



Works Approval

Environmental Protection Act 1986, Part V

Works Approval Holder: Summit Rural (WA) Pty Ltd

Works Approval Number: W5936/2015/1

Registered office: Level 33, 225 St George St
SYDNEY NSW 2000

ACN: 058 794 737

Premises address: Summit Fertilizers
29 Ocean Street
KWINANA BEACH WA 6167
Being Lot 1001 on Plan 40194 as depicted in Schedule 1

Issue date: Thursday, 31 December 2015

Commencement date: Monday, 4 January 2016

Expiry date: Thursday, 3 January 2019

The following category/s from the *Environmental Protection Regulations 1987* cause this Premises to be a prescribed premises for the purposes of the *Environmental Protection Act 1986*:

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
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	5000 tonnes or more per year	100,000 tonnes per annual period (blending or mixing). Not including fertiliser directly despatched to customers without processing on site.

Conditions

This Works Approval is subject to the conditions set out in the attached pages.

Date signed: 31 December 2015

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Jonathan Bailes
Manager Licensing (Process Industries)
Officer delegated under section 20
of the *Environmental Protection Act 1986*



Works Approval Conditions

1 General

1.1 Interpretation

1.1.1 In the Works Approval, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 In the Works Approval, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986*;

'AS 3780' means the most current version of the Australian Standard for 'The storage and handling of corrosive substances';

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means:

Chief Executive Officer
Department administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Works Approval;

'Schedule 1' means Schedule 1 of this Works Approval unless otherwise stated;

'UAN' means Urea Ammonium Nitrate;

'Works Approval' means this Works Approval numbered W5936/2015/1 and issued under the Act; and

'Works Approval Holder' means the person or organisation named as the Works Approval Holder on page 1 of the Works Approval;

1.1.3 Any reference to an Australian or other standard in the Works Approval means the relevant parts of the standard in force from time to time during the term of this Works Approval.

1.1.4 Any reference to a guideline or code of practice in the Works Approval means the current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines or code of practice made during the term of this Works Approval.



1.2 General conditions

1.2.1 The Works Approval Holder shall construct the works in accordance with the documentation detailed in Table 1.2.1:

Document	Parts	Date of Document
Works Approval Application	All	9 September 2015
Works Approval Application - Supplementary Information requested by DER	All, including Drawings and Appendices	25 November 2015

Note 1: Where the details and commitments of the documents listed in condition 1.2.1 are inconsistent with any other condition of this works approval, the conditions of this works approval shall prevail.

1.3 Premises operation

- 1.3.1 The Works Approval Holder shall ensure that the storage compound for UAN tanks, as depicted in Schedule 1, is constructed in accordance with AS 3780 and as a minimum:
- (a) has permeability of 1×10^{-9} m/s or less;
 - (b) is designed to contain not less than 110% of the volume of the largest storage vessel or inter-connected system;
 - (c) is graded or includes a sump to allow recovery of liquid;
 - (d) is chemically resistant to the substances to be stored;
 - (e) is designed such that jetting from any storage vessel or fitting will be captured within the bunded area;
 - (f) is controlled such that the containment capacity of the bund is maintained; and
 - (g) is designed to contain stormwater runoff generated from a one in twenty year 24 hour storm event or has provisions to direct stormwater collected inside the bunded area to a stormwater retention basin on site such that contaminated or potentially contaminated stormwater is not released to the environment.
- 1.3.2 The Works Approval Holder shall submit to the CEO a Stormwater Management Plan by 30 June 2016. The Plan shall include but not be limited to:
- (a) identification of activities on the Premises that could cause stormwater to become contaminated and any potential contaminants;
 - (b) operational measures to prevent contamination of stormwater;
 - (c) measures for containment or treatment of contaminated or potentially contaminated stormwater generated from activities on the Premises;
 - (d) diagram or plan identifying existing stormwater management drains, containment ponds and discharge basins on the premises;
 - (e) information on containment capacity of each stormwater containment basin which demonstrates adequacy to contain stormwater flows and rainfall that may be generated during a one in 20 year 24 hour storm event or alternatively justifying the design criteria chosen;
 - (f) information on any engineered or geotechnical liners, including that may have been installed to ensure that permeability of stormwater containment basins is less than 1×10^{-9} m/s;
 - (g) information on maintenance schedule and procedures for existing infrastructure for stormwater conveyance and containment; and
 - (h) identification of improvements required to stormwater management practices or stormwater management infrastructure on the Premises, including requirement of any monitoring regimen, implementation proposal for the improvements identified and timeframe for the same.



