



ROWE
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DESIGN

LOCAL STRUCTURE PLAN

LOT 524 (NO. 40) LOOK ROAD, WAROONA
SPN/2177

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RECORD OF ENDORSEMENT

This structure plan is prepared under the provisions of the Shire of Waroona Local Planning Scheme No. 7.

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

..... Date

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

..... Date

..... Date of Expiry

▲ TABLE OF AMENDMENTS

AMENDMENT NO.	SUMMARY OF THE AMENDMENT	AMENDMENT TYPE	DATE APPROVED BY WAPC

EXECUTIVE SUMMARY

This Local Structure Plan addresses a portion of Lot 524 (No. 40) Look Road, Waroona (the 'subject site'). The subject site is zoned 'Rural' under the *Peel Region Scheme* and 'Additional Use (A3)' under the provisions of the *Shire of Waroona Local Planning Scheme No. 7*.

The subject site is situated approximately 4 kilometres to the north of the Waroona townsite, approximately 1 kilometre to the east of the South Western Highway. The subject site is accessed by Look Road, being an unsealed cul-de-sac.

This Local Structure Plan has been prepared in accordance with the requirements of Scheme Amendment No. 34 to the Shire of Waroona Local Planning Scheme No. 7. The Local Structure Plan seeks to formalise established industrial uses within the subject site.

The preparation of the Local Structure Plan has been undertaken in consultation with the Shire of Waroona and other relevant stakeholders.

STRUCTURE PLAN SUMMARY

ITEM	DATA		SECTION NUMBER REFERENCED IN PART 2 OF REPORT
Total area covered by the Structure Plan	Approx. 1.94 hectares		1.2
Area of each land use proposed:			1.2, 3
Residential	0 hectares	0 lots	
Industrial	1.94 hectares	1 lot	
Commercial	0 hectares	0 lots	
Total estimated lot yield	1 lot		3
Estimated number of dwellings	0 dwellings (1 existing caretaker dwelling adjacent to LSP area)		
Estimated residential site density	0 dwellings per site hectare		
Estimated population	0 people		
Number of high schools	n/a		
Number of primary schools	n/a		
Estimated commercial floor space	n/a		3.6
Estimated area and percentage of public open space given over to:	n/a		3.3
- Regional open space			
- District open space			
- Neighbourhood parks			
- Local parks			
Estimate percentage of natural area	n/a		3.3

Note: All information and areas are approximate only and are subject to survey and detailed design.

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▲ TECHNICAL APPENDICES

APPENDIX NUMBER	DOCUMENT TITLE	NATURE OF DOCUMENT	REFERRAL/APPROVAL AGENCY	APPROVAL STATUS AND MODIFICATIONS
1	Certificate of Title	Supporting	n/a	
2	Traffic Impact Statement	Supporting	Shire of Waroona	



PART ONE

IMPLEMENTATION



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1. STRUCTURE PLAN AREA

This Structure Plan applies to a portion of Lot 524 (No. 40) Look Road, Waroona, comprising the land identified within the inner edge of the line denoting the Structure Plan boundary on the Structure Plan (refer Plan 1).

2. OPERATION

The provisions of this Structure Plan relating to subdivision and development standards are indicative only and do not have the force and effect of scheme provisions. This will continue to be the case unless the provisions of the Structure Plan are incorporated into Local Planning Scheme No. 7 by way of a local planning scheme amendment. Nevertheless, due regard shall be given to the Structure Plan in the determination of any subdivision and development applications.

3. SUBDIVISION REQUIREMENTS

The industrial uses associated with the Structure Plan area are not to be separated by subdivision from the existing principle place of residence and associated agricultural uses on Lot 524 Look Road.

4. DEVELOPMENT REQUIREMENTS

Development applications within the Structure Plan area are to include:

- a) Wastewater Management Plan;
- b) Waste Management Plan;
- c) Landscape Management Plan;
- d) Haulage Traffic Management Plan; and
- e) Implementation of the recommendations of the Traffic Impact Statement.

5. SEPARATION DISTANCES

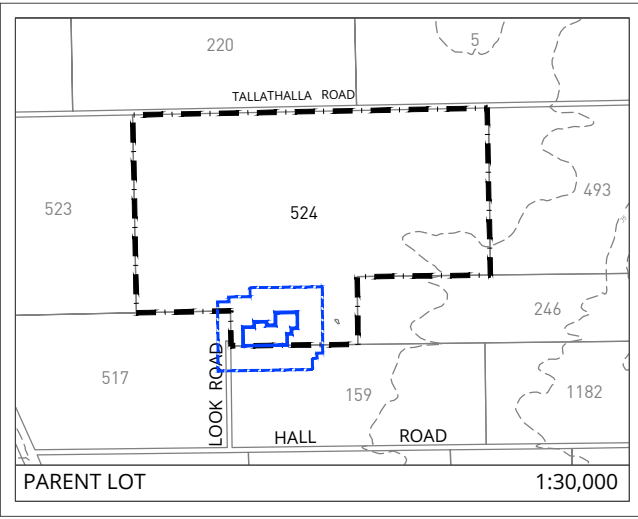
A 100 metre buffer has been identified for the Local Structure Plan area to ensure a separation distance between industry and sensitive land uses, as defined under *State Planning Policy 4.1: Industrial Buffer Policy*.

The nearest sensitive premises beyond the subject site is located approximately 600 metres from the existing workshops, wherein which the industrial activities are carried out.

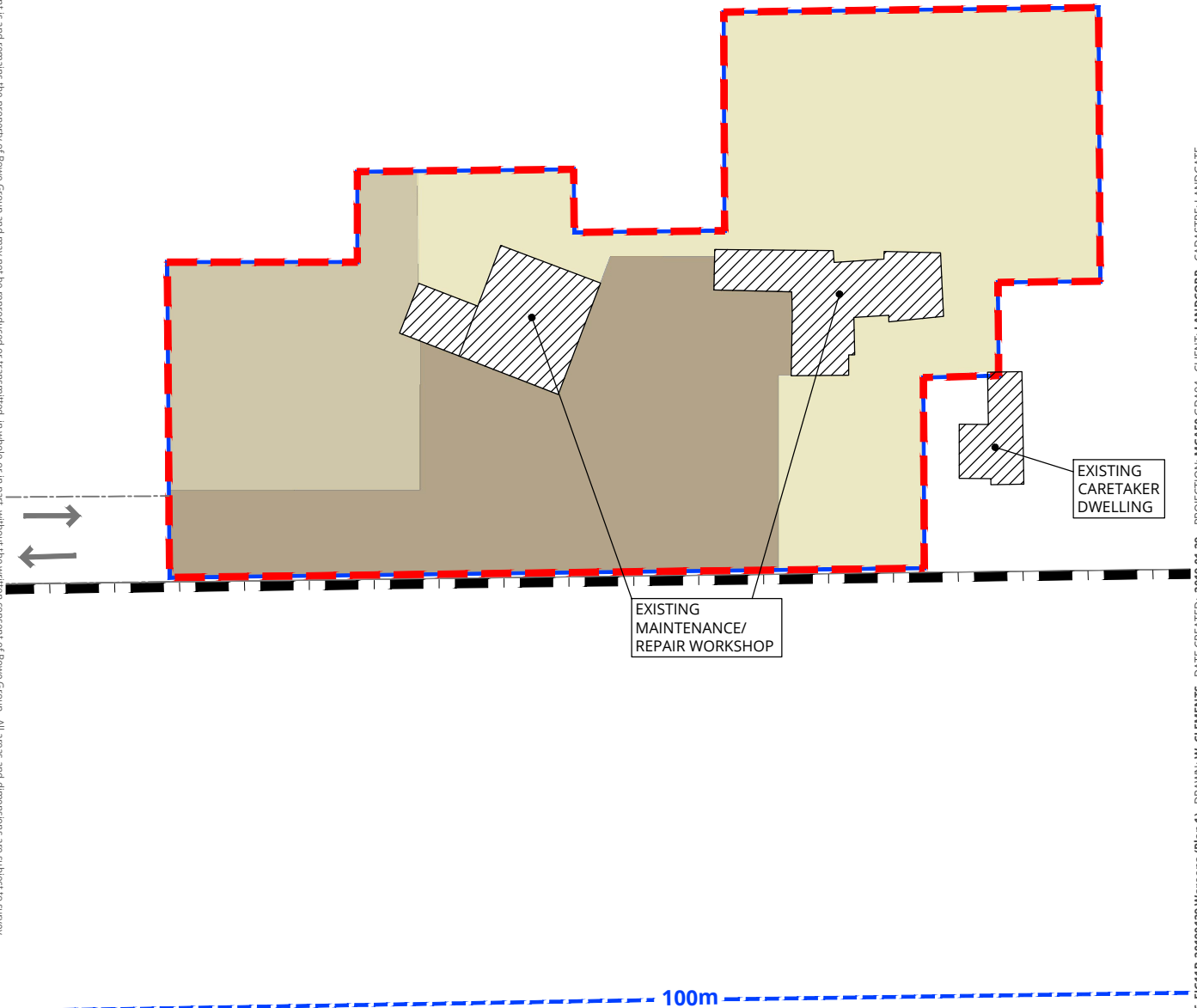
Refer to Plan 1 – Local Structure Plan



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LEGEND	
	SUBJECT SITE (LOT 524)
	EXISTING CADASTRAL BOUNDARIES
	EXISTING LOT NUMBERS
	LOCAL STRUCTURE PLAN BOUNDARY
	ADDITIONAL USE (A3) BOUNDARY
	GENERAL STORAGE AND SET DOWN AREA (INDICATIVE)
	MACHINERY LAYDOWN AREA (INDICATIVE)
	ACCESS/ MANOEUVERING (INDICATIVE)
	MAINTENANCE / REPAIR WORKSHOPS / RELATED STRUCTURES (EXISTING)
	SITE ACCESS AND EGRESS
	100m GENERIC BUFFER SEPERATION DISTANCE IN ACCORDANCE WITH SPP 4.1 AND ENVIRONMENTAL FACTORS No. 3, AS APPROVED UNDER SCHEME AMENDMENT 34



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7876_FIG11B_20190129 Waroona (Plan 1) - DRAWN: W. CLEMENTS - DATE CREATED: 2019.01.29 - PROJECTION: MGA50 GDA94 - CLIENT: LANDCORP - CADASTRE: LANDGATE





PART TWO

EXPLANATORY SECTION



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1. PLANNING BACKGROUND

1.1 INTRODUCTION AND PURPOSE

The purpose of this Local Structure Plan is to address the requirements of Scheme Amendment No. 34 to the *Shire of Waroona Local Planning Scheme No. 7* (LSP 7).

On 27 October 2017 Scheme Amendment No. 34 was gazetted to provide for an 'Additional Use (Additional Use No. A3)' zoning over a portion of Lot 524 (No. 40) Look Road, Waroona. This Additional Use zone facilitates the following uses at the subject site:

Industrial uses associated with repairs, modification to and maintenance of heavy vehicles, plant and equipment and including, metal fabrication, refurbishment, reconditioning, customisation, machining of parts, repairs and servicing and base for mobile breakdown and maintenance service.

Furthermore, a condition of the Additional Use zoning requires the use and development of the land to be in accordance with a Local Structure Plan. This Local Structure Plan (LSP) therefore addresses this requirement, seeking to guide future land use and development over the subject site and provide a framework for more detailed planning. The following sections provide further detail and explanation for the Structure Plan Part 1 provisions.

1.2 LAND DESCRIPTION

1.2.1 LOCATION

The LSP area is located within the Peel Region, within the municipality of the Shire of Waroona, and approximately 33.2 kilometres from the Mandurah City Centre, and approximately 93.5 kilometres south of the Perth Central area.

The subject site is generally bound by Tallathalla Road to the north, Look Road to the south west, and rural zoned land to the east, west and south.

Refer to Figure 1 – Regional Location.

Refer to Figure 2 – Local Location.

1.2.2 AREA AND LAND USE

Lot 524 (No. 40) Look Road comprises approximately 111.02 hectares of land situated in Waroona. Of this, the LSP area comprises approximately 1.94 hectares. The boundaries of the LSP area reflect the boundaries of the site's Additional Use zone.

The portion of Lot 524 comprising the LSP contains an existing Industrial development, consistent with the permitted uses under the Additional Use (A3) zone for the site. This use currently does not have development approval, however such approval is to be subsequently sought for the site following approval of this LSP.

The balance of the land is currently used for rural purposes (dairy farming), in accordance with the zoning of that land.





