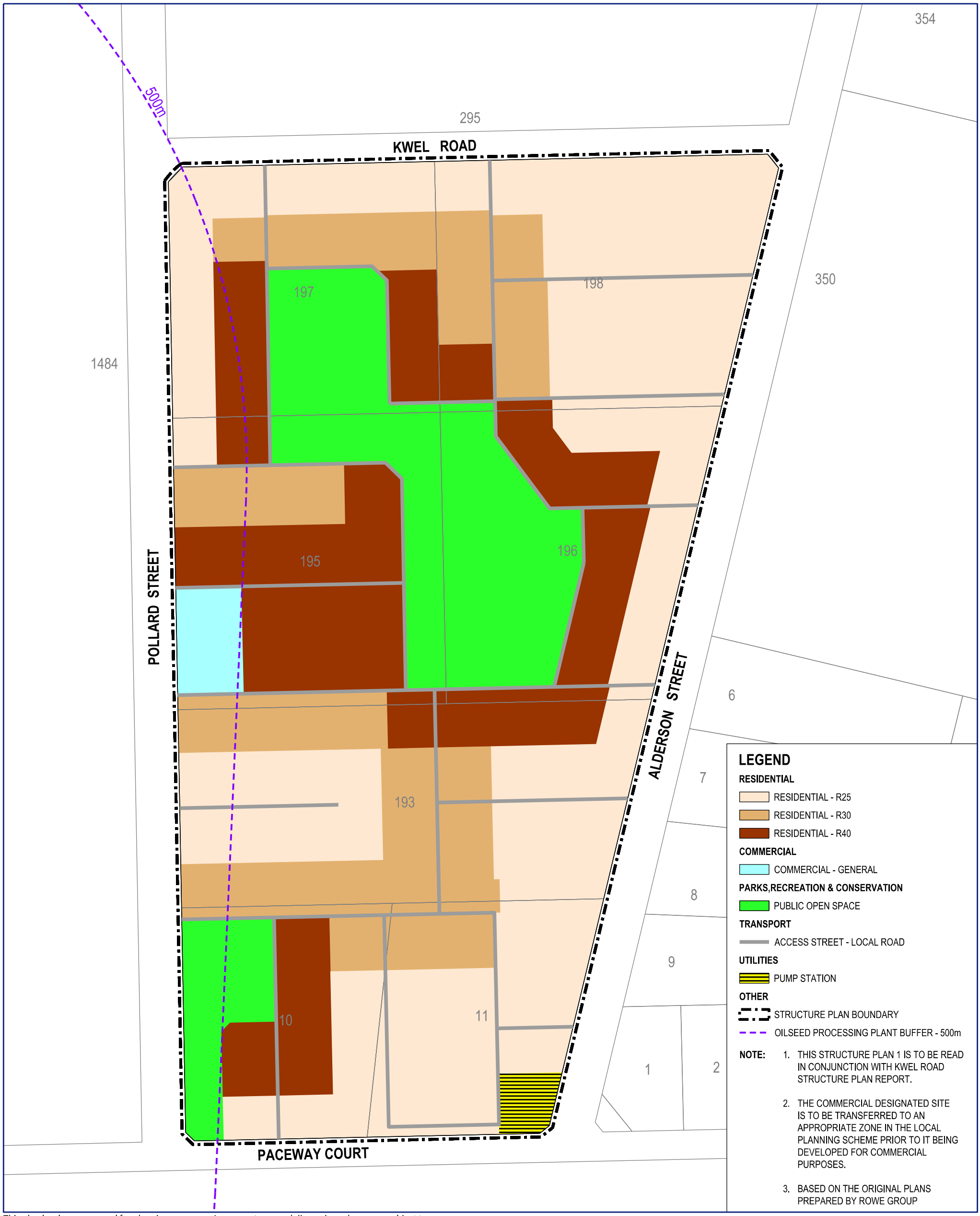
a) flora and vegetation survey;

b) bushfire management plan; and

c) aboriginal heritage survey.

7. Additional Information

Additional Information	Approval Stage	Consultation Required
Transport Assessment	Submit with subdivision application.	Shire of Murray
Tree Survey / Retention Plan	Condition of subdivision approval.	Shire of Murray
Urban Water Management Plan	Condition of subdivision approval.	Shire of Murray / Department of Water
Bushfire Attack Level Assessment / Bushfire Management Plan	Submit with subdivision application.	Shire of Murray / Department of Fire and Emergency Services
Public Open Space Development and Management Plan	Condition of subdivision approval.	Shire of Murray
Acid Sulfate Soils Assessment	Submit with subdivision application.	Shire of Murray
Mosquito Management Plan	Condition of subdivision approval.	Shire of Murray / Department of Health
Contaminated Site Assessment	Submit with subdivision application.	Department of Environmental Regulation
Local Development Plan(s)	Condition of subdivision approval.	Shire of Murray



This plan has been prepared for planning purposes. Areas, contours and dimensions shown are subject to survey.

STRUCTURE PLAN

Lots 10, 11, 193, 195, 196, 197 and 198
Kwel Road, Pinjarra
Plan 1

Plan No. 18-0014-SP-01D

DATE	27.07.2020
CO-ORDINATES	MGA 50
AERIAL	N/A
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Part Two

EXPLANATORY SECTION

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01 Planning Background

1.1 Introduction and Purpose

This structure plan has been prepared on behalf of the landowners of Lots 11,193, 196 & 198 Alderson Street and Lots 10,195 & 197 Pollard Street, Pinjarra (the 'subject site') as a precursor to subdivision for land zoned 'Residential Development' under the provisions of the *Shire of Murray Town Planning Scheme No. 4*.

The intent of the structure plan is to facilitate a comprehensive review of land use and subdivision design over the subject site in order to allow it to be developed in a manner that is cognisant of contemporary planning principles, policies and practices.

The structure plan will guide future land use and development over the subject site and provide a framework for more detailed planning at subdivision. This Part 2 of the structure plan provides explanation for the Part 1 provisions.

1.2 Land Description

1.2.1 Location

The subject site is located within the municipality of the Shire of Murray, in the locality of Pinjarra. The subject site is approximately 85 kilometres south of the Perth CBD, 17 kilometres south east of the Mandurah City Centre and approximately 1.9 kilometres south west of the Pinjarra Town Centre.

The subject site is bound by Paceway Court (formerly Greenlands Road alignment) to the south, Alderson Street to the east, Kwel Road to the north and Pollard Street to the west. The aforementioned roads are a combination of sealed, gazetted and unmade gazetted roads.

Refer to Figure 1, 2 and 3 – Context Plan, Regional Location and Locality Plan.

1.2.2 Area and Land Use

The structure plan area comprises approximately 22.6 hectares currently accessed by Paceway Court, which connects to South Western Highway in the east.

The LSP area comprises rural properties ranging in size from approximately 2.1 hectares through to 4.2 hectares, which are currently being utilised for rural and rural-residential activities. A number of existing dwellings are also located within the structure plan area, with associated outbuildings, fences and other structures.

Refer to Figure 4 – Site Plan / Aerial.

1.2.3 Legal Description and Ownership

The structure plan comprises seven (7) freehold titles, being:

Address	Deposited Plan/ Diagram/ Plan	Volume/ Folio	Area	Legal Proprietor
Lot 198 (No. 80) Alderson Street, Pinjarra	P143717	1837/258	3.7495ha	Kathleen Betty Hancock
Lot 196 (No. 100) Alderson Street, Pinjarra	P143717	924/163	3.3766ha	Laurence Ian Galloway and Christina Rose Galloway
Lot 193 (No. 108) Alderson Street, Pinjarra	P143637	964/142	4.2263ha	John Raymond Gilbert
Lot 11 (No. 114) Alderson Street, Pinjarra	D70371	1763/70	2.1741ha	Mandy Louise Keating and Thomas Albert Keating
Lot 10 (No. 100) Paceway Court, Pinjarra	D70371	1763/32	2.1733ha	Brent Barrett-Lennard and Jillian Elizabeth Barrett-Lennard
Lot 195 (No. 179) Pollard Street, Pinjarra	P143637	1146/858	3.7184 ha	Ian Ross Cardilini and Colleen Elizabeth Cardilini
Lot 197 Pollard Street, Pinjarra	P143717	1188/942	3.7495ha	Brent Barrett-Lennard and Jillian Elizabeth Barrett-Lennard

Table 1: Lot Details

Refer to Appendix 1 – Certifications of Title.

02 Planning Framework

2.1.1 Zoning and Reservations

2.1.1.1 Peel Region Scheme

The subject site is zoned 'Urban' under the *Peel Region Scheme*.

Land abutting the subject site to the north and a portion of land to the east is reserved for 'Regional Open Space' purposes. The remaining portion of land to the east is zoned for urban purposes.

The remaining land to the south and west of the subject site is zoned 'Rural'.

Refer to Figure 5 – Peel Region Scheme Zoning.

2.1.1.2 Shire of Murray Town Planning Scheme No. 4

The subject site is zoned 'Residential Development' under the *Shire of Murray Town Planning Scheme No. 4* (TPS 4).

In accordance with the provisions of the zone under the Scheme, a structure plan is required as a precursor to subdivision and development. The structure plan has been prepared in accordance with the provisions of Clause 6.5 of TPS 4.

A portion of land to the east of the subject site is zoned for 'Special Use – Residential/Horses Training, Trotting and Stabling'.

Refer to Figure 6 – Shire of Murray Town Planning Scheme No. 4 Zoning.

2.1.2 Regional and Sub-Regional Structure Plan

2.1.2.1 Inner Peel Region Final Structure Plan (1997)

Within the *Inner Peel Region Final Structure Plan* (IPRSP) the subject site is identified as 'Future Urban Category B' with an area of 'Open Space Drainage – WSD' over the North West corner of the subject site. Future Urban Category B is described as:

> *Other areas which may be suitable for urbanisation but which have identified constraints. These areas could become available for development in the longer term (up to 2041).*

The constraint identified under the IPRSP for this area refers to soils and flooding as the land is low lying and prone to saturation and flooding during the wet season. The structure plan adopts the principles of water sensitive design via the Local Water Management Strategy process and therefore overcomes the constraint to urbanisation identified under the IPRSP.

2.1.3 Planning strategies

2.1.3.1 Directions 2031 and Beyond

Directions 2031 and Beyond provides a broad overarching strategic framework defining the overall visions for the Perth and Peel Regions for the next 20 years. This sets out the planning framework for delivery of housing, infrastructure and services to accommodate future projected population growth within both regions. A key element of the overall visions identified by *Directions 2031 and Beyond* is the consolidation of existing urbanised areas to ensure the efficient use of land and infrastructure.

The *Directions 2031 and Beyond* report identifies potential urban expansion and investigation areas. The subject site is within the 'Peel Sub-Region' and has been identified as 'Urban Deferred' land. In accordance with

the findings of the report, the population of the Peel Region is expected to increase by 45,000 people from 2008 to 2031 and therefore requires an additional 26,000 dwellings by this time.

Furthermore, Pinjarra is identified as a 'Secondary Centre' under activity centres hierarchy of *Directions 2031 and Beyond* and includes existing identified industrial centre offering a broad range of manufacturing, fabrication, processing, warehousing and bulk goods handling activities. Accordingly, there are ample employment opportunities available to residents of the area.

