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<b>DATE OF ESTABLISHMENT</b>	<b>20/07/2014</b>
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<b>Revision #</b>	<b>Author</b>	<b>Reviewer</b>	<b>Title</b>	<b>Date</b>
A (1)	Tucks Sarkar	Ron Game	EHS Supervisor	20/07/2014
		Fay Wombwell	QA Supervisor	20/07/2014
		Nick Ebrill	Plant Manager	20/07/2014
2	Fay Wombwell	Nick Ebrill	Plant Manager	25/07/2018
3	Fay Wombwell/ MJM Environmental	Nick Ebrill	Plant Manager	31/07/2019
3.1	Fay Wombwell/Alex Errock	Nick Ebrill	Plant Manager	25/09/2019
3.2	Alex Errock/Fay wombwell	Nick Ebrill	Plant Manager	21/08/2020
3.3	Nick Ebrill	Steve Timperio	Facility Manager	14/02/2021
3.4	Nick Ebrill	Steve Timperio	Facility Manager	30/03/21
3.5	Nick Ebrill	Steve Timperio	Facility Manager	26/04/2021

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# Operational Environmental Management Plan

## Cargill Australia Limited – Kooragang

26 April 2021

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## Glossary of Terms

Cargill	Cargill Australia
CEMP	Construction Environmental Management Plan
CSS	Construction Safety Study
CTMP	Construction Traffic Management Plan
DoPE	Department of Planning and Environment
EA	Environmental Assessment
EP&A Act	NSW Environmental Planning and Assessment Act 1979
EMP	Environmental Management Plan
EPA	Environment Protection Authority
CMP	Construction Management Plan
CSS	Construction Safety Study
DGR	Director General Requirements
EHS	Environment, Health and Safety
ERP	Emergency Response Plan
HAZID	Hazard Identification
HAZOP	Hazard and Operability Study
HIPAP	Hazardous Industry Planning Advisory Paper
IR	Industrial Relations
ITP	Inspection and Test Plan
JSERA	Job Safety Environment Risk Analysis
SDS	Safety Data Sheet
OTMP	Operation Traffic Management Plan
PHA	Preliminary Hazard Analysis
QA	Quality Assurance
TMP	Traffic Management Plan
LMP	Landscape Management Plan

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## **1 Introduction**

### **1.1 Purpose of document**

The following Operational Environmental Management Plan (OEMP) has been completed for Cargill's (CAL) Kooragang facility, herein referred to as Cargill. Cargill Kooragang is part of Cargill Australia, Limited.

The purpose of the OEMP is to outline the environmental management activities and procedures undertaken during operation of Cargill's processes, and performance to current licences and approvals.

The OEMP provides a reference document that ensures the environmental commitments, reporting, safeguards and mitigation measures specified in the Planning and Development Approvals, Environment Protection Licence 5810 and other relevant licences, permits, deeds, agreements and approvals are being implemented, monitored and reviewed. The objectives of the OEMP are to outline Cargill's operations and environmental responsibilities, and to communicate these responsibilities to the relevant governing bodies as well as site management and employees. The OEMP considers and measures the environmental risks associated with the activities carried out during Cargill's operations within the site boundaries of the Plant and the Shipping Terminal Facilities.

The objectives of this OEMP are to ensure:

- All conditions from the Environment Protection Authority's (EPA) Environmental Protection Licence (EPL) number 5810 are complied with across Cargill's Kooragang operations;
- All conditions from the NSW Department of Planning and Environment's (DoPE) current Project Approvals (Development Application DA 18/95 and Major Project MP 05\_0122) are complied with;
- All conditions, monitoring and communication requirements listed in the 30 Nov 2020 Hunter Water and Cargill Australia Trade Wastewater Deed are complied with;
- Cargill is compliant with all relevant environmental legislation;
- That all site activities are carried out with due diligence;
- That environmental responsibilities are allocated to all employees, and
- That Cargill operates in line with the company's internal Environmental Management System (EMS) Procedure NEWC-EHS-005, and all associated documentation.

NEWC-EHS-005 outlines procedures to avoid or minimise the identified risks onsite, and contains actions to take if an incident transpires. The EMS procedures are communicated to Cargill employees through onsite training. The procedures will be reviewed at regular intervals or as required by an independent audit of site activities. Communication of the environmental system is undertaken through safety meetings, annual training program, communicated on the shared network drive, communicated through daily shift notes, and through emails and memos to all supervising employees.

Cargill has overall responsibility, authority and accountability for environmental issues onsite. This OEMP outlines the key steps to be taken by all site personnel (Cargill and their contractors), to manage the environmental hazards and risks associated with the process and to effectively minimise the potential for environmental harm.

All Cargill and contractor personnel engaged are required to fully comply with the requirements of this OEMP in order to limit the potential for environmental harm and regulatory non-compliance.

### **1.2 Scope of document**



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Cargill has completed a number of Development Approvals and Modifications over the historical course of operations.

This OEMP is intended to combine and replace the previous separate OEMPs for each stage of operations that may have previously been published by Cargill.

## **2 Environmental Policy**

Cargill's policy is to conduct all business activities in a manner that protects the environment and the health and safety of our employees, contractors, customers, and communities.

### **Environment**

Cargill will comply with all applicable environmental requirements, prevent pollution, and continually improve performance on criteria relevant to its businesses and operations.

### **Health and Safety**

Cargill will comply with all applicable occupational health and safety, process safety, and product safety requirements, continually improve performance on criteria relevant to its businesses and operations, and insist that all work, however urgent, be done safely.

Our Guiding Principles and Business Operating Principles reflect our core beliefs. They provide guidance on expected behaviours, remove complexity, and allow for the agility, freedom and accountability needed in order to achieve our Strategic Intent. Our policies and procedures support our principles and outline the minimum requirements we must each follow in order to achieve our compliance responsibilities. A variety of job aids are often available, but not required, to help employees do the tasks related to procedures.

All together, they create the framework to ensure compliance with requirements and efficient, effective operations, while enabling employees to act with flexibility, agility, urgency and take appropriate risks.

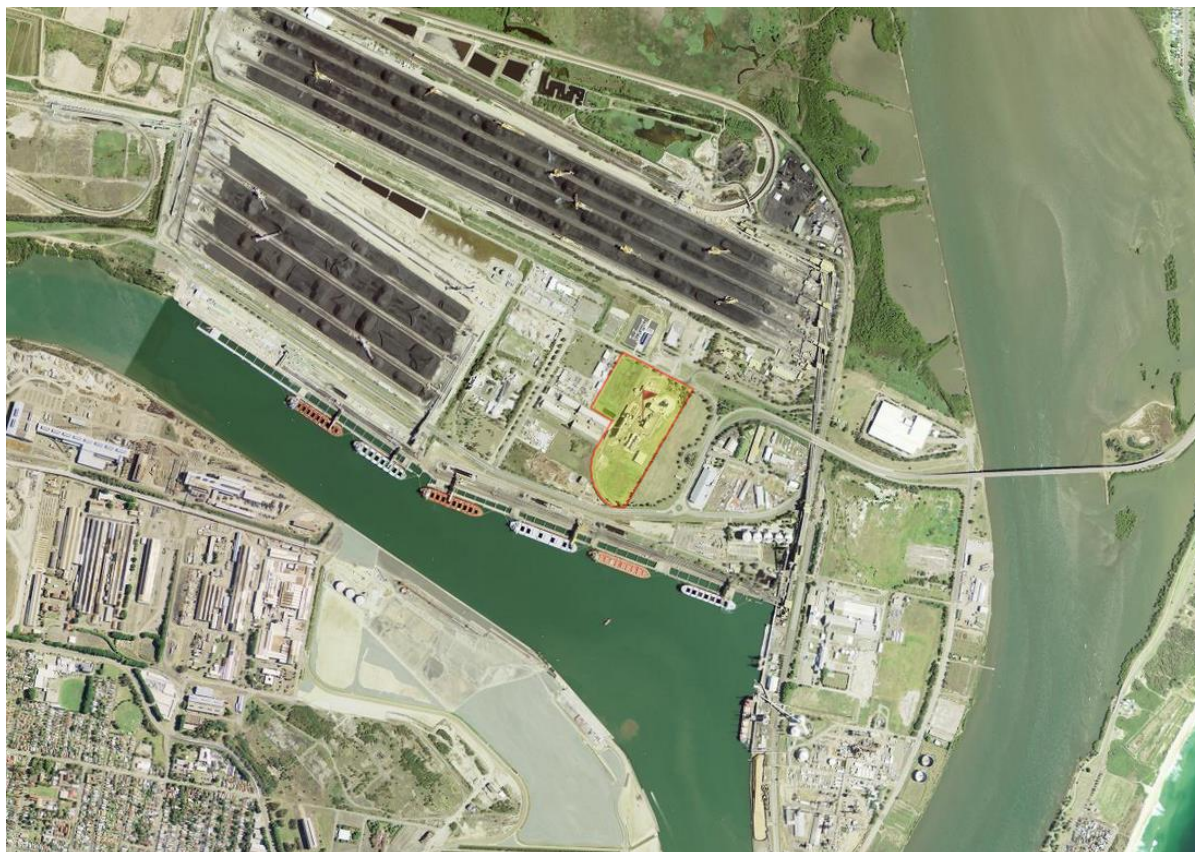
The Sustainability Policy and related Cargill Corporate Standards are periodically reviewed and revised to reflect changing conditions and ensure continual improvement of the organisation's environmental performance.

