



Shire of Serpentine Jarrahdale

Town Planning Scheme No. 3 Scheme Amendment Request – Additional Use

Lot 12 (No.101) King Road, Oakford



Harley Dykstra[®]

PLANNING & SURVEY SOLUTIONS



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 Prepared by: JS
 Reviewed by: HD

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TABLE OF CONTENTS

1	INTRODUCTION	1
2	SITE CONTEXT AND PROPOSAL	2
2.1	Property Location and Characteristics_____	2
2.2	Proposal _____	3
2.3	Shire of Serpentine Jarrahdale Local Planning Scheme No. 3 _____	3
2.4	Prior Consultation _____	3
3	PROPOSED SCHEME AMENDMENT	4
4	CONCLUSION	6

APPENDICES INDEX

APPENDIX A	Site Plan
APPENDIX B	ERA & DWER Correspondence

1 INTRODUCTION

This Scheme Amendment request has been prepared by Harley Dykstra on behalf of the landowner for Lot 12 (No. 101) King Road, Oakford. This amendment requests that the Shire of Serpentine Jarrahdale approve an additional use of 'Industry – Light' to Shire of Serpentine Local Planning Scheme No.3 (LPS 3).

The proposed additional use would be 'Industry – Light' and would result in the discontinuation of the current poultry farm operations in order to accommodate the specific Industry – Light use of blending, packaging and storage of agricultural and mining products. Although permitted within the rural zone, the current poultry farm comes with obvious noise, dust, odour and amenity impacts particularly on a site of this nature. Replacing the poultry farm use with an Industry – Light use (blending and packaging facility) would improve the amenity of the site and surrounding properties.

It is also important to note the majority of the site falls within a Priority 2 area of the Jandakot Underground Water Pollution Control Area. A risk assessment was conducted to provide a risk analysis comparing the risks associated with the current poultry operations and the proposed blending operations. The assessment was presented to DWER who advised the risk assessment demonstrated the proposed use would result in an overall reduction in water quality contamination risks at this site.

In addition, this Scheme Amendment has been prepared following detailed consultation with the Shire Officers. Harley Dykstra prepared a Preliminary Scheme Amendment request in November 2022 to ascertain the Shire's support for the additional use of Industry – Light. Following the Shire's feedback, the Proposed Conditions of the Additional Use were amended to reflect this consultation with it advised that a formal Scheme Amendment could not be submitted until such time that LPS 3 was gazetted.

As such, it is respectfully requested that the Shire of Serpentine Jarrahdale favourably consider and support this application for an additional use 'Light-Industry' at Lot 12 (No.101) King Road, Oakford to enable blending, packaging and storage of agricultural and mining products.

2 SITE CONTEXT AND PROPOSAL

2.1 Property Location and Characteristics

The subject land is approximately 4.0544ha and comprises of 5 concrete bunded sheds and associated accessways.

The subject land is located approximately 10km west of the Byford town centre, and approximately 1km south of the Jandakot Regional Park. A location plan is provided in **Figure 1** below.

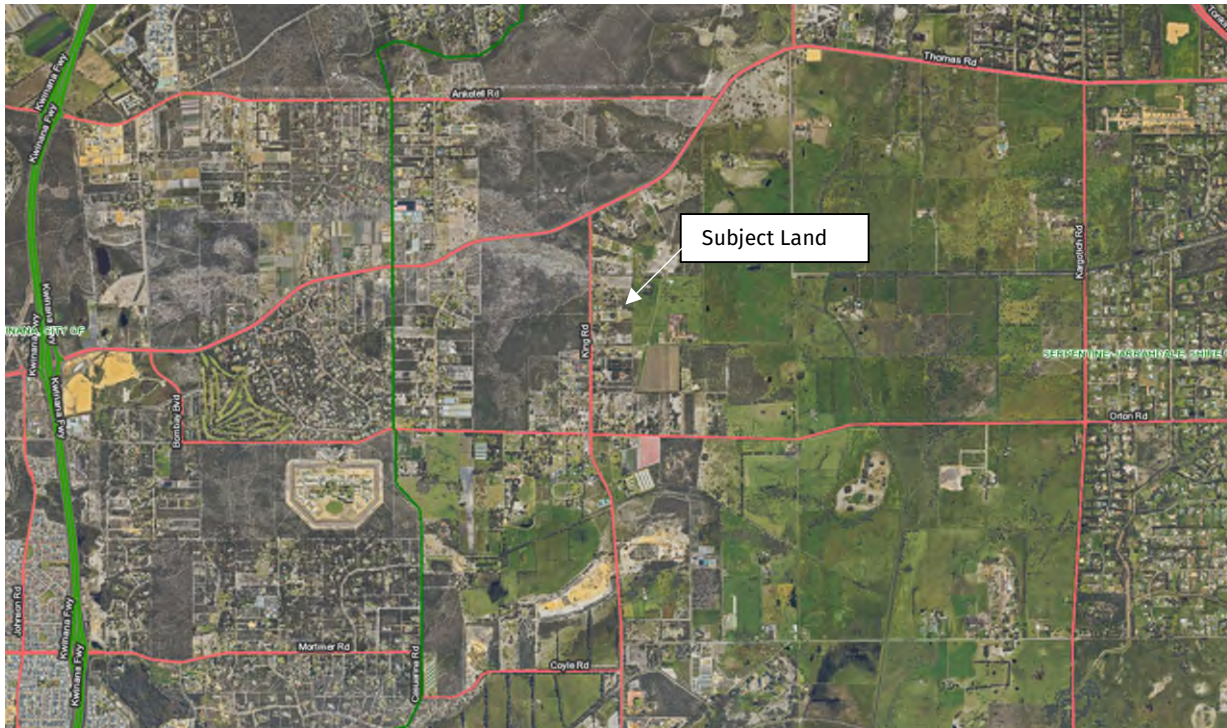


Figure 1 – Location Plan

The subject land is located in a rural area, predominately used for primary production of produce and plant nurseries. Surrounding land uses include:

- Australian Native Nursery to the south;
- Bio Organics to the east;
- Johanna's 4 Flowers & Gifts to the south;

The subject land is zoned *Rural* under the Shire of Serpentine Jarrahdale Local Planning Scheme No. 3 (LPS 3).

2.2 Proposal

This application seeks support from the Shire of Serpentine Jarrahdale for an additional use on the subject site to allow for the blending, packaging and storage of agricultural and mining products.

The proposed development will result in the discontinuation of the existing poultry operations onsite, with the sheds to be cleaned and hosed out in preparation for the proposed installation of stainless steel blending tanks within two poultry sheds and the storage of materials and packaging with the remaining three sheds. A site plan is provided at **Appendix A**.

Two existing poultry sheds are to contain stainless steel blending tanks. The tanks to be installed within the sheds are 1KL, 5KL and 20KL in size. The 20KL tank is to be located within the largest shed onsite abutting the southern boundary.

The remaining three bunded sheds are to be used for storage of pre-blended materials and post-blended materials. Pre-blended materials will be stored in sealed containers prior to discharge into a required blending tank. The three sheds are to also contain blended material sealed and packaged ready for distribution to commercial clients as ordered.

The proposed low-key Industry – Light use is considered appropriate on the site and will see an improvement in noise, odour, dust and amenity impacts in comparison to the current poultry farm use. The ‘additional use’ provision for this site will enable a development application to be progressed for the intended new land use.

2.3 Shire of Serpentine Jarrahdale Local Planning Scheme No. 3

The Industry – Light use of blending, packing and storage of agricultural products does not fit neatly into the Rural zone under Local Planning Scheme No. 3. Another mechanism is therefore required in the Local Planning Scheme to allow for the consideration of the proposed use at the subject land. As such, it is proposed to include an additional use for the subject land, as outlined in Section 3 below.

2.4 Prior Consultation

An Environmental Risk Assessment (ERA) has been prepared by Strategen compare the existing poultry farm to the proposed chemical blending operations. It was concluded that change of use would result in a reduced risk to the environment, including the groundwater resource of the JUWPCA. This Risk Assessment was then forwarded onto DWER for their comment whereupon it was advised that they were supportive of the change in use. The ERA and advice letter are included at **Appendix B**.

3 PROPOSED SCHEME AMENDMENT

This Scheme Amendment seeks to amend Schedule 1 of the Local Planning Scheme No. 3 by including an additional use which relates to the subject land.

It is proposed Schedule 1 of the Scheme Text be amended to include the following:

No.	Particulars of Land	Additional use	Conditions of Additional use
5	Lot 12 (No. 101) King Road, Oakford	Industry - Light	i. The Local Authority shall not grant planning approval for the additional use until such time as the existing poultry farm approval has been cancelled pursuant to clause 77 of the Planning and Development (Local Planning Schemes) Regulations 2015. ii. The Local Authority shall not grant planning approval for the additional use other than the specific Industry - Light use of blending, packaging, and storage of agricultural and mining products. iii. The Local Authority shall not determine a development application until it has received advice from DWER. Any development should not pose a greater risk to water quality than the current Poultry Farm use. iv. Any development application for the additional use must demonstrate a measurable improvement to the air-quality and amenity in comparison to the existing Poultry Farm use. v. The additional use is restricted to existing sheds 1- 5 (total area of 7370m ²) and accessways, as indicated on an approved site plan.

The main reason for this proposed amendment is to address the land use permissibility in the current Local Planning Scheme which currently does not allow the Shire of Serpentine Jarrahdale to consider the Industry – Light use of blending, packaging, and storage of agricultural and mining products on the subject land, as outlined earlier.

The following justification is provided:

- Harley Dykstra has undertaken consultation with Shire Officers through a Preliminary Scheme Amendment request whereupon feedback has been incorporated into this report;
- Dust emissions from the proposed Additional Use are considered to be greatly reduced from existing poultry operations, with all material to be contained within sealed bags or containers upon arrival or during distribution. Discharge of dust is to only occur within the blending tanks, inside the sheds, and therefore ‘can’ be appropriately managed;

- The proposed use in comparison to the poultry farm will result in an overall reduction in ground water quality contamination risks;
- Odour emissions of the proposed use in comparison to the poultry farm are considered to be significantly reduced, thereby improving the amenity of the area;
- The buffer distance required for poultry farms under the various policy frameworks can be removed in relation to this site, thereby facilitating further development opportunities on the surrounding land.

4 CONCLUSION

In summary, this report seeks to enable an additional use 'Light - Industry' at Lot 12 (No.101) King Road, Oakford. This will result in the discontinuation of the existing poultry farm and allow for the blending, packaging and storage of agricultural and mining products.

This amendment has been prepared following fairly extensive consultation with the Local Authority planners, Department of Planning Lands and Heritage and DWER. This amendment seeks to address land use permissibility in the Scheme whereby the blending, packaging and storage of agricultural products cannot currently be considered under the Local Planning Scheme requirements for the subject land.

It is therefore respectfully requested on the basis of the above justified rationale that the Shire of Serpentine Jarrahdale approve the Additional Use of 'Light Industry' at Lot 12 (No.101) King Road, Oakford.

APPENDIX A | Proposed Site Plan



LEGEND	
	Subject Area (4.0544ha)
	Internal Sealed Driveways
	Underground Electricity (DBYD)
	Overhead Electricity (DBYD)
	Reticulated Water (DBYD)
	Reticulated Sewer (DBYD)
	Telecommunications (DBYD)
	Reticulated Gas (DBYD)

SITE PLAN

Lot 12 (No. 101) King Road,
OAKFORD

Plan No. | 22798-01
 Date | 04/06/21
 Drawn | DJ
 Checked | NP
 Revision | B

PERTH & FORRESTDALE:
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ALBANY | BUNBURY | BUSSELTON | FORRESTDALE | PERTH

Scale | 1:1250@A3

0 10m 20m 30m

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



APPENDIX B | ERA & DWER Correspondence



Government of **Western Australia**
Department of **Water and Environmental Regulation**

Your ref: 22798
Our ref: DWERT906 & PA 049856
Enquiries: Jane Sturgess, Ph 9550 4228

Harley Dykstra
21 Spencer Street
Bunbury WA 6230

Attention: Daniel Lewis

Dear Daniel

**LOT 12 NO 101 KING ROAD, OAKFORD – PROPOSED CHANGE OF USE
– NON-HAZARDOUS CHEMICAL BLENDING – RISK ASSESSMENT**

Thank you for providing the proposed risk assessment report received 13 June 2022 for the Department of Water and Environmental Regulation (Department) to consider.