2 Information

2.1 Reporting

2.1.1 The Works Approval Holder shall submit a compliance document to the CEO, following the construction of the works and prior to commissioning of the same.

2.1.2 The compliance document shall:

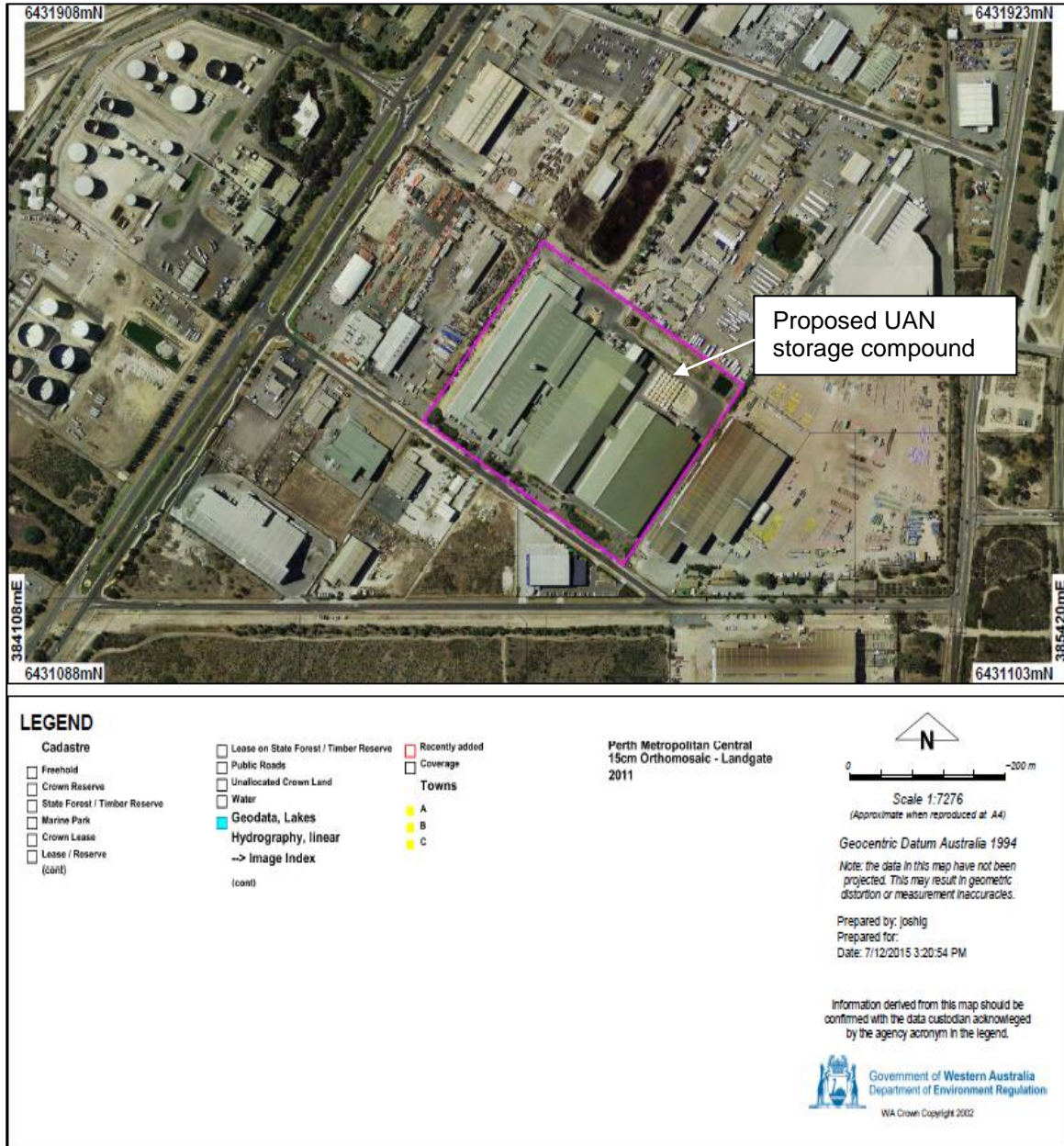
- (a) certify that the works were constructed in accordance with the conditions of the works approval; and
- (b) be signed by a person authorised to represent the Works Approval Holder and contain the printed name and position of that person within the company.



Schedule 1: Maps

Premises map

The Premises is shown in the map below. The pink line depicts the Premises boundary.