## **3 Site Overview**

Cargill owns and operates the Oilseed Processing facility and is part of Cargill Australia Limited. The facility is located at 51 Raven Street, Kooragang Island NSW, which is an industrial region north of Newcastle's city centre. The Kooragang Island area is a major industrial region north of Newcastle's city centre, and includes berthing facilities, coal stockyards and ship loading facilities, an agricultural fertilizer and explosive manufacturing facility and other heavy industry. The facility operates on a 24 hour a day, 7 days a week basis.

The site also operates the Kooragang Oil Transfer Shipping Terminal (the Terminal) located at 40 Heron Road Kooragang Island NSW and transfer pipeline between the two sites. The Terminal's activities are part of operations under EPL 5810.

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**Figure 3.1: Cargill Raven Street site location and surrounding areas (SIXMaps 2018)**

### **3.1 Processing Plant Facility**

Cargill was the first vegetable oil refinery commissioned in Newcastle and is a multi-seed crush facility which extracts canola, high oleic canola, soybean, sunflower and high oleic sunflower oils. Cargill's Crush Plant was commissioned in April 1997 from a green-field site. Further developments included the Refinery, which was commissioned in 2007, and the Food Service Packaging Plant which was commissioned in May 2009. Additional bulk oil storage tanks and loading facilities were commissioned on the Raven Street site in December 2014.

The main plant facility is located at 51 Raven Street, Kooragang Island, NSW 2304 and location as shown in Figure 3.2. The site is bounded to the north-east by Raven Street, to the east by Raven Street and Teal Street and to the west by the adjacent premises including Sims Metal and Transpacific. Main access to the site is to the north-east off Raven Street.

The vegetable oil processing facility buildings are located toward the northern end of the site and include bulk seed and meal silos, bulk oil storage tanks, the refinery, pre-press, meal grinding, solvent extraction and packaging plant buildings. The land around the northern, eastern and southern areas of the site comprise of previous effluent irrigation areas (no longer in use).

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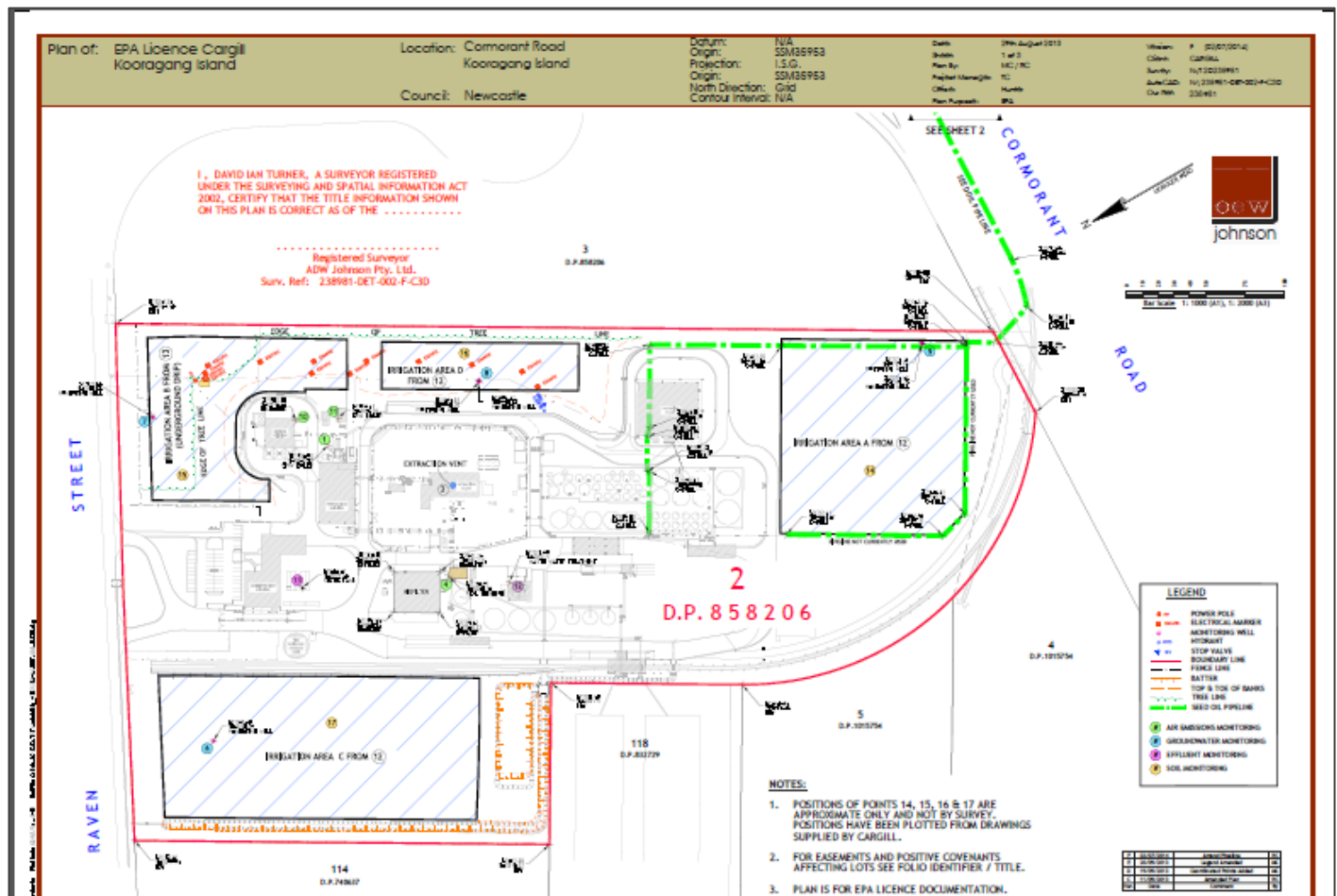


Figure 3.2: Cargill Raven Street site location and boundary map

### 3.2 Bulk Liquid Storage Shipping Terminal Facility

The bulk liquid storage terminal, purchased by Cargill in 2006, consists of bulk vegetable oil tank storage, and bulk ship loading and unloading facilities, within the confines of Kooragang No 3 Berth, on Heron Road, Kooragang Island, NSW 2304 and location is shown in Figure 3.3. The Terminal is bounded to the west by Hunter River and to the east by Heron Road. The Terminal facility is primarily for storage of non-hazardous liquids such as canola, soy cottonseed, sunflower and palm oils.

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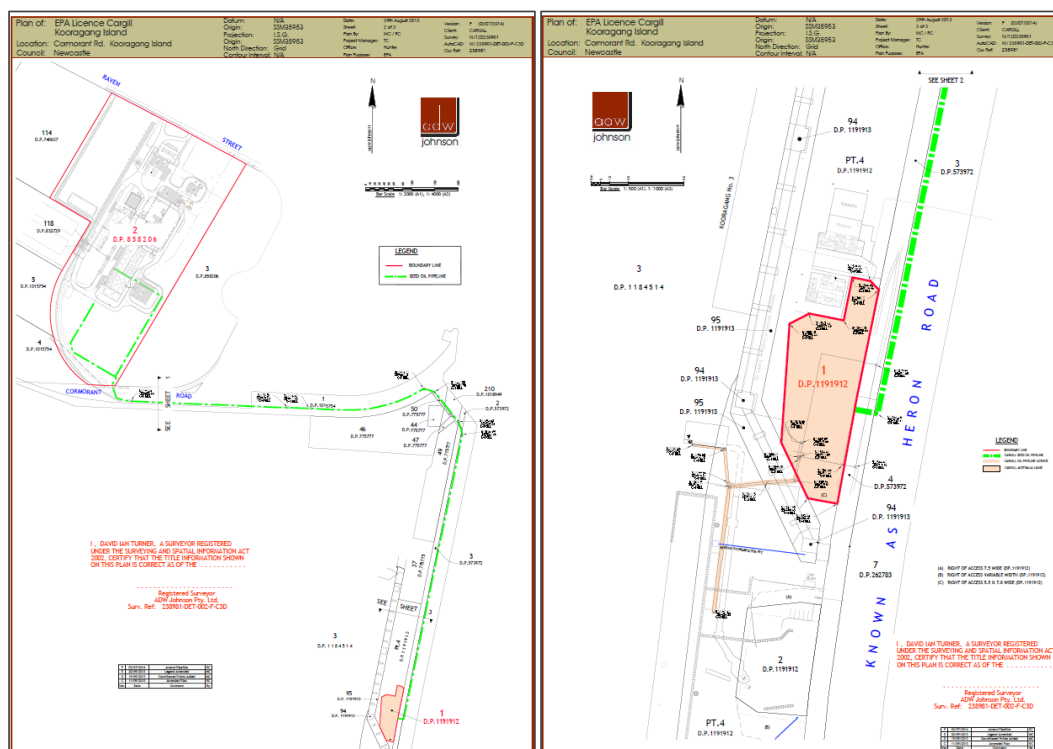


Figure 3.3: Cargill facilities and adjoining pipeline; Heron Road location and boundary

### 3.3 Current Operations Overview

#### PROCESSING PLANT OPERATIONS

Cargill employs a state-of-the-art refinery process to produce refined, bleached and deodorised (RBD) vegetable oils including sunflower oil (polyunsaturated and high oleic), soybean oil and canola oil varieties as well as imported palm olein, palm stearin and lauric oils. The facility operates 24 hours a day, 7 days a week. The refinery operates in conjunction with the existing multi-seed crush facility, eliminating road freight costs and providing optimum conditions for retaining product quality. The oils are distributed in bulk to premier food companies throughout Australia including NSW, Queensland, Victoria and South Australia.