The land is zoned 'Urban' under the PRS and is therefore suitable for residential development. Further, it is noted the implementation of the structure plan and subsequent subdivision of the site will meet the objectives of *Directions 2031 and* Beyond as well as meeting the Peel Sub-Region's forecast for housing needs.

2.1.3.2 Pinjarra Townsite Urban Expansion Strategy

The *Pinjarra Townsite Urban Expansion Strategy* was released in July 1998. The aim of the strategy was to plan and direct urban development in and around Pinjarra. A precinct plan was prepared which divided the townsite into seven distinct areas. The subject site falls within Pinjarra West specifically identified for urbanisation. As reflected by the *Inner Peel Region Structure Plan*, the same four main growth directions were earmarked for future expansion within the Strategy. As such, the proposed structure plan is consistent with the findings of the *Pinjarra Townsite Urban Expansion Strategy*.

2.1.4 State Planning Framework

2.1.4.1 Liveable Neighbourhoods

Liveable Neighbourhoods (LN) represents the WAPC's primary policy to guide the design and assessment of structure plans and subdivision for new urban development of residential communities in Western Australia. The underlying objective is to create quality neighbourhoods with site responsive identity supportive of local community that reduce dependency on private vehicles, and are more energy and land efficient. As such, LN focuses on an urban structure based on walkable mixed-use neighbourhoods with interconnected street patterns. It functions by drawing together key policy aspects into a single 'integrated planning and assessment policy' to provide for a performance-based approach to planning assessment.

It does so according to a range of considerations including:

- Community;
- Movement;
- Lot Layout;
- Urban Water Management;
- Public Open Space; and
- Schools.

Liveable Neighbourhoods identifies a series of Objectives and Requirements for the structure plan that, when met, demonstrate compliance with the overall outcomes sought by LN. These objectives and requirements relate to items such as road layout, relationship of housing to open space and schools, school location/distribution, POS layout and location and housing densities.

The structure plan has been prepared to satisfy the various objectives and requirements of LN to ensure that more detailed proposals at subdivision stage are also capable of satisfying the relevant criteria.

2.1.4.2 State Planning Policy 2.1 – Peel Harvey Coastal Catchment

The general policy objectives as outlined under *State Planning Policy 2.1 – Peel Harvey Coastal Plain Catchment* (SPP 2.1) are focused on improving and balancing the social, economic, ecological, aesthetic and recreational management and potential of the Peel–Harvey Coastal Plain Catchment.

The Policy seeks to minimise the export of nutrient (primarily phosphorous) from land use and development within the catchment, to the district drainage network. It deals in particular with phosphorous discharge arising from subdivision and development of land and requires that this should not exceed pre-development levels.

The key document to refer to here is the Local Water Management Strategy (LWMS) prepared by Hyd2o and included at Appendix 2 to this report. Strategies to satisfy the requirements of SPP 2.1 are detailed in the LWMS.

The recommendations of the LWMS will be carried forward to the subdivision and development stages by way of an Urban Water Management Plan (UWMP). The requirement for an UWMP is provided for under Part 1 of the structure plan.

2.1.4.3 State Planning Policy No. 3 – Urban Growth and Settlement

The intention of *State Planning Policy No. 3 – Urban Growth and Settlement* is to set out principles and considerations which apply to the planning and management of urban growth and settlement.

Key objectives of the policy are based on the development of sustainable communities, in which land is developed based on a number of considerations, including, environmental capability, employment opportunity, provision of adequately serviced land and accessibility to community services.

In this regard, we note that the land is zoned 'Urban' under the Peel Region Scheme and 'Residential Development' under the Scheme. As such the structure plan should be considered as the implementation of the established town planning framework which is preceded by strategic consideration of where the expansion of the Pinjarra townsite should take place.

It should be recognised that the subject site can be provided with all essential infrastructure through the extension of existing nearby infrastructure. Preliminary servicing report indicates there is sufficient capacity within the surrounding infrastructure to accommodate the development.

In this regard, the structure plan is considered to be consistent with the principles of State Planning Policy No 3.

2.1.4.4 State Planning Policy 5.4 – Road and Rail Transport Noise and Freight Considerations in Land Use Planning

The Policy seeks to protect noise sensitive land uses from transport associated noise, protect freight movement corridors from urban encroachment and promote best practice design and construction standards of new noise sensitive development. The Policy sets maximum targets for noise impact in both indoor and outdoor living areas. Where these targets are likely to be exceeded, means of amelioration should be explored and may include quiet house design such as insulation, double glazing or the like.

It is noted that Greenlands Road is not identified as a Primary or Other Regional road for the majority of its length (other than a portion of interchange at its eastern end). We also note that the subject site is located to the southeast of future industrial areas and is unlikely to be subject to a significant degree of passing freight traffic. We also note that per the Transport Assessment at Appendix 3, the anticipated traffic movements are significantly less than the 20,000vpd required for classification as a 'major road.' On this basis, it is considered that no further noise-related consideration is required for residential development on the subject site with respect to traffic.

2.1.4.5 State Planning Policy 4.1 – State Industrial Buffer Policy

State Planning Policy 4.1 – State Industrial Buffer Policy (SPP 4.1) provides state wide guidance in relation to the protection and long-term security of industrial zones and the safety and amenity of surrounding land uses/users. The purpose of this Policy is to provide a consistent approach to the protection and security of industrial areas. SPP 4.1 seeks the creation of separation distances between industrial land uses and sensitive land uses.

The Department of Planning and the Shire of Murray have advised that a separation distance of 500m applies from the canola factory located on Lot 812 Greenfields Road, which is located to the west of the subject site.

Accordingly, provision has been included within Part 1 of this report advising that portion of the structure plan area is located within a 500 metre nominal buffer from the oilseed processing plant located on Lot 812 (No. 172) Greenlands Road, Pinjarra and may be impacted by potential odour impacts arising from the operations of the processing plant. The extent of the nominal buffer is consistent with the recommendations of the Environmental Protection Authority's *Guidance Statement No.3: Separation Distances between Industrial and Sensitive Land Uses* and *SPP 4.1.*

2.1.4.6 Planning Bulletin No. 79 – Designing Out Crime Guidelines

The structure plan exhibits a strong focus on Crime Prevention Through Environmental Design (CPTED) principles through, the following:

- Where laneways are proposed they are straight and designed to maximise visibility;
- Road are generally proposed to form a simple grid pattern, which promotes a high level of legibility and visual connectivity;
- The structure plan accommodates uniform lots that will support houses oriented to both the street and public open space;
- Lots with direct frontage to POS shall be subject to LDP's which will further reinforce an effective relationship to that POS, including with respect to surveillance;
- Small lot precincts supporting narrow frontages include laneways so that (particularly opposite POS) the street is not dominated by garages and can, instead, be devoted to outdoor living space and habitable rooms thereby maximising interaction and surveillance;
- The orientation of the structure plan is not merely internal – it provides for a good relationship, including orientation and surveillance, of land surrounding the structure plan area including lots fronting towards regional open space;
- The legible and efficient road network as well as regularly spaced POS and a Local Centre fosters a high level of walkability, which is consistent with a safe public realm.

2.1.5 Other Approvals and Decisions

At time of writing, we are unaware of any other approvals or decisions that might impact on the consideration of the structure plan.

03 Site Conditions and Constraints

3.1 Biodiversity and Natural Area Assets

The following provides a summary of the environmental site conditions and constraints. For further information the Vegetation and Condition Report is provided at Appendix 3.

3.1.1 Flora and Vegetation

A Vegetation Assessment and Condition Report was undertaken by Eco Logic Environmental Services across the structure plan area in 2010. A total of nine (9) discrete vegetation types were identified within the study area.

The condition of the vegetation across the sites ranges in quality from being Good – Very Good condition to Completely Degraded condition. Two areas of remnant vegetation within Lot 195 and 197 were recorded to be in good condition. These areas have generally been incorporated in areas of public open space where possible.

The report noted that vegetation within Lots 10, 11, 193 and 198 had generally been highly modified, retaining only scattered or isolated native tree species. These areas were recorded to be in Completely Degraded condition.

It is noted that no Endangered or Vulnerable species pursuant to the EPBC Act were located during the survey. Further, no Priority Flora or Declared Rare Flora were located within the structure plan area during the survey.

Provision has been made within Part 1 of the structure plan report to require a Tree Retention Plan to be provided to support future subdivision applications lodged for the site.

3.1.2 Wetlands

The DPaW's Geomorphic Database Wetlands of the Swan Coastal Plain depicts the following wetlands within the structure plan area:

UFI 15749	Multiple Use Wetland, located generally across the north-east corner of Lot 197 Pollard Street and the north-west corner of Lot 198 Alderson Street.
UFI 15750	Multiple Use Wetland, extending from the south-west corner of Lot 197 Pollard Street through the western boundary of Lot 198 Alderson Street.
UFI 15746	Multiple Use Wetland, extending from the south-west corner of Lot 195 Pollard Street up through to the south-east corner of Lot 197 Pollard Street.
UFI 15747	Multiple Use Wetland, extending from the northern portion of Lot 193 Alderson Street, through Lot 196 and into the south-east corner of Lot 198.
UFI 15802	Multiple Use Wetland, located over the entirety of Lot 10 and 11 Paceway Court and the majority of Lot 193 Alderson Street.

The availability of land designated Multiple Use for subdivision and development is, under most circumstances, reasonably anticipated. On this basis it is not proposed to retain any areas of wetland under the structure plan.

Refer to Appendix 4 – DPaW Correspondence.

3.1.3 Fauna

A desktop fauna review was undertaken using Department of Parks and Wildlife Threatened Species and Communities database which revealed no threatened species were identified as occurring within close proximity of the subject site. Due to the largely disturbed and degraded nature of the vegetation present on site, it is considered unlikely that any significant fauna species would be present on site.

3.2 Landform and Soils

The subject site is generally flat to generally undulating grading slightly from between 9 and 12 metres Australian Height Datum (AHD). There are a number of slightly lower areas towards the centre of the site. The land has a slight rise through the centre running south west with the height of this ridge being approximately 11.5 metres AHD with a small area up to 12 metres AHD.

The subject site is situated within the Pinjarra Plain with soil types of predominantly Bassendean Sands, overlaying the Guildford Formation.

3.2.1 Acid Sulphate Soils

The Department of Environmental Regulation (DER) Acid Sulphate Soil Risk Mapping identifies the majority of the site lying within an area of moderate to low risk of acid sulphate soils (ASS) occurring within 3m of the natural soil surface. The north-western portion of the site however, is classified as having high to moderate risk of acid sulphate soils (ASS) occurring within 3.0m of the natural soil surface.

It should be noted however, the proposed filling as highlighted within the Local Water Management Strategy prepared by Hyd2o and contained at Appendix 2 to this report will assist in the minimisation of any ASS or potential ASS by lifting the development and infrastructure well above the natural surface.

Notwithstanding, provision has been built into Part 1 of the structure plan report requiring an ASS self assessment form and if required, an ASS Report and Management Plan to be prepared and implemented as a condition of subdivision approval.

3.2.2 Contamination

A search of the Department of Environmental Regulation's (DER) Contaminated Sites Database does not indicate the presence of contamination within the land.