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7876_FIG02D_20190125_Waroona (Regional) - DRAWN: A. GLASKIN - DATE CREATED: 2019.01.25 - PROJECTION: MGA50_GDA94

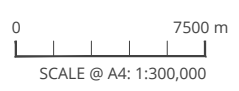
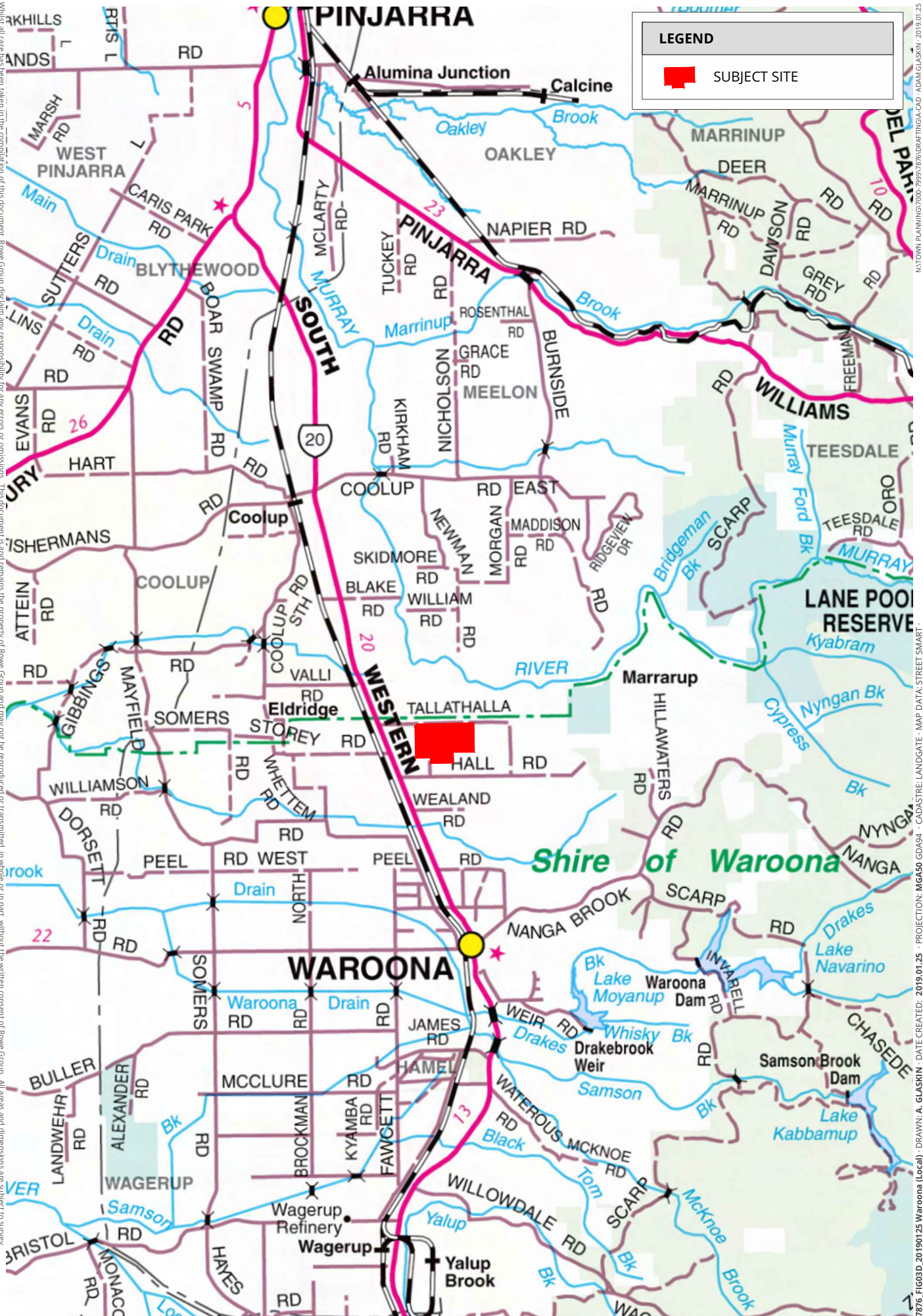


FIGURE 1
REGIONAL LOCATION



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7876_FIG03D_20190125 Waroona (Local) · DRAWN: A. GLASKIN · DATE CREATED: 2019.01.25 · PROJECTION: MGA50 GDA94 · CADASTRE: LANDGATE · MAP DATA: STREET SMART · N/TOWN PLANNING/7000-7999/978/DRAFTING/GA-CAD · ADAM GLASKIN · 2019.01.25

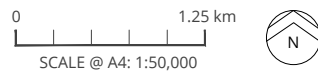


FIGURE 2
LOCAL LOCATION

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7876_FIG05F_20190129 Warcoona (Site) · DRAWN: A. GLASKIN · DATE CREATED: 2019.01.29 · PROJECTION: MGA50 GDA94 · CADASTRE: LANDGATE · AERIAL: NEARMAP · NANTOWN PLANNING/7000-7959/876/DRAFTING/GA-CAD · ADAM GLASKIN · 2019.01.29



0 250 m
SCALE @ A4: 1:10,000



FIGURE 3
SITE PLAN

The site is currently primarily accessed via Look Road, which connects to the South Western Highway in the west.

1.2.3 LEGAL DESCRIPTION AND OWNERSHIP

The Structure Plan comprises of one (1) land parcel, legally described as follows.

LOT NUMBER	STREET ADDRESS	PLAN / DIAGRAM NO.	VOL. / FOLIO.	PROPRIETOR
524	40 Look Road	109211	1492 / 195	JJ Look

Lot 524 has a total land area of approximately 111.02 hectares, of which the LSP comprises approximately 1.94 hectares.

Refer to Attachment 1 - Certificate of Title

1.3 PLANNING FRAMEWORK

1.3.1 ZONING AND RESERVATIONS

1.3.1.1 PEEL REGION SCHEME

The subject site is zoned 'Rural' under the provisions of the Peel Region Scheme (PRS).

Refer to Figure 4 - Peel Region Scheme Zoning.

1.3.1.2 SHIRE OF WAROONA LOCAL PLANNING SCHEME NO. 7

The subject site is zoned '*Rural 1 - General Farming*' under the provisions of the Shire of Waroona Local Planning Scheme No.7 (LPS 7). The existing Industrial development on site is not permitted under the '*Rural 1 - General Farming*' zone. Therefore, Clause 3.21 of LPS 7 permits 'Additional Uses (A3)' over that portion of the subject site, comprising this LSP. These uses are:

Industrial uses associated with repairs, modification to and maintenance of heavy vehicles, plant and equipment and including, metal fabrication, refurbishment, reconditioning, customisation, machining of parts, hydraulic repairs and servicing and base for mobile breakdown and maintenance service.

Conditions:

Use and development of the land should be in accordance with a local structure plan.

This LSP has therefore been prepared to satisfy the requirements of the Additional Use (A3) zoning of the site.

Refer Figure 5 - Local Planning Scheme No. 7 Zoning.



1.3.2 REGIONAL AND SUB-REGIONAL STRUCTURE PLAN

1.3.2.1 PERTH AND PEEL @ 3.5 MILLION

The *Perth and Peel @3.5 Million* provides a framework for the development of the Perth and Peel regions as the population reaches an estimated 3.5 million by 2050. The document seeks to meet the targets identified under *Directions 2031* and the *State Planning Strategy 2050*. The suite of documents also includes four sub-regional planning frameworks detailing where future homes and employment should be located, and where important environmental assets should be avoided and protected.

The subject site is situated within the South Metropolitan Peel Sub-Regional Planning Framework area.

1.3.2.2 SOUTH METROPOLITAN PEEL SUB-REGIONAL PLANNING FRAMEWORK

As noted above, the subject site is situated within the South Metropolitan Peel Sub-Regional Planning Framework (the 'Framework'). Within the Framework it is stated that:

To promote employment opportunities and increase the number of people who live and work within the sub-region, with a focus on attracting strategic economic and employment land uses within the strategic metropolitan centres and key industrial centres, while maximising use of existing and proposed infrastructure.

The proposed LSP (and associated development) therefore seeks to satisfy the objectives of the Framework through providing employment opportunities.

1.3.3 PLANNING STRATEGIES

1.3.3.1 SHIRE OF WAROONA LOCAL PLANNING STRATEGY

The Shire of Waroona Local Planning Strategy (the Strategy) was endorsed by the WAPC in 2009 to set out the long-term planning directions for the Shire.

The subject site is located within the Agricultural Precinct of the Strategy. The objective of the Agricultural Precinct is

To protect from lifestyle subdivision and other noncompatible development in an area which has, or is capable of having, irrigation infrastructure to allow for a range of diverse agricultural uses.

The Strategy lists a range of primary uses focused on agriculture, as well as listing a number of industrial uses (Cottage, Rural and Extractive), as discretionary uses.

The use of the subject site for Industrial purposes, as existing on site and in accordance with the Additional Use A3 zoning of the site, to be facilitated through this LSP, is not considered to compromise or limit the agricultural use of the balance of the site or surrounding rural land.



1.3.3.2 WAROONA NORTH LOCAL STRUCTURE PLAN

The Shire of Waroona adopted the Waroona North Local Structure Plan (WNLSP) in 2007 to cater for future growth within the Shire over the following 10 to 20 years. The key objectives of the WNLSP are identified as:

- ▲ Is a shared vision for the future development of the Waroona North area.
- ▲ Responds to the opportunities and constraints presented by mining of the area and provides Iluka Resources Ltd guidance on the rehabilitation of the area post mining.
- ▲ Provides the 'optimal' blend of land uses to balance the economic, environmental and social considerations, and to provide for the long term expansion of Waroona.

The WNLSP identifies the subject site as 'Intensive Agriculture.' The balance of Lot 524 comprises an existing agricultural land use (dairy farming). The existing industrial uses on site, permitted by the Additional Use (A3) zoning and facilitated through this LSP, are not considered to compromise that agricultural use.

Further, the proposed uses on the site are considered to be of community benefit, adding to the long term expansion of Waroona.

1.3.4 PLANNING POLICIES

1.3.4.1 STATE PLANNING POLICY NO. 2: ENVIRONMENT AND NATURAL RESOURCES

The objectives of State Planning Policy No. 2 (SPP 2) are as follows:

- ▲ to integrate environment and natural resource management with broader land use planning and decision-making;
- ▲ to protect, conserve and enhance the natural environment; and
- ▲ to promote and assist in the wise and sustainable use and management of natural resources.

Specifically, the policy focuses on the protection of:

- ▲ water resources;
- ▲ air quality;
- ▲ soil and land quality;
- ▲ biodiversity;
- ▲ agricultural land and rains lands;
- ▲ minerals, petroleum and basic raw materials;
- ▲ marine resources and agriculture; and
- ▲ greenhouse gas emissions and energy efficiency.

The existing Industrial activity on site has been operating in conjunction with the existing adjacent dairy farm operation (within the same landholding) without adversely impacting on the rural use



for some time. The proposed LSP is therefore not considered to conflict with the objectives and requirements of SPP 2.

1.3.4.2 STATE PLANNING POLICY NO. 2.1: PEEL-HARVEY COASTAL PLAIN CATCHMENT

The subject site is located within the Peel-Harvey Coastal Plain Catchment, as depicted on the Shire of Waroona LPS 7 maps. The land is therefore subject to the provisions of the State Planning Policy 2.1 (SPP 2.1).

The objectives of SPP 2.1 are:

- ▲ to improve the social, economic, ecological, aesthetic and recreational potential of the Peel-Harvey Coastal Plain Catchment;
- ▲ to ensure that changes to land use within the catchment of the Peel Harvey estuarine system are controlled so as to avoid and to minimise environmental damage;
- ▲ to balance environmental protection, with the environmental viability of the primary sector;
- ▲ to increase high water using vegetation cover within the Peel Harvey Coastal Plain Catchment; and
- ▲ to reflect the environmental objectives in Environmental Protection Policy (Peel-Harvey Estuarine Systems) 1992, to prevent land use that is likely to result in excessive nutrient export into the drainage system

Clause 6.5 of SPP 2.1 states the following in regard to Industrial development:

6.5 Industrial Development

6.5.1 Proposals to develop land for industry, where the industrial process would create liquid effluent, must include provision for connection to a reticulated sewerage system.

6.5.2 Works approvals and licences will be required from the EPA where the proposal has a wastewater discharge or falls within the list of scheduled premises under Part V of the Environmental Protection Act. Some types of industrial development may require an impact assessment under Part IV of the Environmental Protection Act.

The subject site is adequately serviced by an onsite effluent disposal system. Maintenance and repairs associated with the systems on site will be undertaken in such a manner that liquid and solid wastes are contained, treated and disposed of appropriately offsite, consistent with the Policy. A Waste Management Plan and Wastewater Management Plan are required to be prepared, approved and implemented as part of any future development applications for the site.

The proposed LSP is therefore consistent with the requirements of SPP 2.1.

1.3.4.3 DRAFT STATE PLANNING POLICY NO. 2.4: BASIC RAW MATERIALS

Draft State Planning Policy 2.4 (DSPP 2.4) seeks to guide the use and extraction of Basic Raw Materials from land where such extraction is considered appropriate on planning and



environmental grounds. The draft policy document is an update to an earlier version released in 2000.

A review of the Department of Mines, Industry Regulation and Safety mapping has identified that there are no Basic Raw Materials or priority resource areas within the subject site. However, it should be noted that an area approximately 870 metres to the south east of the site is categorised by the mapping as Titanium-zircon Mineralisation.

The Department of Mines, Industry Regulation and Safety mapping of Titanium-zircon Mineralisation provides greater definition of the resource and the 500 metre buffer requirements (from sensitive land uses) during the mining process. The buffer outer edge is located approximately 380 metres to the south east of the subject site. The Industrial uses on site are not considered to be sensitive uses in the context of the mining buffer and is therefore neither a constraint nor is constrained by the mining of that land.

The proposed LSP is therefore not in conflict with DSPP 2.4.

1.3.4.4 STATE PLANNING POLICY NO. 2.5: RURAL PLANNING

The purpose of State Planning Policy No. 2.5 (SPP 2.5) is to protect and preserve Western Australia's rural land assets due to the importance of their economic, natural resource, food production, environmental and landscape values. Ensuring broad compatibility between land uses is essential to delivering this outcome.

As previously noted, the existing Industrial activity on site has been operating in conjunction with an existing dairy farm operation within the same landholding without adversely impacting on the rural use for some time. The LSP and associated development are therefore not considered to be in conflict with SPP 2.5.

1.3.4.5 STATE PLANNING POLICY 4.1: STATE INDUSTRIAL BUFFER

The purpose of State Planning Policy 4.1 (SPP 4.1) is to provide a consistent Statewide approach for the protection and long-term security of industrial zones, transport terminals, other utilities and special uses. SPP 4.1 seeks to control the location of both industry and uses sensitive to industrial impacts in order to:

- 1) *To provide a consistent Statewide approach for the definition and securing of buffer areas around industry, infrastructure and some special uses.*
- 2) *To protect industry, infrastructure and special uses from the encroachment of incompatible land uses.*
- 3) *To provide for the safety and amenity of land uses surrounding industry, infrastructure and special uses.*
- 4) *To recognise the interests of existing landowners within buffer areas who may be affected by residual emissions and risks, as well as the interests, needs and economic benefits of existing industry and infrastructure which may be affected by encroaching incompatible land uses.*



The policy establishes a framework for determining separation distances (buffer areas), the criteria for establishing buffer areas, and the requirements for technical analysis and criteria for assessing applications within buffer areas.