The Department has identified that the proposed change of use from poultry farm to non-hazardous chemical blending may have the potential for impact on water resource values and/or management. The Department has reviewed the risk assessment report prepared to provide a risk analysis on the change of land use and have the following comments.

The subject site is located within a Priority 2 (P2) area of the Jandakot Underground Water Pollution Control Area. According to the Department's Water Quality Protection Note 25: *Land use compatibility tables for public drinking water source areas* (DWER, 2021), chemical blending is incompatible within a P2 area.

However, based on the site-specific information and risk assessment provided by the proponent, the Department considers the proposed change in land use from poultry farming to blending non-hazardous chemicals will result in an overall reduction in water quality contamination risks at this site.

The Department supports the proposal and recommends the following conditions be applied to the planning approval:

- Chemical storage and blending activities are limited to those detailed in the proposal. Any proposed changes to the chemicals or activity used should be referred to the Department for advice.
- The bunded area within the sheds should be impervious to liquids, including both the flooring and walls up to the height of the bunding. Any defects in the flooring, as observed in the risk assessment, must be remedied prior to storage of chemicals.

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Ordinary Council Meeting - 11 December 2023

- The bunded area within the sheds should be regularly inspected and maintained to ensure the bunded area remains impervious and leak-proof.
- The best management practices outlined in Water Quality Protection Note 7: *Chemical blending facilities* (DoW, 2012) should be implemented.
- Refuse should be stored appropriately and removed on a regular basis to an approved off-site waste management facility.
- All hydrocarbons, chemicals and other toxic or hazardous substances should be stored so there is no discernible risk of contamination of groundwater or surface water.
- A contingency plan for managing and responding to spills should be in place, as per Water Quality Protection Note 10: *Contaminant spills – emergency response plan* (DWER, 2020).
- Stormwater management systems should be designed and constructed in accordance with our *Stormwater management manual* (DWER, 2022) and *Decision process for stormwater management in Western Australia* (DWER, 2017).

In addition, any change in land use will require an amendment to the existing groundwater licence to update the activity. As it has been identified that the proposed change in land use will result in a reduction in the amount of groundwater abstracted, an amendment to the water entitlement is also required. This will assist in recouping unused water allocation within this groundwater area. Further advice can be provided by contacting the licensing section at the Mandurah office on 9550 4222.

Please note, the above is advice only and is not an approval to commence development. A development application is to be lodged with the Shire of Serpentine-Jarrahdale for their approval.

In the event there are modifications to the proposal that may have implications on aspects of water management, the Department should be notified to enable the implications to be assessed.

Should you require any further information on this matter please contact the undersigned at the Department's Mandurah office on 9550 4228.

Yours sincerely



Jane Sturgess
A/Program Manager – Planning Advice
Kwinana Peel Region

11 / 07 / 2022

CC: Shire of Serpentine Jarrahdale



Booker Farm
Proposed Change of Use – Risk Assessment

Lot 12 (No. 101) King Road, Oakford

17 January 2022

61825/142,276 (Rev 0)

JBS&G Australia Pty Ltd T/A Strategen-JBS&G

Table of Contents

1.	Introduction	3
2.	Site Location	3
2.1	Site Setting.....	3
2.2	Planning Considerations.....	3
3.	Operations	5
3.1	Existing Operations.....	5
3.2	Proposed Operations.....	5
4.	Risk Assessment.....	7
4.1	Environmental and Sensitive Receptors.....	7
4.2	Emissions and Controls.....	7
4.3	Risk Assessment of Existing and Proposed Operations.....	9
4.4	Comparison and Outcomes of Risk Assessments.....	14
4.4.1	Risks to Groundwater	14
4.4.2	Other Environmental Risks	14
5.	Conclusion	16
6.	Limitations	17

List of Tables

Table 4.1:	Sensitive human and environmental receptors and distance from activity	7
Table 4.2:	Existing poultry operations emissions and controls	8
Table 4.3:	Proposed non-hazardous chemical blending operations controls	9
Table 4.4:	Risk assessment of potential emissions and discharges from the existing and proposed activities.....	11

List of Figures

Figure 2.1:	Site location	4
Figure 4.1:	Qualitative risk matrix (WQPN 77).....	10
Figure 4.2:	Risk criteria table (DWER).....	10

Appendices

- Appendix A Site Plan
- Appendix B Proposed Floor Plan – Sheds 1 to 4
- Appendix C Proposed Floor Plan – Shed 5
- Appendix D Material Safety Data Sheets
- Appendix E Planning Controls
- Appendix F Hydrogeology and Groundwater Boreholes
- Appendix G Hydrogeology and Other Boreholes
- Appendix H Subject Area and Sensitive Receptors

1. Introduction

Big Country (Australia) Pty Ltd (the Proponent), trading as Booker Farm, currently operates a poultry farm at Lot 12 (No. 101) King Road, Oakford (the Site). The Site is located within the Jandakot Underground Water Pollution Catchment Area (JUWPCA), which has been declared for Priority 2 (P2) source protection and falls in the Shire of Serpentine-Jarrahdale.

Priority 2 areas are defined and managed to maintain or improve the quality of the drinking water source with the objective of risk minimisation. These areas occur within Public Drinking Water Source Areas (PDWSA), where the land is zoned 'Rural', and the risks need to be minimised. Low levels of development consistent with the rural zoning are considered appropriate (typically with conditions) in P2 areas.

The Proponent is seeking to repurpose the existing poultry farm to a non-hazardous chemical blending facility that will distribute blended products for agricultural and mining rehabilitation use (the Proposal).

Consultation regarding the change has been undertaken with the water source protection branch of the Department of Water and Environmental Regulation (DWER). The outcome from this consultation was the recommendation that the Proponent should prepare a risk assessment for the existing poultry farm activities and for the Proposal. These risk assessments would then be compared to determine if the non-hazardous chemical blending in contained sheds presented a lower risk to the groundwater resource than the existing operations.

2. Site Location

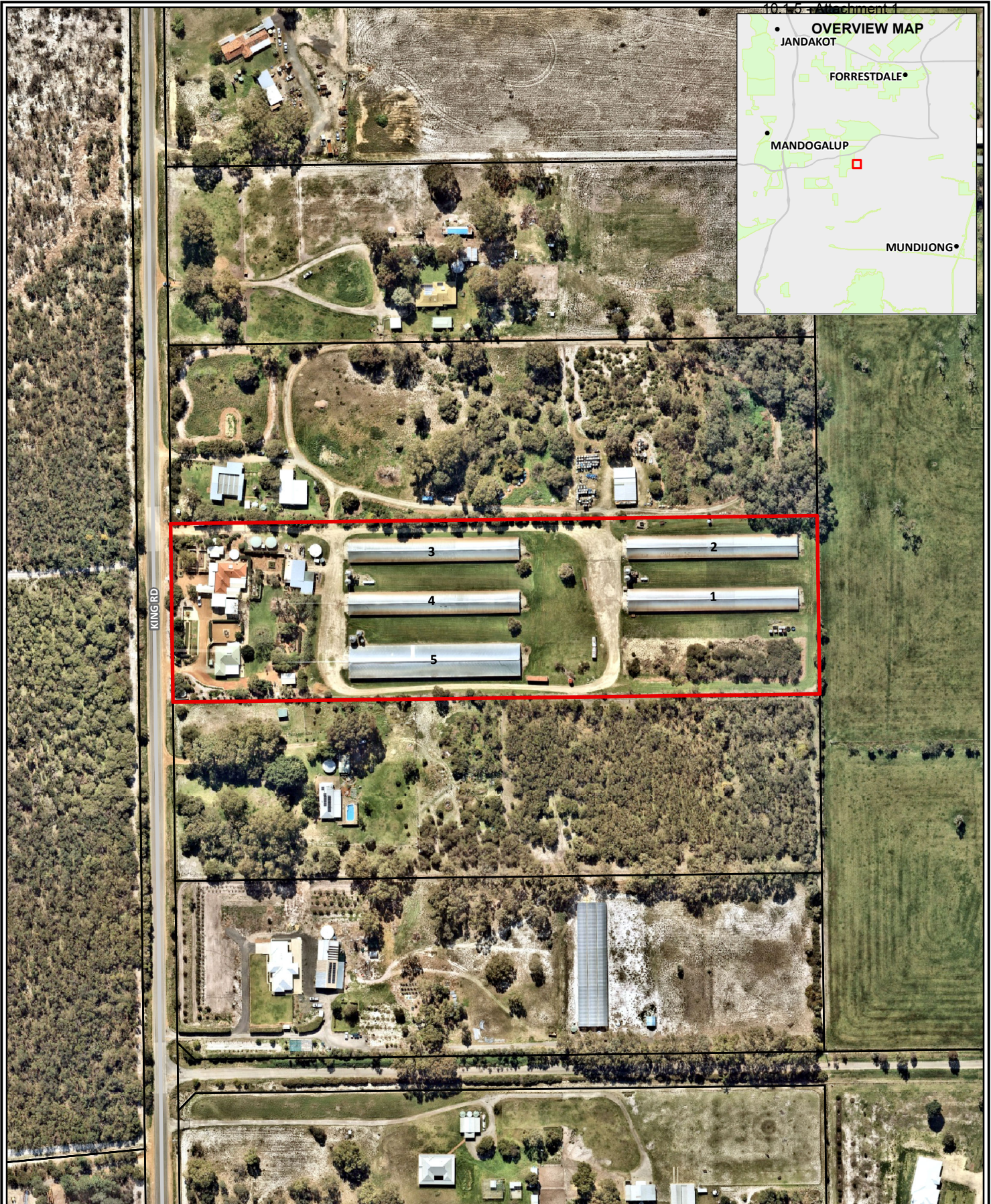
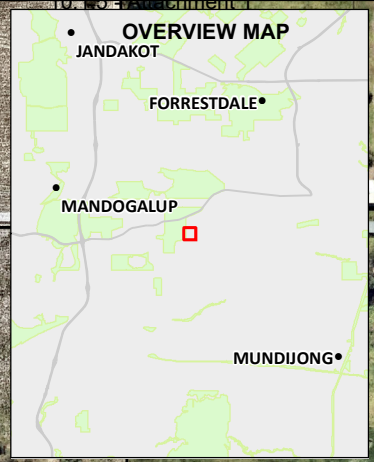
2.1 Site Setting

The Site is located at Lot 12 (No. 101) on Deposited Plan 8204, King Road in Oakford, and consists of two residencies with a total area of 4.05 ha (Figure 2.1). The Site is bound by Thomas Road to the north and Orton Road to the south. Surrounding land uses include semi-rural residencies, farming operations and uncleared blocks of land.

2.2 Planning Considerations

The Site falls within the Shire of Serpentine-Jarrahdale, and as such, Town Planning Scheme No. 2 (TPS 2) applies. The majority of the Site is zoned 'Rural Groundwater Protection' with 'Rural' zoning towards the eastern end of the lot (Appendix E).

The current poultry farm operation is classified under the TPS 2 zoning table as 'AA' which states that the Council may, at its discretion, permit the use. The Proposal is considered to be an 'Industry: Rural' land-use, which also falls in line with this classification.



Legend Project area Cadastral boundary Main road	Scale 1:3,000 at A4			Lot 12 (No.101) King Road Oakford, WA. SITE LOCATION
	Coord. Sys. GDA2020 MGA Zone 50			
	Job No: 61825		FIGURE 2.1	
	Client: Harley Dykstra			
	Version: A	Date: 22-Oct-2021		
Drawn By: ianandagoda	Checked By: CT			

3. Operations

3.1 Existing Operations

The existing operation on the Site involves the farming of poultry at a poultry farm. The layout of the Site consists of five sheds which are made up of:

- Sheds 1, 2, 3 and 4 - 12 m x 100 m comprising 1200 m²; and
- Shed 5 – 18 m x 100 m comprising 1800 m².

The sheds are laid out in rows, with Sheds 1, 2, 3 and 4 located towards the northernmost end of the rows, and the single larger Shed 5 is located to the southernmost end of the rows (Appendix A). All sheds have approximately 450 mm of concrete bunding along the northern and southern edges of each building. The floors of each shed include a concrete hardstand base with some cracks evident upon visual inspection. Each shed is fully enclosed with access through roller doors from the western and eastern ends of each building.