3.3 Groundwater and Surface Water

3.3.1 Surface Water

The subject site grades slightly in a south east and south west direction dictated by a slight ridge that runs through the site. Surface water runoff eventually drains to the south of the site. Mapping prepared by TME as part of the DWMS divides the site into seven predevelopment catchments. Six of these catchments eventually contribute to the Greenlands drain via a grass swale and constructed drainage line which flow from south along the Pollard Street easement and the eastern side of Alderson Road respectively. Surface water from the Greenlands drain flows in a westerly direction along the southern side of Paceway Court.

It is noted a small, excavated dam exists within the centre of the site which intercepts a small portion of the site runoff. Further, it is noted that there are no surface water streams or surface flows within the site.

3.3.2 Groundwater

Results of groundwater monitoring indicate that groundwater has a very low gradient and flows in a north-west direction. Ground water levels generally ranged from a 'dry' reading to 10.28m AHD. The average annual maximum groundwater level (AAMGL) is estimated to range between 10.05m AHD to 10.83m AHD across the site which varies from approximately 0.6m below the natural surface to level with the natural surface.

To facilitate local scale planning for the site, TME undertook 2 years of groundwater monitoring from October 2007 to September 2009. Details of the monitoring undertaken and results are provided in the LWMS.

3.4 Bushfire Hazard

A Bushfire Management Plan has been prepared for the structure plan in accordance with the WAPC's Planning for *Bushfire Protection Guidelines 2010*. The Fire Management Plan has considered the requirements of draft *State Planning Policy 3.7: Planning for Bushfire Risk and Management*. The Bushfire Management Plan is provided within Appendix 5. However, the following provides an overview of fire management assessment undertaken and applicable provisions to development of the site.

3.4.1 Hazard Assessment

The Bushfire Management Plan (BMP) identifies the site as comprising predominantly a low to moderate fire hazard threat.

The development of the structure plan area as per the proposed layout will result in a reduced threat of bushfire.

The BMP identifies the dwellings located adjacent to areas of remnant bushland vegetation on the adjacent side of Kwel Road and Alderson Street and lots located adjacent to the central area of open which contains vegetation to be retained requiring heighten constructed standards.

3.4.2 Management Requirements

The BMP proposes a variety of measures to manage the fire hazard, including:

- A minimum 20 metre Building Protection Zones separating future development from fire hazard;
- Dwelling construction to a standard to align with the designated bush fire attack level (BAL) within the Building Protection Zone;
- A notification on title to inform prospective purchasers that the use and development of the land is to be in accordance with a Bushfire Management Plan; and
- Compliance with and annual Fire Control Notice issued by the Shire of Murray under the Act.

The Bushfire Management Plan will be required to be implemented as a condition of subdivision approval.

3.5 Heritage

3.5.1 Indigenous Heritage

The Indigenous Heritage Survey prepared by Brad Goode and Associates in 2008 included as Appendix 8 to this report confirms that no sites of significance or cultural issues were identified within the project area.

It is noted however, the nearest site of heritage significance is that of the 'Battle of Pinjarra Memorial Area' (Heritage Council Place Number: 03957) which is located approximately 850m to the east of the subject site. This site is also listed on the Shire's Municipal Heritage Inventory, the Register of National Estate and the Aboriginal Heritages Sites Register.

3.5.2 Non-Indigenous Heritage

A desktop search of the Heritage Council of WA and Australian Heritage databases indicates that the subject site does not contain any identified as a place of European, National or State Heritage significance.

There are also no sites of local heritage significance affecting the subject site under Schedule 6 of the *Shire of Murray Town Planning Scheme No.4* (Heritage).

The subject site is not therefore constrained in the context of European Heritage values.

3.6 Context and Other Land Use Constraints

3.6.1 Pinjarra Townsite and Future Industry Centre

The subject site is located approximately 1.9km from the Pinjarra townsite, with the Mandurah City Centre being located approximately 17km north-west of the structure plan area. It is noted the Pinjarra townsite is flagged as a 'Secondary Centre' with the Mandurah City Centre being identified as the main regional centre within the Peel region. These centres provide important nodes for commercial transaction, regional level community facilities and provide significant employment opportunities. At a local level, the centre site provided for within the structure plan area is expected to cater for the day to day needs of the future residents and is generally located such that it is within walking distance to all lots.

The existing Pinjarra industrial centre is located approximately 500m to the north of the structure plan area with the future planned industrial area being located approximately 1.3km to the west of the site.

3.6.2 Special Use – Residential/Horse Trotting/Training and Stabling Zone

It is noted that land adjoining the south-eastern portion of the site on the opposite side of Alderson Street is zoned for 'Special Use – Residential/Horse Trotting/Training and Stabling'. Further, the site is located approximately 500m from the nearby trotting complex. Concerns have been raised by neighbouring land owners regarding the safety of their horses on the road when travelling to and from the trotting complex and generally, the safety of horses with the increase in vehicular traffic.

The structure plan has responded to these concerns by providing for the requirement for the Transport Assessment to be reviewed and updated as a condition of subdivision approval, with methods to address traffic speeds and driver awareness of proximity to horses.

3.6.3 Canola Factory Industrial Buffer

The site is located eastward of land affected by the 500m industrial buffer from the nearby canola factory located on Lot 812 Greenlands Road, Pinjarra. The impact stemming from the canola factory which necessitates the buffer is odour.

A notification on title is recommended for those lots impacted by the 500m odour buffer; as detailed in Part 1.

Refer to Figure 7 - Opportunities and Constraints

04 Land Use and Subdivision Requirements

4.1 Land Use

The structure plan sets out land use, residential densities, public open space, public and private transport provision, environmental considerations and servicing requirements.

The structure plan is proposed to comprise residential development with densities ranging from R25 to R40. The structure plan also comprises a number of local and neighbourhood public open space areas in accordance with *Liveable Neighbourhoods* requirements.

The following describes the design response proposed under the structure plan and addresses the relevant elements of *Liveable Neighbourhoods*.

Please also refer to Plan 1 and Figure 8 – Detailed Layout Plan.

4.2 Public Open Space

Under the provisions of *Liveable Neighbourhoods* a range of site responsive urban parkland is required, which appropriately addresses district, neighbourhood and local needs of residents, comprising a mixture of unrestricted and restricted open space.

The structure plan therefore provides a framework for the hierarchy and location of public open space areas across the site, considering the requirements for drainage and vegetation retention, defining key areas of open space as identified on Plan 1.

The structure plan provides for approximately 5.1 hectares of public open space (POS) across the structure plan area by three neighbourhood parks and five local parks. This comprises 3.8 hectares of unrestricted (9.2% of gross subdivisible area) and 0.9 hectares of restricted open space (2.1% of gross subdivisible area).

As noted above, the hierarchy and location of POS areas have been designed to ensure residents are generally within:

- 150m of a local park;
- 400m of a neighbourhood park; and

Surveillance of the areas of public open space will be managed through a combination of front and rear loaded lots with major openings and habitable rooms to orientate towards the parkland.

The areas of open space will be managed for the developer for a period of two years and will ultimately fall to the Shire of Murray in terms of ownership and management. Provision has also been built into Part 1 of the structure plan report to require public open space management and development plans to be prepared as a condition of subdivision or development approval outlining the obligations of the developer through the construction phase of the public open space and maintenance requirements after the public open space is handed over to the Shire.

4.2.1 POS Area 1

POS Area 1 will accommodate two drainage areas to allow for the staged/independent implementation of the structure plan. This is due to the landowners of Lot 196 Alderson Street having no intention of developing in the short term and therefore provision has been made within the design of the structure plan to allow for stormwater drainage to be accommodate independent of Lot 196.

POS Area 1 has generally been designed to encompass the following principles:

- Provide an area of managed parkland which forms part of the Bushfire Protection Zone to adjacent residential lots;
- Retention of good quality vegetation within the central portion of the open space; and
- Provision of an area of playground / kick about space to provide opportunities for recreational activities.

Further to the above, there is also potential for single, mature trees to be retained within the POS in a managed parkland setting as highlighted on Figure 9 of this report.

Refer to Figure 9 - Public Open Space Plan and Figure 10 - Public Open Space Schedule.

4.2.2 POS Area 2

POS Area 2 to the south of the structure plan will predominantly function as a small local park with a large area of restricted POS which has been located to cater for drainage function. This area of open space will be development/landscaped appropriately for such purpose. POS Area 2 is bordered by direct frontage lots to increase opportunities of passive surveillance over the parkland. Whilst this area of POS is predominantly serves for drainage purposes, a small area of passive open space is provided for adjacent to the proposed residential lots which may be suitable for an area of seating or small play area.

This area of POS also accommodates a run of planted Eucalyptus trees along the western boundary of the POS adjacent to Pollard Street. The existing Eucalyptus trees within POS Area 2 will reinforce the natural/rural sense of place in an urban context sought by the structure plan.

4.3 Residential

Residential Densities have been established for the structure plan area in accordance with the requirements of *Liveable Neighbourhoods* and Directions 2031 to achieve densities of 22 dwellings per site hectare and 15 dwellings per gross site hectare respectively.

The structure plan generally provides for a transitional density of R25 to those lots with interface to the existing rural and special rural land adjacent to the structure plan area. Medium densities of R30 to R40 have generally been located around areas of POS and within proximity to the local centre site which has been located adjacent to Pollard Street.

Based on preliminary designs, the structure plan provides for a yield of approximately 330 dwellings. On this basis, the structure plan achieves a density of approximately 23.2 dwellings per site hectare, and 14.6 dwellings per gross hectare.

The structure plan therefore exceeds the average residential density of 22 dwellings per site hectare, however falls marginally short of the 15 dwellings per gross hectare stipulated under *Liveable Neighbourhoods* and Directions 2031. This is partly due to the provision of public open space above the required 10% which incorporates areas required for drainage and vegetation retention, as well as the request from the Shire to incorporate a local centre within the structure plan area.

Refer to Figure 11 – Indicative Lot Layout Plan

4.3.1 Residential R25

A transitional density of R25 has been provided to all lots with interface to the existing Rural and Special Rural land to minimise the visual and amenity impacts to the surrounding rural residents.

This is to be further reinforced through Design Guidelines which will be required for all lots abutting Paceway Court, Pollard Street, Alderson Street and Kwel Road. The Design Guidelines for the R25 lots are to ensure the

subject lots are provided with lot frontages and setbacks that provide a suitable transition to the adjacent Rural and Special Rural land.

Provision has been included within Part 1 of the structure plan accordingly to stipulate the requirement for such guidelines to be prepared as a condition of subdivision approval.

4.4 Movement Networks

The following provides a summary of the proposed movement network. For further information it is recommended the reader consult the Transport Assessment included at Appendix 6.

4.4.1 Existing Road Network

Paceway Court

Paceway Court forms the southern boundary of the subject site and is classified as an 'Access Street' under the Main Roads WA functional road hierarchy. Paceway Court connects to the South Western Highway to the east at priority controlled T-intersection with left and right turn lanes on South Western Highway. Paceway Court is a cul-de-sac to the west.

The existing traffic volume for Paceway Court is expected to be less than 1,000vpd in the vicinity of the subject site.

Alderson Street

Alderson Street is an 'Access Street' which forms the western boundary of the subject site and connects Paceway Court in the south to Kwel Road in the north. The north part of this road fronting the structure plan area is un-sealed up to Kwel Road but is not yet constructed through the existing regional open space to the north of the subject site.