SPP 4.1 works in parallel and is cross referenced to the Environmental Protection Authority's *Guidance for the Assessment of Environmental Factors No. 3: Separation Distances Between Industrial and Sensitive Land Uses*. Development which meets these requirements is considered 'deemed to comply'.

There are no existing sensitive uses on site (other than the dwellings occupied by the operators of the existing industrial activity), as defined by SPP 4.1, and therefore the proposed LSP and associated development on site, as facilitated by the Additional Use A3 zoning, is consistent with the requirements of SPP 4.1.

A 100 metre buffer has been identified for Local Structure Plan area, to ensure a separation distance between industry and sensitive land uses, as defined under SPP 4.1. This 100 metre buffer was approved as part of Scheme Amendment 34.

The nearest sensitive premises beyond the subject site is located approximately 600 metres from the existing workshops, wherein which the industrial activities are carried out. This is further discussed within Part 2, Section 3.2 of this document.

1.3.5 OTHER APPROVALS AND DECISIONS

On 27 October, 2017 Scheme Amendment No. 34 to the Shire of Waroona Local Planning Scheme No. 7 was gazetted to allow for the additional uses within a portion of Lot 524 (No. 40) Look Road, Waroona. These additional uses included:

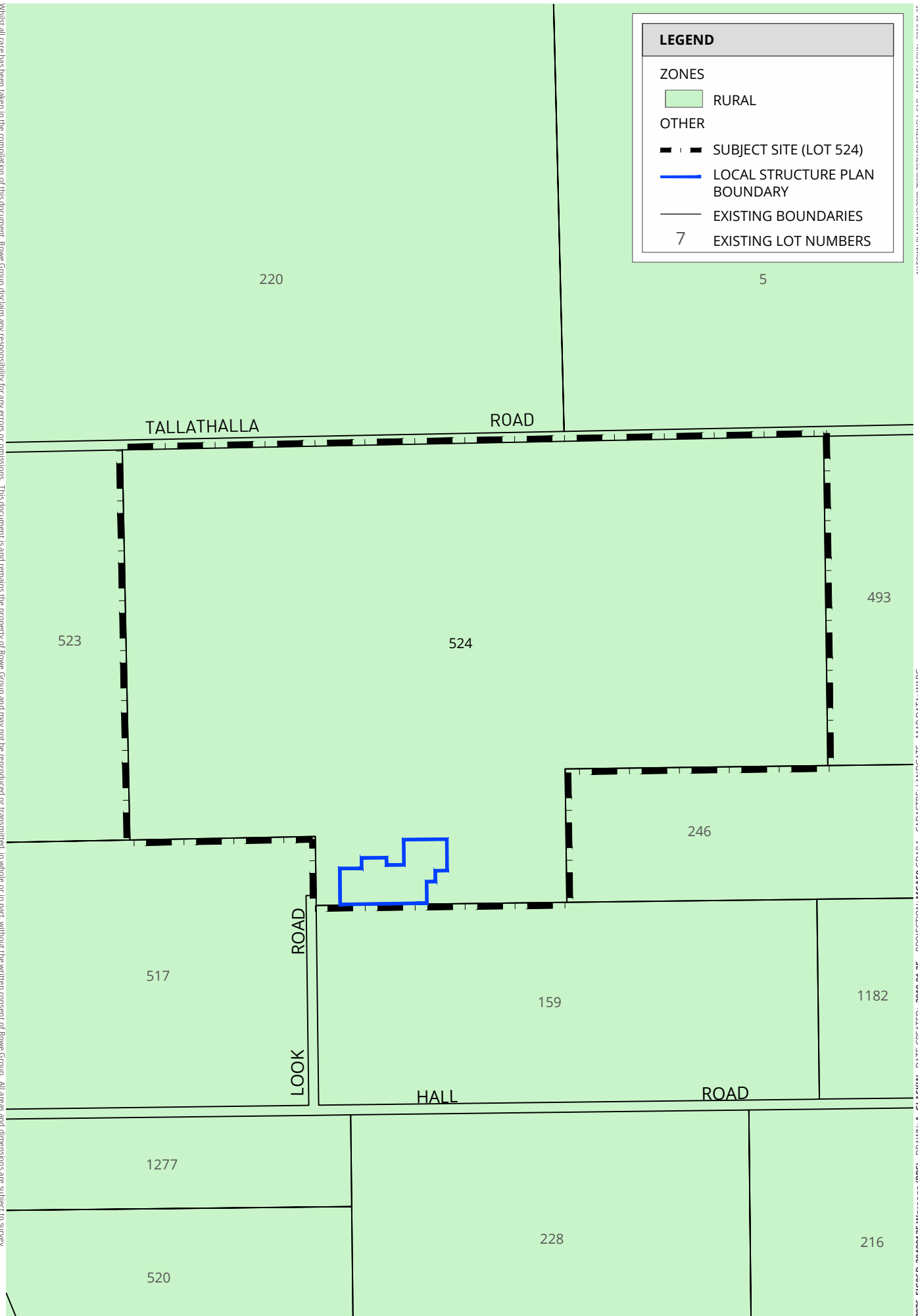
Industrial uses associated with repairs, modification to and maintenance of heavy vehicles, plant and equipment and including, metal fabrication, refurbishment, reconditioning, customisation, machining of parts, repairs and servicing and base for mobile breakdown and maintenance service.

Furthermore, it was conditioned that the use and development of the land should be in accordance with a local structure plan.

A development application will be subsequently lodged for the existing uses on site, providing retrospective approval for those uses.



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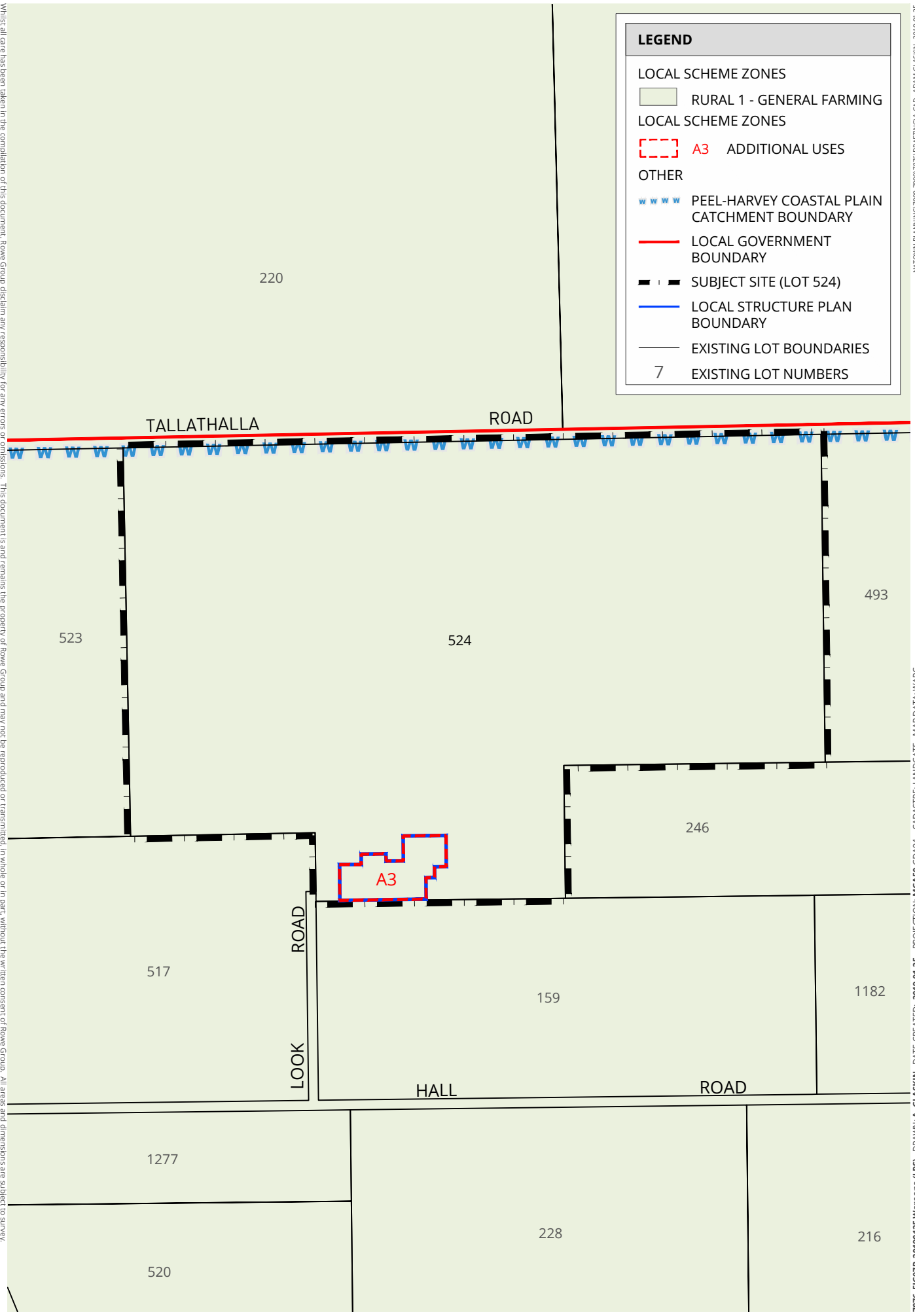


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7876_FIG06D_20190125 Waroona (PRS) - DRAWN: A. GLASKIN - DATE CREATED: 2019.01.25 - PROJECTION: MGA50 GDA94 - CADASTRE: LANDGATE - MAP DATA: WAPC



FIGURE 4
PEEL REGION SCHEME ZONING

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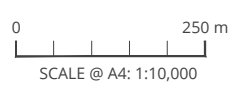


FIGURE 5
LOCAL PLANNING SCHEME No. 7 ZONING

2. SITE CONDITIONS AND CONSTRAINTS

2.1 BIODIVERSITY AND NATURAL AREA ASSETS

2.1.1 VEGETATION

There is little or no remnant vegetation on the site, except for that retained along paddock fence lines, outside the LSP boundary.

The site also includes some screening vegetation between the existing structures within the LSP area and the public roads (Look Road and Hall Road).

2.2 LANDFORM AND SOILS

2.2.1 TOPOGRAPHY

The subject site is situated at the base of the Darling Escarpment on the Swan Coastal Plain and is therefore generally flat in nature, which is suitable for industrial activities.

2.2.2 SOILS AND LAND CAPABILITY

The overall landholding comprises predominately soils of the Pinjarra landform system P1d, as identified under the Department of Primary Industries and Regional Development NRInfo maps. A small section of the site which coincides generally with the location of the existing industrial activity is mapped as Pinjarra landform system P1b:

The Soils of the Pinjarra Plains characteristics are as follows

P1b

Flat to very gently undulating plain with deep acidic mottled yellow duplex (or 'effective duplex') soils. Moderately deep pale sand to loamy sand over clay; imperfectly drained and moderately susceptible to salinity in limited areas

P1d

Flat to very gently undulating plain with deep acidic mottled yellow duplex (or 'effective duplex') soils. Shallow pale sand to sandy loam over clay; imperfect to poorly drained and moderately susceptible to salinity.

Whilst the Department of Primary Industries and Regional Development land use capability assessment (Land Capability Assessment for Shires of Mandurah and Murray (1989)) does not include industrial activity, the nearest comparable listed land use is that of House and Road construction.

Pinjarra Plain Soil type P1b has a Fair (iii) capability of sustaining house and road construction with the limiting factor being inundation. As the subject site is well drained, this is not a consideration in this case and the site is considered to be capable of supporting industry.

2.2.3 ACID SULPHATE SOILS

The Department of Water and Environmental Regulation Acid Sulphate Soil Risk Mapping identifies the subject site as having a moderate to low risk of Acid Sulphate Soils (ASS) occurring. Therefore, given the low risk, no further investigations have been undertaken for the site in regard to ASS.

2.3 GROUNDWATER AND SURFACE WATER

The Department of Water and Environmental Regulation Wetland Mapping identifies the subject site and surrounding area as being a 'Multiple Use Wetland'.

Multiple Use wetlands are defined as wetlands with few important ecological attributes and functions remaining, and represent the lowest conservation value in the wetland classification system. This, in conjunction with the existing uses on site, indicates the wetland area is heavily modified and degraded and has little environmental or conservation value.

2.4 BUSHFIRE HAZARD

The subject site is not mapped as being within a Bushfire Prone Area, in accordance with current Department of Fire and Emergency Services Mapping. This LSP is therefore not required to be supported by a Bushfire Management Plan.

2.5 HERITAGE

2.5.1 ABORIGINAL HERITAGE

A search of the Department of Aboriginal Affairs Register of Heritage Sites database does not identify any sites of aboriginal heritage significance within the LSP area or immediate surrounds.

The nearest mapped significant site is situated approximately 13 kilometres to the north east of the LSP area. This site is identified as Aboriginal Heritage Site ID 4333 (Gas Pipeline 92) and includes 'scattered artefacts' identified during the Aboriginal Community Consultation Survey in 2000. (Shire of Murray). Given the relative distance from the subject site, the use of the subject site for Industrial purposes, in accordance with the Additional Use A3 zone, is not considered to have any adverse impact on this listing and no further investigations are required.

2.5.2 EUROPEAN HERITAGE

A search of the Western Australian Heritage Council sites register, the Australian Heritage Database and the Shire of Waroona Municipal Heritage Inventory identified no sites of European heritage significance at the subject site or immediate surrounds.