Decision Document

Environmental Protection Act 1986, Part V

Proponent: Summit Rural (WA) Pty Ltd

Works Approval: W5936/2015/1

Registered office: Level 33, 225 St George St
SYDNEY NSW 2000

ACN: 058 794 737

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Issue date: Thursday, 31 December 2015

Commencement date: Monday, 4 January 2016

Expiry date: Thursday, 3 January 2019

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER) has decided to issue a works approval. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by: Gargi Joshi
Licensing Officer

Decision Document authorised by: Ed Schuller
Delegated Officer



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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.



2 Administrative summary

Administrative details		
Application type	Works Approval <input checked="" type="checkbox"/>	<input type="checkbox"/>
	New Licence <input type="checkbox"/>	<input type="checkbox"/>
	Licence amendment <input type="checkbox"/>	<input type="checkbox"/>
	Works Approval amendment <input type="checkbox"/>	<input type="checkbox"/>
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	75	100,000 tonnes per annual period Not including fertiliser directly despatched to customers without processing on site.
Application verified	Date: 30 November 2015	
Application fee paid	Date: 7 December 2015	
Works Approval has been complied with	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Compliance Certificate received	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/>	Referral decision No:
		Managed under Part V <input type="checkbox"/>
		Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/>	Ministerial statement No:
		EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area <i>State Environmental (Cockburn Sound) Policy 2005</i>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the Premises subject to any EPP requirements?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>



3 Executive summary of proposal and assessment

Summit fertilisers Kwinana operations comprise three fertiliser bulk storage sheds, a liquid fertiliser mixing plant, and storage tanks for liquid fertiliser. Bulk solid fertilisers are imported via the Kwinana Bulk Cargo Jetty and trucked to the premises. The proponent has indicated that approximately 12 shipments per year bring in fertilisers for use in the south west agricultural area. Once on site, the fertilisers are loaded into customer's trucks as straight products or as blends, carried out at the time of despatch. Each shed has a single loading point.

The proponent has indicated that fertiliser distribution is a seasonal activity which peaks in the autumn period coinciding with seeding operations on farms. Current blending activities on site include:

- Dry bulk blending for mixing blends of fertilisers as they are loaded into customer trucks;
- Dry bulk blending for complicated blends which uses a batch process to weigh individual compounds into a mixer and product is blended during loading into customer trucks;
- Liquid mixing plant, nominated throughput of 30,000 tpa, to produce Urea Ammonium Nitrate (UAN) by mixing ammonium nitrate and urea in hot water which is then transferred into fibreglass storage tanks prior to despatch to customers;
- Compaction plant, nominated throughput of 20,000 tpa, which is used to compact crystalline sulphate of ammonia supplied by the Kwinana Nickel refinery to produce granules suitable for blending with other fertilisers;
- Sulphur coating plant, nominated throughput of 10,000 tpa, where elemental sulphur is added to triple superphosphate in a granulation drum.

The premises currently has 42 individual fibreglass tanks, each with a capacity of 39m³ (50 tonnes), to store UAN. This works approval application is to replace the existing 50t tanks with 100t tanks to increase the available storage capacity. The footprint of the storage area will remain unchanged. The tanks will be fabricated offsite, delivered individually, and will be stored on site near the works. The proponent has indicated that new tanks will be installed in stages, over a period of six to nine months, to minimise disruption to existing operations. Once old tanks are removed, the concrete bund floor will be inspected and an epoxy lining system will be applied, to protect the concrete from corrosive liquid fertiliser, prior to installing new tanks.

A new road tanker filling station for UAN is proposed to be constructed under the canopy of the existing No. 3 Shed to supplement tanker filling capacity during peak season. The weighbridge construction period is expected to be approximately six weeks.

The Premises is located in an industrial area. The nearest industrial receptor is located on an adjacent portion of land. There are no residential receptors within 500m of the premises boundary. The site is currently classified 'contaminated - remediation required' under the *Contaminated Sites Act 2003* (CS Act). Basic Summary of Records under the CS Act, show that groundwater monitoring conducted between 2006 and 2014 at the premises has identified that nutrients (such as from fertilisers) continue to be present in groundwater beneath the premises at concentrations exceeding assessment levels for non-potable use of groundwater and marine waters as established in the guideline '*Assessment and management of contaminated sites*' (DER 2014).