Pollard Street

Pollard Street is a road reserve which forms the western boundary of the structure plan area. Pollard Street does not currently connect to Paceway Court however a future connection is planned for the future which will connect from Paceway Court in the south to Moores Road in the north. Currently only a short section of Pollard Street is constructed as an unsealed road from Kwel Road.

Kwel Road

Kwel Road is an existing reserve/gazetted road which forms the northern boundary of the structure plan area. Kwel Road connects to Alderson Street to the east and Pollard Street to the west.

4.4.2 Proposed Road Network

The proposed road hierarchy for the structure plan has been determined from modelling based on the indicative subdivision layout.

The street block lengths are consistent with the requirements of *Liveable Neighbourhoods*, providing for connectivity and permeability through the site, for both pedestrians and vehicles.

The indicative road network is proposed to comprise the following road classifications:

Road Classification	Indicative Upper Traffic Volume (Vehicles Per Day)	Indicative Road Reserve Width
Neighbourhood Connector A	7,000	23m
Access Street C	3,000	20m
Access Street D	1,000	16m

Table 2: Road Classifications

It is noted that some Access Street D road reserves have been reduced to 13.5m in width where abutting areas of public open space or existing road reserves in accordance with LN.

Neighbourhood Connectors

Paceway Court and Pollard Street are proposed as Neighbourhood Connector A roads based on forecast future traffic volumes on these roads. These two roads provide major connection through the existing and future developments in this area and are expected to carry daily traffic volumes of about 3,000vpd to 6,000vpd and therefore are classified as Neighbourhood Connector A roads.

Access Streets

An Access Street B of 20m in width has been proposed for the road reserve to the south of the local centre to ensure adequate on-street parking can be provided in proximity to the centre and to ensure existing trees can be retained and located within the road reserve.

The remainder of the road reserves has generally been provided as Access Street D roads which comprises of a 6m wide carriageway in a 16m road reserve. This Access Street D results in 5m verges being provided on both sides of the carriageway, with embayed parking accommodated in the verges where required, such as to provide visitor parking for lots serviced by rear laneways. This road standard is proposed where the future total traffic volumes are less than 1,000vpd. It is anticipated that the majority of the access streets shown in the structure plan would be of this category except where abutting areas of POS or existing road reserves where the road reserve width may be reduced to 13.5m in accordance with *Liveable Neighbourhoods*.

It is noted that based on the future estimated traffic volumes for Kwel Road which forms the northern boundary of the structure plan area, a road classification of Access Street D is considered appropriate.

Alderson Street which forms the eastern boundary of the structure plan area is estimated to carry less than 1,000vpd and therefore, based only on projected traffic volumes would be considered to be an Access Street D. This road however, has been classified as an Access Street C road in the road hierarchy plan due to its function for providing access between Paceway Court and Lovegrove Street.

Laneways

The proposed reserve width of the laneways is 6.0m. These would typically be designed with flush kerbing and central drainage, and can accommodate two-way vehicle movements and service vehicles. Details relating to the design of the laneways will be addressed during the subdivision design stages.

The Transport Assessment confirms that the proposed network, including intersection spacing's and vehicular access to/from lots are compliant with the requirements of *Liveable Neighbourhoods*.

The proposed road network is mapped at Figure 12.

4.4.3 Public Transport

It is noted that there is currently no public transport facilities located within a 400m walking distance of the structure plan with the closest public transport facilities being the bus stops located on McLarty Road / South Western Highway.

Notwithstanding, both Paceway Court and Pollard Street are both designated and will ultimately be constructed as Neighbourhood Connector A roads which are suitable to accommodate a future bus route adjacent to the structure plan area. It is envisaged that a future bus route may be further considered when the future population within the locality warrants such a service.

4.4.4 Pedestrian and Cycle Networks

In accordance with the requirements of *Liveable Neighbourhoods*, footpaths will be provided on at least one side of every street. Footpaths of a minimum width of 2.0m will be provided in accordance with the Shire's infrastructure requirements.

It is noted that shared paths will be provided along both Paceway Court and Pollard Street suitable for both pedestrian and cyclists.

The Access Streets within the structure plan area have low daily traffic volumes and are therefore considered suitable for on-road cycling. It is recognised however, that informal on-street parking will create some interference for on-road cycling however this will typically occur on very low traffic volume roads where the opportunity for conflict is considered to be low.

To ensure pedestrian connectivity, laneway lots will also be provided with footpath access to visitor parking bays in nearby road reserves.

4.5 Water Management

This section addresses the proposed urban water management network.

4.5.1 Water Management Strategies and Planning

4.5.1.1 District Water Management Strategy

The Kwel Road District Water Management Strategy (DWMS) was prepared by TME in 2009 and provides guidance on water re-use options, stormwater detention basins, monitoring requirements, and structural and non-structural controls for stormwater treatment. The DWMS has been approved by both the Shire of Murray and the Department of Water.

4.5.1.2 Local Water Management Strategy

A Local Water Management Strategy (LWMS) has been prepared in support of this structure plan, and is provided as Appendix 2.

The LWMS addresses the structure plan area, and provides a refinement of flood modelling, the surface water management strategy and the groundwater management strategy to a local scale. The LWMS has been prepared in accordance with the principles, objectives and key criteria of the WAPC's Better Urban Water Management 2008.

4.5.2 Proposed Drainage Network and Infrastructure Requirements

Surface water flows are to be managed at a lot level and development scale to maintain predevelopment hydrology by retaining or detaining surface water, and to infiltrate runoff close to source. The proposed drainage system will consist of a series of lot soakwells, road drainage system comprising pipes and bioretention areas, and ephemeral storage areas within POS to provide water quantity and quality treatment for stormwater generated from the proposed development.

In accordance with the LWMS prepared for the site, the key elements for managing stormwater within the structure plan area are as follows:

- Use of distributed public open space areas for ephemeral; stormwater detention and treatment; and
- Use of higher density urban residential zonings to reduce landscape nutrient input.

4.5.2.1 Local Drainage

The LWMS provides for three post-development catchment areas and contributing storage areas as part of the development area. All of the catchment storage areas are designed to detain the 1 in 100 year ARI event to pre-development levels prior to discharge from the site.

Runoff from the 1 year ARI event will be retained and infiltrated within soakwells on the R25 / R30 lots, while 1 year runoff from road and R40 lots will be stored and treated within POS stormwater bioretention storage areas.

Runoff from Kwel Road and Pollard Street will be retained at source using swales located within the road reserve. Kwel Road and Pollard Street both provide a 20 – 30m buffer between the development and wetlands / declared rare fauna to the north of the site, with each intercepting runoff generating from the development and draining towards the Buchanans Drain. No stormwater generated from the site is proposed to be discharged into the neighbouring wetland areas.

In accordance with the processes defined under *Better Urban Water Management*, an Urban Water Management Plan (UWMP) will be required to be prepared and implemented at the time of subdivision. The UWMP will refine and implement the proposed drainage network/system, as defined under the LWMS.

4.5.2.2 Groundwater Management

Due to the clearance to groundwater separation requirements, minimum separation between building floor levels for development and groundwater will be achieved by a combination of fill and subsoil drainage to provide protection against any post development groundwater rise.

Subsoil drainage is proposal to be located at the AAMGL as a control groundwater level. Imported fill will then be used to ensure lots achieve adequate clearance above the invert of the subsoil drains.

Detailed design at UWMP stage will ultimately determine the required finished lot levels and fill requirements.

4.5.2.3 Ongoing Management and Responsibilities

The ongoing water management and responsibilities are summarised in the table below.

Organisation	Role/Responsibility
Shire of Murray	Street sweeping after 1 year. Landscape maintenance after 2 years. Review and approval of UWMP. Assumes future long term responsibility for roads and storm water infrastructure including the ongoing operation and maintenance thereof subsequent to agreed handover by the developer.
Department of Water	Review and approval of UWMP. Review of Annual Groundwater Monitoring Report.
Water Corporation	Assumes future responsibility for the potable water supply and sewerage infrastructure including the ongoing operations and maintenance thereof.
Developer	Completion of District Scale Predevelopment Monitoring Programme/ Preparation of UWMP/

	Implement approved Acid Sulphate Soils Management Plans (where required), and Taking Water and Disposal Licenses during construction of subdivision works. Demonstrate that the proposed subdivision designs supportive of the UWMP can achieve the water quantity and quality objectives and criteria set by this document. Undertake post development monitoring, including the provision of appropriate monitoring locations, for a period of 2 years following sale of the last lot within the development. Utilise monitoring data to amend or provide BMPs to ensure that water quality objectives are achieved. Construct and subsequently maintain stormwater control measures until handover to the Shire of Murray. Landscape maintenance for initial 2 years.

Table 3: Water Management Responsibilities

4.6 Education Facilities

The structure plan does not propose the creation of any new school sites.

The existing education facilities within the Pinjarra locality will adequately cater for the needs of the future residents. Pinjarra presently accommodates both a public and private primary school and a senior high school.

Further education facilities are available in Mandurah which is located approximately 17 kilometres from the subject site. Mandurah offers a Murdoch University campus as well as a TAFE campus.

4.7 Commercial and Employment

4.7.1 Commercial

It is noted the Shire is currently preparing a Strategy which deals with centres within the Pinjarra townsite. Whilst there is no formal or statutory basis, the Shire has requested that provision be made for a Local Centre site within the structure plan.

The Local Centre has been provided off Pollard Street which is identified as a key Neighbourhood Connector within the future redevelopment of the area. The location of the Local Centre is such that it will be accessible to both future residents within the structure plan and also to the surrounding residents given its located off Pollard Street.

Without a strategic basis for the Centre, including an indication of the size or need for a local centre, the structure plan assumes a maximum net retail floorspace of 500m^2. Provision has been included with Part 1 of the structure plan to allow a landowner to seek a greater level of retail floorspace provided a Retail Needs Assessment is provided and endorsed by the Local Government.

4.7.2 Employment

The Mandurah City Centre offers a number of regional employment opportunities available to the community in relatively close proximity to the structure plan area. At a local level, the Pinjarra townsite is located within close proximity to the site and provides for a variety of local employment opportunities.

A number of industrial employment opportunities may be available to the local community at nearby Industrial Centres such as Nambeelup, Greenfield, Pinjarra and Oakley which is identified as a Strategic Industrial Centre.

4.8 Infrastructure Coordination, Servicing and Staging

The following provides a summary of the infrastructure and servicing for the structure plan area, however for further information it is recommended the reader consult the Engineering Services Report provided as Appendix 7.

4.8.1 Water Supply

The structure plan area is presently, only partially fronted with reticulated water supply. As per the Servicing Report at Appendix 7, approximately 50% of the Paceway Court frontage contains an existing 100AC water main and approximately 40% of the Alderson Street frontage contains a 100 PVC water main.

Internally, it is noted that the development could be serviced by a network of reticulation water main installed at the developers cost. This would likely include 100mm diameter water mains installed within all road reserves.

Water Corporation has advised that upgrades to their existing networks will be required to facilitate the development. Two section of the 100AC water main in Hampton Road will be required to be removed and replaced with 150PVC in order to remove bottlenecks from the Water Corporations existing network. The costs of these upgrades will be at the developer's expense.

Headworks charges would be applicable to the development, however this would be subject to the total number of lots proposed.