3. LAND USE AND DEVELOPMENT REQUIREMENTS

3.1 LAND USE

The LSP area comprises existing industrial land uses, in accordance with the permitted uses under the Additional Use A3 zoning of the site. Following LSP approval, a Development Approval is to be retrospectively sought for these uses.

The existing use involves servicing of vehicles, plant and equipment associated with the mining and civil works industries. This includes:

- ▲ Repair and maintenance;
- ▲ metal fabrication of a range of components;
- ▲ Refurbishment/rebuilding/reconditioning of vehicles and machinery;
- ▲ Customisation;
- ▲ Provision of mobile breakdown and maintenance service;
- ▲ Parts machining;
- ▲ Hydraulic hose servicing; and
- ▲ General workshop activities.

There are two existing maintenance / repair work shop buildings/ sheds on site to facilitate the abovementioned services. There are also machinery lay down areas, general storage and set down areas, as well as hardstand for access and manoeuvring.

This LSP seeks to formalise the existing land use configuration on site.

Surrounding the LSP area, on the balance of the wider Lot 524 landholding, there is an existing dairy farm operation (including the keeping of stock and pastures), with associated buildings and structures. This use is intended to remain.

There is also an existing dwelling on site, to the immediate east of the LSP area. This dwelling is to be retained and is used as a caretaker's residence for the existing uses on site.

Refer to Figure 3 – Site Plan

3.2 LAND USE BUFFERS

3.2.1 GUIDANCE FOR THE ASSESSMENT OF ENVIRONMENTAL FACTORS NO 3

Guidance Statement No.3 establishes recommended separation distances between industry and sensitive land uses, as defined under the Draft SPP 4.1 (State Industrial Buffer Policy).

These buffer distances are based on generic industry (and other activities which generate offsite impacts) types and profiles.



In the context of Guidance Statement No. 3, the uses comprising the LSP are subject to the following buffer distances, as recommended by the EPA:

INDUSTRY	DESCRIPTION OF INDUSTRY	IMPACTS	BUFFER DISTANCE IN METRES AND QUALIFYING NOTES
Metal fabrication	sheet metal, structural metal and iron and steel products – up to 50,000 tonnes per year	Noise Dust	500-1000, depending on size
Motor body works	including panel beaters	Noise Dust Odour	200
Automotive spray painting	liquid paint is directed onto automotive surfaces by airless, compression, electrostatic or other methods	Noise Dust Odour	200

Whilst the EPA Guidance Statement does not specifically deal with motor vehicle repairs, other Local Government Authorities (Cities of Kwinana and Rockingham) have adopted Industry Classification Systems and recommended separation distance for a range of lower order uses including motor vehicle repairs. On this basis, a separation distance of 100 metres for the site was approved as part of Scheme Amendment 34 to the Shire of Waroona Local Planning Scheme No. 7.

Further, as depicted in Figure 6, the nearest sensitive premises beyond the subject site (dwelling) is located approximately 600 metres from the existing workshops, wherein which the industrial activities are carried out. The existing/ proposed land uses therefore meet the EPA criteria for minimising offsite impact from industry.

The proposed LSP is therefore not in conflict with SPP 4.1 or the Guidelines.

3.3 PUBLIC OPEN SPACE

Given the proposed use of the land for industrial purposes, no public open space is required to be provided as part of this LSP.

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7876_FIG08C_20190129 Waroona (NSPBD) - DRAWN: W. CLEMENTS - DATE CREATED: 2019.01.29 - PROJECTION: MGA50 GDA94 - CADASTRE: LANDGATE - AERIAL: NEARMAP

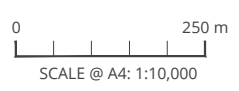
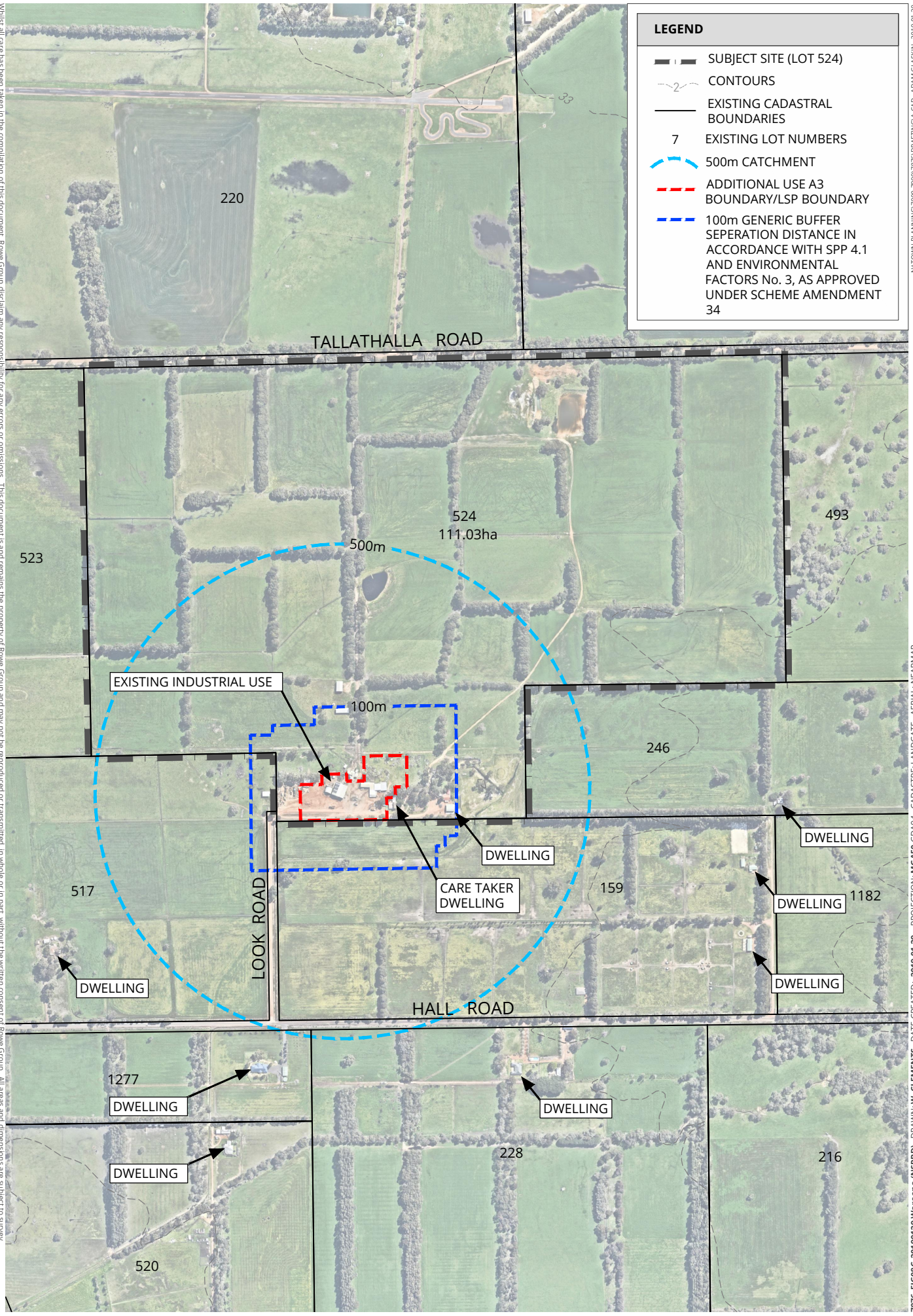


FIGURE 6
NEARBY SENSITIVE LAND USES AND BUFFER DISTANCES

3.4 MOVEMENT NETWORK

The following provides a summary of the proposed movement network. For further information, refer to the Transport Impact Assessment provided at Appendix 2.

The Transport Impact Assessment was prepared in support of Scheme Amendment No. 34, and as part of that process was assessed by the Shire of Waroona on advice from Main Roads WA and the Department of Transport. The conclusions and recommendations of the Transport Impact Assessment were deemed to be appropriate through that process. Given the nature of the development on site has not changed, and in accordance with more recent discussions with the Shire of Waroona, the existing Transport Impact Assessment is considered to remain appropriate and relevant to the LSP.

3.4.1 EXISTING ROAD NETWORK

3.4.1.1 LOOK ROAD

Look Road adjoins the south western boundary of the subject site, providing access to the LSP area/ existing development. Look Road connects with Hall Road in the south and is classified as an *Access Road* under the Main Roads WA Functional Road Hierarchy.

Look Road is an unsealed road with varying widths, providing access only to the subject site.

3.4.1.2 HALL ROAD

Hall Road is located south of the LSP area and provides a connection between Look Road and the South Western Highway. Hall Road is classified as an *Access Road* under the Main Roads WA Functional Road Hierarchy.

Hall Road is currently constructed to a single carriageway, with one lane in each direction. The intersection between Look Road and Hall Road is a normal T-junction allowing both left and right turn movements.

3.4.1.3 SOUTH WESTERN HIGHWAY

The South Western Highway is located to the west of the LSP area and provides access to the site via Hall Road and Look Road. The South Western Highway is classified as a *Regional Distributor Road* under the Main Roads WA Functional Road Hierarchy.

The Traffic Impact Assessment concluded the vehicle movements associated with the development on site are insignificant and are not considered to have any notable impact on the South Western Highway, nor any implications for the existing Hall Road/ South Western Highway intersection.

3.4.2 TRAFFIC GENERATION

Based on the existing development on site, intended to continue to operate in the same manner, the Transport Impact Assessment was prepared on the premise of the below traffic volumes.

▲ Dwelling

- 4 light vehicles, 3 times per day; and



- 1 semi-trailer per day

▲ Business

- 7 light vehicles per day;
- 1 courier light vehicle per day;
- 1 courier light truck per day;
- 1 semi-trailer per week;
- 1 50t float every 2 weeks; and
- 1 100t float every month.

Whilst the Transport Impact Assessment was prepared in 2014, the operations on site have not changed and therefore the above volumes remain relevant to the LSP. Traffic generated by the proposed development will not add significant traffic volumes or have any significant impact on the adjacent road network.

3.4.3 CONCLUSIONS AND RECOMMENDATIONS

The Traffic Impact Assessment makes the following conclusions in regard to traffic impacts from the development on site.

- ▲ The restricted access vehicle network is not affected by the proposed vehicle movements and an extension request is not required.
- ▲ Traffic generated by the proposed development will not add significant traffic volumes to the adjacent road network.
- ▲ South Western Highway and Hall Road intersection is able to accommodate most of the proposed movements without the unsealed shoulder being traversed. However, some movements will use the shoulder and although the currently proposed movement frequency may not warrant sealed surface widening, this should not be discounted in future if the situation changes. It would however have to be re-evaluated at that time.
- ▲ Hall Road and Look Road intersection is not able to accommodate the vehicle movements in the current configuration without problems. Some upgrading should be considered.
- ▲ There are impacts on other road users that have to be considered from a safety and nuisance perspective.

Based on the above conclusions, the following recommendations are detailed in the Traffic Impact Assessment.

- ▲ A Haulage Traffic Management Plan is to be prepared for the site. This should include:
 - A schedule of events should be considered, if possible, to inform involved parties and avoid safety issues and frustration of other road users. This should form part of a Haulage Traffic Management plan to be fully implemented prior to any event.

- If a schedule is not practical, a minimum notice period should be considered, as part of the Haulage Traffic Management plan, to inform all involved parties of the next event.
 - Consideration should be given to methods of informing involved parties. Possible methods may include phoning, a letter drop, information signs at both intersections, trucks entering signs, trucks on road signs, etc.
 - As part of the Haulage Traffic Management plan, truck drivers need to be made aware they need to yield to oncoming traffic to ensure safe passage of other users. Operations should be restricted to daylight hours only at reduced speeds, with radio contact and lights on at all times. Only one truck movement should be allowed at a time.
- ▲ Consideration should be given to designing the Hall Road and Look Road intersection to allow lane correct movements for semi-trailers. This will address a number of safety issues and maintenance concerns. This will also define truncation and service relocation requirements.
 - ▲ Should Look Road remain unsealed, dust control and maintenance requirements should be agreed between concerned parties. Minimum road widths for construction should be communicated and agreed to ensure the required Shire of Waroona standards are met.
 - ▲ Consideration should be given to sealing of the widened Hall and Look Road intersection.
 - ▲ Consideration should be given to protection of the power pole opposite Look Road.

These recommendations are to be implemented through this LSP and any subsequent development approvals for the site, in conjunction with the Shire of Waroona.

3.5 WATER MANAGEMENT

No formal water management plan has been prepared for the site as part of this LSP. However, a Wastewater Management Plan will be required to be prepared and implemented as part of future development applications / approvals for the site.

3.6 ACTIVITY CENTRES AND EMPLOYMENT

The development on site represents a stand alone industrial use and does not form part of a wider industrial centre or precinct. The nearest activity centre is the Waroona Town Centre, located approximately 5.2 kilometres south of the LSP area.

Whilst the existing development provides for some local employment opportunities, the current employees are the property owners and reside on site.

3.7 INFRASTRUCTURE COORDINATION AND SERVICING

There is a High Voltage 3 phase overhead powerline extending along Look Road to the site from Hall Road to the south and beyond, servicing the site.



There is currently no reticulated sewer or water available to the site. The subject site is adequately serviced by an onsite effluent disposal system. A Waste Management Plan will be required to be prepared and implemented as part of any future development applications and approvals for the site.

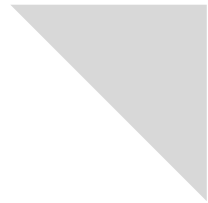
The site is currently accessed by Look Road from Hall Road, connecting to the South Western Highway. Look Road is an unsealed limestone road, which is considered adequate for the current uses on site.

4. CONCLUSION

This Local Structure Plan has been prepared to satisfy the requirements of Amendment No. 34 to the Shire of Waroona Local Planning Scheme No. 7, which introduced the Additional Use A3 zoning to the subject site. This Local Structure Plan acts as a precursor to a retrospective development application to be lodged for the existing industrial uses on site, formalising the land use configuration, access considerations and development requirements.