A number of key processes are undertaken at the facility for the processing of vegetable oil from different seed types. These are as follows:

- **Storage** – Seeds are unloaded in receival pits and stored onsite in six (6) vertical steel silos.
- **Preparation/Pre-pressing** – Preparation includes such steps as cleaning, sifting, drying and preheating, dehulling, flaking and screw pressing. Pre-pressing splits the seed, ruptures the oil cells and prepares the product for the solvent extraction plant.
- **Solvent extraction** – Extraction involves washing the product with solvent to obtain the seed oil, with meal as a by-product. The seed oil is produced with a small component of hexane present, and is further processed and refined through distillation to remove the hexane. The meal undergoes a heating and drying process to remove hexane and moisture, with the final meal product sold as a protein source for feedstock.
- **Neutralisation** – Involves neutralising the fatty acids in the oil with caustic soda and phosphoric acid.



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- Refining – Involves a bleaching process where trace metals and other impurities are removed from the oil using absorbing clay. The oil then undergoes a deodorisation stage where additional impurities are removed under temperature and vacuum.
- Product Storage – The refined oils are stored under nitrogen in bulk storage tanks where the product is either directed to the packaging stage, or transported to customers.
- Packaging – Finished oils are packaged as either straight or blended products in 15 litre bags-in-boxes, or 20 litre drums.
- Waste Water Treatment Plant – All process waters are received at the WWTP. Incoming streams are pH balanced before passing through a DAF, 2 x bioreactor tanks, a final DAF and then filtration before recycling within the oilseeds plant operations or pumping to the Hunter Water trade waste pump station.

The vegetable oil processing facility buildings are located toward the northern end of the site and include:

- Bulk seed and meal silos
- Bulk oil storage tanks and associated utilities including as nitrogen blanketing for protection against oxidation, hot water system for heating and maintaining temperature of stored vegetable oils, potable water and compressed air. Provisions for these have been made by upgrading or modifying previously existing facilities.
- The refinery, pre-press, meal grinding, solvent extraction and packaging plant buildings.
- Tanker loading facility:
  - A concrete bund to allow access and containment for a b-double tanker.
  - A fully enclosed two-level structure for loading vessels and gravity loading of tanker trucks.
- Road modifications have been constructed around the vegetable oil storage and the tanker loading facility.

Table 3.3 outlines the full list of oil storage tanks at the Raven Street facility.

Table 3.1: Raven Street oil storage tanks

Tank size (kL)	Number of tanks
1,250	4
1,000	4
750	2
600	1
500	2
250	12
200	19
50	4
36	6

Figure 3.4 illustrates where the operations involved in the vegetable oil production process are located on the Cargill site.

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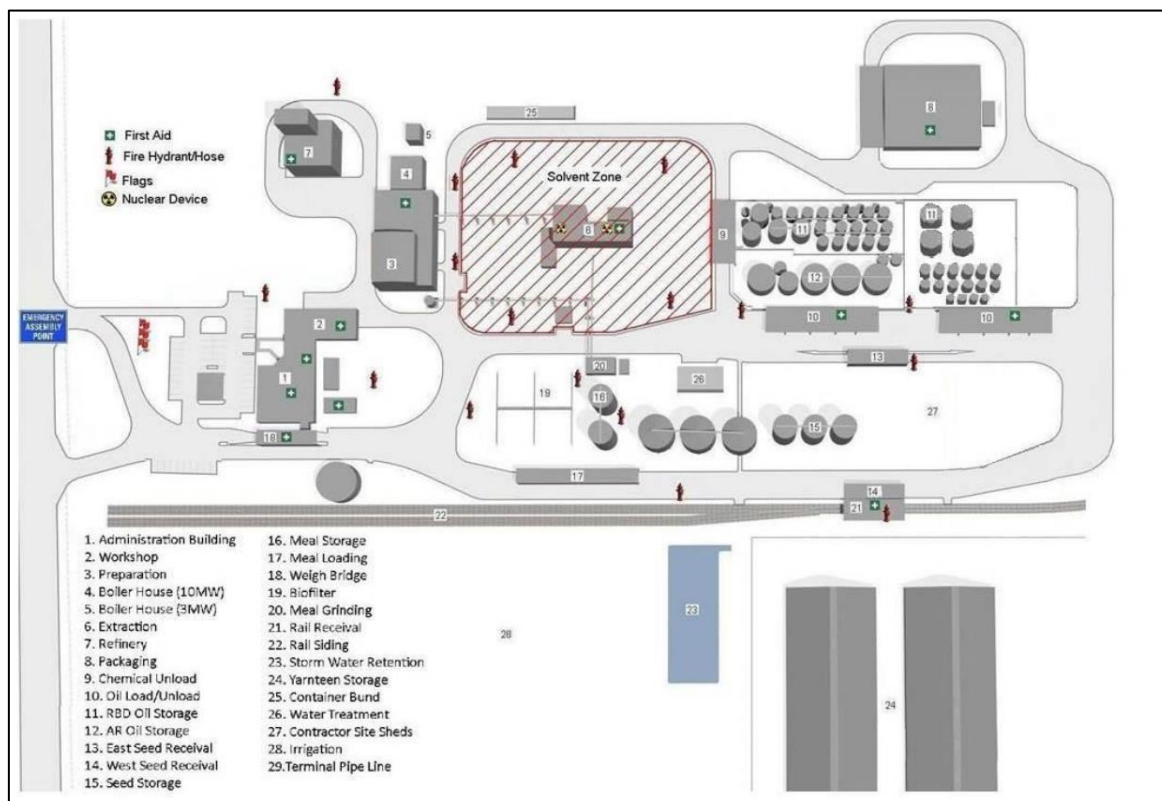


Figure 3.4: Cargill site map and infrastructure

## SHIPPING TERMINAL OPERATIONS

Cargill Newcastle Terminal is a Bulk Liquid Storage Facility located within the Kooragang No. 3 Berth Facility on Heron Road, Kooragang Island.

1. The Terminal has storage tanks present, and Cargill primarily store non-hazardous liquids such as canola, sunflower, soy, cottonseed and palm oils.
2. Four of the storage tanks are fitted with heating coils. Two (2) gas fired boilers recirculate hot water between 90 to 95°C. The boilers are fed LPG from two 7,500 litre tanks adjacent to the boiler shed.
3. Product is received or dispatched by ships berthed on Kooragang No.2 Berth and Kooragang No.2.5 Berth Platform. The Terminal and the K2 / K2.5 Berth is linked by 3 x 150mm pipelines.
4. The Terminal can receive or dispatch product by ship, road tankers, rail tankers and pipeline.
5. A 150mm pipeline links the Terminal on Heron Road with the Cargill processing plant on Raven Street, Kooragang Island. Product can be transferred between the Terminal and Plant in either direction.

Table 3.2 outlines the full list of oil storage tanks at the Terminal.

Table 3.2: Terminal oil storage tanks

Tank size (kL)	Number of tanks
1,250	4
520	2

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### 3.4 Production Operating Limits

Table 3.3 shows the summary of operations for Cargill's activities according to approved limits.

**Table 3.3: Cargill's operation limits summary**

<b>Activity</b>	<b>Approved limit</b>	<b>Approval authority</b>
Operational refining output	150,000 t	Department
Operational packaging output	80,000 t	Department
General agricultural processing	<260,000 t	EPA (EPL 5810)
Shipping in bulk	0 – 100,000 t	EPA (EPL 5810)

\* Total amount allowed to be processed under Department of Planning is 330,000 t.

## 4 Certifications and Accreditations

Cargill are currently accredited with external body Lloyds Register Quality Assurance (LRQA) for the following:

- ISO14001:2015 Environmental Management Systems
- ISO 9001:2015 Quality Management Systems
- HACCP (Hazard Analysis and Critical Control Point) Food Safety
- ISO22000:2005 Food Safety Management Systems
- FSSC 22000 Global Food Safety Initiative
- PAS (Publicly Available Specification) 220 Food Safety Prerequisite Programs

## 5 Approvals held by Cargill

### 5.1 EPA

Cargill holds Environmental Protection Authority (EPA) Environmental Protection Licence (EPL) number 5810. The EPL has been varied most recently through a Licence Variation dated 22 May 2020. This variation modified the general agricultural processing volume from 100,000 to 250,000 T/year to a Maximum of 260,000 T/year.

### 5.2 WorkCover

Cargill holds Dangerous Goods (DG) licence NDG200381 under the Dangerous Goods Act.

### 5.3 Department of Planning

Cargill currently have the following approvals with the Department of Planning:

- Development Application (DA) 18-1995 consisting of the following separate documents:
  - DA 18-1995 conditions of consent original
  - DA 18-95 MOD 1 (7 September 2011) Biofilter odour control system
  - DA 18-95 MOD 2 (19 July 2016) Modified wastewater treatment and disposal process to the Oilseed Processing Plant
- Major project MP05\_0122 consisting of the following separate documents:
  - MP05\_0122 signed consent (2006) Expansion of the Cargill Oilseed Processing Facility
  - Determination MP05\_0122 MOD 2 (4 Oct 2013)
  - Determination MP05\_0122 MOD 3 (19 July 2016) Modification of the wastewater treatment and disposal process

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It is noted that Cargill had received the Secretary's Environmental Assessment Requirements (SEARs) for a modification MOD 3 to DA 18/95. The modification requested the establishment of a shed for the storage and fumigation of meal products, with a fumigant recapture system. The MOD 3 only reached the SEARs stage and was withdrawn – as such it has not been covered as part of the OEMP.