4.8.2 Sewer

The structure plan area is split into two different sewer catchments. Initial discussions with the Water Corporation's Land Development Branch indicated that a proposal to adjust the catchment boundary such that the entire structure plan area was graded back to the Yagan Street pump station (Pinjarra PS 9) was feasible with additional fill applied.

Notwithstanding, should this proposal not be feasible and the development be required to connect to a new sewer pump station in the south east corner of the structure plan area, the indicative location of the sewer pump station has been shown on the structure plan - Plan 1. The requirement for a new sewer pump station will be subject to detailed engineering design at subdivision stage.

4.8.3 Natural Gas

Atco Gas has indicated that the nearest point of supply for reticulated gas is located in Alderson Street approximately 420m north of the structure plan northern boundary. It has been confirmed with Atco Gas that a connection at this point will provide sufficient gas for the full development of the structure plan area.

Atco Gas has confirmed that upon confirmation that the development will proceed, Atco Gas will supply design services, specification, pipework and all fitting as well as the installation of the pipework at the expense of Atco Gas. The developer however, will be required to undertake all trenching and backfill works and be required to contribute to pipework costs external to the development area.

4.8.4 Electricity

Preliminary investigations indicate that the existing infrastructure within the structure plan area is capable of being serviced by underground power. As part of the development, Western Power will require the existing overhead distribution cables to the removed and replaced as underground cables at the developer's expense.

It is anticipated that subject to Western Power deeming the 'growth rate' of the development as 'natural' (approximately 30 to 40 lots per year) that the provision of Western Power services would likely only attract minimal headworks fees. This would be confirmed however, at detailed design stage.

4.8.5 Telecommunications

It is noted that the development has potential to connect to telecommunications services with NBN Co or Telstra should NBN Co decline to service the development. NBN Co provides their approval for the provision of telecommunication services at the time of subdivision. In the view of NBN Co, should the number of lots not warrant provision of their services, telecommunication options remain with Telstra.

4.8.6 Development Staging

The owners of Lots 10, 197 and 198 have indicated they are most likely to proceed to subdivision stage in advance of other landowners. It is noted that the landowner of Lot 196 has previously advised that they do not wish to actively pursue subdivision or development of their lot in accordance with the structure plan, while the remaining landowners have not expressed a particular development timeframe.

Prior to Amendment No.1, the indicative staging plan (Figure 13) reflected the above-mentioned landowner intentions, and the Investigation Area that was shown on the structure plan at that time. However, consistent with Modification No.1, the staging plan now includes the whole of Lot 197 in Stage 1.

In light of the above, staging of the structure plan is likely to take place in three stages, being:

- Stage 1 –Lot 197 Pollard Street and 198 Alderson Street.
- Stage 2 – Lot 10 Paceway Court
- Stage 3 – Lot 11 Paceway Court, Lot 193 Alderson Street and Lot 195 Alderson Street.

Given the staged nature of implementation, there will be a requirement to provide a mechanism for the equitable sharing of costs for shared infrastructure items and for POS compensation as applicable. This matter is to be addressed by way of a Development Control Area which is to be incorporated into the Scheme as per the requirements of Part 1 of the structure plan.

The structure plan design allows for the staged implementation of the structure plan with roads and access points being located such that each lot may generally subdivide or develop independent of the other land holdings.

In addition, drainage has been located to allow the progressive staging of the structure plan which has also been reflected in the LWMS.

Refer to Figure 13 – Indicative Staging Plan.

4.9 Developer Contribution Arrangements

The structure plan does not form a Development Contribution Area under the Scheme. As such, prior to subdivision and/or development proceeding on the subject site a Scheme Amendment will be required to introduce a Development Contribution Area into the Scheme to cover 'hard' infrastructure items. The Development Contribution Plan is to be approved and incorporated in the *Shire of MURray Town Planning Scheme No. 4* as per the requirements of *State Planning Policy 3.6 – Development Contributions for Infrastructure*.

It is understood that the list of items to be included within the Development Contribution Area generally includes the following:

- The ceding of land for public open space and the development of the public open space in accordance with the structure plan and *Liveable Neighbourhoods*;
- The construction, and/or upgrading of perimeter roads and road/path links back to the Pinjarra town centre including Paceway Court, Pollard Street, Kwel Road and Alderson Street to provide connectivity of road, footpath and street lighting in the area. This would include dual use paths, under grounding of the above ground power lines, intersection treatments, drainage facilities and street trees;
- The land requirements for road widening and the construction of any internal and external drainage infrastructure required to service the structure plan area;

- The implementation of any relevant fire management measures that are specified in the approved Bushfire Management Plan for the structure plan area; and
- Administration and professional costs associated with the preparation and ongoing administration of the Developer Contribution Plan.

Should the Development Contribution Area not be finalised prior to subdivision within the structure plan, it is likely that an interim development contribution arrangement between the proponent and the Shire will be established to cover the payment of interim costs.

FIGURES

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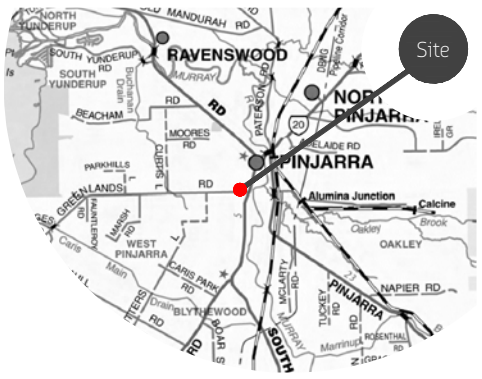

LEGEND

Subject Site

0 500m 1 Km

REVISIONS

Rev	Date	Drawn
A	2014.02.07	M. Winfield
A	2016.08.15	W. Clements

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Designer:	S. Jeleric
Drawn:	M. Winfield
Projection:	MGA50
Plan ID:	7767-FIG-01-B

Aerial Photograph Captured & Supplied by Nearmap

Context Plan

N:\TOWN PLANNING\7000-7999\7767\DRAFTING\A-CAD\7767_FIG01B_20160815 - CONTEXT PLAN.DWG
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Kwell Road Structure Plan, Pinjarra

Figure 1

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Projection:	MGA50
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Regional Location

Kwel Road Structure Plan, Pinjarra

Figure 2

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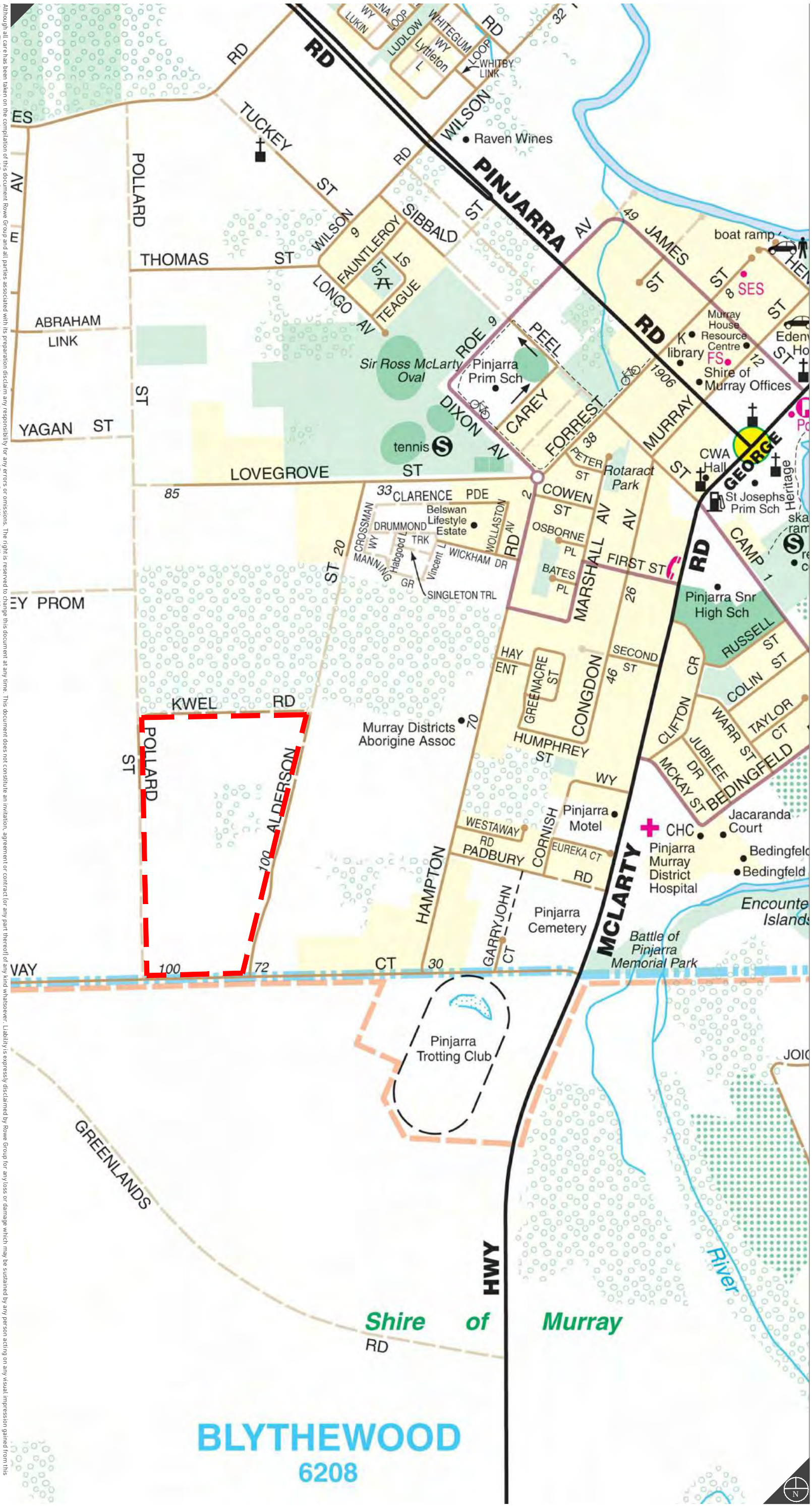

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Subject Site

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Drawn:	M. Winfield
Projection:	MGA50
Plan ID:	7767-FIG-03-B

Local Base Provided by Streetsmart

Locality Plan

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Kwel Road Structure Plan, Pinjarra