The poultry farming process takes an average of 43 days for a hatchling to reach adulthood when it is then processed. This results in approximately six batches per year of 104,000 chickens, requiring a total of 4.91 megalitres (ML) of water each year.

Water for the farm is supplied from a groundwater bore on the Site, which is licensed to abstract up to 21 ML of water per year from the underlying aquifer (Licence number: 60199).

At the start of the farming process, each shed is hosed out with fresh water and cleaned, requiring approximately 1.11 ML of water per year. The fogging cooling system within the sheds requires approximately 24.02 ML per year. Water for drinking and other uses is obtained from rainwater tanks located on the property.

Each shed has a 0.3 m fall (west to east) of its concrete hardstand, with the washout water coming out of the eastern end of the sheds into infiltration sumps. During use, the sheds are lined with sawdust supplied from local recyclers. The sawdust is regularly broken up with a rotavator to assist in disease control and prevention as it gets wet inside the shed. At the end of each farm batch, formaldehyde and glutaraldehyde are sprayed within the sheds as a disinfectant when the sheds are dosed prior to their next use.

Vehicles are required to use a hygiene station on-site and to be disinfected prior to entering. Processing of the poultry requires an increase in personnel and vehicles/machinery on-site. This involves night-time truck movements with pickup starting no earlier than 8:00 pm and can end as late as 4:00 am, occurring up to four to five times in a seven-week period during each of the six batches per year.

The Proponent is regularly audited by the Shire of Serpentine-Jarrahdale, the RSPCA, and its main customer to ensure compliance with animal welfare, hygiene, health, safety and environmental standards and contractual requirements.

3.2 Proposed Operations

The Proposal would see the discontinuation of the existing poultry operations on-site, with the sheds cleaned and hosed out in preparation for the proposed installation of three stainless steel chemical blending tanks within two of the sheds and the storage of materials and packaging within the remaining three sheds. The layout of the sheds for the Proposal can be seen in Appendix B and Appendix C.

The tanks to be installed within the sheds are 1,000 L, 5,000 L and 20,000 L in capacity. The larger 20,000 L tank is to be located within the largest shed on-site, abutting the southern boundary (Shed 5), with the smaller tanks installed in Shed 4 adjacent.

The sheds already include 450 mm concrete bunding along the northern and southern edges of each building. Bunding for Shed 5 will be increased with a 75 mm mountable bund at the western end and a 175 mm mountable bund along the eastern end to ensure the building is fully bunded and can contain the entire contents of the 20,000 L tank should a catastrophic spill occur (the bunded capacity of Shed 5 will be 22,500 L).

The secondary blending shed (Shed 4) will require a 50 mm and 150 mm bund on the western and eastern ends, respectively, which is sufficient to contain the entire contents of the 1,000 L and 5,000 L blending tanks (bunded capacity proposed to be 12,000 L).

The remaining three concrete bunded sheds will be used for the storage of pre-blended and post-blended materials. Raw materials for blending will be stored in large sealed commercial grade bags or intermediate bulk containers (IBCs) prior to discharge into a blending tank. The three sheds will also contain blended material sealed and packaged ready for distribution direct by truck to commercial clients as ordered. All operations will take place within the concrete bunded poultry sheds.

All material that is to be blended will be delivered on-site and stored until such time that it is required to be blended. All material that is received will arrive within sealed containers for liquids and large sealed bags for dry non-hazardous chemicals. All chemicals blended and delivered to the Site are non-hazardous, presenting a small risk to the environment and will be delivered with the relevant material safety data sheets (MSDS) providing this information (Appendix D).

An electric forklift will be used to retrieve material required to be blended from the storage sheds and lifted above the appropriately sized blending tank prior to discharge into the tank to reduce any dust impacts from dry materials and spills for liquids. Water will be pumped into the tank as required once all materials are appropriately discharged into the blending tank. The blending tank motor then blends the combined material until the new agricultural non-hazardous chemical product is produced. Upon completion, the blending tank will then be emptied into an appropriately sized container for sealing and moved into storage or directly onto a waiting truck in the shed for distribution.

The operational management of the Proposal requires the clean-up of any product that may land on the concrete bunded floor to be (where possible) placed back within the blending tanks. In the event that the material is unable to be re-blended, the material will be collected, contained and disposed of off-site in an appropriate manner. No dust emissions are anticipated to occur during the chemical blending process due to materials arriving within sealed containers, and discharge into blending tanks is to occur with the aid of dust extraction equipment if required to eliminate the occurrence of fine dust particles.

No refuelling or maintenance of any machinery or vehicles will take place on-site. A sealed driveway will be installed to provide access from the northern boundary of the block and will provide a full wrap-around and access into the sheds with bituminised aprons.

The Proposal is estimated to require a maximum of 20,000 L of water per operational day or up to 5.2 ML per year (262 working days per year). This would ensure the reduction of groundwater extraction for daily operations by 82.6 % per year.

The number of staff on-site is to remain unchanged from the poultry farm operations, with employees to be retained for blending operations. Approximately six to eight staff will be on-site at any given time. Hours of operation will be within standard business hours of 8:00 am – 5:30 pm weekdays, which, in comparison to the existing poultry operations, is a significant reduction in operational hours with no night-time work proposed.

The Proposal is anticipated to operate at a maximum capacity of 3,000 tonnes per year. Therefore, the Proponent is not expected to require a works approval from DWER under Part V of the

Environmental Protection Act 1986 as this throughput is below the threshold of 5,000 tonnes per year set for Category 75 - *Chemical blending or mixing not causing discharge: premises on which chemicals or chemical products are mixed, blended or packaged in a manner that does not cause or is not likely to cause a discharge of waste into the environment* – as described in Schedule 1 of the Environmental Protection Regulations 1987.

4. Risk Assessment

4.1 Environmental and Sensitive Receptors

The Site is situated within the Serpentine Groundwater Proclaimed Area, with the majority of the land within the P2 area of the JUWPCA, which is located in the southern suburbs of the Perth Metropolitan Region of Western Australia, approximately 20 km south of the Central Business District (CBD) (Appendix F).

The JUWPCA defines the area of the Jandakot Mound groundwater system that provides an ongoing safe public water supply as part of the Integrated Water Supply Scheme (IWSS) critical to sustaining the State's water supply. The JUWPCA has an area of approximately 74 km² and is located within the Cities of Canning, Cockburn, Gosnells, Armadale, the Town of Kwinana and the Shire of Serpentine-Jarrahdale.

The JUWPCA supports a number of users with 45 registered bores identified with a 2 km radius of the Site. Most of the bores are noted as being authorised for stock and domestic use, irrigation or monitoring (Appendix F). There are also several groundwater abstraction licences within 500 m of the Site, associated with properties to the north, south and east of the Site (Appendix G).

Moderate potential groundwater-dependent ecosystems (GDEs) are also mapped to the east (adjacent to the Site boundary), southeast and west of the Site. These GDEs are noted as regional ecosystems that rely on the subsurface expression of groundwater. Groundwater contours indicate that groundwater is approximately 22 mAHD (Appendix G).

The Site was assessed and screened for sensitive receptors within a 200 m buffer. Four sensitive receptors were identified as neighbouring residences (Appendix H). No other nearby surrounding environmental receptors were identified.

Environmental and human receptors relevant to the risk assessment are shown in Table 4.1 below.

Table 4.1: Sensitive human and environmental receptors and distance from activity

Human receptors	Distance from activity
87 King Road	90 m NW
75 King Road	200 m N
105 King Road	60 m SSW
121 King Road	200 m S
Environmental receptors	Distance from activity
Jandakot Underground Water Pollution Catchment Area (P2)	Directly situated on Jandakot Underground Water Pollution Catchment Area
Groundwater abstraction bores	45 registered bores identified with a 2 km radius of the Site Eight groundwater licences within 500 m of the Site
Potential groundwater-dependent ecosystems	Adjacent to eastern Site boundary and 100 m to west

4.2 Emissions and Controls

The key emissions, associated sources, potential pathways and proposed controls have been considered for the existing operations in Table 4.2. This is aimed at providing an overview of the existing operations and the implementation of established controls.

Table 4.2: Existing poultry operations emissions and controls

Hazard	Sources	Potential pathways	Controls
Contaminated water, chemicals and hydrocarbons	<ul style="list-style-type: none"> • Vehicles used and stored on-site during operations • Maintenance of vehicles • Refuelling of vehicles • Washout of sheds • Residue from chemical dosing within sheds 	<ul style="list-style-type: none"> • Direct spills and leaks to ground • Seepage and infiltration to ground and groundwater 	<ul style="list-style-type: none"> • Concrete bunding around sheds • Refuelling restricted to hardstand areas • Direct washdown to sumps • Eco-friendly chemicals used
Groundwater abstraction	<ul style="list-style-type: none"> • Fogging cooling system • Drinking water for poultry • Shed washout and cleaning 	Direct groundwater extraction from aquifer	<ul style="list-style-type: none"> • Licensed groundwater bore abstraction • Water use metering and monitoring • Water reducing equipment
Dust	<ul style="list-style-type: none"> • Vehicle and machinery movements • Opening of shed ventilation • Delivery of materials and feedstocks 	Air/wind	<ul style="list-style-type: none"> • Restricting vehicle movements to sealed driveways • Restricted time for opening of shed vents
Noise	<ul style="list-style-type: none"> • Personnel during poultry processing program • Vehicles and machinery • Feed trucks using augers at high revolutions • Empty feeder lines • Poultry 	Air/wind	<ul style="list-style-type: none"> • Environmental Protection (Noise) Regulations 1997 • Broadband reversing alarms
Odour	<ul style="list-style-type: none"> • Fogging causing litter to become damp • Waste generated from poultry 	Air/wind	<ul style="list-style-type: none"> • Containment within sheds • Constant agitation of saw dust base • Removal of odours off-site
Vectors, vermin and litter	<ul style="list-style-type: none"> • Sick animals • Introduced feral species • Feathers and waste debris 	<ul style="list-style-type: none"> • Air / wind • Poultry • Waste/litter 	<ul style="list-style-type: none"> • Hygiene controls • Frequent disease control/medication • Feral animal baiting program • Containment and removal of waste off-site

The key emissions, associated sources, potential pathways and proposed controls have been considered for the Proposal in Table 4.3. This is aimed at providing an overview of the proposed operations and the implementation of the proposed controls.

Table 4.3: Proposed non-hazardous chemical blending operations controls

Hazard	Sources	Potential pathways	Proposed controls
Contaminated water, chemicals and hydrocarbons	<ul style="list-style-type: none"> Handling and storage of raw materials and products Chemical blending 	<ul style="list-style-type: none"> Direct spills and leaks to ground Seepage and infiltration to ground and groundwater 	<ul style="list-style-type: none"> All material handling, storage and blending in enclosed sheds Concrete bunding around sheds with sealed floors Sealed and secure storage tanks of materials and products Materials directly discharged into the required stainless-steel tank Equipment and infrastructure to relevant standards Newly sealed driveways and aprons No refuelling or maintenance of vehicles on-site No vehicles parked on-site for extended durations of time Spills promptly contained and cleaned up Skill kits available on-site
Water usage	<ul style="list-style-type: none"> Chemical blending and cleaning 	Direct groundwater extraction from aquifer	<ul style="list-style-type: none"> Licensed groundwater bore abstraction Water use metering and monitoring Water reducing equipment
Dust	<ul style="list-style-type: none"> Vehicle and machinery movements Handling of raw materials and products 	Air/wind	<ul style="list-style-type: none"> Dry material contained within sealed bags Blending to occur within enclosed sheds Material directly discharged into the required stainless-steel tanks Where appropriate, blending equipment will be fitted with dust extractors
Noise	<ul style="list-style-type: none"> Vehicles and machinery Blending tanks 	Air/wind	<ul style="list-style-type: none"> Environmental Protection (Noise) Regulations 1997 Operation during normal working hours
Odour	<ul style="list-style-type: none"> Storage and handling of raw materials and products 	Air/wind	<ul style="list-style-type: none"> Low odour materials and products Containment within enclosed sheds Materials provided in sealed bags or containers

4.3 Risk Assessment of Existing and Proposed Operations

A risk assessment of the existing operations and Proposal has been carried out in accordance with the risk framework in Water Quality Protection Note 77 (WQPN 77) – *Risk Assessment of Public Drinking Water Source Areas* (Figure 4.1).