The use and development of the subject site for the purposes outlined within this Local Structure Plan are appropriate and justified.





APPENDIX 1

CERTIFICATE OF TITLE



ROWE
GROUP
DESIGN

WESTERN



AUSTRALIA

REGISTER NUMBER 524/DP109211	
DUPLICATE EDITION 1	DATE DUPLICATE ISSUED 13/9/2011

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

VOLUME **1492** FOLIO **195**

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



REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 524 ON DEPOSITED PLAN 109211

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

JOHN JAMES LOOK OF POST OFFICE BOX 55, WAROONA

(A L716591) REGISTERED 25/8/2011

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

1. L716593 MORTGAGE TO RABOBANK AUSTRALIA LTD REGISTERED 25/8/2011.

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

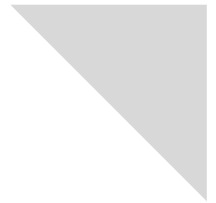
-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

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

SKETCH OF LAND: 1492-195 (524/DP109211)
PREVIOUS TITLE: 1039-641
PROPERTY STREET ADDRESS: 40 LOOK RD, WAROONA.
LOCAL GOVERNMENT AUTHORITY: SHIRE OF WAROONA

NOTE 1: A000001A LAND PARCEL IDENTIFIER OF MURRAY LOCATION 524 (OR THE PART THEREOF) ON SUPERSEDED PAPER CERTIFICATE OF TITLE CHANGED TO LOT 524 ON DEPOSITED PLAN 109211 ON 15-JUL-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.
NOTE 2: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE OR ON THE CURRENT EDITION OF DUPLICATE CERTIFICATE OF TITLE.



APPENDIX 2

TRAFFIC IMPACT ASSESSMENT



ROWE
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D&E DIESEL SERVICES

HEAVY VEHICLE MOVEMENTS ON SOUTH
WESTERN HIGHWAY-HALL ROAD-LOOK
ROAD, SHIRE OF WAROONA

REVIEW OF TRAFFIC IMPACTS



WML Consultants Pty Ltd
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Tinus Kruger

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3/07/2014

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1. INTRODUCTION AND BACKGROUND

According to the Shire of Waroona Local Planning Strategy, Figure 9, Waroona North Structure plan, indicate Lot 524, Look Road, Waroona as falling in the “Intensive Agriculture” area. Refer Figure 1 below. It is however being used by the owners to operate a diesel service workshop, under the business name of D&E Diesel Services. WML Consultants have been commissioned by Dean Look, the owner of D&E Diesel Services, to undertake a study to review the impacts of traffic resulting from the additional land use and to determine how it interacts into the existing transport network. The report will serve as support for a re-zoning application by the owners for Lot 524.

Correspondence from the Shire of Waroona, dated 4 October 2013, have been taken into consideration as well as various phone calls and meetings with Main Roads Heavy Haulage, the Shire of Waroona, the business owner and various transport companies.

The objectives of the study were to review:

- The requirement for the extension of the Restricted Access Vehicle (RAV) Network to service Lot 524;
- The ability of the South Western Highway – Hall Road intersection to accommodate the type and volume of vehicles;
- The ability of the Hall Road – Look Road intersection to accommodate the type and volume of vehicles;
- Possible upgrade works on Hall and Look Roads;
- Future maintenance requirements on Hall and Look Roads;
- Impacts on other resident traffic in the area;
- Traffic management during events.

Figure 9 – Waroona North Structure Plan

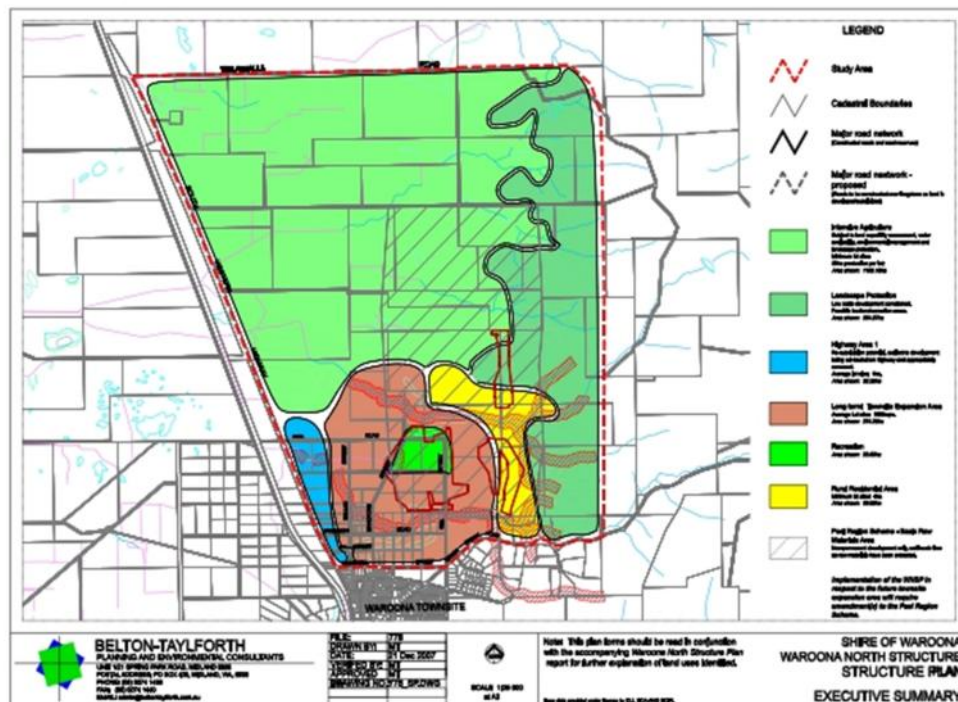


Figure 1 – Figure 9 Waroona North Structure Plan

Hall Road is located approximately 4.5km north of Waroona on the South Western Highway. Look Road turn left off Hall Road approximately 1km from South Western Highway. Refer to Figure 2 below.

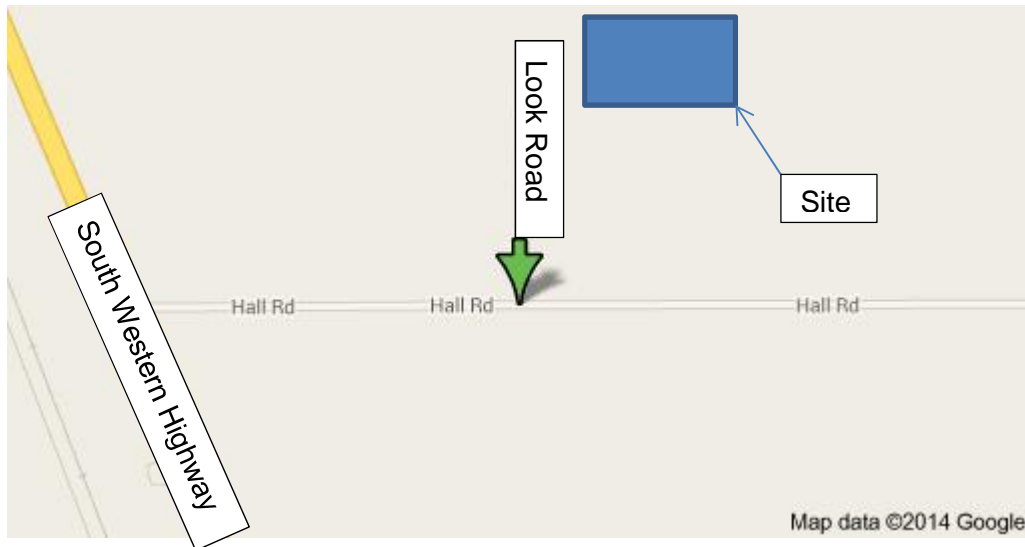


Figure 2 – General Development Area

2. EXISTING ROAD HIERARCHY

Both Hall and Look Roads function as Access Roads providing access to and from residential properties. It carries traffic to South Western Highway, being a Regional Distributor Road. Hall Road is currently a single carriageway road with one lane in each direction. Look Road is an unsealed road with varying width providing access to one property only at this stage. Intersections in the vicinity of Lot 524 are un-signalised junctions. Both intersections are normal T-junctions allowing both left and right turn movements.

3. PROPOSED TRAFFIC GENERATION

Dean Look provided the following proposed traffic volumes for the next two years:

Household

- 4 light vehicles 3 times per day
- 1 semi-trailer per day

Business

- 7 light vehicles per day
- 1 courier light vehicle per day
- 1 courier light truck per day
- 1 semi-trailer per week
- 1 50t float every 2 weeks
- 1 100t float every month

Due to the current economic climate he does not expect major changes to the above numbers over the following two years.

Although traffic counts are available for South Western Highway in the vicinity of Hall Road it has not been obtained, because the above traffic numbers are not significant enough to warrant a SIDRA analysis that would show any implications on the intersection.



The report looks at the intersection in terms of its geometry and ability to allow the proposed vehicle movements.

4. OVERSIZE VEHICLE CONFIGURATION AND ORIGIN - DESTINATION

Oversize loads have primarily been transported along Hall Road by three companies, namely Triton Transport in Perth, APH Contractors in Bunbury and Texcom Earthmoving in Pinjarra. All three companies use Drake Floats. However, only Triton Transport responded to requests for information from WML Consultants.

Their 50t float has 4 axles with four wheels on each axle and uses either a 3x4 or a 2x4 dolly depending on the load requirements. Their 100t float used has 4 axles with eight wheels on each axle and uses a 2x8 widening dolly. Both the floats can widen with the 100t float able to widen to 4.6m on the ground whilst for instance transporting a D11 dozer with a blade width of 5.1m.

Discussions with Dean Look and the above transport companies indicated that vehicle movements primarily originate from Bunbury, Pinjarra and Perth. Very few vehicles have been transported from Boddington and it is unlikely that this will change.

5. RESTRICTED ACCESS VEHICLE (RAV) NETWORK

The RAV network governs the regular movements of vehicles in excess of a semi-trailer length. Intersections are designed to accommodate the turning circles of vehicle categories relevant to the specific RAV Network category. This ensures that disruption and hazard to other road users is limited because the vehicles can turn lane correct. Damage to the unsealed road shoulder is also limited and therefore limits maintenance requirements. This system prevents these vehicles having to apply for a permit to use the road every time.

In terms of the RAV network the oversized vehicles, in the above section 4, are classified as RAV Network 1. This means they can go anywhere, except on the freeway. Their movements are governed by a permit based on their load requirements and constraints on the road to be used, like overhead power line height and load limits on drainage structures under the road. Whilst the load carried is within legal width, the float also remains at legal width and therefore no permit or pilot escort is required. If the float is widened to between legal width and 3.3m width on the ground, movements are covered by an Annual Extra Mass permit, but no pilot escort is required.

Once float widths exceed 3.3m on the ground a new permit application is required for every such load. The permits are issued by Heavy Haulage in Perth. As part of this application a route assessment is required by the operator that requires them to look at road furniture, trees, power lines, road widths, structures, etc. The writer enquired regarding guidelines for this assessment but found that there are no guidelines available and that it is purely done by experienced operators who know what to look for. Where power lines are involved Western Power will assess the permit application against known power line heights. Where structures are involved Main Roads assess the load against the known structure load rating. The operator applies to the relevant authority for assessment in each of the above cases. When Heavy Haulage is satisfied that the route is safe to be used, a permit is issued for the single occasion.

As far as the writer could establish RAV network extension is not required where this type of vehicle is involved, irrespective of frequency. This implies that intersection upgrades could not be enforced due to this type of operation. No additional traffic management is required either. Where vehicles are covered under the Annual Extra Mass permit, conflict with other road users are managed with common sense, as indicated by Triton Transport. Where a pilot vehicle is required the traffic management is obviously taken care of.

6. ROUTE ANALYSIS

Hall Road has a sealed surface of approximately 6m wide, measured from Nearmap aerial photography. The unsealed shoulders vary between 0.5 and 0.7m in width. There are existing overhanging trees in close proximity to the sealed edge for approximately the first 500m, but it then opens up for the remainder of the distance to the Look Road intersection. There are open drains alongside Hall Road for most of the distance. There is one culvert structure crossing Hall Road at the intersection with South Western Highway and another culvert structure crossing Hall Road at approximately SLK 0.7. There is one farm access on the left hand side between Hall Road and Look Road. There is an overhead power line along the southern side of Hall Road with a road crossing just before the Look Road intersection whilst continuing on further along Look Road towards the mechanical workshops.

The first approximately 500m has a very narrow feel to it due to the proximity of the trees to the sealed edge and it could be that oversize vehicles may use more of the road width to try and avoid damaging the trees and/or their loads in this area.

Look Road is an unsealed road of approximately 6.5m wide consisting of a limestone running surface. From the aerial photo on Nearmap it seems like the embankment batter on the left hand side is not well formed with a shallow and narrow open drain alongside it on the western side and a berm on the eastern side. There is an overhead power line along the western side of the road.

The intersection of Hall and Look Roads is marginally defined with a sealed surface but it does not conform to any standard in its present form. It seems as though it has been shaped by the requirements of the vehicles using it on a frequent basis. The intersections have been analysed with turning templates for vehicles similar to those proposed, but also with a semi-trailer, which is the type of heavy vehicle using it most frequently. The turning templates are discussed further below.

7. TURNING TEMPLATE ANALYSIS FOR EXISTING ROAD CONFIGURATION

The writer expended some effort to try and obtain exact details of the low loader vehicles proposed to be used in order to provide a better model, but it ended up in a fruitless exercise between the single responding operator and his float manufacturer. The writer came to the conclusion that the non-responsive operators will probably have a number of different configurations again and that it would not be possible to model all the possibilities without substantial financial implications to the Principal. The difference between the various configurations probably is not of great significance and if one of them cannot negotiate the right or left turns on the intersections then chances are that the others cannot either. The same goes if they can negotiate the turns.