Modifications to the DA 18-1995 and MP05\_0122 have contributed to the development of the OEMP.

#### 5.4 Modifications completed as per MP05\_0122 MOD 2

A project modification application was prepared for the following operations in October 2013 under *MP 05\_0122 – MOD 2*:

- Addition of vegetable oil storage vessels in a tank farm for additional storage of 15,040 tonnes.
- Construction of bunds for tank farm and associated operations, including nitrogen blanket facilities and oil temperature control systems.
- Tanker loading facility and associated structures, including bunding and nitrogen blanketing.
- Road modifications as required for construction and operations.

The works were detailed in *Oilseed Processing Facility Modification Construction Environmental Management Plan* (CEMP, GHD, 2013). *MP 05\_0122 – MOD 2 Condition 5.1* specified a CEMP to be completed, and *Condition 5.4* required an OEMP be completed and submitted for the approval of the Secretary. The CEMP and OEMP at the time were submitted and subsequently approved by the Department. Operations commenced in December 2014 and the Department was notified, and the construction operations are therefore complete for the above modification MOD 2.

#### 5.5 DA 18-95 MOD 2 and MP05\_0122 MOD 3

Cargill has two (2) modification approvals from the Department currently underway, which are:

- DA 18-95 MOD 2 (19 July 2016) *Modified wastewater treatment and disposal process to the Oilseed Processing Plant*
- Determination MP05\_0122 MOD 3 (19 July 2016) *Modification of the wastewater treatment and disposal process*

The approvals allow Cargill to perform modifications onsite to the current onsite wastewater treatment plant (WWTP). The second aspect of the approval is the wastewater treatment system modification which now connects treated wastewater to Hunter Water Corporation's sewer for process (trade waste) and wastewater management and disposal.

As of January 2021, the WWTP has been fully upgraded, all equipment installation complete and has been in operation for approximately one year. The Trade Waste Pump Station construction has been completed as has the pipeline connection to the Hunter Water sewer main. A Construction Certificate was obtained for this process.

The following items are, at this time, in different stages of completion due to the commissioning requirements and finalisation of the WWPS:

- Condition 13.4 of DA 18-95 MOD 2:
  - Cargill has received approval for its WWPS and Telemetry designs allowing for the construction modifications to proceed – these have been completed. Cargill now has an established pipeline connection to Hunter Waters sewer network however this is needing commissioning and final Section 50 approval will not be received until it is completed.



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- Hunter Water has provided Cargill with a Trade Waste Deed outline the conditions of Cargills discharge to the sewer network which outlines the flow and quality limits under which Cargill may operate its WWPS. The deed was finalised and signed by both parties in December 2020.
- Cargill has established an easement access and the transfer of ownership for the pipeline crossing Raven street. The final certification and transfer of this Easement has been signed off from all key stakeholders (PoN, Cargill and HWC)
- Cargill is still not discharging to the sewer at this stage (February 2021) but has permission to do so from HWC.
- Condition 6.1 of DA 18-95 MOD 2:
  - Construction certificates for the WWPS and relevant infrastructure have been issued
- Condition 14.1 of DA 18-95 MOD 2:
  - Condition 14.1 requires that the site's OEMP include the upgrades to the WWTP and the proposed WWPS and is to be submitted to Secretary of Department of Planning and Environment.
  - This updated OEMP reflects the modifications as being complete, but the system is not currently operating and is awaiting final commissioning and Plan NSW approvals to progress as such. The WWTP has been upgraded, as described above, however Cargill's current operations remain in place. Irrigation will cease and discharge to sewer will commence once final approvals are received.
  - Therefore, it is appropriate that the update of the OEMP has been updated prior to operation of the Trade Waste WWPS and the change in procedures for water management onsite from thereon.
- Condition 43.1 of DA 18-95 MOD 2:
  - Condition 43.1 states that prior to the commencement of construction of any part of the development that is located on Raven Street the Applicant shall obtain all necessary approvals from the relevant roads authority for those aspects of the development that are to be located on Raven Street. The relevant roads authority is PON. Approval was obtained by way of an Easement across Raven Street to allow for the pipeline to be constructed.

Cargill will continue to work towards obtaining the necessary certificates and approvals, as Cargill intend to perform the project in accordance with the conditions of DA 18-95 MOD 2 and MP05\_0122 MOD 3.

## 5.6 ANNUAL REPORTING

Annual performance reporting outlining ongoing compliance to the above approvals is completed by submission of Annual Environmental Management Report (AEMR) to the Department of Planning.

## 6 EMP and EMS and Operational Control

### 6.1 EMP and EMS Documentation

Cargill perform operations in accordance with the OEMP and the following three (3) prepared documents and plans, where applicable:

- Environmental Impact Statement (EIS) dated May 1995, prepared by HLA Envirosciences Pty Ltd;
- Modification application 18/1995 MOD 1 titled '*Proposed modification to odour control system at existing Grain and Oilseed Processing Facility*' prepared by Worley Parsons dated 30 June 2011;
- Modification request DA 18/95 MOD 2 including the Environmental Assessment (EA) titled '*Environmental Assessment Cargill Kooragang Wastewater Management*', prepared by Ramboll Environ and dated April 2016,

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and the Response to Submissions (RtS) titled ‘*Response to Submissions Issues*’ prepared by Ramboll Environ and dated 26 May 2016.

The OEMP considers and measures environmental risks associated with operations carried out within Cargill’s boundary. Cargill possesses an environmental procedure *NEWC-EHS-005: Environmental Management Systems*. The EMS was implemented onsite as part of the ISO9001 and ISO14001 system, and is made up of:

- Environmental Policy
- Planning
- Environmental assessment, aspects and impacts and risk identification
- Objectives and Targets
- Reporting requirements for a range of departments
- Legal and other requirements
- Structure and Responsibilities
- Document Control
- Training, Awareness and Competence
- External Communication
- Emergency Procedures
- Description of EMS Documentation incorporated into the ISO9001 structure

All procedures and systems will be reviewed and updated every 3 years, or as required through an internal audit or otherwise. This EMP, *NEWC-EHS 005: EMS* and associated documents are kept onsite in the administration building, and are made available to interested parties upon request.

## 6.2 Environmental schedules

Environmental management schedules are forms, reports or registers used in the day-to-day environmental management of Cargill. Relevant environmental management schedules are listed in Table 6.1. In order to minimise document updates following changes, schedules are not reproduced in this OEMP.

**Table 6.1: Environmental management schedules**

<b>Document(s)</b>	<b>Location</b>	<b>Description</b>
Aspects and Impacts Register	O:\environment\Aspects and Impacts	A register of aspects of Cargill and associated potential and actual environmental impacts. Contains control measures, risk ratings and a register of Environmental Management Programs aimed at reducing the most significant risks.
Work Orders	Maximo Work Management System	Work orders are managed through Maximo. They are used to assign and track required work for Cargill. Each work order is given an importance, processed by the appropriate Cargill Co-ordinator, assigned to a staff member/section, and is closed once work is completed. Examples of environmental work orders include but are not limited to assignment of: <ul style="list-style-type: none"> <li>• Scheduled inspections;</li> <li>• Actions in response to a public complaint or inquiry (Managed by Environment Supervisor);</li> </ul>

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<b>Document(s)</b>	<b>Location</b>	<b>Description</b>
		<ul style="list-style-type: none"> <li>Investigation of an environmental incident (Managed by Environment Supervisor); and</li> <li>Rectification of any identified plant defects.</li> </ul>
Monthly Environmental Check sheet	Maximo Work Management System	The form used to record findings of monthly walkthrough inspections. The checklist contains key plant, areas and elements of Cargill such as bunding, storage tanks etc that are crucial to maintaining environmental performance.
Area-Based Internal Audit forms	Maximo Work Management System	Area-based internal audits are undertaken to assess compliance with Cargill operational requirements.
Internal EMS audit forms and audit schedule	Available in Cargill EMS Procedure	Internal EMS audits are undertaken to assess compliance to ISO14001 requirements. The audit schedule is used to plan audits throughout the year.
Management of Change (MOC) Database	Management of Change (MOC) Database	Ensure that maintenance operators undertake planned plant maintenance inspections, which are to include environmental controls. Any issues are identified to appropriate staff and necessary work orders are created in the Maximo system.

### 6.3 Environmental Management Structure and Responsibility

The Cargill Corporate EHS Team is comprised of the following people:

- Bjorn Reijnen: EHS Lead, Australia (Melbourne, Australia)

### 6.4 Roles and Responsibilities

#### AUSTRALIAN OPERATIONS MANAGER (CARGILL CORPORATE)

- Development of strategies, policies, plans and procedures for effective environmental management of Cargill and its facilities to ensure the organisation meets legal, community and organisational standards;
- Identifying, maintaining and communicating legislative documentation and the implications to Cargill;
- Establishing and maintaining internal environmental reporting and communication between all levels of the organisation;
- Monitoring new environmental, compliance, incidents and public complaints from all Cargill facilities, including Newcastle;
- Communicating the results of environmental audits, investigations, incidents and reviews to Cargill Executive and Board level staff; and
- Attending regulatory, industry and community forums, reviewing and responding to government and industry discussion papers.