Consequence →	Insignificant	Minor	Moderate	Major	Catastrophic
Likelihood ↓	Risk ↓				
Almost certain	moderate	high	Very high	very high	very high
Likely	moderate	high	High	very high	very high
Possible	low	moderate	High	very high	very high
Unlikely	low	low	Moderate	high	very high
Rare	low	low	Moderate	high	high

Source: Australian Drinking Water Guidelines, 2004

Figure 4.1: Qualitative risk matrix (WQPN 77)

In the absence of any consequence and likelihood criteria in WQPN 77, those provided in DWER *Guidance Statement Risk Assessment* have been used (Figure 4.2).

Consequence			Likelihood	
The following criteria will be used to determine the consequences of a risk event occurring:			The following criteria will be used to determine the likelihood of the risk event occurring.	
	Environment	Public Health* and Amenity (such as air and water quality, noise, and odour)		
Severe	<ul style="list-style-type: none"> on-site impacts: catastrophic off-site impacts local scale: high level or above off-site impacts wider scale: mid level or above Mid to long term or permanent impact to an area of high conservation value or special significance[^] Specific Consequence Criteria (for environment) are significantly exceeded 	<ul style="list-style-type: none"> Loss of life Adverse health effects: high level or ongoing medical treatment Specific Consequence Criteria (for public health) are significantly exceeded Local scale impacts: permanent loss of amenity 	Almost Certain	The risk event is expected to occur in most circumstances
Major	<ul style="list-style-type: none"> on-site impacts: high level off-site impacts local scale: mid level off-site impacts wider scale: low level Short term impact to an area of high conservation value or special significance[^] Specific Consequence Criteria (for environment) are exceeded 	<ul style="list-style-type: none"> Adverse health effects: mid level or frequent medical treatment Specific Consequence Criteria (for public health) are exceeded Local scale impacts: high level impact to amenity 	Likely	The risk event will probably occur in most circumstances
Moderate	<ul style="list-style-type: none"> on-site impacts: mid level off-site impacts local scale: low level off-site impacts wider scale: minimal Specific Consequence Criteria (for environment) are at risk of not being met 	<ul style="list-style-type: none"> Adverse health effects: low level or occasional medical treatment Specific Consequence Criteria (for public health) are at risk of not being met Local scale impacts: mid level impact to amenity 	Possible	The risk event could occur at some time
Minor	<ul style="list-style-type: none"> on-site impacts: low level off-site impacts local scale: minimal off-site impacts wider scale: not detectable Specific Consequence Criteria (for environment) likely to be met 	<ul style="list-style-type: none"> Specific Consequence Criteria (for public health) are likely to be met Local scale impacts: low level impact to amenity 	Unlikely	The risk event will probably not occur in most circumstances.
Slight	<ul style="list-style-type: none"> on-site impact: minimal Specific Consequence Criteria (for environment) met 	<ul style="list-style-type: none"> Local scale: minimal impacts to amenity Specific Consequence Criteria (for public health) criteria met 	Rare	The risk event may only occur in exceptional circumstances

Figure 4.2: Risk criteria table (DWER)

The risk assessment is aimed at comparing the differences between both operations and highlighting the change in risk that would be posed should the Proposal be implemented (Table 4.4).

Table 4.4: Risk assessment of potential emissions and discharges from the existing and proposed activities

Source/Activities	Hazard	Potential pathways and impact	Receptors	Maximum risk			Applicant controls	Residual risk		
				Consequence	Likelihood	Risk rating		Consequence	Likelihood	Risk rating
Existing operations										
<ul style="list-style-type: none"> Vehicles used and stored on-site during operations Maintenance of vehicles Refuelling of vehicles Washout of sheds Residue from chemical dosing within sheds 	Contaminated water, chemicals and hydrocarbons	Direct spills and leaks, and seepage and infiltration causing contamination of ground and groundwater with potential human health, livestock health and ecosystem impacts	Jandakot Underground Water Pollution Catchment Area (P2); bore users; GDEs	Moderate	Likely	High	Refer to Table 4.2	Moderate	Possible	High
<ul style="list-style-type: none"> Fogging cooling system Drinking water for poultry Shed washout and cleaning 	Groundwater abstraction	Abstraction of groundwater causing depletion of aquifer and ecosystem impacts	Jandakot Underground Water Pollution Catchment Area (P2); bore users; GDEs	Moderate	Likely	High		Moderate	Unlikely	Moderate
<ul style="list-style-type: none"> Vehicle and machinery movements Opening of shed ventilation Delivery of materials and feedstocks 	Dust	Air/wind causing amenity impacts	Residences 90 – 200 m north and 60 – 200 m south	Moderate	Possible	High		Moderate	Unlikely	Moderate
<ul style="list-style-type: none"> Personnel during poultry processing program Vehicles and machinery Feed trucks using augers at high revolutions Empty feeder lines Poultry 	Noise	Air/wind causing amenity impacts	Residences 90 – 200 m north and 60 – 200 m south	Moderate	Likely	High		Moderate	Possible	High
<ul style="list-style-type: none"> Fogging causing litter to become damp Waste generated from poultry 	Odour	Air/wind causing amenity impacts	Residences 90 – 200 m north and 60 – 200 m south	Moderate	Likely	High		Moderate	Possible	High
<ul style="list-style-type: none"> Sick animals Introduced feral species Feathers and waste debris 	Vectors, vermin and litter	Pathogens causing health impacts, vermin and litter causing amenity and health impacts	Residences 90 – 200 m north and 60 – 200 m south	Moderate	Likely	High		Moderate	Unlikely	Moderate

Source/Activities	Hazard	Potential pathways and impact	Receptors	Maximum risk			Applicant controls	Residual risk		
				Consequence	Likelihood	Risk rating		Consequence	Likelihood	Risk rating
Proposal										
<ul style="list-style-type: none"> Handling and storage of raw materials and products Chemical blending 	Contaminated water, chemicals and hydrocarbons	Direct spills and leaks, and seepage and infiltration causing contamination of ground and groundwater with potential human health, livestock health and ecosystem impacts	Jandakot Underground Water Pollution Catchment Area (P2); bore users; GDEs	Moderate	Likely	High	Refer to Table 4.3	Moderate	Unlikely	Moderate
Chemical blending and cleaning	Groundwater abstraction	Abstraction of groundwater causing depletion of aquifer and ecosystem impacts	Jandakot Underground Water Pollution Catchment Area (P2); bore users; GDEs	Minor	Likely	High		Minor	Unlikely	Low
<ul style="list-style-type: none"> Vehicle and machinery movements Handling of raw materials and products 	Dust	Air/wind causing amenity impacts	Residences 90 – 200 m north and 60 – 200 m south	Minor	Possible	Moderate		Minor	Unlikely	Low
<ul style="list-style-type: none"> Vehicles and machinery Blending tanks 	Noise	Air/wind causing amenity impacts	Residences 90 – 200 m north and 60 – 200 m south	Minor	Possible	Moderate		Minor	Unlikely	Low
Storage and handling of raw materials and products	Odour	Air/wind causing amenity impacts	Residences 90 – 200 m north and 60 – 200 m south	Minor	Possible	Moderate		Minor	Unlikely	Low

4.4 Comparison and Outcomes of Risk Assessments

4.4.1 Risks to Groundwater

The residual risk of groundwater contamination and associated impacts from the existing operation is considered high due to several potential sources of contamination present on-site. Vehicles and machinery are often stored on-site and overnight during the poultry processing periods, which offer a source of contamination to groundwater through leaks and spills during refuelling, maintenance and parking.

Washouts of the sheds are a frequent requirement with this process collecting significant volumes of water, including residual waste and chemical residue within the sheds, with the potentially contaminated wash water collected in sumps which infiltrate directly to the ground. The concrete flooring and bunding of the sheds are also aged, with some visible cracks and repairs required.

The Proposal will require no vehicles and machinery to be stored on-site for extended periods of time, other than for delivery, which will further be limited to the newly sealed driveways and within the concrete bunded sheds. All materials being delivered will enter the Site in secure and sealed containers minimising any chance of leaks or spills. Loading and unloading of materials will occur within the bunded sheds as required, and all chemical blending will take place within the enclosed concrete bunded sheds and will be directly discharged into the stainless-steel tanks to minimise any chance of spillage.

The bunding and floors of the proposed blending sheds will be repaired where necessary and the floors coated with chemical resistant paint. Additional bunding will be placed at the shed doorways, and the old infiltration sumps will be decommissioned.

In the unlikely event of a spill, the material will be contained and collected, and spill kits will be stored on-site and accessible. The proposed bunding will have the capacity to accommodate the entire contents of the tanks within the sheds without any risk of discharge to the ground or groundwater.

As a result of the change in activities and the implementation of the associated controls, the Proposal will result in a reduced (moderate) residual risk of impacts to groundwater and associated users and dependant ecosystems.

The Proposal will also result in an approximately 80% reduction per year of groundwater extracted for Site operations in comparison to the water-intensive existing operations. This will reduce the risk of impacts on the aquifer and help maintain groundwater quality and quantity.

4.4.2 Other Environmental Risks

The risk assessment conducted in Table 4.4 has highlighted several key differences between the existing operations and the Proposal. Dust from the existing operations is typically generated from vehicle and machinery movements on-site, delivery of materials and feedstocks and the frequent opening of side vents to the sheds, which allows for the escape of dust and feathers. The dust levels generated vary and peak during the processing periods due to increased vehicles, machinery and personnel on-site, which occurs approximately six times per year. The on-site driveway consists of compacted limestone with the potential for dust emissions during the summer months.

Dust emissions from the Proposal are expected to be considerably reduced due to fewer truck movements on-site and the materials being delivered to the Site contained in secured and sealed bags or containers and stored directly inside the enclosed sheds. Raw materials will be directly discharged into stainless-steel tanks minimising any chance of dust dispersal, and, where appropriate, blending equipment will be fitted with dust extraction equipment. Blending will be conducted within fully enclosed sheds minimising dust generated and any potential off-site impacts.

The existing operations generate a considerable amount of noise due to the poultry processing occurring approximately six times a year. This involves an increase in night-time truck movements typically taking place between 8:00 pm and 4:00 am, resulting in loud noises during 'sensitive' hours to nearby residencies. The machinery involved are often equipped with noisy safety features, and eight to ten crew members are required for the processing period, which can involve a lot of shouting to contain and process the poultry. Feed trucks using blow up augers at high revolutions provide another early morning and late evening noise source, which can occur seven days a week. Empty feeder lines often make noise in the wind when the side vents are open during the rearing phase of the poultry batch, creating potential disturbance issues.

The Proposal would have significantly reduced noise emissions from the Site due to reduced vehicles movements. The vehicles that would be coming to the Site would be limited in number, averaging approximately six truck movements per day (entry and exit) during standard operating hours, Monday to Friday, avoiding 'sensitive' hours posed by the existing operations. The chemical blending would take place within the enclosed sheds, which would act as a noise barrier and only occur periodically as each batch is mixed. Where possible, all equipment will be fitted with noise abatement and will be maintained appropriately to ensure the Site meets compliance with the Environmental Protection (Noise) Regulations 1997.

Odour generated from the existing operations is considered significant and typical of poultry operations, requiring an appropriate separation distance to sensitive land uses. Sources include waste from poultry and litter becoming damp due to frequent fogging, which can generate significant off-site and on-site odours. Odour can be challenging to keep contained within the sheds as the side vents are required to be opened during the rearing phase of processing.

The Proposal, by comparison, will be relatively odourless due to the nature of the materials, which are delivered within sealed containers and discharged directly into sealed stainless-steel tanks minimising any opportunity for odour dispersal. Furthermore, all blending will take place within enclosed sheds containing any possible odours.

Waste generated from the Proposal is expected to be less than what would be generated than the existing operations as poultry operations generate a significant amount of waste during their lifecycle, along with the waste that is produced during the processing periods with increased personnel, vehicles and machinery on-site. Chemical blending will have less waste due to fewer personnel, vehicles and machinery on-site and the efficient use of the materials involved in the blending process. The removal of the poultry operations will also remove or significantly reduce the risk of potential vector, vermin and litter impacts.