DER's assessment shows that potential emissions and discharges associated with proposed construction activities on the premises can be managed under conditions of this works approval. In determining regulatory controls, DER has considered the ongoing risk associated with historical activities on the site. Groundwater contamination resulting from current and historical site activities and ongoing monitoring of groundwater quality and remediation requirements are regulated under the CS Act.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	W1.2.1	Construction DER has assessed the risk of emissions and discharges from the premises based on the information provided in the works approval application document submitted by the proponent and stipulated regulatory controls accordingly. In order to ensure that the proponent undertakes works only as authorised under the works approval, condition 1.2.1 has been added.	Application supporting documentation and additional information titled ' <i>Works Approval Application-Supplementary Information requested by DER</i> ', authored by Summit Fertilisers and dated 25 November 2015
Premises operation	W1.3.1	See Appendix A – Fugitive Emissions (to land) for details of DER's risk assessment and decision making.	-
Emissions general	-	No descriptive or numeric limits have been included in the works approval.	-
Point source emissions to air including monitoring	-	No point source emissions to air are proposed during construction or operation.	-



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Point source emissions to surface water including monitoring	-	No point source emissions to surface water are proposed during construction or operation.	-
Point source emissions to groundwater including monitoring	-	No point source emissions to groundwater are proposed during construction or operation.	-
Emissions to land including monitoring	-	No emissions to land are proposed during construction or operation. The Premises is classified as 'contaminated site- remediation required'. See Appendix A – Fugitive Emissions to Land for details of DER's risk assessment and decision making.	-
Fugitive emissions	-	Construction <u>Emission Description</u> <i>Emission:</i> Dust emissions associated with groundworks and construction activities on the site. <i>Impact:</i> The Premises is located in an industrial area. Nearest industrial receptor (metal works) is located on an adjacent portion of land. There are no residential receptors within 500m of the premises boundary. <i>Control:</i> Groundworks will be limited to excavating a shallow pit (30m x 6m x 0.6m deep) for the proposed weighbridge. The proposed weighbridge for UAN filling will be located under the existing No. 3 Shed canopy. Construction of the weighbridge is expected to be completed within six weeks. New UAN tanks (100t each) will be fabricated offsite and installed in stages, over a six to nine months period, on existing concrete floored area.	<i>Environmental Protection Act 1986 (EP Act)</i> <i>Environmental Protection Regulations 1987 (EP Regulations)</i>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><u>Risk Assessment:</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Rare <i>Impact:</i> Low</p> <p><u>Regulatory controls</u> Potential unreasonable dust emissions from the premises can be managed under general provisions of the EP Act.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Rare <i>Impact:</i> Low</p> <p>Operation This works approval authorises an increase in storage capacity of UAN (liquid) on site and is not expected to contribute to fugitive dust emissions from the premises. Potential dust emissions from raw material, product stockpiles areas are not expected to change as a result of this works approval. The Premises currently holds registration R838/1994/1 for operation and is subject to general provisions of the EP Act and EP Regulations.</p>	
Odour	-	<p>Construction Proposed works include installation of new UAN storage tanks to increase storage capacity on the premises and to construct a new road tanker filling station for UAN. Odour emissions from the premises are not likely to be impacted by construction activities. No conditions are included in the works approval.</p> <p>Operation</p> <p><u>Emissions Description</u> Potential odour emissions associated with activities on the premises. UAN is known to</p>	EP Act EP Regulations