Figure 3

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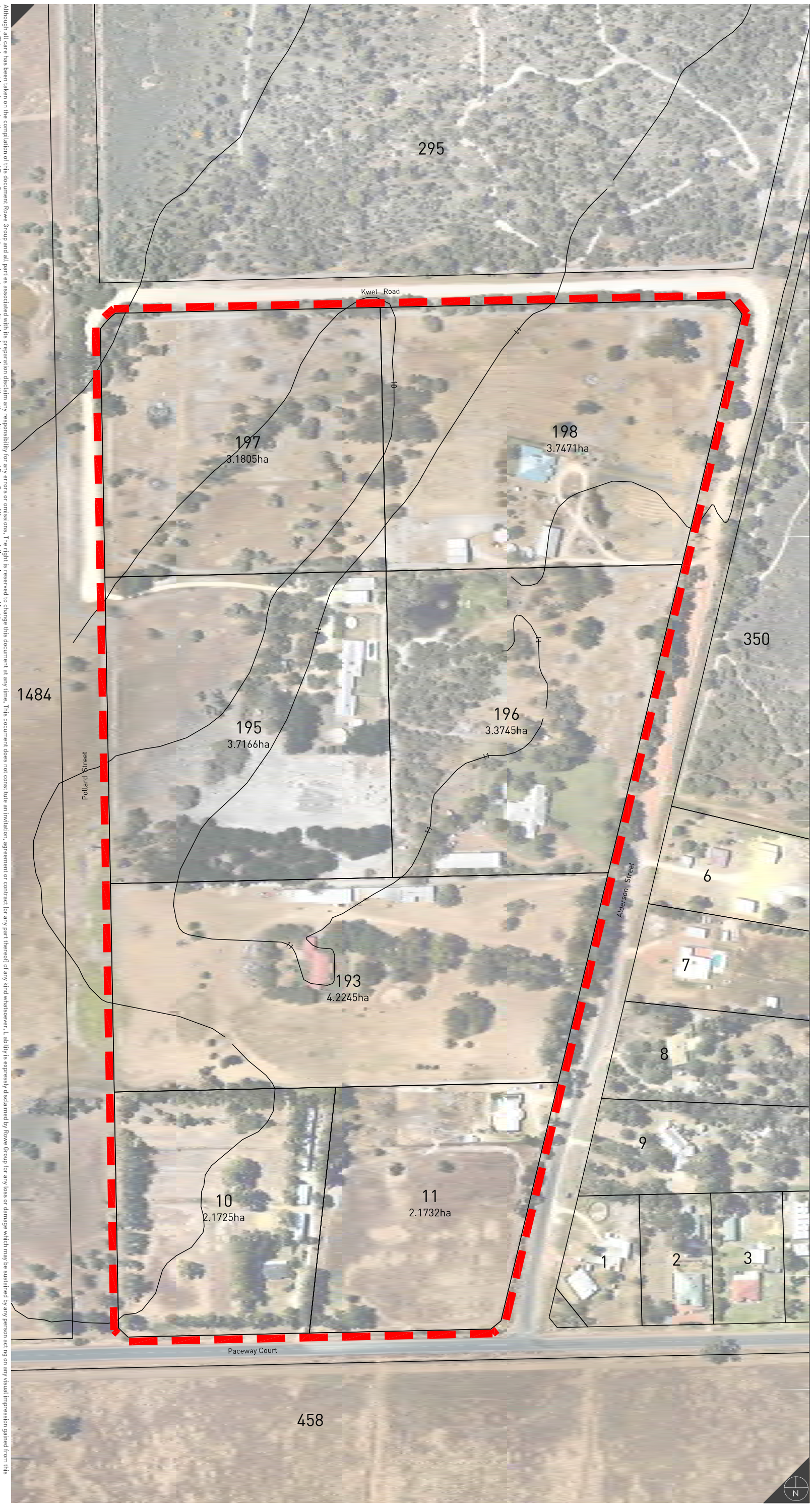

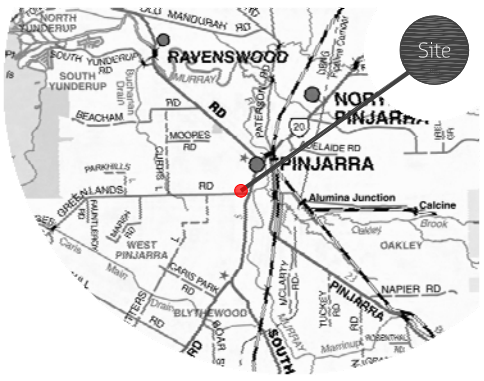

LEGEND

Subject Site

0 125 Metres

REVISIONS

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A	2014.02.07	M. Winfield
B	2016.08.15	W. Clements

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Drawn:	M. Winfield
Projection:	MGA50
Plan ID:	7767-FIG-04-B

Aerial Photograph Captured & Supplied by Nearmap

Site Plan/Aerial Photograph

Kwel Road Structure Plan, Pinjarra

Figure 4

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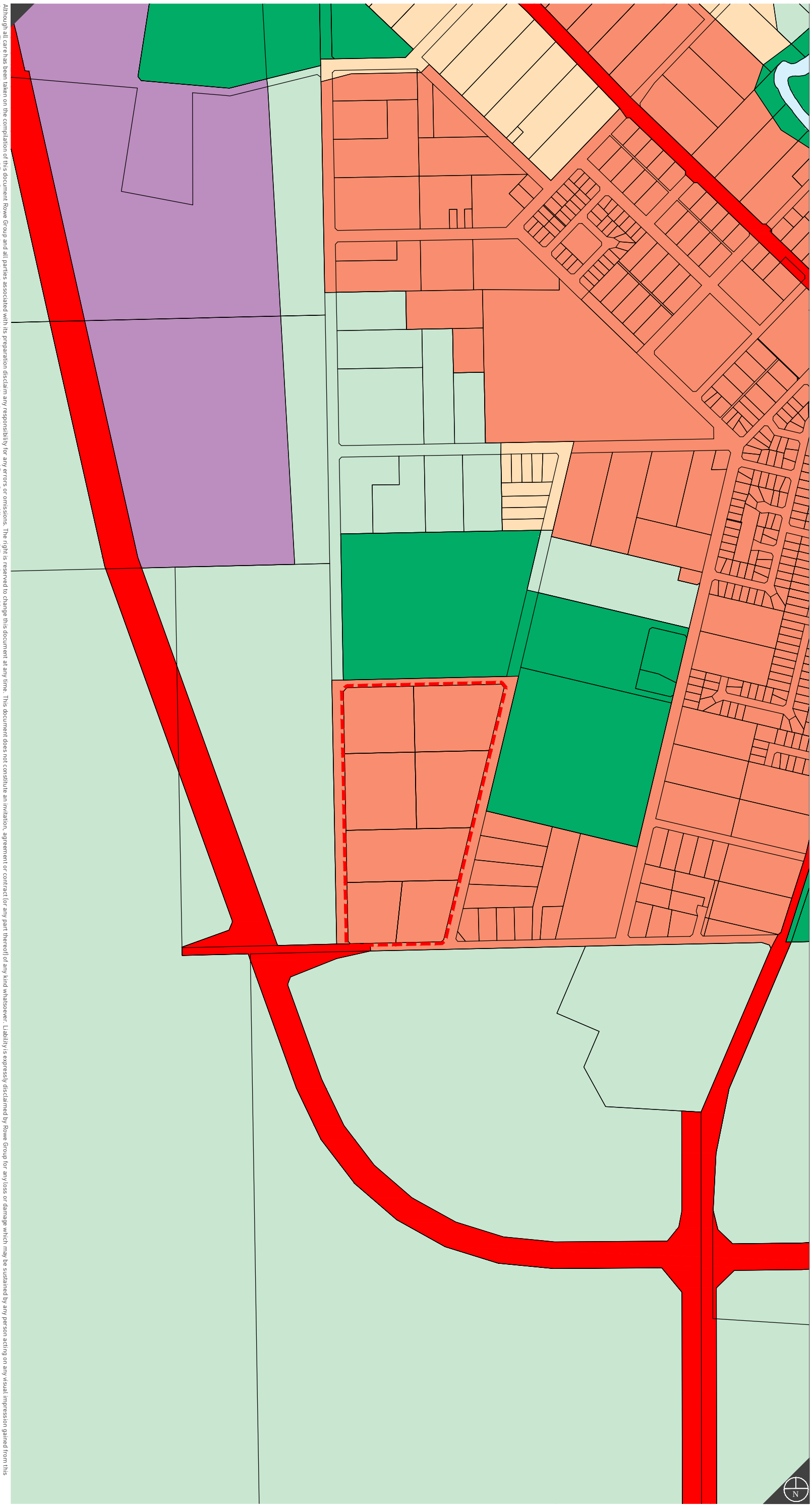
Planning Design Delivery



LEGEND

Subject Site

RESERVED LANDS

- Parks And Recreation
- Waterways
- Primary Regional Roads

ZONES

- Urban
- Urban Deferred
- Industrial
- Rural

0 250m 500 Metres

REVISIONS

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A	2014.02.07	M. Winfield
B	2016.08.15	W.Clements

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PRS Base Plan Supplied by WAPC

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Peel Region Scheme Zoning

Kwel Road Structure Plan, Pinjarra

Figure 5

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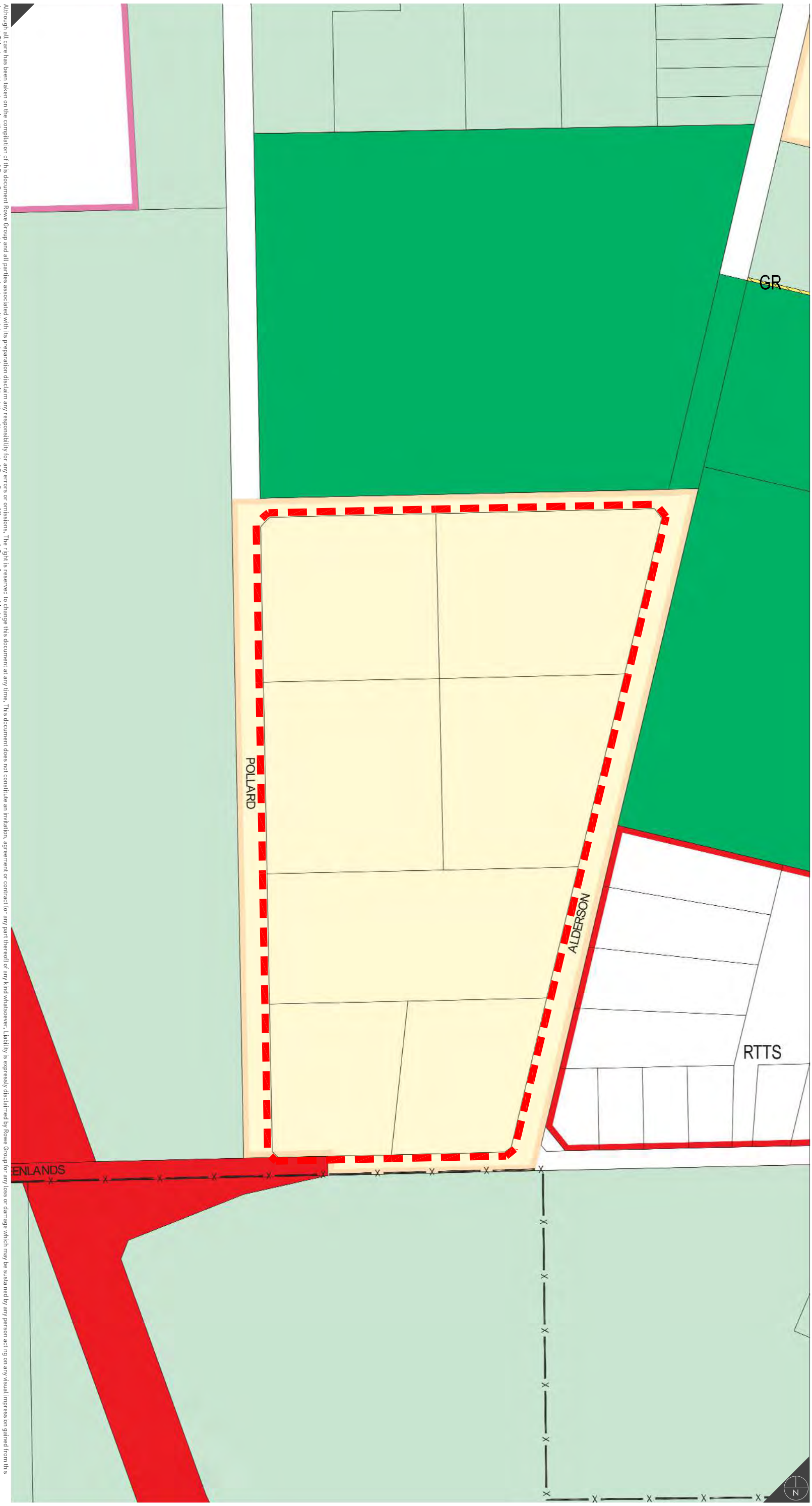