5. Conclusion

The risk assessment of the existing operations and the Proposal has shown that the proposed change of use of the Site to a non-hazardous chemical blending facility will pose a reduced risk to the environment, including to the groundwater resource of the JUWPCA. The reduced risk is the result of:

- Cessation of shed washout activities and decommissioning of infiltration sumps;
- All chemical blending will take place within the upgraded bunded sheds and within contained tanks;
- No long-term parking, refuelling or maintenance of vehicles on-site;
- Reduced groundwater abstraction of approximately 80% per year over current operations;
- Sealing of roads and shed aprons, less frequent vehicle movements, and removal of dusty poultry operations
- All material storage, handling and blending will be within enclosed sheds;
- Significant noise sources will be removed, and operations will avoid sensitive night-time hours;
- Replacement of odorous poultry operations with relatively odourless chemical blending activity, which will be contained within enclosed tanks and sheds;
- Removal of potential sources of vector, vermin and litter risks.

The Proposal allows for the opportunity to discontinue the poultry operations, which present a higher risk to the environment, including the JUWPCA. Furthermore, the Proposal supports the repurposing of the existing facilities on-site to produce a blended agricultural product to service the needs of local and regional agricultural and mining industries.

6. Limitations

Scope of services

This report ("the report") has been prepared by Strategen-JBS&G in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Strategen-JBS&G. In some circumstances, a range of factors such as time, budget, access and/or site disturbance constraints may have limited the scope of services. This report is strictly limited to the matters stated in it and is not to be read as extending, by implication, to any other matter in connection with the matters addressed in it.

Reliance on data

In preparing the report, Strategen-JBS&G has relied upon data and other information provided by the Client and other individuals and organisations, most of which are referred to in the report ("the data"). Except as otherwise expressly stated in the report, Strategen-JBS&G has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. Strategen-JBS&G has also not attempted to determine whether any material matter has been omitted from the data. Strategen-JBS&G will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to Strategen-JBS&G. The making of any assumption does not imply that Strategen-JBS&G has made any enquiry to verify the correctness of that assumption.

The report is based on conditions encountered and information received at the time of preparation of this report or the time that site investigations were carried out. Strategen-JBS&G disclaims responsibility for any changes that may have occurred after this time. This report and any legal issues arising from it are governed by and construed in accordance with the law of Western Australia as at the date of this report.

Environmental conclusions

Within the limitations imposed by the scope of services, the preparation of this report has been undertaken and performed in a professional manner, in accordance with generally accepted environmental consulting practices. No other warranty, whether express or implied, is made.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

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Appendix A Site Plan



LEGEND	
	Subject Area (4.0544ha)
	Internal Sealed Driveways
	Underground Electricity (DBYD)
	Overhead Electricity (DBYD)
	Reticulated Water (DBYD)
	Reticulated Sewer (DBYD)
	Telecommunications (DBYD)
	Reticulated Gas (DBYD)

SITE PLAN

Lot 12 (No. 101) King Road,
OAKFORD

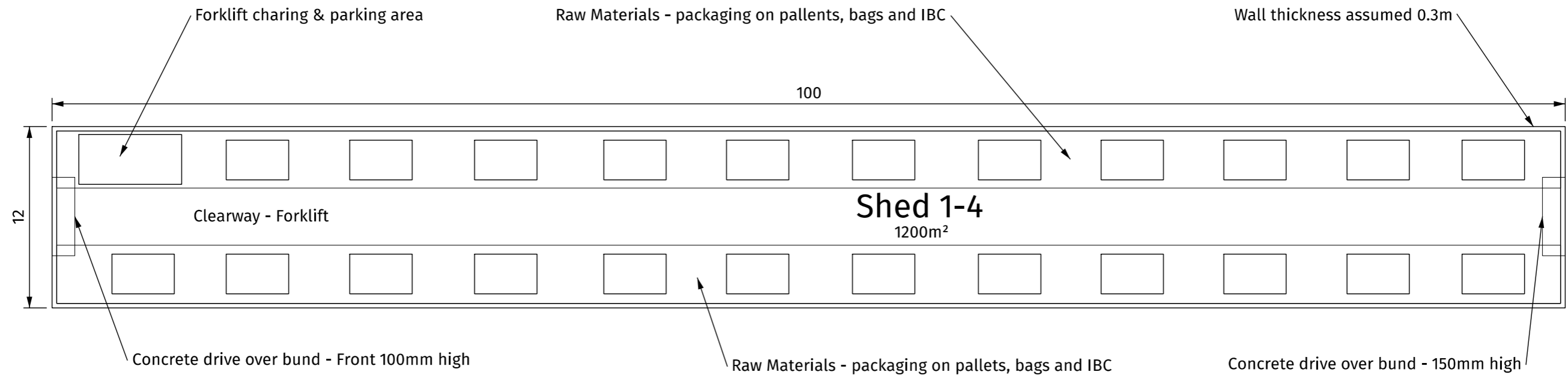
Plan No. 22798-01	PERTH & FORRESDALE: Lvl 1, 252 Fitzgerald St PERTH WA 6000	COPYRIGHT: This document is and shall remain the property of HARLEY DYKSTRA. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.
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Drawn DJ	T: 08 9495 1947	ALBANY BUNBURY BUSSELTON FORRESDALE PERTH
Checked NP	E: metro@harleydykstra.com.au	
Revision B		
Scale 1:1250@A3		

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

Harley Dykstra
PLANNING & SURVEY SOLUTIONS



Appendix B Proposed Floor Plan – Sheds 1 to 4



FLOOR PLAN - SHED 1-4

Lot 12 (No. 101) King Road,
OAKFORD

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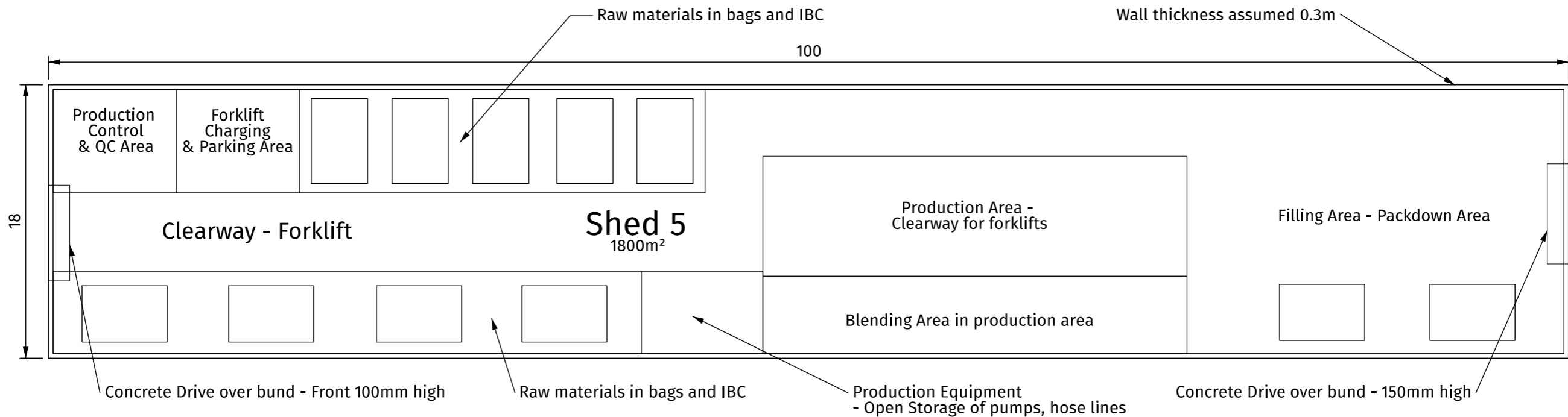


NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey





Appendix C Proposed Floor Plan – Shed 5



FLOOR PLAN - SHED 5

Lot 12 (No. 101) King Road,
OAKFORD

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Revision A	ALBANY BUNBURY BUSSELTON FORRESDALE PERTH	

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Appendix D Material Safety Data Sheets

**Official
Safety Data Sheet
(SDS)**

This SDS version supersedes all previous MSDS for the specified product.



Product: PNS
Issue Date: 2020 FEB
Issued by: PRS
Version: 1.20
Page: 1 of 6

NON-HAZARDOUS CHEMICAL, NON-DANGEROUS GOODS

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: ABLE PNS SOLUTION

Synonyms

ABLE PNS SOLUTION, 1200 kg

Product Code

PNS-1000

Recommended use: Plasticiser, binder, builder, suppressant and other

Supplier: Able Westchem
ABN: 009 353 182
Street Address: 273 Collier Road
Bayswater, WA 6053
Australia
Telephone: +61 8 9471 9111
Facsimile: +61 8 9272 6740

Emergency Telephone number: +61 8 9471 9111 (8.00am-4.30pm: Mon-Fri, AWST)

2. HAZARDS IDENTIFICATION

Based on available information, this material is not classified as hazardous according to criteria of Safe Work Australia.

Poison Schedule: Not Applicable

DANGEROUS GOOD CLASSIFICATION

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
Naphthalene sulfonic acid, sodium salt	1321-69-3	30-60 %
Ingredients determined to be Non-Hazardous		Balance

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Skin Contact: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

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Web1: www.westchem.com.au Web2: www.envirocareearth.com.au



**Official
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Product: PNS
Issue Date: 2020 FEB
Issued by: PRS
Version: 1.20
Page: 2 of 6

Eye contact: If in eyes wash out immediately with water. In all cases of eye contamination, it is a sensible precaution to seek medical advice.

Ingestion: Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advice.

Notes to physician: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Hazchem Code: Not applicable.

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

Specific hazards: Non-combustible material.

Firefighting further advice: Not combustible, however following evaporation of aqueous component residual material can burn if ignited.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS

Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours or dust. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

LARGE SPILLS

Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Dangerous Goods – Initial Emergency Response Guide No: Not applicable

7. HANDLING AND STORAGE

Handling: Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour, mist or aerosols.

Storage: Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Keep container standing upright. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits: No value assigned for this specific material by Safe Work Australia.

Biological Limit Values: As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

National occupational exposure limits: Natural ventilation should be adequate under normal use conditions.

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Issue Date: 2020 FEB
Issued by: PRS
Version: 1.20
Page: 3 of 6

Personal Protection Equipment: When handling individual retail packs, no personal protection equipment is required.

Special Notes:

Personal protective equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted.

The selection of PPE is dependent on a full risk assessment. The risk assessment should consider the work situation, physical form of chemical, handling volume and methods, environmental factors/ application area.

If the outcome of risk assessment is considerably low, still manufacturer recommends to use minimum PPE stipulated by the chemical industry practices. Ex: Safety Glasses, Safety shoes, Impervious Gloves and suitable protective clothing such as long sleeve clothes with buttoned at neck and wrist.

PROTECTIVE CLOTHES, GLOVES, RUBBER BOOTS, SAFETY GLASSES.



If spill risk exists, wear suitable protective clothing covers unprotected exposed skin area with an Overall. If the handling volume is large, chemical resistant Apron must be worn at all times to avoid any injuries.

Available information suggests that gloves made from should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour, mist or aerosols. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Colour:	Dark brown
Odour:	Characteristic odour
Solubility:	Soluble in water
Specific Gravity (20 °C):	1.22 ± 0.02
Relative Vapour Density (air=1):	>1
Vapour Pressure (20 °C):	18 mmHg @ 25 oC
Flash Point (°C):	N App
Flammability Limits (%):	N App
Auto ignition Temperature (°C):	N Av
Melting Point/Range (°C):	N Av
Boiling Point/Range (°C):	>100
pH:	7 - 9
Viscosity:	N Av
Total VOC (g/Litre):	N Av

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Safety Data Sheet
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This SDS version supersedes all previous MSDS for the specified product.



Product: PNS
Issue Date: 2020 FEB
Issued by: PRS
Version: 1.20
Page: 4 of 6

(Typical values only - consult specification sheet)
N Av = Not available, N App = Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: This material is thermally stable when stored and used as directed.

Conditions to avoid: Elevated temperatures and sources of ignition.

Incompatible materials: Oxidising agents.

Hazardous decomposition products: Oxides of carbon and nitrogen, smoke and other toxic fumes.

Hazardous reactions: No known hazardous reactions.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Material may be an irritant to mucous membranes and respiratory tract.

Skin contact: Contact with skin may result in irritation.