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>have a slight ammoniacal odour. Triple Super Phosphate is also slightly odorous. This works approval authorises an increase in storage capacity of UAN on site. The risk assessment below considers potential odour emissions associated with UAN manufacture and storage only.</p> <p><i>Emission:</i> Potential odour emissions at the increased UAN storage capacity at the premises.</p> <p><i>Impact:</i> The Premises is located in an industrial area. Nearest industrial receptor (metal works) is located on an adjacent portion of land. There are no residential receptors within 500m of the premises boundary. No odour complaints relating to premises activities have been received.</p> <p><i>Control:</i> UAN is stored in enclosed fibreglass tanks within a bunded area and dispatched to customers via road tankers. Due to the seasonal nature of the business, the maximum tank storage capacity is only required the month before peak demand. During the peak despatch period of autumn, the demand generally exceeds production capacity and stocks are depleted.</p> <p><u>Risk Assessment:</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Rare <i>Impact:</i> Low</p> <p><u>Regulatory controls</u> The Premises currently holds registration R838/1994/1 for operation and is subject to general provisions of the EP Act and EP Regulations.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Rare <i>Impact:</i> Low</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Noise	-	<p>Construction</p> <p><u>Emission Description</u> <i>Emission:</i> Noise emissions associated with groundworks and construction activities on the site. <i>Impact:</i> The Premises is located in an industrial area. The nearest industrial receptor (metal works) is located on an adjacent portion of land. There are no residential receptors within 500m of the premises boundary. <i>Control:</i> Groundworks will be limited to excavating a shallow pit. Construction of the weighbridge is expected to be completed within six weeks. New UAN tanks (100t each) will be fabricated offsite and installed in stages, over a six to nine months period, on existing concrete floored area.</p> <p><u>Risk Assessment:</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Rare <i>Impact:</i> Low</p> <p><u>Regulatory controls</u> Potential unreasonable noise emissions from the premises can be managed under general provisions of the EP (Noise) Regulations.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Rare <i>Impact:</i> Low</p> <p>Operation This works approval authorises an increase in storage capacity of UAN (liquid) on site and is not expected to change background noise emissions from the premises. As a result of the new weighbridge construction, the premises will have an augmented capacity to fill the UAN tankers during peak season. Potential increase in noise</p>	<p><i>Environmental Protection (Noise) Regulations 1997 (EP (Noise) Regulations)</i></p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		emissions due to vehicle movement is not subject to this assessment. The Premises currently holds registration R838/1994/1 for operation. Noise emissions from premises activities are subject to EP (Noise) Regulations.	
Monitoring general	-	The Premises currently holds registration R838/1994/1 for operation and is not subject to ongoing monitoring requirements under the EP Act. No general monitoring conditions are required to be added to the works approval to manage proposed works.	-
Monitoring of inputs and outputs	-	Construction Proposed works include installation of new UAN storage tanks to increase storage capacity on the premises and to construct a new road tanker filling station. Monitoring of inputs and outputs is not required to manage potential emissions during construction. No conditions are proposed to be included in the works approval. Operation The Premises currently holds registration R838/1994/1 for operation. No ongoing monitoring requirements are specified under the EP Act. Premises operations are subject to provisions of the EP Act and EP Regulations 1987.	-
Process monitoring		Construction Proposed works include installation of new UAN storage tanks to increase storage capacity on the premises and to construct a new road tanker filling station. Process monitoring is not required to manage potential emissions during construction. No conditions are proposed to be included in the works approval. Operation The Premises operates under registration R838/1994/1. No ongoing monitoring requirements are currently specified. Premises operations are subject to provisions of the EP Act and EP Regulations 1987.	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Ambient quality monitoring		<p>Construction Proposed works include installation of new UAN storage tanks to increase storage capacity on the premises and to construct a new road tanker filling station. Ambient environmental quality monitoring is not required to manage potential emissions during construction. No conditions are proposed to be included in the works approval.</p> <p>Operation The Premises is classified 'contaminated - remediation required' under the CS Act. A search of Basic Summary of Records under CS Act, shows that Groundwater monitoring conducted between 2006 and 2014 at the premises has identified that nutrients (such as from fertilisers) continue to be present in groundwater beneath the premises at concentrations exceeding assessment levels for non-potable use of groundwater and marine waters as established in the Guideline: <i>Assessment and management of contaminated sites</i>, published by DER, 2014.</p> <p>Premises operations are currently being assessed by DER under the CS Act and are subject to requirements for site investigation, groundwater remediation and ongoing monitoring under that legislation.</p> <p>The Premises currently holds registration R838/1994/1 for operation. General provisions of the EP Act and EP Regulations can be used to manage significant pollution risk arising from activities on the premises.</p>	<p><i>Contaminated Sites Act 2003</i> (CS Act)</p> <p>EP Act EP Regulations</p>
Meteorological monitoring	-	<p>Construction Proposed works include installation of new UAN storage tanks to increase storage capacity on the premises and to construct a new road tanker filling station. Meteorological monitoring is not required to manage potential emissions during construction. No conditions are proposed to be included in the works approval.</p> <p>Operation The Premises currently holds registration R838/1994/1 for operation. Premises operations are subject to provisions of the EP Act and EP Regulations 1987.</p>	-



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Improvements	IR1	See Appendix A - Fugitive Emissions to Land for details of DER's risk assessment and decision making.	-
Information	W5.1.1 W5.1.2	Construction Conditions W5.1.1 has been added requiring submission of a compliance document following the construction of works. Condition W5.1.2 specifies information and authorisation requirements for compliance document to be submitted. Operation The Premises currently holds registration R838/1994/1 for operation and is not subject to ongoing reporting requirements under the EP Act.	-
Licence Duration	-	The Premises currently holds registration R838/1994/1 for operation. Ongoing operations are subject to provisions of the EP Regulations 1987.	EP Regulations R838/1994/1