#### PLANT MANAGER

The Plant Manager is the key person responsible for the coordination of environmental and workplace health systems and compliance. The Plant Manager's responsibilities include the following, and are also outlined and are also outlined further in NEWC-EHS-005, but are not limited to:

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- Responsible for the environmental performance of plant and other facilities under their control that are covered by environmental approvals and licences.
- Ensuring compliance with internal and external (local, state, federal government) regulatory and statutory law and licensing.
- Ensuring the existence of adequate operational and management procedures.
- Ensuring maintenance of an adequate level of training and awareness.
- Ensuring maintenance of emergency response plans, procedures, equipment and resources.
- Ensuring regular performance reporting and accountability.
- Ensuring appropriate levels of human, physical and financial resources are provided so that the environmental management system is adequately maintained.
- Convening the Production Environment Committee and ensuring the committee adequately performs the roles and duties as defined in these standards.
- Implementing usage and ongoing compliance of the Cargill Business Management System (BMS) and certifications.
- Administering the EMP in line with the BMS and Approvals.
- Responsible to act as and or to select authorised persons for the function of EPA representatives.
- Liaising with relevant statutory authorities and external stakeholders.
- Directing environmental consultants.
- Managing environmental projects at the site.
- Receive communications from the general public and ensure that all necessary responses and investigations are carried out.
- Managing complaints and recommendations associated with the facility.
- Maintaining Environmental, Health and Food Safety goals.
- Implementing management and corrective actions on anticipated or actual environmental issues.

A number of engineering and production supervisors report to the Plant Manager. The Plant Manager oversees such responsibilities as developing and implementing environmental standards and procedures into plant operations.

## **QA SUPERVISOR**

The QA Supervisor's responsibilities include the following, which is outlined further in NEWC-EHS-005: Environmental Management System:

- Development and implementation of strategies, policies, plans and procedures to ensure the facility meets legal, community and organisational standards;
- Identifying emerging local environmental issues and development of initiatives to address these;
- Ensuring that statutory environment requirements, including monitoring, maintenance and recording requirements, are complied with and necessary reports and documents are accurately prepared and submitted on time;
- Representing Cargill Newcastle facility in various regular and non-routine environmental community and public authority committees, meetings and external forums;
- Ensuring that any necessary consents, licences, approvals, permits and certificates from the EPA (pollution control works) and any other relevant regulatory authorities are obtained and maintained;
- Informing all Plant staff of legislative changes;
- Conformance with ISO 14001 guidelines, including organisation of and participation in audits of EMS Procedures to ensure the plant work practices are undertaken correctly;

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- Ensure all environmental monitoring and analysis is performed by NATA accredited service providers where applicable, and maintain a list of service provider accreditation;
- Ensure that this OEMP is implemented and updated in accordance with all requirements specified within this OEMP;
- Ensure all reports for environmental monitoring required under EPL and Project Approval are prepared in order to meet reporting requirements;
- Report non-compliance and non-conformance to appropriate people and organisations in accordance with this OEMP;
- Undertake preventative and corrective actions as required under the OEMP, and under Cargill EMS Procedure;
- Ensuring that an annual environmental emergency exercise is carried out;
- Attending Production Environmental Meetings; and
- Reporting to Plant Manager on status and performance of EMS.

### **TERMINAL MANAGER**

Cargill's Terminal Manager is responsible for the following, which is outlined further in NEWC-EHS-005: Environmental Management System:

- Ensure ongoing compliance of the Terminal's operations to the Cargill BMS and accreditations
- Maintaining environmental controls and procedures
- Identifying areas that require improvement and making recommendations to the Plant Manager
- Liaising with relevant statutory authorities and other external stakeholders including EPA, Port of Newcastle (PON) and Office of Transport Security (OTS)
- Acting as a Port Security Duty Officer to maintain security directions when high level security risks are present
- Management and participation in the investigations of all instances where non-conformances have occurred within the scope of the Terminal facility
- Reporting to Newcastle's Plant Manager

### **EHS SUPERVISOR**

Cargill's EHS Supervisor is responsible for the following:

- Ensuring that all general, refresher and specialised environmental training is administered correctly to all staff as required, and that training records are maintained;
- Ensuring the development, scheduling and presentation of effective training to raise the level of environmental awareness in all plant staff and ensuring specific operating and emergency response skills are available in targeted groups;
- Oversee EHS committee;
- Carrying out relevant duties specified in the Cargill Newcastle Facility Emergency Response Plan;
- Familiarisation with OEMP requirements;
- Report environmental non-compliance to the Plant Manager and at Quarterly Production Environment Meetings;
- In conjunction with the Maintenance Supervisor, review environmental impacts, controls and risk ratings associated with plant areas. Record and review results, and update the Cargill Aspects and Impacts Register with any changes;
- Monitoring Contractors' environmental management procedures and advising on corrective action, if required.

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## **MAINTENANCE SUPERVISOR**

Cargill's Maintenance Supervisor is responsible for the following:

- Familiarisation with OEMP requirements;
- Maintaining on-going communication with plant personnel and Contractors;
- Ensuring that all plant and equipment documentation, maintenance routines and maintenance records are adhered to and/or carried out;
- Responding to any environmental emergency and initiating action to limit or rectify damage caused by any work under the control of Cargill personnel or Contractors;
- Carrying out relevant duties specified in the Cargill Facility Emergency Response Plan.
- Ensure that maintenance operators undertake planned PM inspections, which include environmental controls. Any issues identified to appropriate staff and necessary work orders are created in the Maximo system.
- Ensure the records of all maintenance and calibrations are maintained.

## **PLANT OPERATORS**

Cargill's Plant Operators are responsible for the following:

- Undertake Weekly Walkthrough Inspections;
- Familiarisation with OEMP requirements;
- Inspect and maintain plant and equipment in accordance with all relevant manuals, schedules, procedures and/or instructions;
- Report and investigate complaints;
- Notify EHS Supervisor, Plant Manager, Production Supervisors or Maintenance Supervisor of any suspected environmental incident, non-compliance or non-conformance.

## **CONTRACTORS**

Cargill's Contractors are responsible for the following:

- Familiarisation with OEMP requirements;
- Ensure all relevant inductions and permits to work are completed and approved prior to undertaking work;
- Maintaining communication with relevant Cargill contact;
- Implementing the OEMP relevant to work being undertaken;
- Ensuring personnel training is appropriate and current;
- Identification and communication of environmental issues to a Cargill representative;
- Responding to any environmental emergency and initiating action to limit or rectify damage caused by any work under their control in accordance with the Cargill's Emergency Response Procedure; and Reporting on compliance, as required.

## **ALL STAFF**

All staff are responsible for the following:

- Familiarisation with OEMP requirements;
- Compliance with Standards and Procedures in Cargill's Sustainability Policy and Standards;
- Compliance with Cargill instructions and Procedures; and

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- Bringing to the attention of the relevant team leader, manager or committee, issues of environmental concern or practices inconsistent with Cargill's Sustainability Policy and Standards.

## 7 Environmental Commitments

The purpose of the OEMP is to review the environmental management, practices and procedures that are required under the licences, permits and approvals held by Cargill for the facility. All necessary licences, permits and approvals for the facility have been obtained and maintained by Cargill.

The EMP reviews the Cargill Oilseed Processing Facility performance against the following:

- Environmental Protection Licence (EPL) 5810
- Project Approval conditions as set out by the Minister for Planning under the Environmental Planning and Assessment Act 1979 in Cargill's Approval No. 18/95 and MP 05\_1222.
- Applicable Legislation, including those as listed in Newc-EHS-005.

### 7.1 Regulatory Requirements

The primary legislative requirements considered by this OEMP are those determined under the *Environmental Planning & Assessment Act 1979* (EP&A Act) delivered primarily through the Project Approval, and those determined under the *Protection of the Environment Operations Act 1997* (POEO Act) delivered through Environment Protection Licence number 5810.

In addition to the EP&A Act and the POEO Act, other licences and approvals under relevant environmental legislation are required for the Project. Required and potential licencing and approval requirements were determined as part of the EA and are listed in this section.

The Project Approvals also specify other measures that must be carried out in relation to the Project that must be satisfied prior to or during operation.

Legislative requirements and standards are considered minimum standards of performance for Cargill. Relevant environmental legislation that is to be complied with includes, but is not limited to, the following:

- EPL 5810
- Environmental Protection and Biodiversity Conservation Act 1999
- Environmental Planning and Assessment Act 1979
- Environmentally Hazardous Chemicals Act 2008
- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations Amendment Act 2011
- Coastal Protection Act 1979 (Updated July 2000)
- Radiation Control Amendment Act 2010
- Radiation Control Act 1990
- Dangerous Goods Legislation such as Occupational Health and Safety Amendment (Dangerous Goods) Act 2003
- National Environment Protection (Assessment of Site Contamination) Measure 2013
- Contaminated Land Management Act 1997
- Marine Pollution Act 1987
- Marine Safety Act 1998
- National Environment Protection Council (NSW) Act 1995
- Work Health and Safety Act 2011

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- National Greenhouse and Energy Reporting (NGER) Act (2007)

## 7.2 Environmental, Health and Safety Policies and Communication

Policies of Cargill Australia outline that all business activities will be conducted in a manner that protects the environment and the health and safety of all employees, contractors, customers and communities.

Cargill's Environment, Health and Safety (EH&S) policies are outlined below. The policies are displayed in the foyer of the administration office. The Environmental Policy is updated and signed off annually by Cargill management.