Ingestion: Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.

Eye contact: May be an eye irritant.

Acute toxicity

Inhalation: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >20 mg/L

Skin contact: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >2,000 mg/Kg

Ingestion: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >2,000 mg/Kg

Corrosion/Irritancy: Eye: this material has been classified as not corrosive or irritating to eyes. Skin: this material has been classified as not corrosive or irritating to skin.

Sensitisation: Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser.

Aspiration hazard: This material has been classified as non-hazardous.

Specific target organ toxicity (single exposure): This material has been classified as non-hazardous.

Chronic Toxicity

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**Official
Safety Data Sheet
(SDS)**

This SDS version supersedes all previous MSDS for the specified product.



Product: PNS
Issue Date: 2020 FEB
Issued by: PRS
Version: 1.20
Page: 5 of 6

Mutagenicity: This material has been classified as non-hazardous.

Carcinogenicity: This material has been classified as non-hazardous.

Reproductive toxicity (including via lactation): This material has been classified as non-hazardous.

Specific target organ toxicity (repeat exposure): This material has been classified as non-hazardous.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Acute aquatic hazard: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >100 mg/L

Long-term aquatic hazard: This material has been classified as non-hazardous. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or BCF < 500 and/or log K_{ow} < 4.

Eco toxicity: No information available.

Persistence and degradability: No information available.

Bio accumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

MARINE TRANSPORT

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

AIR TRANSPORT

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

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**Official
Safety Data Sheet
(SDS)**

This SDS version supersedes all previous MSDS for the specified product.



Product: PNS
Issue Date: 2020 FEB
Issued by: PRS
Version: 1.20
Page: 6 of 6

15. REGULATORY INFORMATION

This material is not subject to the following international agreements:

Montreal Protocol (Ozone depleting substances)
The Stockholm Convention (Persistent Organic Pollutants)
The Rotterdam Convention (Prior Informed Consent)
Basel Convention (Hazardous Waste)
International Convention for the Prevention of Pollution from Ships (MARPOL)

This material/constituent(s) is covered by the following requirements:

- All components of this product are listed on or exempt from the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Reasons for issue: Updated Section 16 with issue date and version
Issue date: 25/02/2020
Version: 1.20
Able Rating: Green

DISCLAIMER:

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Able Westchem provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, Able Westchem makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from Able Westchem.

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**Official
Safety Data Sheet
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This SDS version supersedes all previous MSDS for the specified product.



Product: WC900
Issue Date: 2020 FEB
Issued by: JB
Version: 1.60
Page: 1 of 6

NON-HAZARDOUS CHEMICAL, NON-DANGEROUS GOODS

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: AQUA-SOIL WETTER

Synonyms

AQUA-SOIL WETTER WETTING AGENT
AQUA-SOIL WETTER 5L
AQUA-SOIL WETTER 25L
AQUA-SOIL WETTER 205L DRUM

Product Code

WC900-1
WC900-5
WC900-20
WC900-205

Recommended use:

Introduction:

AQUA-SOIL WETTER was originally developed in conjunction with the Western Australian Department of Agriculture to obtain effective saturation wetting and penetration of water repellent earth and soil particles to wet and assist stabilisation of hydrophobic soils. **AQUA-SOIL WETTER** is non-bio accumulative and affords medium-to-long term wetting of hydrophobic and super hydrophobic surface soils in many outback/mining locations throughout Australia. **AQUA-SOIL WETTER** is also suitable for use as wetter for the production wetting granules and fibres.

General Characteristics:

Non-toxic or non-hazardous compound. pH neutral Liquid Concentrate. Readily high TDS water miscible. Assists in soil compaction. Environmentally responsible. Suitable for production of Wetter Granules.

Application Considerations:

Typical usage rates range from 10 to 30 litres per hectare. Dilute 1 Litre of **AQUA-SOIL WETTER** per 200 Litres of water and apply by irrigation system or spray truck. Dilutions may alter depending on available water hardness and or the type of hydrophobic soils. Chemical dosing pumps may be installed at water filling stations.

BENEFITS & TIPS

- ✓ RAPID SOIL PENETRATION
- ✓ LESS WATER RUNS OFF.
- ✓ LESS CAPILLARY ACTION
- ✓ ENHANCED COMPACTION.
- ✓ REDUCED WATER USEAGE.
- ✓ NO SURFACE PREPARATION.
- ✓ REDUCED MACHINERY COSTS.
- ✓ REDUCED DUST LEVELS
- ✓ HAPPY WORKERS.

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Emergency Telephone number: +61 8 9471 9111 (8.00am-4.30pm: Mon-Fri, AWST)

2. HAZARDS IDENTIFICATION

Based on available information, this material is not classified as hazardous according to criteria of Safe

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**Official
Safety Data Sheet
(SDS)**

This SDS version supersedes all previous MSDS for the specified product.



Product: WC900
Issue Date: 2020 FEB
Issued by: JB
Version: 1.60
Page: 2 of 6

Work Australia.

Poison Schedule: Not Applicable

DANGEROUS GOOD CLASSIFICATION

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
Polypropylene glycol Ethoxylate	9003-11-6	>60 % (w/w)
Ingredients determined to be Non-Hazardous		Balance

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Skin Contact: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye contact: If in eyes wash out immediately with water. In all cases of eye contamination it is a sensible precaution to seek medical advice.

Ingestion: Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advice.

Notes to physician: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Hazchem Code: Not applicable.

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

Specific hazards: Non-combustible material.

Firefighting further advice: Not combustible, however following evaporation of aqueous component residual material can burn if ignited.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS

Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapour. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

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**Official
Safety Data Sheet
(SDS)**

This SDS version supersedes all previous MSDS for the specified product.



Product: WC900
Issue Date: 2020 FEB
Issued by: JB
Version: 1.60
Page: 3 of 6

LARGE SPILLS

Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Dangerous Goods – Initial Emergency Response Guide No: Not applicable

7. HANDLING AND STORAGE

Handling: Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour.

Storage: Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Always keep container standing upright. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits: No value assigned for this specific material by Safe Work Australia.

Biological Limit Values: As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

National occupational exposure limits: Natural ventilation should be adequate under normal use conditions.

Personal Protection Equipment: No special PPE required.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Base Units:	Litres
Form:	Viscous Liquid
Colour:	Colourless
Odour:	Virtually odourless
Solubility in water:	Miscible
Flash Point (°C):	Not Applicable
Flammability Limits (%):	No data available
Auto ignition Temperature (°C):	No data available
Boiling Point/Range (°C):	>100
pH:	5.0-8.0

(Typical values only - consult specification sheet)

N Av = Not available, N App = Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: This material is thermally stable when stored and used as directed.

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**Official
Safety Data Sheet
(SDS)**

This SDS version supersedes all previous MSDS for the specified product.



Product: WC900
Issue Date: 2020 FEB
Issued by: JB
Version: 1.60
Page: 4 of 6

Conditions to avoid: Elevated temperatures and sources of ignition.
Incompatible materials: Oxidising agents.

Hazardous decomposition products: Oxides of carbon and nitrogen, smoke and other toxic fumes.

Hazardous reactions: No known hazardous reactions.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Material may be an irritant to mucous membranes and respiratory tract.

Skin contact: Contact with skin may result in irritation.

Ingestion: Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.

Eye contact: May be an eye irritant.

Acute toxicity

Inhalation: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients) : >20 mg/L

Skin contact: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients) : >2,000 mg/Kg

Ingestion: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients) : >2,000 mg/Kg

Corrosion/Irritancy: Eye: this material has been classified as not corrosive or irritating to eyes. Skin: this material has been classified as not corrosive or irritating to skin.

Sensitisation: Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser.

Aspiration hazard: This material has been classified as non-hazardous.

Specific target organ toxicity (single exposure): This material has been classified as non-hazardous.

Chronic Toxicity

Mutagenicity: This material has been classified as non-hazardous.

Carcinogenicity: This material has been classified as non-hazardous.

Reproductive toxicity (including via lactation): This material has been classified as non-hazardous.

Specific target organ toxicity (repeat exposure): This material has been classified as non-hazardous.

12. ECOLOGICAL INFORMATION

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**Official
Safety Data Sheet
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This SDS version supersedes all previous MSDS for the specified product.



Product: WC900
Issue Date: 2020 FEB
Issued by: JB
Version: 1.60
Page: 5 of 6

Avoid contaminating waterways.

Acute aquatic hazard: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients) : >100 mg/L

Long-term aquatic hazard: This material has been classified as non-hazardous. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or BCF < 500 and/or log K_{ow} < 4.

Eco toxicity: None known

Persistence and degradability: None known

Bio accumulative potential: None known

Mobility: None known

13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

MARINE TRANSPORT

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

AIR TRANSPORT

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

15. REGULATORY INFORMATION

This material is not subject to the following international agreements:

Montreal Protocol (Ozone depleting substances)
The Stockholm Convention (Persistent Organic Pollutants)
The Rotterdam Convention (Prior Informed Consent)
Basel Convention (Hazardous Waste)
International Convention for the Prevention of Pollution from Ships (MARPOL)

This material/constituent(s) is covered by the following requirements:

- All components of this product are listed on or exempt from the Australian Inventory of Chemical Substances (AICS).

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**Official
Safety Data Sheet
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Product: WC900
Issue Date: 2020 FEB
Issued by: JB
Version: 1.60
Page: 6 of 6

16. OTHER INFORMATION

Reasons for issue: Updated Section 16 with issue date and version
 Issue date: 26/02/2020
 Version: 1.60

DISCLAIMER:

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**Official
Safety Data Sheet
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Product: AC604
Issue Date: 2019 MAY
Issued by: PRS
Version: 1.90
Page: 1 of 7

NON- HAZARDOUS CHEMICAL, NON-DANGEROUS GOODS

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: ECO BREAK - ECO DEGREASER

Synonyms

ECO BREAK - ECO DEGREASER 1L
ECO BREAK - ECO DEGREASER 5L
ECO BREAK - ECO DEGREASER 20L
ECO BREAK - ECO DEGREASER 205L
ECO BREAK - ECO DEGREASER 1000L

Product Code

AC604-1
AC604-5
AC604-20
AC604-205
AC604-1000

Recommended use:

Description:

ECO BREAK - Quick Break Degreaser Cleaner Sanitiser is a water based environmentally responsible option for both degreasing, and general cleaning applications in the maritime, mining and resource industries. **ECO BREAK** is particularly useful when working in environmentally sensitive locations or with interceptors used at wash down pads. **ECO BREAK** is safe on most surfaces not harmed by water alone; use **ECO BREAK** with confidence on rigs and platforms, food contact surfaces, engines, plastics, steel, aluminium, painted surfaces, concrete and glass.

Dilution Recommendations

- | | |
|---|------------------------------|
| <input type="checkbox"/> Light Duty Cleaning | 200mL per 10 litres of water |
| <input type="checkbox"/> Medium Duty Cleaning | 500mL per 10 litres of water |
| <input type="checkbox"/> Heavy Duty Cleaning | 1:1 or Neat |

Use Suggestions

Prepare a diluted solution according to the extent of the contamination. Where possible use warm water as this works best. **ECO BREAK** may be applied by foaming units, hand, ventures, positive displacement pump, high pressure cleaners, mop & bucket, or sprayed directly onto surfaces using trigger sprays. Once applied allow to dwell then agitate then rinse off. Once surface is clean flush with fresh water.

BENEFITS & TIPS

- QUICK BREAKING
- MULTI-PURPOSE
- TOUGH ON GREASE & OILS
- DISINFECTING DEGREASER CONCENTRATE
- NON-CAUSTIC
- BIODEGRADABLE SURFACTANTS
- NO PHOSPHATES
- NO NASTY PETROCHEMICALS

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**Official
Safety Data Sheet
(SDS)**

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Product: AC604
Issue Date: 2019 MAY
Issued by: PRS
Version: 1.90
Page: 2 of 7

2. HAZARDS IDENTIFICATION

Based on available information, this material is not classified as hazardous according to criteria of Safe Work Australia.

Poison Schedule: Not Applicable

DANGEROUS GOOD CLASSIFICATION

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
D-limonene	138-86-3	0-1 % (w/w)
Ethylene glycol mono butyl ether	111-76-2	1-5 % (w/w)
Ingredients determined to be Non-Hazardous		Balance

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Skin Contact: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye contact: If in eyes, hold eyelids apart and flush the eyes continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a Doctor; or for at least 15 minutes and transport to Doctor or Hospital.