The writer has therefore used a vehicle that resembles the larger proposed configuration of a 100t low loader to create the turning movement plan. It must be pointed out at this stage that it has been found in the past that the movement simulator is conservative. Refer to drawing numbers 5657-C-900 to 5657-C-902 for details of the applied turning templates under existing conditions for both intersections. The drawings are attached as Appendix A.

From drawing 5657-C-900 the following observations are made:

- The 100t low loader configuration is able to negotiate the South Western Highway and Hall Road intersection. It is shown in its maximum width configuration and should therefore represent the worst case scenario.
- It cannot negotiate the intersection lane correct.

- It uses a substantial amount of the road width on the left in and left out movements causing obstruction to oncoming vehicles.
- In every case, except the left in movement, the wheels traverse the unsealed shoulder.

This load configuration is generally managed by a permit and a pilot escort and therefore the traffic impacts will be managed accordingly. Although the road shoulder is traversed the infrequent nature of this vehicle probably has a negligible effect on maintenance requirements. The 50t low loader configuration could have a similar turning track and therefore similar effects, however this cannot be categorically stated at this time and the effects may be less than the 100t configuration. In both low loader cases the load width also has an effect and the track width should decrease for narrower configurations. The turning templates indicate the low loader in its maximum width configuration and it can therefore be argued that as the configuration width decreases the vehicles will be able to negotiate the intersection easier and with less effects.

From drawing 5657-C-901 the following observations are made:

- The semi-trailer configuration is able to negotiate the South Western Highway and Hall Road intersection lane correct in every case.
- It does not seem to have any effects on oncoming vehicles.

The above comments are to be expected in this case due to the requirement to design rural intersections for this type of vehicle.

From drawing 5657-C-902 the following observations are made:

- The 100t low loader configuration is barely able to negotiate the Hall Road and Look Road intersection in every case. It is shown in its maximum width configuration and should therefore represent the worst case scenario.
- It cannot negotiate the intersection lane correct.
- It uses the full road width on both roads causing obstruction to oncoming vehicles.
- The wheels traverse the unsealed shoulder and beyond.

This load configuration is generally managed by a permit and a pilot escort and therefore the traffic impacts will be managed accordingly. The vehicle movements are again evaluated below under upgraded conditions and will be further discussed there.

- The semi-trailer configuration is barely able to negotiate the Hall Road and Look Road intersection.
- It does not negotiate it lane correct.
- Although the wheels are on the sealed surface most of the way there are areas to the East and South where the left in and left out movements respectively cause the wheels to traverse the unsealed shoulder.
- This vehicle will affect oncoming vehicles in the current intersection configuration.

It is clear from the above that the intersection is not adequately configured to handle normal daily traffic. The following discussion proposes upgrading options for consideration.

8. PROPOSED HALL & LOOK ROAD INTERSECTION MODIFICATIONS

Drawing 5657-C-903, in Appendix B, indicates the existing sealed edge in RED and a proposed new sealed edge in GREEN. The proposed new sealed edge is based on a 600mm offset from the wheel path of the semi-trailer, as indicated. It aims to allow the semi-trailer to use the intersection lane correct in both directions and thus ensure that two semi-trailers can pass each other, turning left in and left out simultaneously.

The following observations are made from this drawing:

- The 100t low loader configuration is able to negotiate the Hall Road and Look Road intersection in every case without the wheels traversing the unsealed shoulder anymore. It is shown in its maximum width configuration and should therefore represent the worst case scenario.
- It cannot negotiate the intersection lane correct.
- It uses the full road width on both roads causing obstruction to oncoming vehicles.
- The semi-trailer configuration is fully able to negotiate the Hall Road and Look Road intersection.
- The semi-trailer configuration negotiates it lane correct.
- The semi-trailer configuration will NOT affect oncoming vehicles in this proposed intersection configuration.

There are however some potential issues associated with the modification proposal:

- The proposed new seal edge on the North West corner appears very close to the existing property boundary. To implement this option could potentially require a truncation of this corner, with associated cost to procure the land.
- There is also a pit (potentially Telecom) that will be affected by the above seal widening. It is unclear from the survey as to which service is involved.
- The proposed seal widening on the East of Look Road seem to affect the existing culvert structure, however this could potentially be addressed by adjusting the tie-in position with the existing seal edge.

9. ROAD SAFETY MATTERS

When low loader vehicles make use of Hall Road they have to use a large proportion of the existing road width. If they are under escort the traffic management is taken care of by the pilot vehicles and it is more of an inconvenience to other road users than a safety issue. When these vehicles are NOT under escort, as explained above in Section 5, they could potentially impact other road users. Hall Road is not wide enough to accommodate an over width vehicle and a car without one of them having to take evasive action for passing purposes. Although this may happen infrequently, measures should be implemented to manage these situations better. At the moment conflicts are handled with “common sense”, as stated by one of the transport companies above, however this has the potential to cause damage or harm.

The power pole opposite Look Road, on the South side of Hall Road seems to be in close proximity to the existing sealed edge, causing a potential safety hazard.

It can be suggested that D&E Diesel services inform the neighbours and council when this type of vehicle will be on the road. This can be done in various ways but some possibilities are to publish a schedule, to phone them and inform them, to place a sign on the intersections with date and times, etc. These options can be explored and a method agreed between interested/affected parties.

The unsealed surface of Look Road could potentially generate dust with associated visibility issues. The number of occasions where this is a problem may be limited, but is none the less flagged at this stage as a safety issue. An agreement for dust control may be a potential solution.

No other road safety issues have been identified at this stage. A full road safety audit can be conducted at a later date also to take into consideration any potential modifications.

10. ROAD MAINTENANCE

Without knowing exactly what the Hall Road pavement and sealed surface consist of the following comments can be made from a road maintenance perspective:

- It is unlikely that currently proposed heavy vehicle traffic will have much of an influence on the long term pavement performance. The numbers are just too low.
- The road width constraints with over width vehicles will cause some vehicles to pull off on the road shoulder from time to time. This may cause shoulder degradation in the long term, over and above what could be normally expected on a sealed road.
- Where oversized vehicle traverse the unsealed shoulders at the intersection the shoulder will degrade over time. When movements take place during wet weather the shoulders are more vulnerable than during the dry. Shoulder degradation over and above the normal can be expected.
- Oversized vehicle turning movements affect the performance of sealed surfaces in the long run due to the screwing action of the multiple axle configurations. This could cause flushing of the surface on newer seals and loss of stone on older seals. Periodic maintenance requirements may increase due to these vehicles using the South Western Highway and Hall Road intersection.
- It is not expected that road furniture will be influenced by the vehicle movements.
- The structural integrity of the culvert under the intersection is unknown at this stage. Main Roads do not inspect smaller culvert structures but the Shire of Waroona may, and could therefore be aware of the condition. The permit system takes into account comments from the Shire. However, some of the vehicle movements come very close to the inlet/outlet structures and the possibility exist that they could be impacted and therefore become a maintenance liability. It is only flagged as a possibility at this stage.

Without knowing exactly what the Look Road pavement surface consist of, the following comments can be made from a road maintenance perspective:

- It is likely that currently proposed heavy vehicle traffic will have an influence on the long term pavement performance if it remains unsealed. Grading of the surface will over time diminish pavement thickness and will require reinstatement. Potholing in winter may also have an effect on the maintenance frequency.
- The end of the seal coming onto Look Road will be broken back towards Hall Road over time and reinstatement may become required.
- Oversized vehicle turning movements affect the performance of sealed surfaces in the long run due to the screwing action of the multiple axle configurations. This could cause flushing of the surface on newer seals and loss of stone on older seals. Periodic maintenance requirements may increase due to these vehicles using Hall Road and Look Road intersection.
- There are no structural impacts on this intersection.

There may be other road maintenance issues that have not been identified at this stage and time may present them for future consideration. It is not expected that there would be maintenance impacts on service infrastructure as these would have to be relocated outside the zone of influence if the road is widened.

11. CONCLUSIONS AND RECOMMENDATIONS

On the basis of the work undertaken during this study the following conclusions are made in relation to the traffic impacts from the proposed re-zoning of Lot 524 Hall Road Waroona.

- The RAV network is not affected by the proposed vehicle movements and an extension request is not required.
- Traffic generated by the proposed development will not add significant traffic volumes to the adjacent road network.

- South Western Highway and Hall Road intersection is able to accommodate most of the proposed movements without the unsealed shoulder being traversed. However, some movements will use the shoulder and although the currently proposed movement frequency may not warrant sealed surface widening, this could not be discounted in future if the situation changes. It would however have to be re-evaluated at the time.
- Hall Road and Look Road intersection is not able to accommodate the vehicle movements in the current configuration without problems. Some upgrading should be considered.
- There are impacts on other road users that have to be considered from a safety and nuisance perspective.

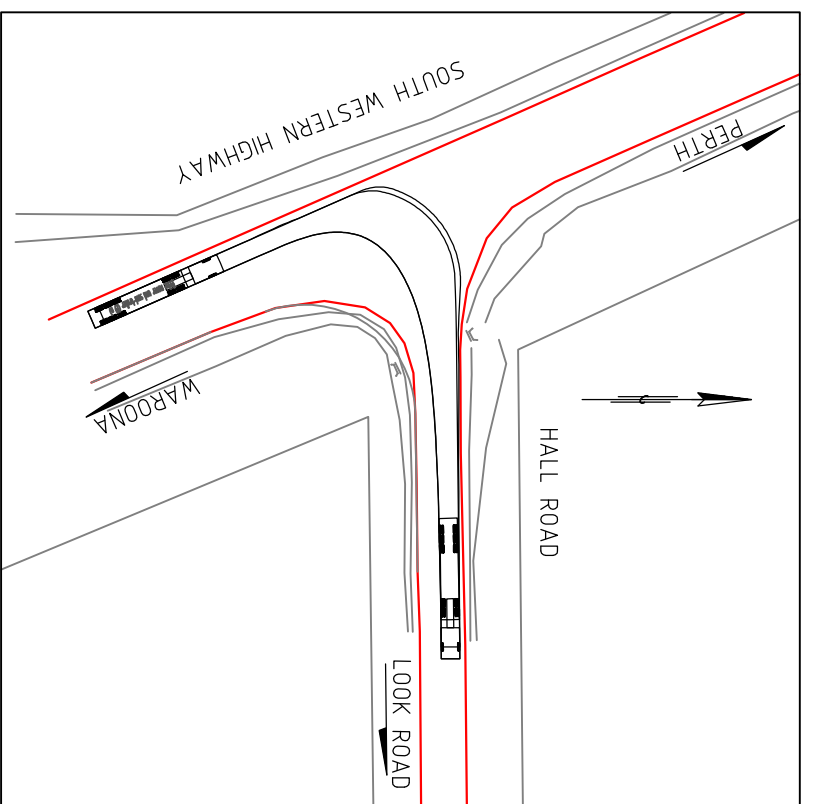
The following recommendations are made based on the above:

- A schedule of events should be considered, if possible, to inform involved parties and avoid safety issues and frustration of other road users. This could form part of a Haulage Traffic Management plan to be fully implemented prior to any event.
- If a schedule is not practical, a minimum notice period could be considered, as part of the Haulage Traffic Management plan, to inform all involved parties of the next event.
- Consideration should be given to methods of informing involved parties. Possible methods could be phoning, a letter drop, information signs at both intersections, trucks entering signs, trucks on road signs, etc.
- As part of the Haulage Traffic Management plan, truck drivers need to be made aware that they need to yield to oncoming traffic to ensure safe passage of other users. Operations should be restricted to daylight hours only at reduced speeds, with radio contact and lights on at all times. Only one truck movement should be allowed at a time.
- Consideration should be given to designing the Hall Road and Look Road intersection to allow lane correct movements for semi-trailers. This will address a number of safety issues and maintenance concerns. This will also define truncation and service relocation requirements.
- If it is accepted that Look Road remains unsealed, dust control and maintenance requirements should be agreed between concerned parties. Minimum road widths for construction should be communicated and agreed to ensure the required Shire standards are met.
- Consideration should be given to sealing of the widened Hall and Look Road intersection.
- Consideration should be given to protection of the power pole opposite Look Road.