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
14/12/2015	Application advertised in West Australian (or other relevant newspaper)	No comments received.	Not applicable.
14/12/2015	Application referred to interested parties listed – City of Kwinana	<p>Comments received 16 December 2015.</p> <p>It is City of Kwinana’s view that the Premises activities result in the spread of ammonium nitrate and other fertilisers offsite creating a thin film of chemicals for up to 100 metres creating slippery conditions for motorists.</p> <p>The City has had issues with the depot for some time now due to the spread of prilled ammonium nitrate & other possibly similar fertilisers.</p> <p>The City recommends including licence conditions to deal with nuisance and form of environmental pollution.</p>	<p>The Works Approval includes conditions regarding storage and containment of UAN and stormwater management within the premises.</p> <p>Road safety issues are not assessed through this works approval.</p> <p>The premises is a registered site and is not subject to specific regulatory controls during operation.</p> <p>Where emissions from the premises are considered to cause environmental harm or pollution, these may be dealt with under the provisions of the EP Act.</p>
16/12/2015	Proponent sent a copy of draft instrument	<p>Comments received 17 December 2015.</p> <p>The proponent considers that the issue of stormwater management is not relevant to works proposed under this works approval and should be dealt with separately. The proponent considers that the remediation work they are required to complete under the <i>Contaminated Sites Act 2003</i> (CS Act) would address the issue of stormwater contamination.</p>	<p>Consultation with DER’s Contaminated Sites functional group has identified that current investigations at the site, under the CS Act, are targeted at managing existing contamination at the premises.</p> <p>Given the history of stormwater contaminated by premises activities leading to groundwater contamination, it is considered appropriate that the premises reviews stormwater management practices to minimise the potential for future contamination. Condition 1.3.2 is considered to be consistent with DER’s Guidance Statement- Setting Conditions, September 2015.</p>



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High



Appendix A

The premises currently stores solid bulk fertilisers and raw materials. This works approval authorises an increase in storage capacity of UAN (liquid fertiliser) at the premises. Fugitive emissions to land will be relevant once infrastructure constructed through this works approval is operational.

Potential emissions from operations at the premises will continue while construction authorised through this works approval is undertaken. DER has considered whether proposed works could contribute to or alter emissions to land from existing operations.

The Premises currently holds registration R838/1994/1 and existing operations are subject to provisions of the EP Act.

Fugitive Emissions to Land - Operation

Emission: Potential emissions to land from the UAN storage area. Potential emissions to land from during UAN road tanker filling activities. Emissions to land may have high nutrient and heavy metals concentration associated with the use of fertilisers. Fugitive emissions to land from solid fertiliser handling activities on site will not be altered as a result of this works approval.

Impact: Emissions to land have the potential to contaminate stormwater runoff. Emissions to land can also infiltrate and lead to groundwater contamination.

The site is currently classified 'contaminated - remediation required' under the *Contaminated Sites Act 2003* (CS Act). Basic Summary of Records under the CS Act, shows that groundwater monitoring conducted between 2006 and 2014 at the premises has identified that nutrients (such as from fertilisers) continue to be present in groundwater beneath the premises at concentrations exceeding assessment levels for non-potable use of groundwater and marine waters as established in the guideline '*Assessment and management of contaminated sites*' (DER 2014).

The CS Act records also note that the groundwater plume appears to be centred on stormwater basins in the northern portion of the site with the highest concentrations being found at approximately 10 metres below the water table. However, the lateral extent of nutrient and metal-impacted groundwater has not been delineated and the plume may extend off-site to the north.

During sampling of groundwater in 2014, groundwater in the plume was observed to be discoloured and effervescent on exposure to air, which is likely to be caused by the release of ammonia gas.

Groundwater in the area is used for irrigation and the site is located approximately 1.6 kilometres from the marine environment of Cockburn Sound, which is managed under *State Environmental (Cockburn Sound) Policy 2005*.

As a result of this works approval, UAN storage capacity at the premises and the capacity to handle product (using the proposed road tanker filling station) will increase. There is potential that emissions to land could alter the environment and breach legal requirements.



Control:

Stormwater runoff from roofs is diverted to infiltration basins (3, 5 and 6). The proponent has indicated that stormwater collected from hardstand areas is diverted to lined evaporation basins (1, 2 and 4).