Planning Design Delivery

LEGEND

Subject Site

METROPOLITAN REGION SCHEME RESERVES

Parks And Recreation

Primary Regional Roads

Community Facilities/ Public Purposes

Denotes As Follows:

GR Government Requirements

LOCAL SCHEME RESERVES

Local Road

ZONES

Development

Special Use

Denotes As Follows:

RTTS Residential/Horse Training, Trotting & Stabling

General Rural

Industrial Development

OTHER

— x — Townsite - Land Act

0 100m 200 Metres

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Drawn:	M. Winfield
Projection:	MGA50
Plan ID:	7767-FIG-06-B

TPS Base Plan Supplied by WAPC

Town Planning Scheme Zoning

Kwel Road Structure Plan, Pinjarra

Figure 6

N:\TOWN PLANNING\7000-7999\7767\DRAFTING\A-CAD\7767_FIG06B_20160815 - TPS ZONING.DWG
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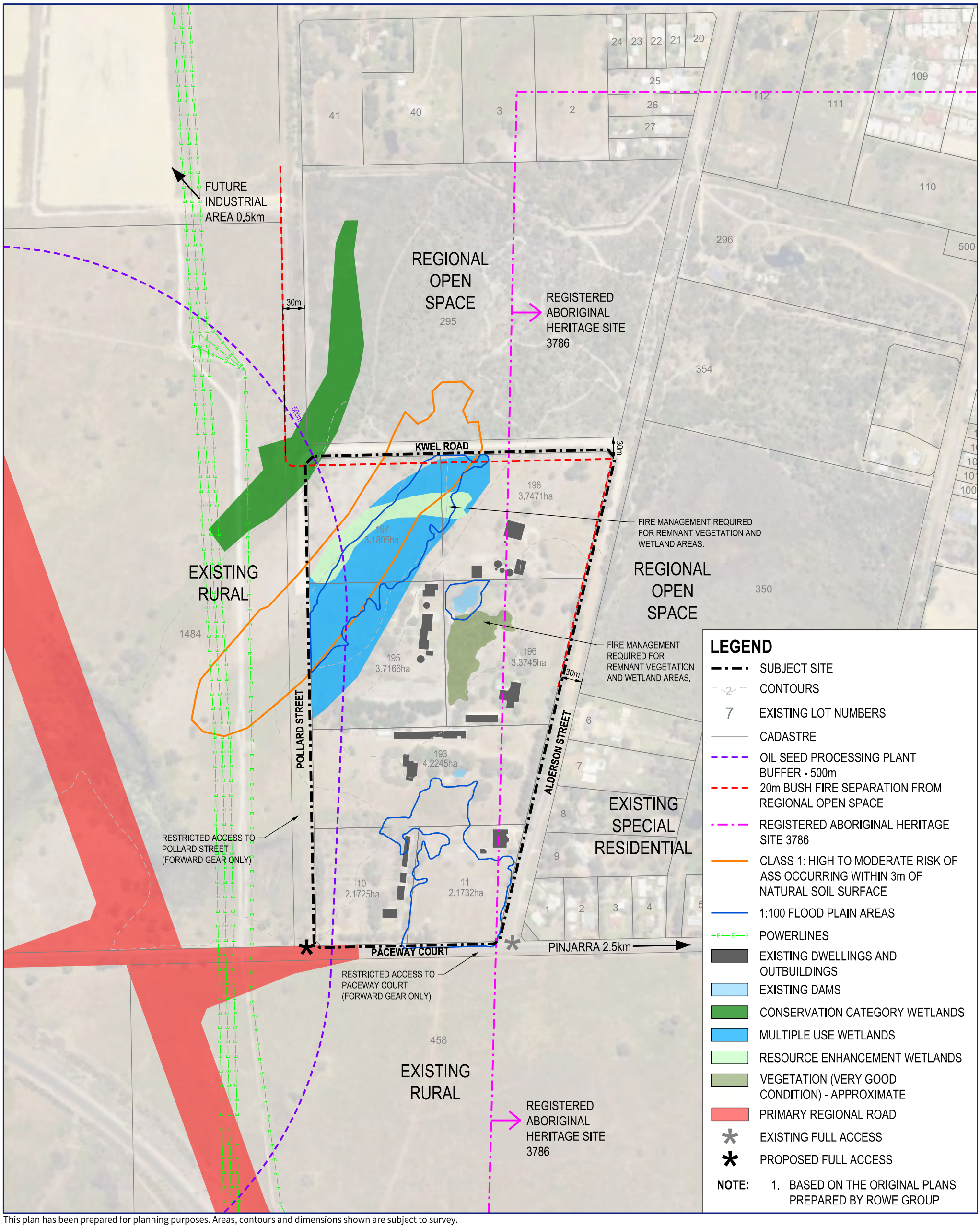

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OPPORTUNITIES AND CONSTRAINTS

Lots 10, 11, 193, 195, 196, 197 and 198
Kwel Road, Pinjarra
Figure 7

Plan No. 18-0014-MP-03C

DATE	27.07.2020
CO-ORDINATES	MGA 50
AERIAL	JPEG - 2017
REVISION	C

N

50m 0 125 250

1 : 2 500 @ A1 or 1 : 5 000 @ A3
ALL DISTANCES ARE IN METRES

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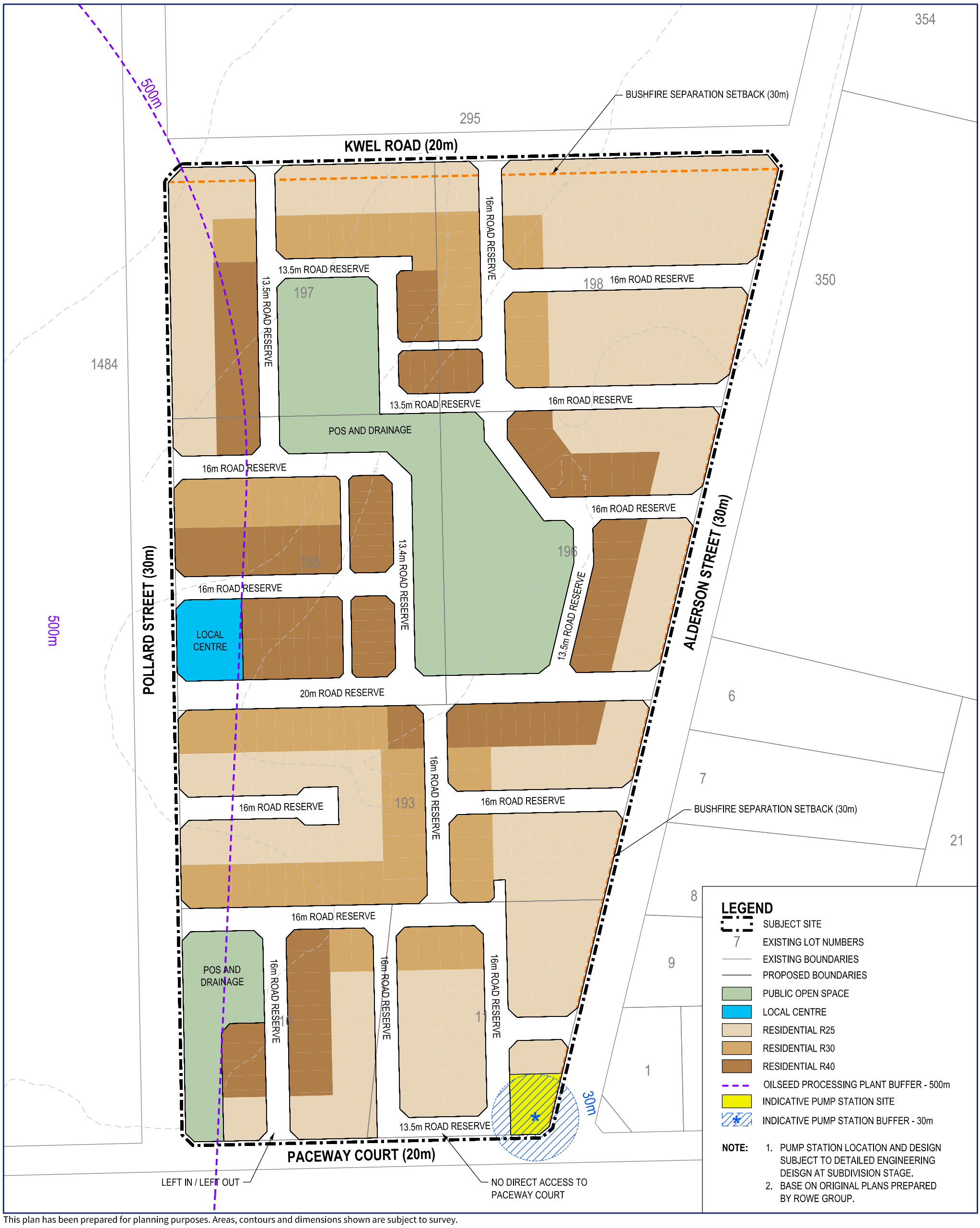

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DETAILED LAYOUT PLAN

Lots 10, 11, 193, 195, 196, 197 and 198
Kwel Road, Pinjarra
Figure 8

Plan No. 18-0014-MP-01C

DATE	27.07.2020
CO-ORDINATES	MGA 50
AERIAL	N/A
REVISION	C

N

25m 0 62.5 125
1 : 1 250 @ A1 or 1 : 2 500 @ A3
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Planning Design Delivery

LEGEND

- Subject Site
- 7 Existing Lot Numbers
- Existing Boundaries
- Proposed Boundaries
- Public Open Space
- 1:5 Year ARI Drainage
- POS Catchment
- Remnant Vegetation to be Retained
- Trees to be Retained
- Trees to be Cleared

NOTE: Trees may be retained subject to further detailed Earthworks / Engineering Design

* All road drainage to be contained and treated in road reserve via swales / road upgrades.