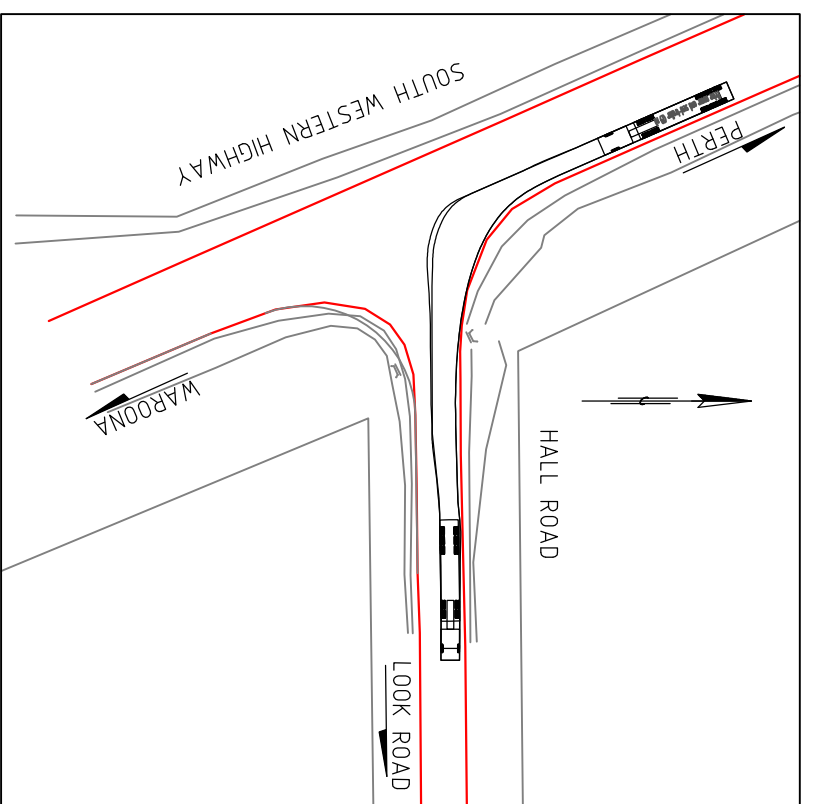


APPENDIX A

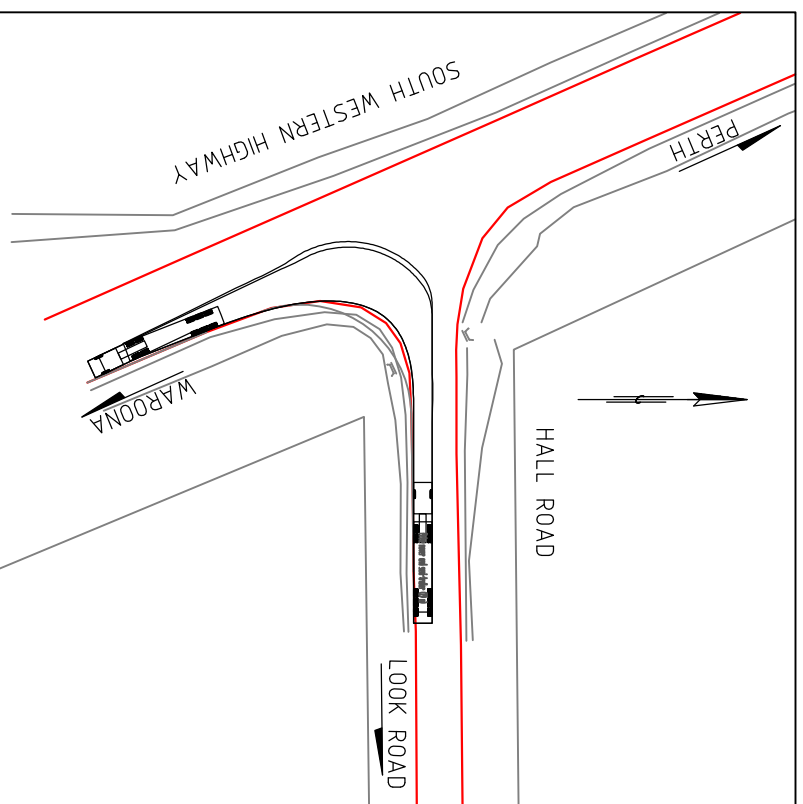
VEHICLE TURNING TEMPLATES UNDER EXISTING ROAD CONDITIONS DRAWING NOs 5657-C-900 TO 5657-C-902



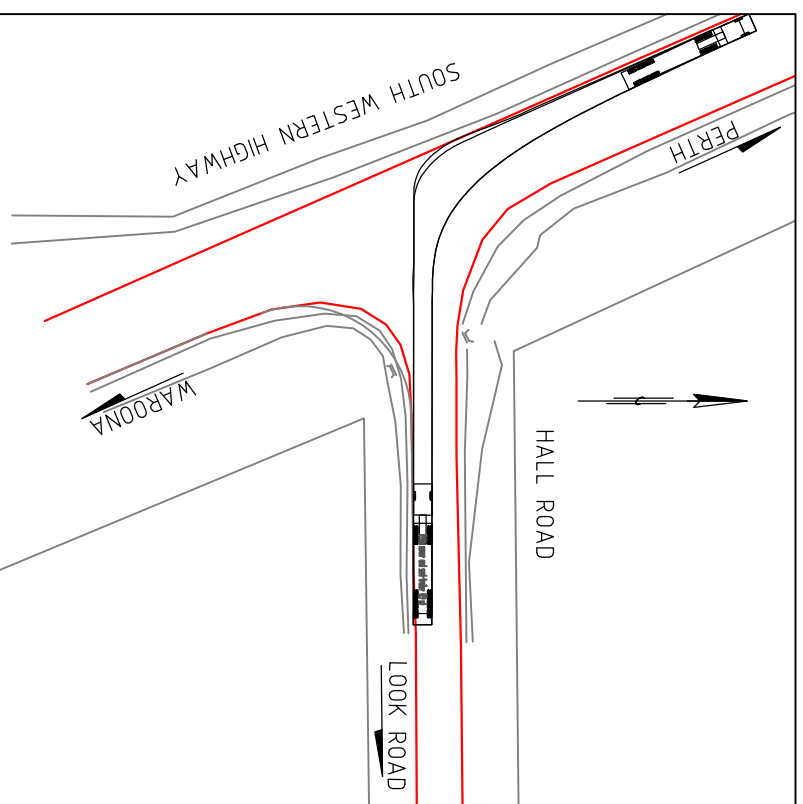
RIGHT TURN FROM SOUTH WESTERN HIGHWAY INTO HALL ROAD
SCALE 1:500



LEFT TURN FROM SOUTH WESTERN HIGHWAY INTO HALL ROAD
SCALE 1:500



LEFT TURN FROM HALL ROAD INTO SOUTH WESTERN HIGHWAY
SCALE 1:500



RIGHT TURN FROM HALL ROAD INTO SOUTH WESTERN HIGHWAY
SCALE 1:500

LEGEND
— EXISTING EDGE OF SEAL

PRELIMINARY
DATE: 05/06/2016

WML CONSULTANTS
WML CONSULTANTS PT LTD
WML CONSULTANTS ENGINEERS
WML CONSULTANTS

REVISIONS			
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A	ISSUED FOR COMMENT		

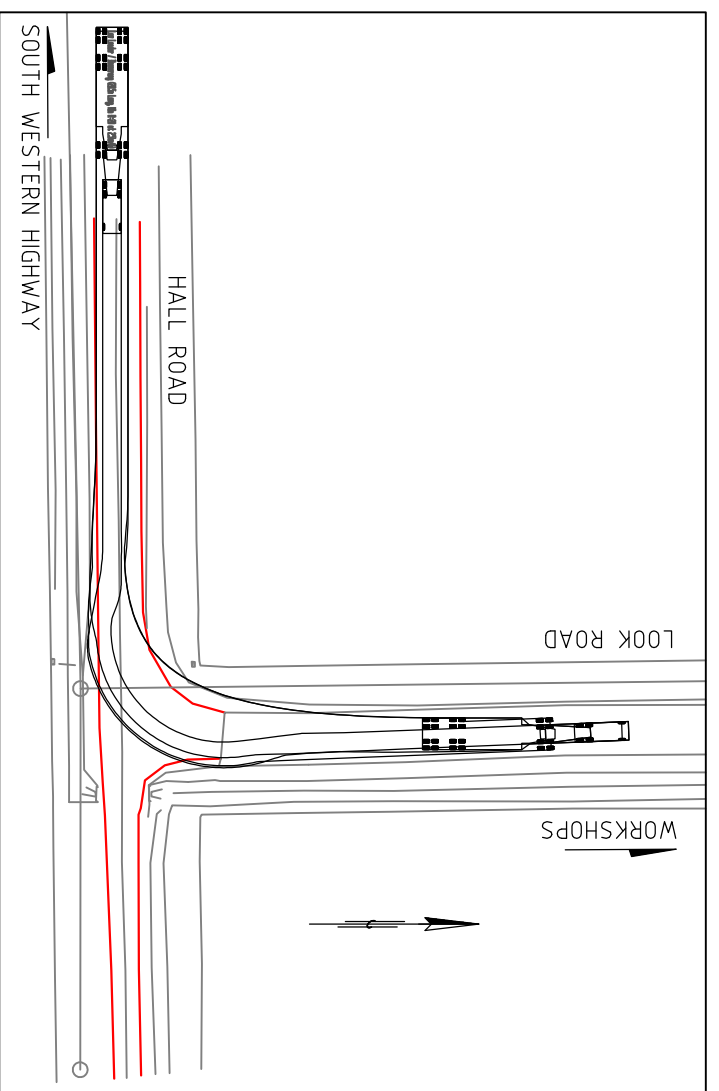
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APPROVED		

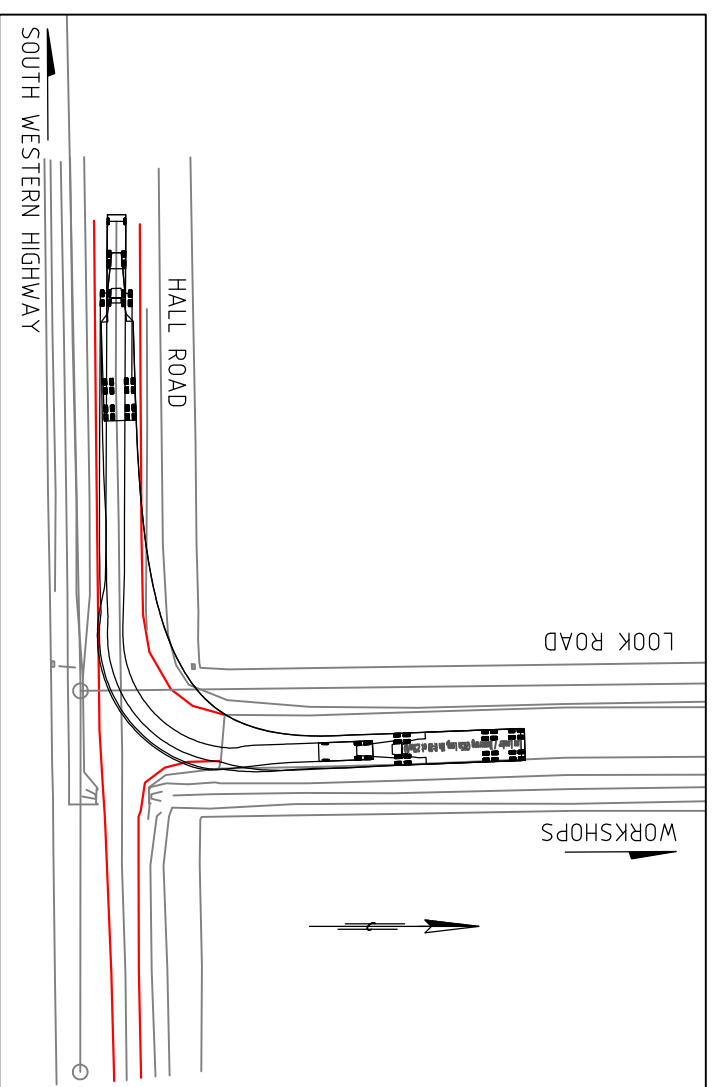
CLIENT	D&E DIESEL SERVICES
PROJECT	SW HIGHWAY - HALL - LOOK ROAD TRAFFIC IMPACT STATEMENT

DRAWING TITLE
SEMI TRAILER VEHICLE TURNING TEMPLATES
SOUTH WESTERN HIGHWAY - HALL ROAD INTERSECTION

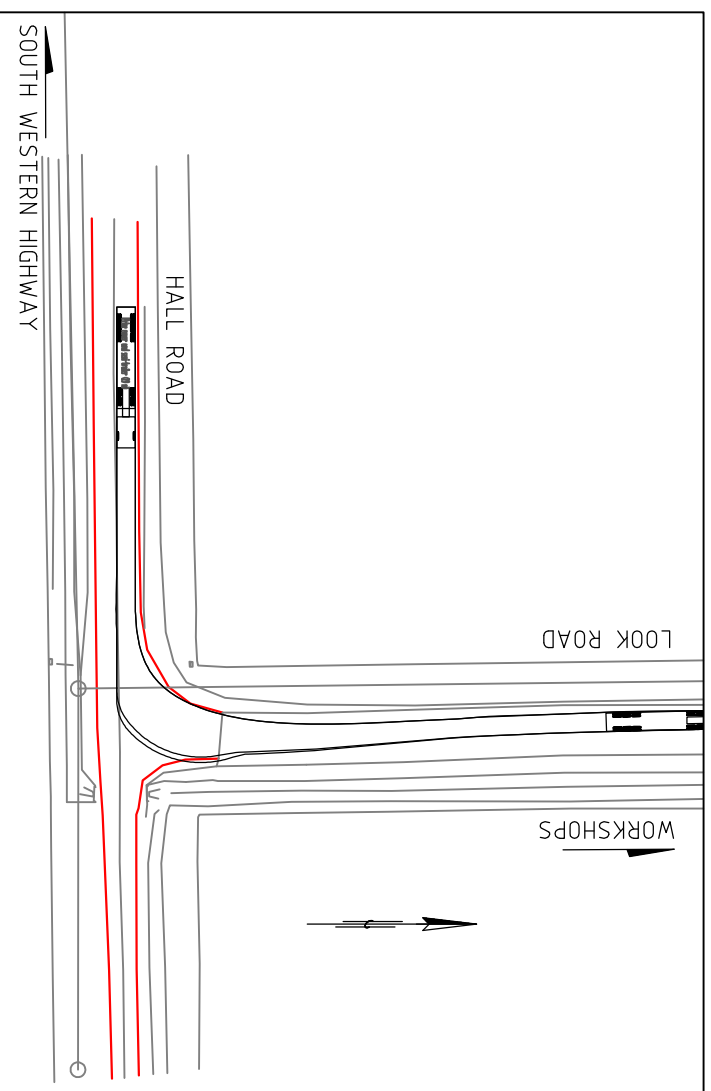
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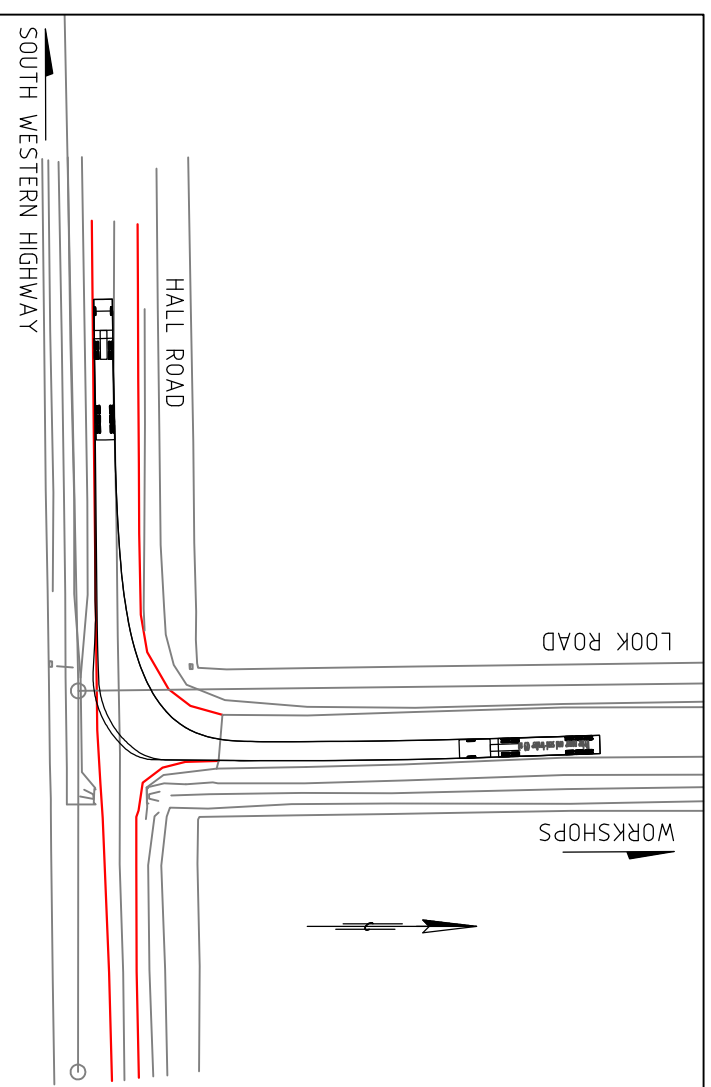
LOW LOADER LEFT TURN FROM HALL ROAD INTO LOOK ROAD
SCALE 1:500