Ingestion: Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advice.

Notes to physician: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Hazchem Code: Not applicable.

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

Specific hazards: Non-combustible material.

Firefighting further advice: Not combustible, however following evaporation of aqueous component residual material can burn if ignited.

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**Official
Safety Data Sheet
(SDS)**

This SDS version supersedes all previous MSDS for the specified product.



Product: AC604
Issue Date: 2019 MAY
Issued by: PRS
Version: 1.90
Page: 3 of 7

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS

Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapour. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

LARGE SPILLS

Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Dangerous Goods – Initial Emergency Response Guide No: Not applicable

7. HANDLING AND STORAGE

Handling: Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour.

Storage: Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Always keep container standing upright position. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits:

	TWA		STEL		NOTICES
	ppm	mg/m ³	ppm	mg/m ³	
2-Butoxyethanol	20	96.9	50	242	Sk

As published by Safe Work Australia.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15-minute period which should not be exceeded at any time during a normal eight-hour workday.

'Sk' Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept too as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

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Safety Data Sheet
(SDS)**

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Product: AC604
Issue Date: 2019 MAY
Issued by: PRS
Version: 1.90
Page: 4 of 7

Biological Limit Values: As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

Engineering Measures: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Use only in well ventilated areas. Use with local exhaust ventilation or while wearing appropriate respirator. Vapour heavier than air - prevent concentration in hollows or sumps. Do NOT enter confined spaces where vapour may have collected.

Personal Protection Equipment:

Special Notes:

Personal protective equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted.

The selection of PPE is dependent on a full risk assessment. The risk assessment should consider the work situation, physical form of chemical, handling volume and methods, environmental factors/ application area.

If the outcome of risk assessment is considerably low, still manufacturer recommends to use minimum PPE stipulated by the chemical industry practices. Ex: Safety Glasses, Safety shoes, Impervious Gloves and suitable protective clothing such as long sleeve clothes with buttoned at neck and wrist.

PROTECTIVE CLOTHES, SAFETY SHOES, GLOVES, SAFETY GLASSES.



If inhalation or spill risk exists, also if engineering controls are not effective in controlling any airborne contaminants, wear suitable mist respirator meeting the requirements of AS/NZS 1716; Wear suitable protective clothing covers unprotected exposed skin area with an Overall.

Available information suggests that gloves made from natural rubber, nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Base Units:	Litres
Form:	Clear Liquid
Colour:	Green
Solubility in water:	Emulsifiable
Specific Gravity (20 °C):	1.01-1.05
Vapour Pressure (20 °C):	Approx. 18 mm Hg at 25°C
Flash Point (°C):	Not Applicable
Boiling Point/Range (°C):	180-380°C
pH (20 °C):	9.80 – 10.90

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Safety Data Sheet
(SDS)**

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Product: AC604
Issue Date: 2019 MAY
Issued by: PRS
Version: 1.90
Page: 5 of 7

Viscosity: Slightly Viscous
% Volatile by Volume: < 7%

(Typical values only - consult specification sheet)
N Av = Not available, N App = Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: This material is thermally stable when stored and used as directed.

Conditions to avoid: Elevated temperatures and sources of ignition.

Incompatible materials: Oxidising agents.

Hazardous decomposition products: Oxides of carbon and nitrogen, smoke and other toxic fumes.

Hazardous reactions: No known hazardous reactions.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Material may be a mild irritant to mucous membranes and respiratory tract.

Skin contact: Contact with skin may result in mild irritation.

Ingestion: Swallowing may cause result in nausea, vomiting and irritation of the gastrointestinal tract.

Eye contact: May be a mild irritant to eyes.

Acute toxicity

Inhalation: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >20 mg/L

Skin contact: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >2,000 mg/Kg

Ingestion: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >2,000 mg/Kg

Corrosion/Irritancy: Eye: this material has been not classified as corrosive to eyes. Skin: this material has not been classified as corrosive or irritating to skin.

Sensitisation: Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has not been classified as a skin sensitiser.

Aspiration hazard: This material has been classified as non-hazardous.

Specific target organ toxicity (single exposure): This material has been classified as non-hazardous.

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Ordinary Council Meeting - 11 December 2023

**Official
Safety Data Sheet
(SDS)**

This SDS version supersedes all previous MSDS for the specified product.



Product: AC604
Issue Date: 2019 MAY
Issued by: PRS
Version: 1.90
Page: 6 of 7

Chronic Toxicity

Mutagenicity: This material has been classified as non-hazardous.

Carcinogenicity: This material has been classified as non-hazardous.

Reproductive toxicity (including via lactation): This material has been classified as non-hazardous.

Specific target organ toxicity (repeat exposure): This material has been classified as non-hazardous.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Acute aquatic hazard: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >100 mg/L

Long-term aquatic hazard: This material has been classified as non-hazardous. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or BCF < 500 and/or log K_{ow} < 4.

Eco toxicity: No information available.

Persistence and degradability: No information available.

Bio accumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

MARINE TRANSPORT

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

AIR TRANSPORT

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

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Safety Data Sheet
(SDS)**

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Product: AC604
Issue Date: 2019 MAY
Issued by: PRS
Version: 1.90
Page: 7 of 7

15. REGULATORY INFORMATION

This material is not subject to the following international agreements:

Montreal Protocol (Ozone depleting substances)
The Stockholm Convention (Persistent Organic Pollutants)
The Rotterdam Convention (Prior Informed Consent)
Basel Convention (Hazardous Waste)
International Convention for the Prevention of Pollution from Ships (MARPOL)

This material/constituent(s) is covered by the following requirements:

- All components of this product are listed on or exempt from the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Reasons for issue: Changes to pH of the product

Able Rating: Green

DISCLAIMER:

The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued.

Able Westchem MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the Able Westchem product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of an Able Westchem product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the Able Westchem product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. For this reason, Able Westchem always recommends a user perform a test patch or trial in small scale or in an inconspicuous area prior to full application to limit possible damage. Testing before beginning any project is also the best way to ensure product effectiveness.

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Section 1 - Identification of The Material and Supplier

Wilchem Pty Ltd

ABN: 44 614 126 573

Phone: (08) 8359 6855**39 Jonal Drive****Fax: (08) 8260 1840****Cavan SA 5094 AUSTRALIA****Mobile: 0427 854 655**

Chemical nature: Potassium phosphate solution

Trade Name: **Furrow - PK**

Other Names: Mono Potassium Phosphate Liquid

Product Use: Potassium and phosphate liquid fertiliser

Creation Date: **February, 2018**

This version issued: **February, 2018** and is valid for 5 years from this date.

Poisons Information Centre: Phone 13 1126 from anywhere in Australia

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Not classified as hazardous according to the criteria of SWA.

Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMDG/IMSBC criteria.

SUSMP Classification: None allocated.

ADG Classification: None allocated. Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMDG/IMSBC criteria.

UN Number: None allocated

GHS Signal word: NONE. Not hazardous.

PREVENTION

P262: Do not get in eyes, on skin, or on clothing.

P264: Wash contacted areas thoroughly after handling.

P281: Use personal protective equipment as required.

RESPONSE

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P370+P378: Not combustible. Use extinguishing media suited to burning materials.

STORAGE

P402+P404: Store in a dry place. Store in a closed container.

P403+P235: Store in a well-ventilated place. Keep cool.

DISPOSAL

P501: If they can not be recycled, dispose of contents to an approved waste disposal plant and containers to landfill (see Section 13 of this SDS).

Emergency Overview

Physical Description & Colour: Clear liquid

Odour: Mild odour.

Major Health Hazards: no significant risk factors have been found for this product.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m ³)	STEL (mg/m ³)
Phosphoric acid	7664-38-2	40-50	1	3
Potassium hydroxide	1310-58-3	20-30	2	Peak
Citric acid	77-92-9	2-4	not set	not set
Water	7732-18-5	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible. Note that the phosphoric acid and citric acid are neutralised with the potassium hydroxide, resulting in potassium phosphate and potassium citrate at variable concentrations respectively.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

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Issued by: Wilchem Pty Ltd

Phone: (08) 8359 6855

Poisons Information Centre: 13 1126 from anywhere in Australia (0800 764 766 in New Zealand)

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Skin Contact: Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.

Eye Contact: No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.

Ingestion: If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

This product is likely to decompose only after heating to dryness, followed by further strong heating.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: Not combustible. Use extinguishing media suited to burning materials.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade.

Flash point: Will not burn until water component is driven off.

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Autoignition temperature: Does not burn.

Flammability Class: Does not burn.

Section 6 - Accidental Release Measures

Accidental release: Minor spills do not normally need any special cleanup measures. In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include rubber, Viton, Nitrile, butyl rubber, Barricade, neoprene, Teflon, polyethylene, PE/EVAL, Saranex and Responder. Eye/face protective equipment should comprise, as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8).

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: Store packages of this product in a cool place. Make sure that containers of this product are kept tightly closed. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

SAFETY DATA SHEET

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	TWA (mg/m ³)	STEL (mg/m ³)
Phosphoric acid	1	3
Potassium hydroxide	2	Peak

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used where there is ventilation that is adequate to keep exposure below the TWA levels. If necessary, use a fan.

Eye Protection: Eye protection such as protective glasses or goggles is recommended when this product is being used.

Skin Protection: You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product for lengthy periods. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: rubber, Viton, nitrile, butyl rubber, Barricade, neoprene, Teflon, polyethylene, PE/EVAL, Saranex, Responder.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Clear liquid
Odour:	Mild odour.
Boiling Point:	Approximately 100°C at 100kPa.
Freezing/Melting Point:	Approximately 0°C.
Volatiles:	Water component.
Vapour Pressure:	2.37 kPa at 20°C (water vapour pressure).
Vapour Density:	As for water.
Specific Gravity:	1.28-1.32
Water Solubility:	Completely soluble in water.
pH:	6.8-7.2
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	As for water.
Coeff Oil/water Distribution:	No data
Autoignition temp:	Does not burn.

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid: This product should be kept in a cool place, preferably below 30°C. Keep containers tightly closed.

Incompatibilities: strong acids, strong bases, strong oxidising agents, strong reducing agents.

Fire Decomposition: This product is likely to decompose only after heating to dryness, followed by further strong heating. Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form oxides of phosphorus and other phosphorus compounds. Potassium compounds. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Local Effects:

Target Organs: There is no data to hand indicating any particular target organs.

Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Phosphoric Acid	No risk phrases at concentrations found in this product
Skin corrosion – category 1B	

SAFETY DATA SHEET

Potassium Hydroxide
Acute toxicity – category 4
Skin corrosion – category 1A

No risk phrases at concentrations found in this product

Citric Acid
Eye irritation – category 2A
Skin irritation – category 2
Specific target organ toxicity (single exposure) – category 3

No risk phrases at concentrations found in this product

NOTE: The above hazards are due to the acidic or basic nature of these ingredients. The risks do not apply to this product, which has a neutral pH.

Potential Health Effects

Inhalation:

Short Term Exposure: Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long term inhalation.

Skin Contact:

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short Term Exposure: This product may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. Available data shows that this product is not harmful. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

Long Term Exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

SWA: No significant ingredient is classified as carcinogenic by SWA.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 12 - Ecological Information

This product is unlikely to adversely effect the environment. Salts, acids and bases are typically diluted and neutralised when released to the environment in small quantities.

Section 13 - Disposal Considerations

Disposal: This product may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. If neither of these options is suitable in-house, consider controlled incineration, or contact a specialist waste disposal company.

Section 14 - Transport Information

UN Number: This product is not classified as a Dangerous Good by ADG, IATA or IMDG/IMSBC criteria. No special transport conditions are necessary unless required by other regulations.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredients: Phosphoric acid, Potassium hydroxide, are mentioned in the SUSMP.

Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.