- Environment: Cargill Australia Limited will comply with all applicable environmental requirements, prevent pollution, and continually improve performance on criteria relevant to its businesses and operations.
- Health and Safety: Cargill Australia Limited will comply with all applicable occupational health and safety, process safety, and product safety requirements, continually improve performance on criteria relevant to its business and operations, and insist that all work, however urgent, be done safely.
- Co-ordination of Facility environmental programs with Cargill Australia is achieved via formal and informal management meetings. These meetings review such environmental issues as:
  - Overall environmental performance, as indicated by monitoring results
  - Results of internal and external audits
  - Active non-conformances and follow-up plans
  - The EMP, performance changes and procedure development
  - Monitoring and development of induction and training schedules
  - Status of interactions with relevant statutory authorities

The outcomes of these environmental reviews are subsequently communicated to Cargill Australia through monthly reports.

Cargill have developed site procedures to ensure a high level of Occupational Health, Safety & Environmental performance within its operations including but not limited to:

- Standard Operating Procedures (SOPs).
- Cargill Pollution Incident Response Management Plan (PIRMP).
- Cargill Emergency Management Action Plan (EMAP).
- Lease Agreement with the Port of Newcastle (PON).

## 7.3 Aspects and Impacts & Performance Targets and Objectives

NSW Environmental Regulations and ISO14001 requirements include the need to identify and assess environmental aspects and potential impacts of activities, products or services associated with the Project.

Cargill Corporate Policy: Risk Management and is another critical step in improving environmental performance. Aspects and Impacts of Cargill Newcastle facility are assessed for risk through the Cargill Risk Rating System. The Cargill Risk Rating System criteria are specific to environmental issues and allow more certainty in identifying the most significant environmental risks.



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Environmental aspects and impacts associated with the various operational elements of Cargill facility are identified in the Cargill Aspects and Impacts Register (A&I Register). The A&I Register contains information regarding:

- Environmental aspects;
- Actual and potential impacts on the environment of each aspect;
- Preventative controls;
- Corrective controls;
- Cargill Risk Rating System;
- Significant environmental aspects based on risk ratings;
- Objectives and Targets set with the aim of minimising significant risks;
- Environmental Management Programmes to implement environmental actions in order to achieve Objectives and Targets; and
- Environmental Management Programme personnel responsibilities.

The A&I Register is reviewed annually by the Cargill Environment Supervisor and Plant Manager in addition to any change in management or maintenance, a major non-conformance or any complaint or inquiry. The A&I Register is maintained in Newc-EHS-027. Cargill complete an environmental risk assessment using the criteria listed below and is also outlined in Cargill EMS procedure NEWC-EHS-005 under Risk Identification.

Table 7.1: Qualitative measures of likelihood and consequence

CONSEQUENCES 	A Catastrophic	B Major	C Moderate	D Minor	E Insignificant
	Public: Fatalities possible	Public: Injuries possible; major nuisance	Public: Minor impact, no injuries required	Public: No impacts	Public: No impact
	Personnel: multiple Fatalities SIF Actual	Personnel: permanent disabilities, single fatalities	Personnel: Irreversible injury	Personnel: Reversible i.e. Minor injury	Personnel: No injury expected
Likely hood 	Environment: Large uncontained release off-site	Environment: Moderate release off-site	Environment: Large contained release or minor, but reportable release	Environment: Small, contained release or soil contamination	Environment: No releases expected
	Equipment: Operations severely disrupted; some units a total loss (> 1 month downtime)	Equipment: Operations disrupted; damage extensive but re-gainable (> 1 wk. downtime)	Equipment: Minor damage or moderate downtime(> 1 day downtime)	Equipment: Minimal disruption to plant operations(< 1 day downtime)	Equipment: Minimal disruption to plant operations(< 12 hrs. downtime)
<b>1, Almost certain</b> Local events recorded. Happened in Cargill	H	H	H	S	S
<b>2, Likely</b> Will occur at least once per year	H	H	S	S	M
<b>3, Possible</b> Likely to Occur in a 1-2 year period	H	H	S	M	L
<b>4, Possible, but unlikely.</b> Likely to occur during the life time of the plant (5-25 years)	H	S	M	L	L
<b>5, Rare</b> Similar event occurs only occasionally worldwide. Never happened in Cargill	S	M	M	L	L

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Where:

H – represents high risk; detailed research and management planning required at senior levels

S – represents significant risk; senior management attention needed

M – represents moderate risk; management responsibility must be specified

L – represents low risk; managed by procedure

Cargill's objectives and targets have been selected based on an environmental assessment carried out to identify environmental aspects and impacts relating to Cargill's facility. These environmental targets and objectives have been outlined in document NEWC-EHS-005.

Environmental, health and safety and food safety goals have also been implemented and outlined in NEWC-EHS-005. These generally include, but are not excluded to:

- Zero (0) significant environmental events (SEE)
- Zero (0) fines by EPA
- 100% compliance with PON Environmental Management with zero spills to ground and adjacent waterways at Terminal site.
- 100% compliance with EPA licence and guidelines
- Nil offensive odour complaints at the boundary from the plant not operating to required standards i.e. as a result of odour plant problem, excessive fugitive emissions in prep
- Identify opportunities to reduce crush and refinery plant water consumption in line with corporate goals
- Identify opportunities to reduce facility wastewater generation in line with corporate goals and EPL 5810 conditions.
- Identify opportunities to reduce facility electricity and gas consumption
- Identify opportunities to reduce facility waste generation in line with corporate goals
- Maintain ISO 14001:2015 Environmental Management Systems certification with nil non-conformances
- Zero (0) compliance non-conformances.

The implementation of the targets and objectives and any non-conformances will be reported internally and as required by any legislation, monitoring and reporting requirements.

## **7.4 Environmental management review and commitment**

Management review of environmental issues is an important part of complying with ISO14001. The facility completes regular communication to management, along with commitment to continual improvement.

A Management Review Report is completed at Cargill and is stated in NEWC-EHS-005 to be completed at least annually. The document covers Food and Environment topics, and a Review of Environmental Compliance, which includes but is not excluded to:

- Internal and external audit results and actions
- Monitoring results
- Odour complaints and reports
- EPA officer site visits
- Project design, upgrades and constructions

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- Annual Return requirements
- Reporting requirements

Cargill has regular onsite Safety and Environmental meetings and minutes are stored onsite. There are action groups at the Raven Street facility and at the Terminal, and a Cargill Terminal employee attends the Raven Street facility's meetings. Internal audits also form part of management review.

## **7.5 Non-conformance procedure**

The non-conformance procedure is detailed in NEWC-EHS-005. In the event an environmental incident occurs it must be reported by employees to local management within 15 minutes. Incidents relating to environmental issues are required to be recorded and reported in the corporate event record database ENABLON. All details of the event, root cause investigation, corrective and preventative actions are captured and retained. Cargill's Pollution Incident Response Management Plan (PIRMP) identifies controls and actions to minimise risks of a pollution incident onsite, outlines persons responsible for staff training and implementation of the plan and contains relevant emergency authority contact details.

In the case of an odour complaint employees consult the Odour Complaint Flowchart for the investigation protocol. As per Cargill's EPL condition 9, Cargill is required to notify the EPA of the details of every odour complaint received, the action taken to identify the source and the action taken to control the odour within 24 hours of receipt of complaint.

## **7.6 Corrective Action**

The need for corrective action arises from the identification of non-compliance with legal requirements, non-conformance with Cargill internal requirements or the potential for non-conformances.

Identification of the need for corrective action can arise out of:

- External Environmental Audits;
- Internal EMS audits;
- Environmental exercises;
- Public complaints or inquiries;
- Environmental incident/ issues or licence breach;
- Plant Incident Reports;
- Environmental Studies and Reports;
- Directives from EPA or other regulatory authority;
- Cargill meeting determinations;
- Daily site inspection reports;
- Monthly compliance check of results and licence requirements from the Environment Supervisor to the Plant Manager; or
- Recommendations from any Cargill staff member, contractor or visitors that are considered by the Plant Manager to warrant investigation.

The Plant Manager shall ensure that investigations are initiated by the Environment Supervisor to determine whether modifications to prevent a recurrence of non-conformance, or steps to mitigate a potential non-conformance are possible and appropriate.

The Maintenance Supervisor shall conduct an investigation into the non-conformance, and carry out all necessary changes to operational controls and documentation.

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Monthly summary reports on Licence compliance, significant environmental incidents and public concerns shall be reviewed quarterly at Business Performance Reviews, Production Environment Meetings and Executive Environment Committee Meetings. Summaries shall include details of all non-conformances, including classification of incidents, and actions taken in response to non-conformances. A quarterly summary of non-conformances shall also be provided to the Board Environment Committee.

## **8 Environmental Training**

### **8.1 Related Documents**

The environmental training structure at Cargill adheres primarily to the following documents:

- Training and Development Corporate Policy;
- Standard Procedure for Occupational Health and Safety Training;
- Standard Procedure for Training and Development;
- Standard Procedure for Environmental Management System;
- Risk Management and Review Processes for New and Modified Plant; and
- Cargill EMS Procedure: ISO14001 Competence, Training and Awareness.

### **8.2 Training program**

Training programs have been established at Cargill to ensure employees are continuously aware of their roles and responsibilities, and that they receive the knowledge and skills required to achieve environmental, health and safety goals.

Training needs are identified from the results of management reviews which take into account complaints received, records, corrective and preventative actions and performance indicators.