LOW LOADER RIGHT TURN FROM LOOK ROAD INTO HALL ROAD
SCALE 1:500



SEMI-TRAILER LEFT TURN FROM HALL ROAD INTO LOOK ROAD
SCALE 1:500



SEMI-TRAILER RIGHT TURN FROM LOOK ROAD INTO HALL ROAD
SCALE 1:500

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— EXISTING EDGE OF SEAL

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VERIFIED			SW HIGHWAY - HALL - LOOK ROAD
APPROVED			TRAFFIC IMPACT STATEMENT

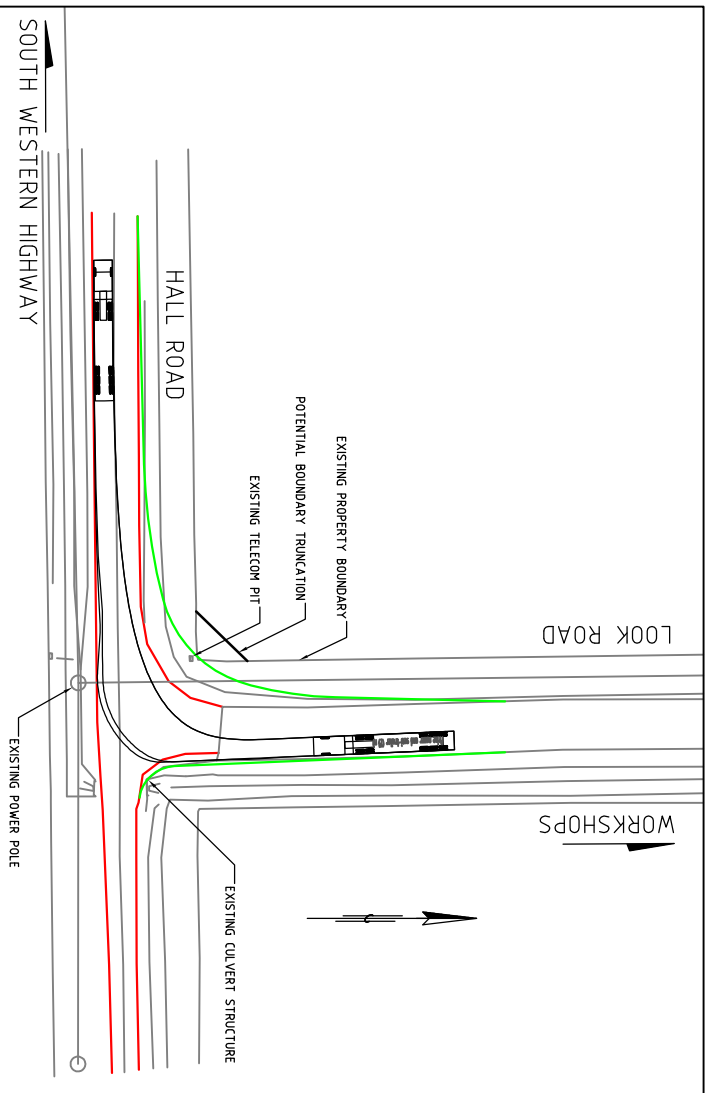
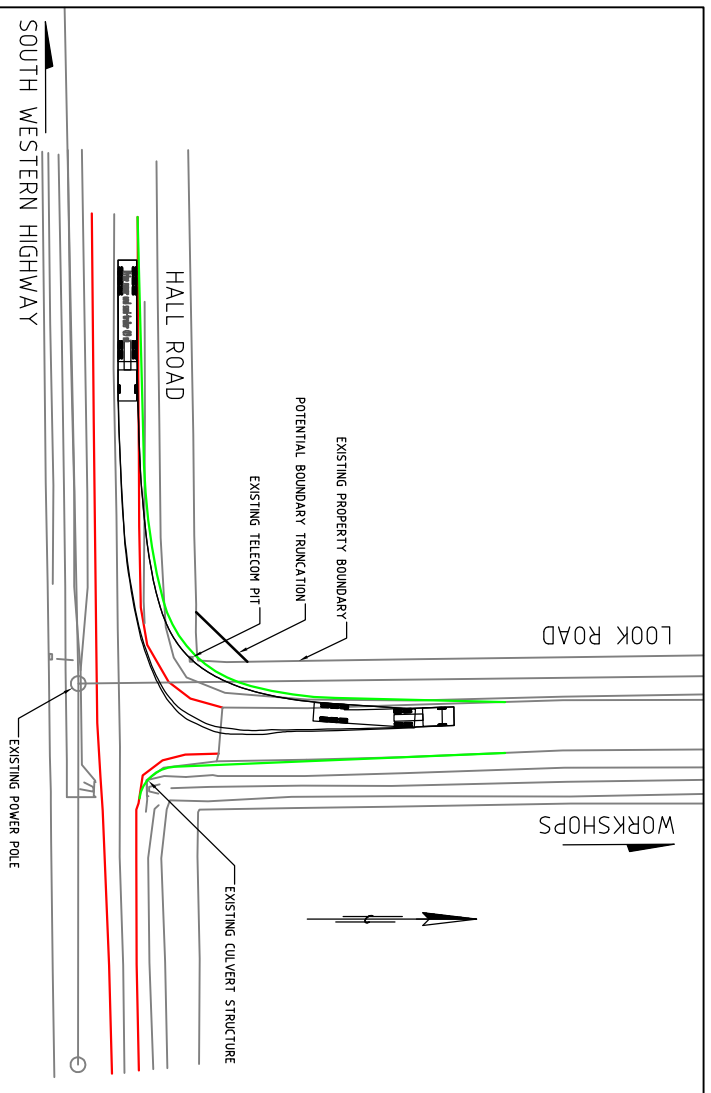
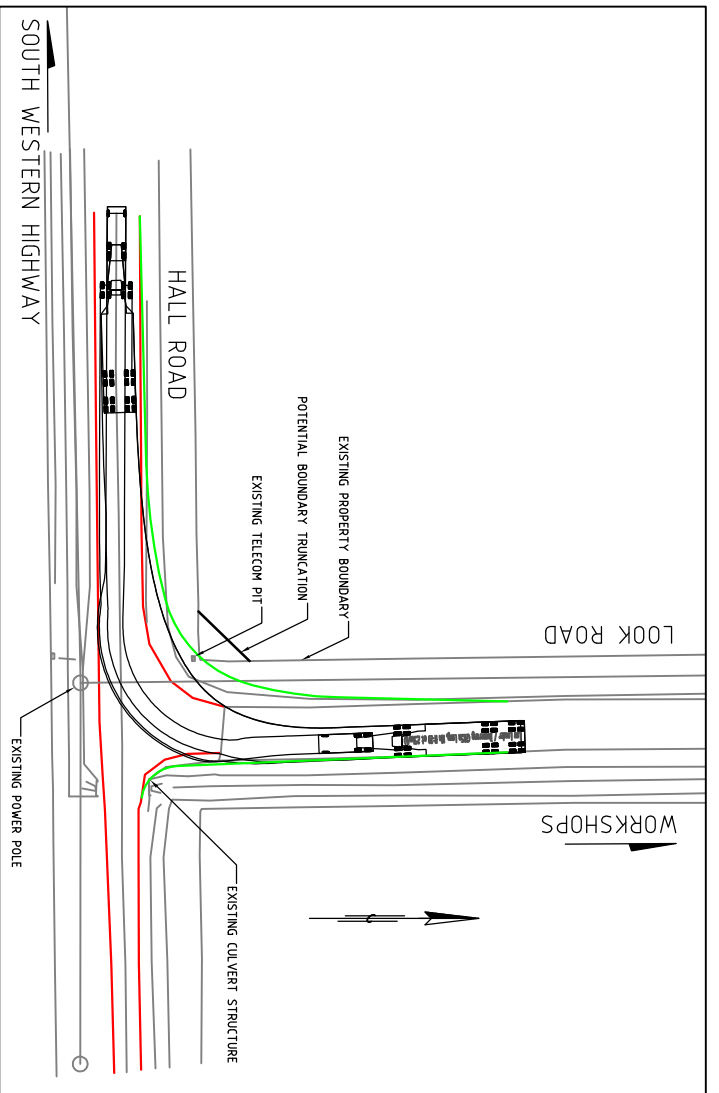
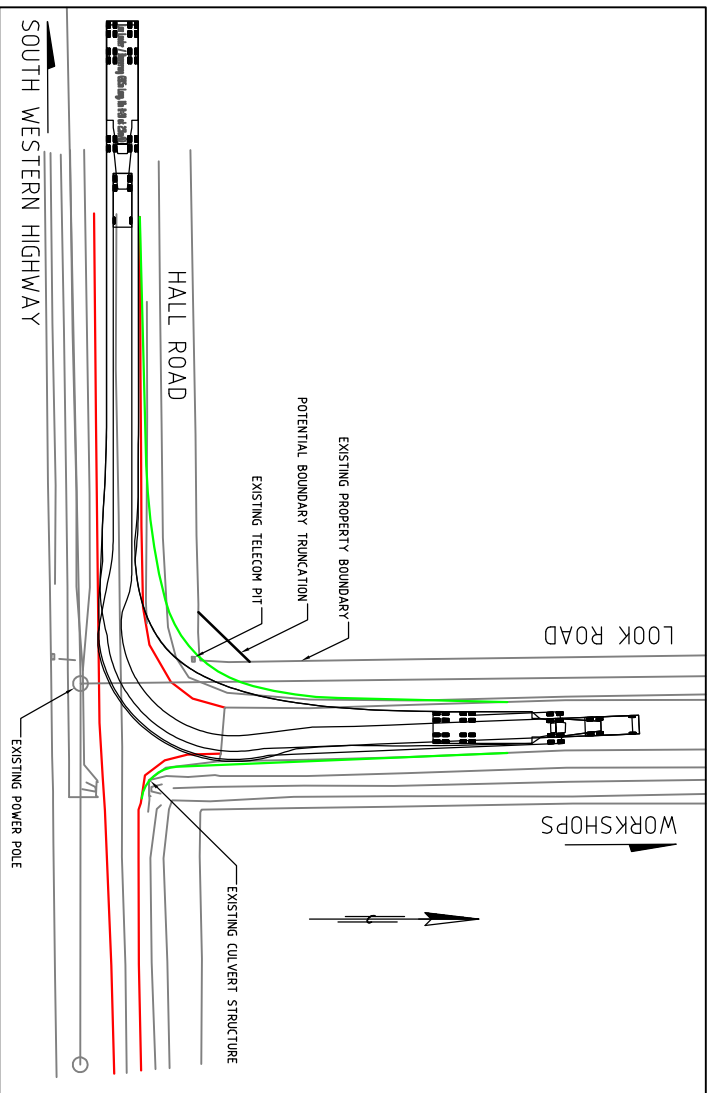
DRAWING TITLE
VEHICLE TURNING TEMPLATES
HALL ROAD - LOOK ROAD INTERSECTION
EXISTING SITUATION

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APPENDIX B

VEHICLE TURNING TEMPLATES UNDER PROPOSED NEW ROAD CONDITIONS DRAWING NO 5657-C-903



LEGEND

— EXISTING EDGE OF SEAL
— PROPOSED NEW EDGE OF SEAL

PRELIMINARY
DATE: 05/06/2014

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DRAWN	T. KRUGER	MAY '14	PROJECT
CHECKED			SW HIGHWAY - HALL - LOOK ROAD TRAFFIC IMPACT STATEMENT
APPROVED			

DRAWING TITLE
VEHICLE TURNING TEMPLATES
HALL ROAD - LOOK ROAD INTERSECTION
ROAD LAYOUT MODIFICATIONS
OPTION 1

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