REVISIONS

Rev	Date	Drawn
F	2014.12.03	M. Sullivan
G	2015.05.05	W. Clements
H	2015.10.08	W. Clements
I	2016.08.15	W. Clements

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Client:	B. Hancock
Designer:	S. Jeleric
Drawn:	M. Winfield
Projection:	MGA50
Plan ID:	7767-FIG-09-I

Public Open Space Plan

Kwel Road Structure Plan, Pinjarra

Figure 9

N:\TOWN PLANNING\7000-7999\7767\DRAFTING\A-CAD\7767_FIG09_20160815 - POS - WALKABLE CATCHMENT.DWG
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Kwel Road Structure Plan Public Open Space Schedule

08.10.15

Site Area (Structure Plan Boundary)				23.17
Less				
Nil				23.17
Deductions				
Local Centre		0.21		
Drainage (1:1yr) * See below		0.4970		
Total			0.7	
Gross Subdivisible Area				**22.5**
POS @10%				2.2
Public Open Space Contribution				
May comprise:				
Min 80% unrestricted POS			1.8	
Min 20% restricted use POS			0.4	
Total Required POS				**2.2**
POS Reference Number (area within urban zone/LSP boundary only)		**1:1yr Drainage (m^2)** *Deduction from Net Area*	**Unrestricted Urban POS sites (m^2)**	**1:5yr Restricted POS (m^2) / CCW buffer**
1	24851	3470	17476	3905
2	5631	1500	1767	2364
Total	**30482**	**4970**	**19243**	**6269**
	3.0	**0.5**	**1.9**	**0.6**
Percentage of gross subdivisible area	**13.6%**	**2.2%**	**8.6%**	**2.8%**

Planning Design Delivery

REVISIONS

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A	2015.10.08	W. Clements
B	2016.08.15	W. Clements

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Designer:	R. Dial
Drawn:	M. Sullivan
Projection:	MGA50 GDA94
Plan ID:	7767-FIG-23-B

Public Open Space Schedule

Kwel Road Structure Plan, Pinjarra
Figure 10

N:\TOWN PLANNING\7000-7999\7767\DRAFTING\A-CAD\7767_FIG23B_20160815 - POS - SCHEDULE.DWG
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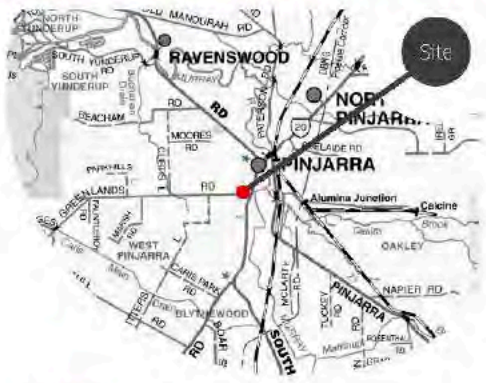

LEGEND

- Subject Site
- 7 Existing Lot Numbers
- Existing Boundaries
- Proposed Boundaries

REVISIONS

Rev	Date	Drawn
E	2015.05.06	W. Clements
F	2015.10.08	W. Clements
G	2015.10.08	W. Clements
H	2016.08.15	W. Clements

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Drawn:	K. Trenberth
Projection:	MGA50 GDA94
Plan ID:	7767-FIG-22-H

Indicative Lot Layout Plan

Kwel Road Structure Plan, Pinjarra

Figure 11

M:\TOWN PLANNING\2180-2999\7767\DRAFTING\A-CAD\7767_FIG22H_20150815_PINJARRA (INDICATIVE LOT LAYOUT).DWG
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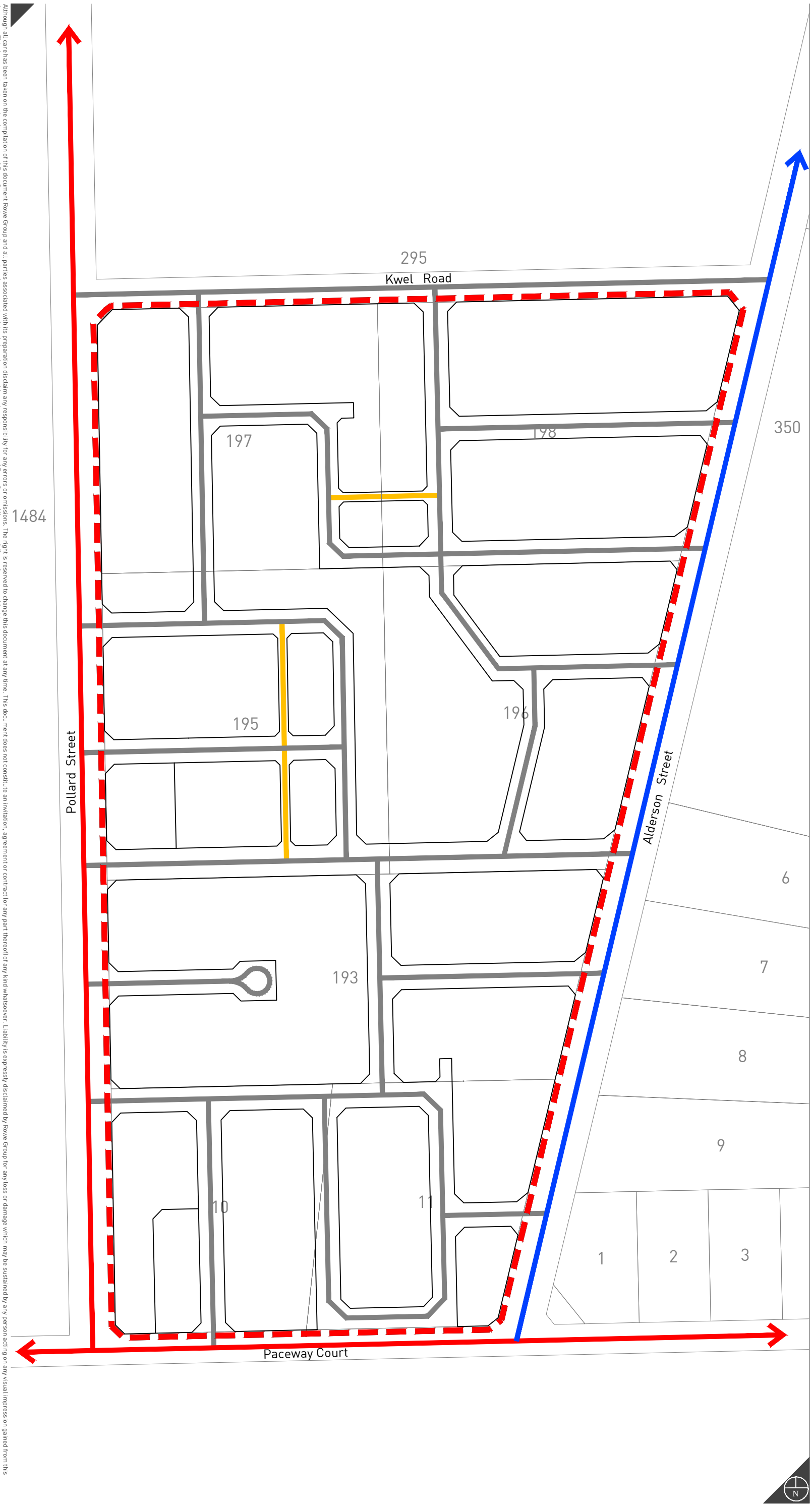

LEGEND

- Subject Site
- Neighbourhood Connector A
- Access Street C
- Access Street D
- Laneway

0 125 Metres

REVISIONS

Rev	Date	Drawn
B	2014.12.09	M. Sullivan
C	2015.05.13	W. Clements
D	2015.10.08	W. Clements
E	2016.08.15	W. Clements

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Designer:	S. Jeleric
Drawn:	M. Winfield
Projection:	MGA50
Plan ID:	7767-FIG-12-E

Movement Network Plan

Kwel Road Structure Plan, Pinjarra

Figure 12

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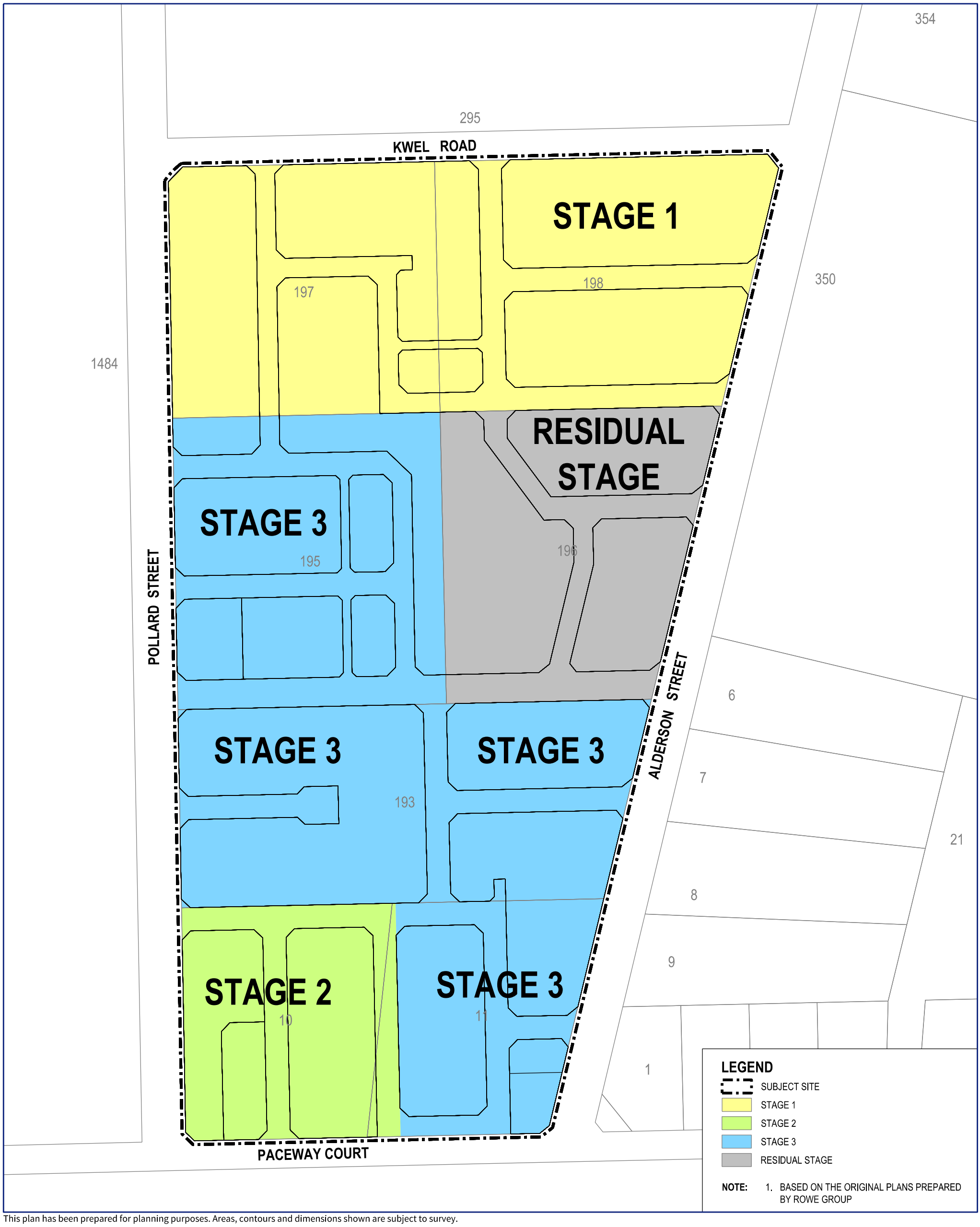

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INDICATIVE STAGING PLAN

Lots 10, 11, 193, 195, 196, 197 and 198
Kwel Road, Pinjarra
Figure 13

Plan No. 18-0014-MP-02B

DATE	12.03.2019
CO-ORDINATES	MGA 50
AERIAL	N/A
REVISION	B

N

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Part Three

TECHNICAL APPENDICES

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