Understanding of and continued compliance with Quality, Environmental and HACCP policies is maintained through process operator training programs, along with BMS training programs.

In line with Cargill's EH&S policies, a training program is in place for relevant topics, during which will highlight any environmental or safety issues that have been identified. Signed attendance sheets and completed competency tests are kept for each employee.

Training sessions are on an annual rotational basis to ensure each Cargill employee receives training each year. Training is recorded and signed off by employees present.

Induction training is also undertaken for all persons who enter the Cargill facility grounds including employees and contractors to ensure they are aware of Cargill's environmental and safety regulations. Terminal facility site inductions will also include Port of Newcastle berth induction requirements.

Personnel working on the project receive appropriate training and possess the required skills to fulfil their role in a competent manner. Environmental training generally comprises:

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- Site Awareness Induction: All new Cargill employees and all contractors are given an Awareness Induction before duties can be taken up. The Awareness Induction includes an Environment section. Contractor induction training lapses after one year, so all contractors are required to re-complete the site awareness induction each year;
- General Awareness Training: Given to all Cargill employees once every two years and includes environmental awareness training;
- Refresher Environmental training: All Cargill employees at the Newcastle facility are given refresher environmental awareness training at least every two years;
- Specialised Environmental training: Employees dealing with hazardous materials, operating new or major plant with potential environmental impacts, or have environmental management as part of their role are given specialised training relevant to their duties;
- Contractor Environmental training and supervision: All contractors are required to have training sufficient for their duties. The relevant Contract Officer shall ensure that contractors provide sufficient proof of training and accreditation prior to undertaking work; and
- Environmental Emergency Response training: As specified in the Emergency Response Plan, all new employees receive general emergency response training at the beginning of their employment. Specific training is provided to appropriate staff. Re-training is provided biennially.

## 9 Complaints Procedure and Register

### 9.1 General

In order to comply with EPA requirements and the Department of Planning Project Approval, Cargill has ensured the following are available for community complaints:

- **24-hour, toll-free telephone number (1800 192 922) on which complaints about Cargill may be registered.** The line is manned 24 hours a day by operators in the Production Plant control room;
- postal address to which written complaints may be sent; and/or
- email address to which electronic complaints may be transmitted.

The telephone number is made known to the local community through listing of the number in the local telephone directory and is available from the Cargill Australia website. In addition, the Newcastle EPA office maintains a reporting service and informs Cargill of complaints or issues that are believed to be associated with Cargill.

**Port of Newcastle related complaints are directed to the Shipping Terminal Manager 24/7 on 0417 252128.**

### 9.2 Environmental Complaints Procedure

The procedure for recording environmental complaints and maintaining public relations is specified in NEWC-EHS-005.

Condition 6.1 of the Project Approval 05\_0122 outlines that the EPA and the DoPE are to be notified of any incident with actual or potential significant offsite impacts on people or the biophysical environment as soon as practical upon becoming aware of the incident. Cargill outlines reporting and notification procedures for incidents in Pollution Incident Response Management Plan NEWC-EHS-017, covering procedures at the processing plant and the terminal site.

As per the EPL and Condition 4.3 of the Project Approval, details of all complaints received through Cargill's telephone service or the EPA are recorded on site in an up-to-date Complaints Register. The Register involves the following items being recorded:

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- date and time, where relevant, of the complaint;
- means by which the complaint was made (telephone, mail or email);
- any personal details of the complainant that were provided, or if no details were provided, a note to that effect;
- nature of the complaint;
- any action(s) taken by Cargill in relation to the complaint, including any follow-up contact with the complainant; and
- if no action was taken by Cargill in relation to the complaint, the reason(s) why no action was taken.

The procedure for complaints received through Cargill's telephone service or the EPA involves the complainant (person making the complaint) communicating with either the management/supervisory staff during the day or the extraction operator during the night. The Cargill employee completes a complaint form and contacts the supervisor (who is on call at night). The supervisor subsequently investigates to verify and communicates their findings with the complainant. In the case of odour complaints, a Cargill representative with the sanction of the superintendent travels to the complainant's address for further odour inspection and discussion if required.

If Cargill identifies that they are not responsible for the issue, the outcomes are communicated to the EPA and the complainant. If Cargill identifies that they are responsible for the issue, outcomes are also communicated, and immediate corrective action is instigated under the supervisor's authority. Two delegates report to the EPA and to Cargill Australia Limited, and also reply to the complainant. The report is subsequently filed in the Complaints Register. The Plant Manager ensures complaints and recommendations are recorded and managed correctly.

## **10 Environmental Aspects and Management**

### **10.1 Groundwater Management and Monitoring**

Cargill has developed and implemented a Water Monitoring and Management Plan. This includes measures to manage water onsite, and to minimise soil erosion and the discharge of sediments and other pollutants. Cargill's EPL and the Project Approval specify water management practices and monitoring are to be undertaken.

To ensure that Cargill's operations have not had an adverse impact on the environment, Cargill must continue to ensure that groundwater quality is consistent with the historical results that were obtained before the construction of the Facility. As per the EPL, groundwater analysis of the site is conducted on a six-monthly basis for the locations and parameters outlined in Table 10.1 overpage. Figure 10.1 shows the location of EPL points 6, 7, 8 and 9, being boreholes 1, 2, 3 and 4 respectively.

Results of EPL monitoring are published on Cargill's website within 14 business days of receiving the results and assessing they are correct, in line with the *Protection of Environment Operations Amendment 2011*. The results can be seen at: <https://www.cargill.com.au/en/environmental-monitoring>

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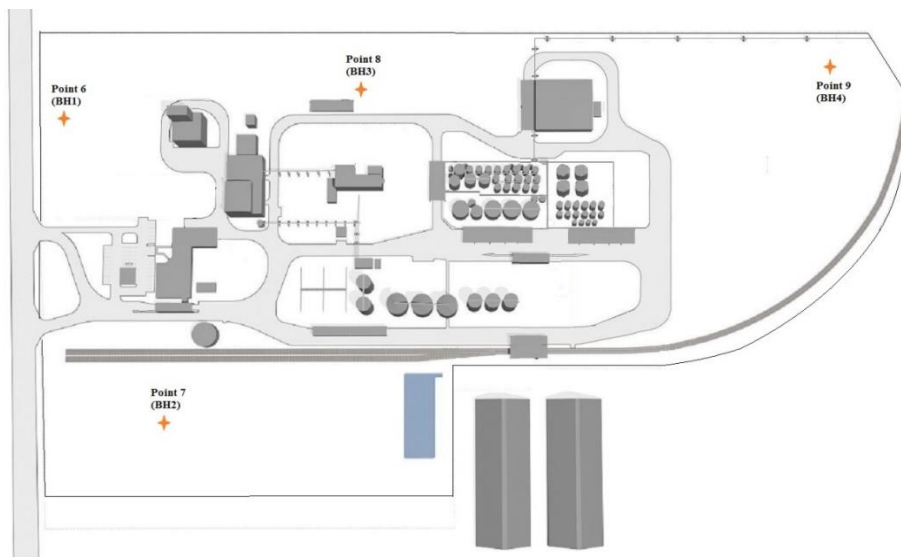


Figure 10.1: Cargill's Groundwater Monitoring Locations

Table 10.1: Groundwater Monitoring Requirements as per EPL 5810

Parameter
For EPL Points 6, 7, 8 and 9 (BH1 to BH4)
pH
Electrical Conductivity ( $\mu\text{S}/\text{cm}$ )
Total Dissolved Solids (mg/L)
Total Kjeldahl Nitrogen (mg/L)
Total Phosphorus (as P, mg/L)
Sulphate (as $\text{SO}_4$ , mg/L)
Calcium (mg/L)
Magnesium (mg/L)
Total Nitrogen (as N, TKN and $\text{NO}_x$ , mg/L)
Nitrate (as N, mg/L)
Sodium (mg/L)
Hexane (mg/L)*
Total Recoverable Hydrocarbons (mg/L)
Standing water level (m)

\*Not as part of EPL; tested as part of hexane underground tanks leak detection.

## 10.2 Stormwater Management

Cargill's site hydrology is such that it has no natural drainage channels. Rainfall on Kooragang Island typically infiltrates the sandy ground and meets the groundwater beneath. Cargill's plant site has a drainage system for the rooftops and roadways, along with several bunded areas for capturing water. This assists in minimizing soil erosion onsite.

Cargill maintains systems in place to ensure no contaminated water is discharged from the sites. Stormwater is collected from rooftops and roadways and directed to a first flush (ie the first 10 mm of rainfall) retention pond system. After settling of potential contaminants, if any, it can subsequently be used for onsite beneficial reuse / irrigation. The terminal site also has in place drainage systems capturing run off from roof tops covering the full tank storage and bund area, which is then directed to Port storm water system.

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Onsite programs include weekly formal plant inspections and use of a contracted road sweeper on roadways each week. These have continued to be maintained to minimise the discharge of contaminated water offsite.

### **10.3 Domestic and Process Wastewater Management**

The onsite sources of process wastewater are the boilers, cooling towers, pre-press facility, the biofilters, the extraction facility and refinery. The cooling towers are registered with Newcastle City Council under Council reference numbers NCC-0120-01, NCC-0121-01 and NCC-0122-01. Each of the cooling towers is managed under a respective Risk Management Plan (RMP) and an independent audit is conducted annually to measure adherence to the RMP's and legislative requirements. Inspections, Servicing and Sampling is conducted by contractor Nalco.