Acronyms:

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Issued by: Wilchem Pty Ltd

Phone: (08) 8359 6855

Poisons Information Centre: 13 1126 from anywhere in Australia (0800 764 766 in New Zealand)

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 th edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (Feb 2016)

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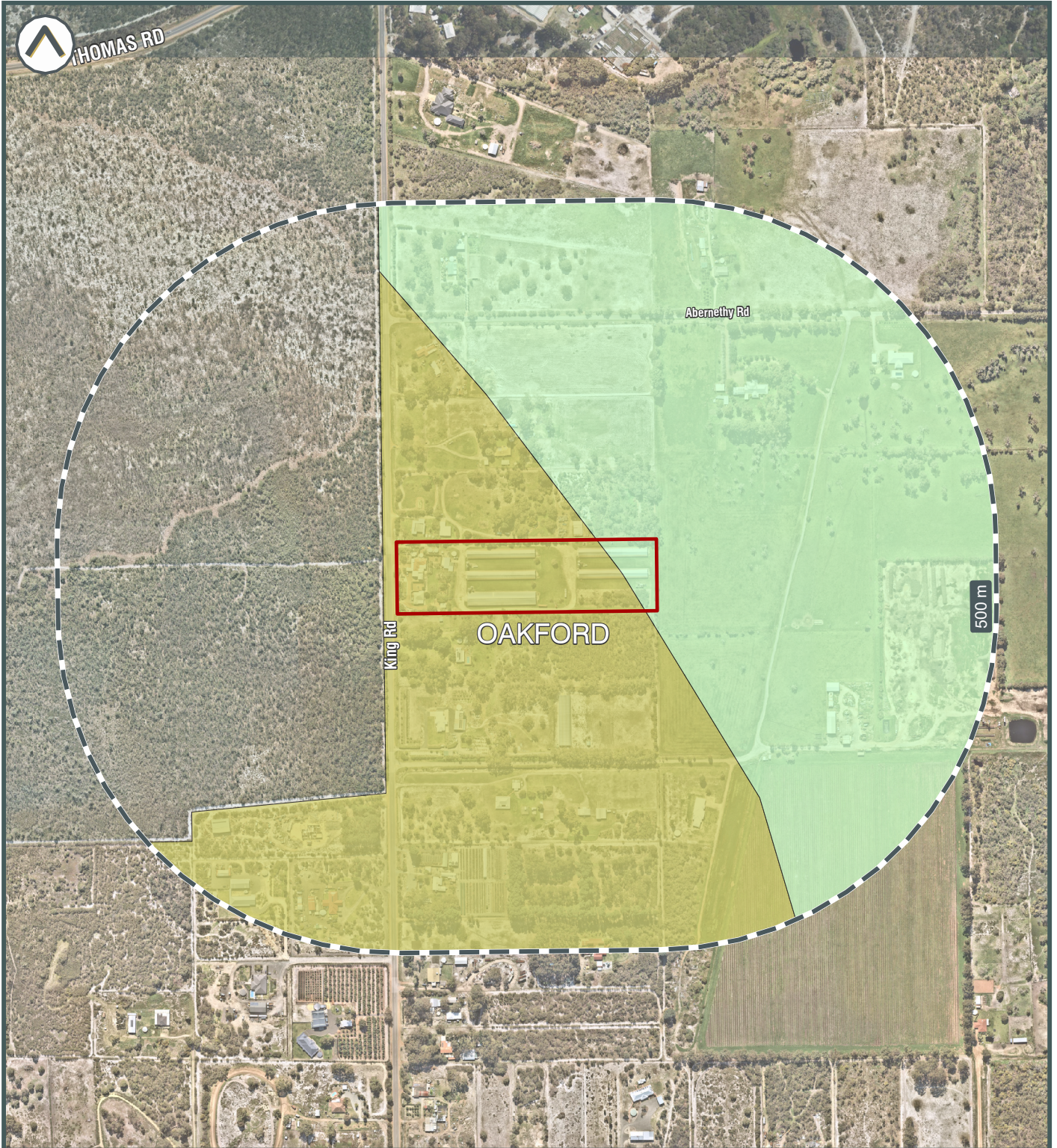
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Appendix E Planning Controls



Planning Controls



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- Subject area
- Rural
- Rural groundwater protection



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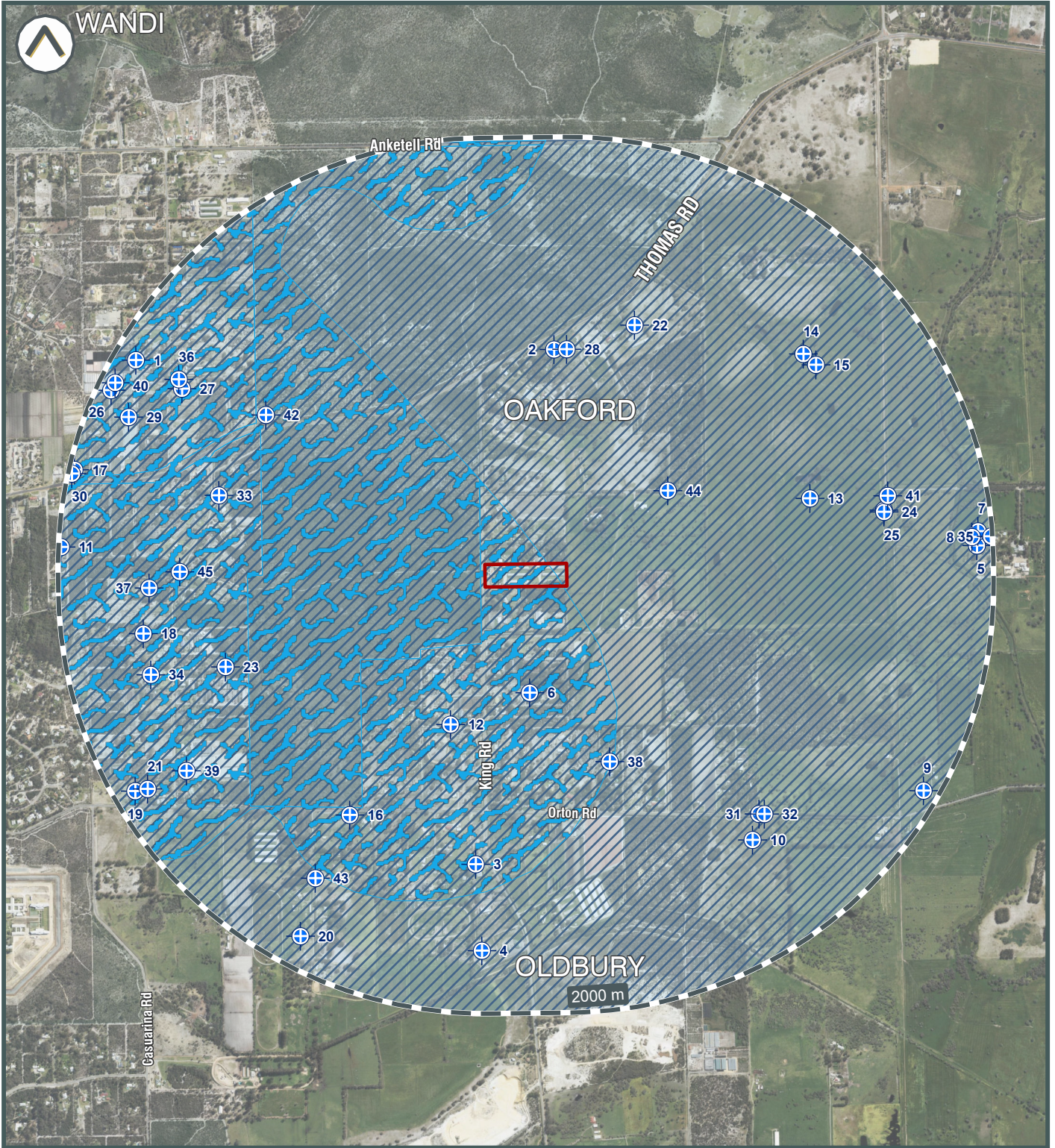




Appendix F Hydrogeology and Groundwater Boreholes



Hydrogeology and Groundwater Boreholes



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- Subject area
- + Groundwater bores
- Public Drinking Water Source Areas
- Groundwater Proclaimed Areas
- Aquifer type**
- Porous, extensive highly productive aquifers



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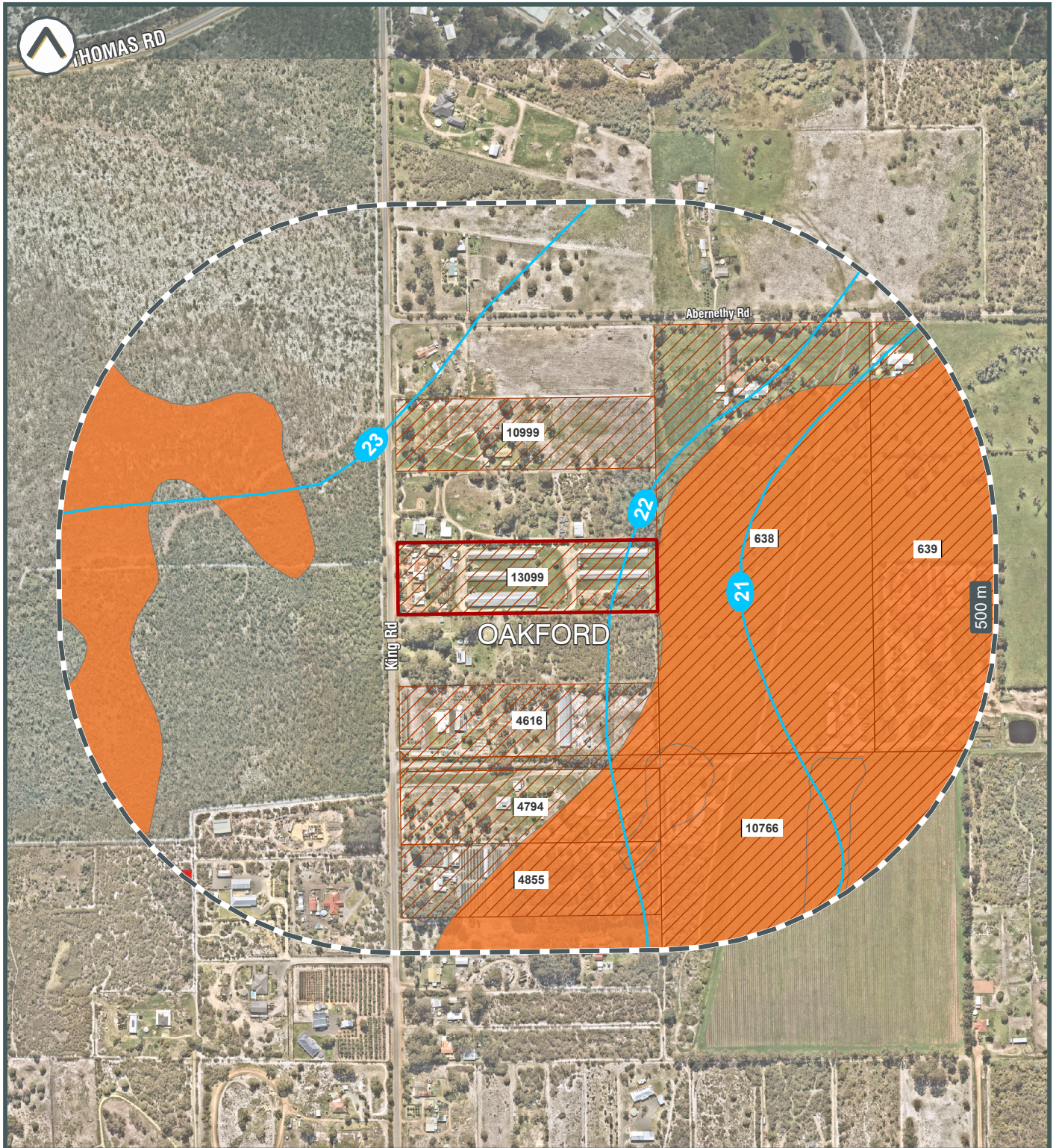




Appendix G Hydrogeology and Other Boreholes

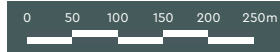


Hydrogeology and Other Boreholes



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- Subject area
- Groundwater contour (mAHd)
- Groundwater Licence
- Regional ecosystems that rely on the Surface expression of Groundwater
- Moderate potential GDE – from national assessment
- Regional ecosystems that rely on Subsurface presence of Groundwater
- High potential GDE – from national assessment



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Appendix H Subject Area and Sensitive Receptors



Subject Area and Sensitive Receptors



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Subject area



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