Due to the seasonal nature of the business, the maximum tank storage capacity is only required the month before peak demand. During the peak despatch period of autumn, the demand generally exceeds production capacity and stocks are depleted.

The footprint of the new UAN tanks proposed to be installed will remain unchanged from current storage area footprint. The proponent has committed to undertake the following measures to minimise potential emissions to land from the new UAN storage tank area:

I. Permeability of containment area

- existing containment bund is constructed of 125mm thick concrete slab on a waterproof membrane. The bund wall is 150mm thick reinforced concrete and is the same grade as the floor slab;
- prior to installation of new tanks, the bund floor will be inspected and an epoxy lining system will be applied to protect the concrete from corrosive liquid fertiliser spills; and
- road tankers will be loaded on a concrete spill pad that drains back into the bund area via a non-return valve.

II. Containment capacity

- current net bund capacity has been calculated to be 745m³ (equivalent to 968.5 tonnes of UAN). This is considered adequate as it is greater than 100% of the net capacity of the largest tank proposed to be stored in the storage area (100 tonnes);
- during rainfall events, the tank bund will be inspected to manage stormwater collected in the bund. A drain line with an isolating valve will allow stormwater to be drained to an existing PE lined evaporation basin on site; and
- tanks will be isolated from one another by use of valves. Discharge valves will be normally closed unless the tank contents are to be transferred to a customer's road tanker.

III. Control measures to prevent spills and to detect leaks

- storage will be undertaken in accordance with *AS 3780: The storage and handling of corrosive substances*. In order to minimise the risk of liquid jetting out of containment area, the existing bund height will be increased by a further three metres or curtains made of impervious PVC coated material (resistant to UAN) will be installed around each tank to deflect jetting leaks down into the bund;
- the bund floor is designed to drain into a small recovery sump near the loading point;
- between six to eight tanks can be interconnected to a loading out pump in the event of leaks;
- pumps will be located inside the tank bund and employ mechanical seals to prevent gland leaks;
- supervisors patrol the site daily and any spills or leaks can be identified;
- any spills will be recovered and incorporated into the liquid fertiliser manufacturing process; and
- during off season, the tanks will be emptied for internal inspection and most will stay empty prior to the peak season.



The following measures will be undertaken to minimise potential emissions to land from tanker filling operations:

- the weighbridge will be installed in a shallow concrete pit to contain any leaks or spills;
- containment capacity of the weighbridge will be 45.7m³ (equivalent to 59t of UAN) which will be sufficient to contain spills from the tanker filling operation as the largest road tanker capacity generally is 25t;
- as per current practice, loading operations will be overseen by the truck driver and site operator;
- tankers are top filled. The filling weight will be monitored on the weighbridge scale which is visible to both the site operator and truck driver. An automatic shut off will be used to stop the flow when target weight is reached to avoid overfilling; and
- any spills onto the asphalt floor surrounding the weighbridge will drain into an existing PE lined stormwater evaporation basin.

Risk Assessment:

Consequence: Moderate

Likelihood: Possible

Impact: Moderate

Regulatory Controls:

Groundwater contamination detected at the premises has been linked to site activities. The report titled *Summit Fertilisers, 29 Ocean Street Kwinana Beach, 2012 Groundwater Monitoring*, authored by GHD and dated April 2013 notes that *'the historical source of nitrogen contamination at the Site is attributed to impacted storm water infiltrating to groundwater through onsite drainage basins, specifically Basin 1.'* The Report also notes that there is ongoing potential for groundwater contamination local to the drainage basins as a result of the collection of stormwater from roofs and a hardstand area that collects settled fertilizer dust en-route and hence continues to contaminate.

The GHD Report also recommended that the site undertakes improvements to the current stormwater collection and disposal system to prevent future disposal of contaminated water to ground. Improvements suggested in the GHD Report include effective retention of contaminated stormwater within storage bunds, recovery of solute and reduction of hydraulic surcharges at the site.

The CS Act investigation findings note that the groundwater plume appears to be centred on stormwater basins in the northern portion of the site. This indicates that permeability of the existing 'PE lined evaporation basins' on the premises may have been compromised. DER notes that there is a lack of clarity on whether the 'lined evaporation basins' referenced in the Application Document are PE lined or clay lined (as mentioned in the GHD Report).

Groundwater contamination resulting from current and historical site activities, ongoing monitoring of groundwater quality and remediation requirements is being investigated under the CS Act.

Condition 1.3.1 has been added to the works approval specifying minimum infrastructure requirements for the proposed UAN containment area.

Condition 1.3.2 has been added requiring the proponent to submit a stormwater management plan which investigates containment capacity of existing stormwater drainage, retention infrastructure and identifies whether any improvements are required.

The Premises currently holds registration R838/1994/1 to operate. General provisions under the EP Act can be used to manage significant pollution risk arising from activities on the premises. Premises operations are subject to provisions of the EP Act and EP Regulations.



Residual Risk
Consequence: Moderate
Likelihood: Unlikely
Impact: Moderate

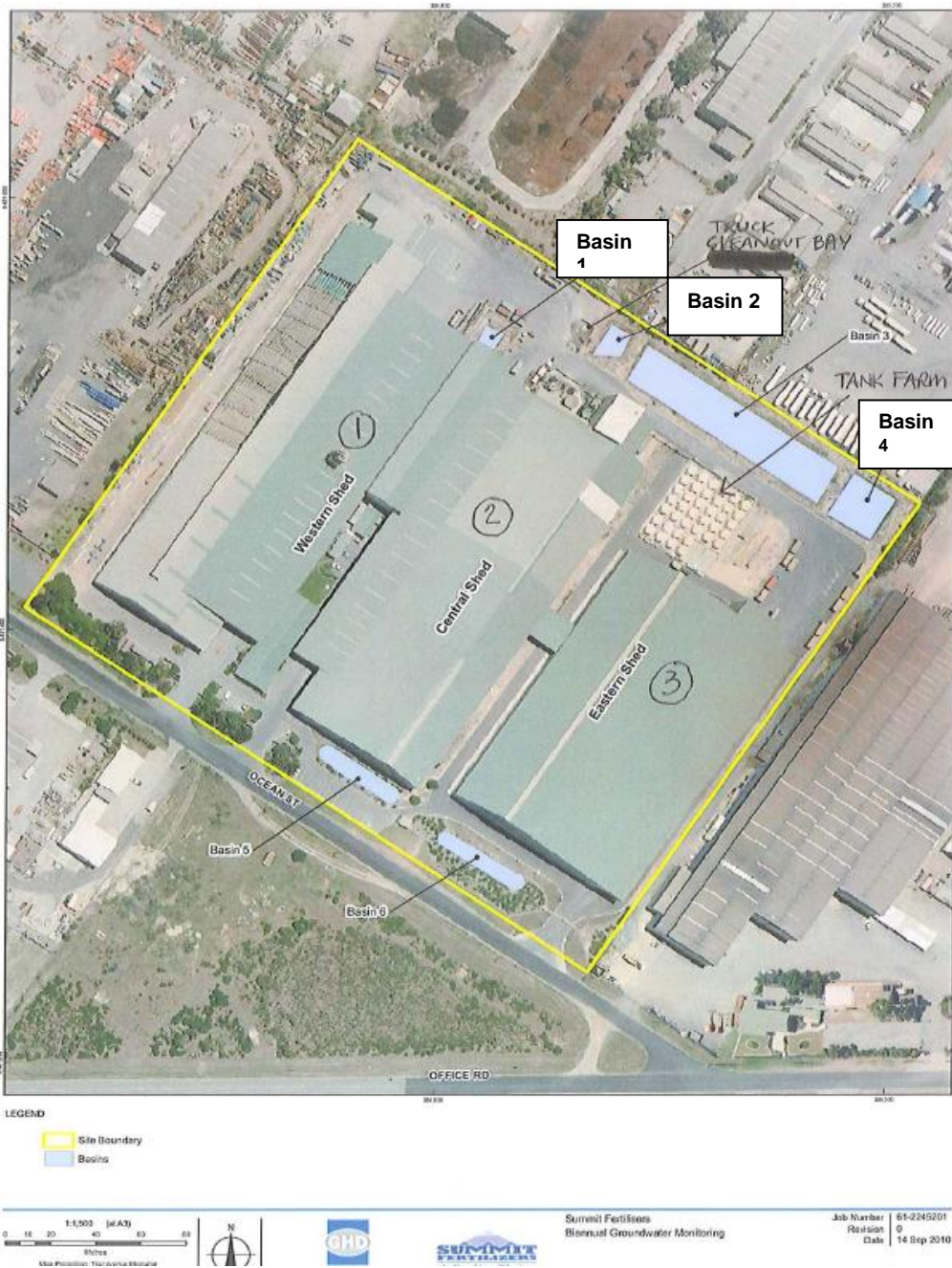


Figure 1: Site layout showing location of existing stormwater collection and evaporation basins 1, 2 and 4