This water is collected and treated at the onsite WWTP. Some treated process wastewater is recycled and used for low grade wet scrubbing applications in the oilseed processing operations and as wash down in the WWTP facility. All excess wastewater will be sent to the HWC trade waste pipeline via the waste water pump station.

The operation of the WWTP and the quality of water produced is observed by Cargill personnel on a 24 hour basis, 7 days a week. This ensures that water quality meets requirements to discharge to trade waste. An on-call Supervisor is contacted in the event of any non-compliance with correct plant operation. If corrective measures cannot resolve the issue(s), the wastewater is collected for transfer by road tankers to a licenced wastewater treatment facility.

Cargill also operates a sewage treatment plant (STP) which treats domestic wastewater from the offices and amenities. The STP operates automatically and is maintained by an accredited contractor on a monthly basis. Alarms and sensors alert Cargill personnel of any STP issues, and in the event of major plant malfunction the wastewater is collected for transfer by road tankers to a licenced treatment facility. Once the trade waste pump station is approved for operation all sewage will be sent to HWC via the trade waste pump station.

Cargill will notify the EPA in the event of incidents causing harm to the environment or of identified non-conformances during monitoring activities. Details of internal investigations will also be provided to the EPA and other stakeholders as required.



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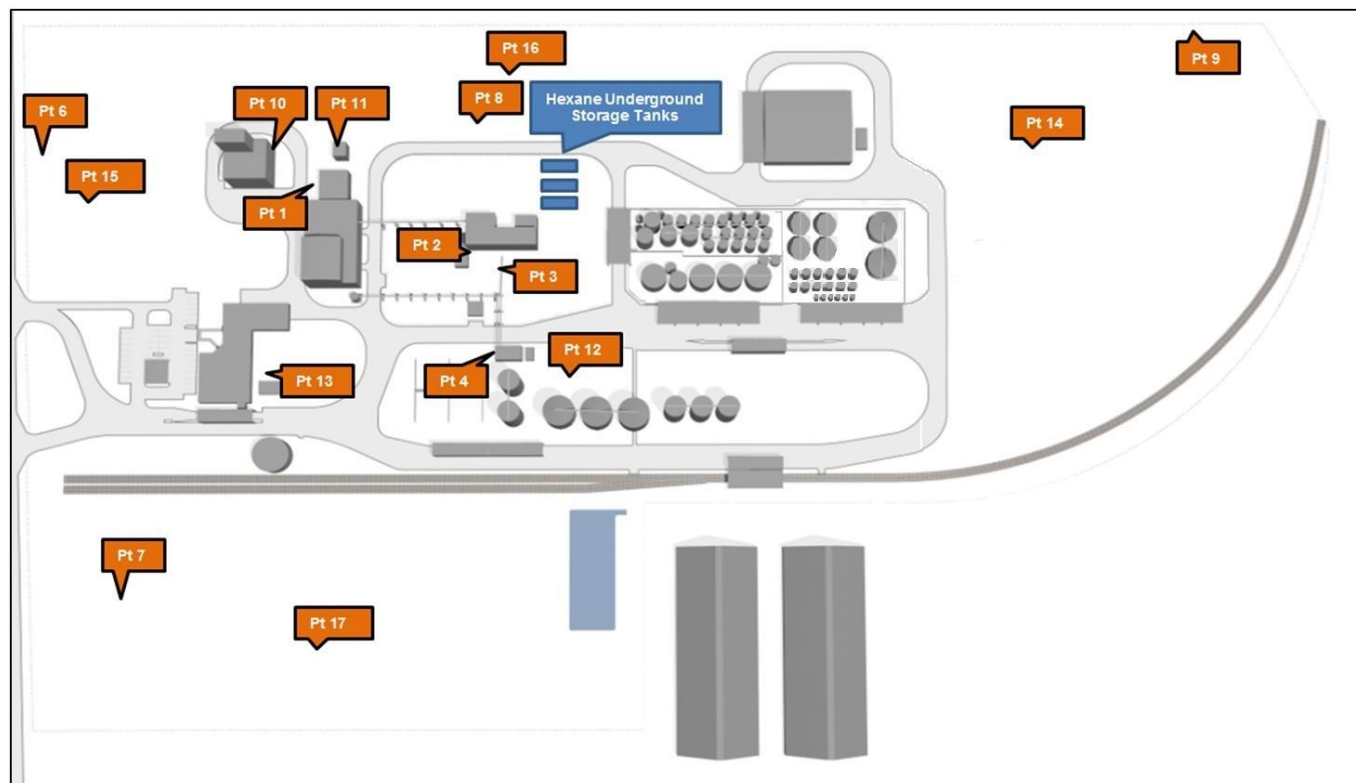


Figure 10.2: Cargill's soil and water monitoring locations

Table 10.2: Process wastewater monitoring requirements as per EPL 5810 for Point 12 and 13

Parameter	Point 12 frequency	Point 13 frequency
Calcium	Quarterly	Quarterly
Chloride	Quarterly	Quarterly
Conductivity	Quarterly	Quarterly
Magnesium	Quarterly	Quarterly
Nitrogen (total)	Quarterly	Quarterly
Oil and Grease	Quarterly	Quarterly
pH	Quarterly	Quarterly
Phosphorus (total)	Quarterly	Quarterly
Potassium	Quarterly	Quarterly
Sodium	Quarterly	Quarterly
Sodium Adsorption Ratio	Quarterly	Quarterly
Enterococci	-	Quarterly
Faecal Coliforms	-	Quarterly
Arsenic	Yearly	Yearly
Cadmium	Yearly	Yearly
Chromium	Yearly	Yearly
Copper	Yearly	Yearly

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<b>Parameter</b>	<b>Point 12 frequency</b>	<b>Point 13 frequency</b>
Lead	Yearly	Yearly
Nickel	Yearly	Yearly
Organochlorine Pesticides	Yearly	Yearly
Organophosphate Pesticides	Yearly	Yearly
Zinc	Yearly	Yearly

In addition to onsite water management via recycling, a trade waste pumping station has been constructed and is awaiting final commissioning and for discharge of waters to commence. Cargill will cease irrigation operations once approval to discharge to the trade waste network is received from Planning NSW. Hunter Water Corporation has provided permission to discharge to the sewer network and a trade waste deed has been signed between Hunter Water Corporation and Cargill Australia. Discharge to the network is allowed 7 days per week, 24 hours per day. The Maximum daily discharge is 275,000 litres which equates to a maximum 3.2 litres/second discharge rate. Both TDS and pH must be continuously monitored by Cargill and kept within discharge specification requirements at all times. Table 10.3 below lists the substance names and limits for treated process waters to be discharged via the Hunter Water network. The discharge water will include both the wastewater treatment plant water and also the sewer water.

**Table 10.3: Trade Waste Discharge Requirements**

<b>Substance Name</b>	<b>Concentration</b>	<b>Maximum Daily Discharge Limit</b>
Cadmium	Not to exceed 0.5mg/L	N/A
Chromium	Not to exceed 2mg/L	N/A
Copper	Not to exceed 2mg/L	N/A
Lead	Not to exceed 0.4mg/L	N/A
Mercury	Prohibited	N/A
Selenium	Not to Exceed 2mg/L	N/A
Zinc	Not to exceed 1.5mg/L	N/A
Ammonia	Not to exceed 50mg/L	N/A
BOD (Biochemical Oxygen Demand)	Not to exceed 500mg/L	N/A
COD (Chemical Oxygen Demand)	Not to exceed 1500mg/L	N/A
NFR (Non Filterable Residue)	Not to exceed 500mg/L	N/A
TDS (Total Dissolved Solids)	Not to exceed 2000mg/L	550kg/day
TKN (Total Kjeldahl Nitrogen)	Not to exceed 150mg/L	N/A
pH	Not to be < 6.5pH or > 10.0pH	N/A

**Monitoring to be undertaken by the Customer:**

• **Total Dissolved Solids:**

- Wastewater sample taken and analysed by a NATA accredited laboratory weekly for the first 3 months.
- Online conductivity analysis of wastewater discharge to be undertaken daily as an average over 2 x 12 hour periods.

• **pH:**

- Wastewater sample taken and analysed by a NATA accredited laboratory weekly for the first 3 months.
- Online pH analysis of wastewater discharge to be undertaken daily as an average over 2 x 12 hour periods.

• **Metals (Copper, Lead, Nickel, Zinc, Iron, Mercury, Selenium, Chromium, Total Chromium & Hexavalent Chromium)**

- Wastewater sample taken and analysed by a NATA accredited laboratory once a month for the first 3 months.

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• **NOTE:** Ongoing monitoring beyond the 3 month period will be confirmed upon review of the results obtained in the first 3 months.

• Following the collection and assessment of the initial 3 month data, Hunter Water will communicate the ongoing procedure in the event of online monitoring system failure to the customer.

- The results of analysis during the week may be utilised to configure weekend wastewater discharge volumes.
- In wet weather, if Hunter Water's Kooragang WWPS goes into "High Well" alarm, Hunter Water dispatch operators will remotely inhibit pumping from the Customer. Pumping to be reenabled once Kooragang WWPS well level returns to normal (Hunter Water System Controller to decide when the Customer may recommence pumping). The Customer should ensure adequate onsite wastewater storage capacity for such instances.

Weekly Reporting Results of the above monitoring undertaken by the Customer (in Item 15) Trade Wastewater Deed 30 November 2020 Item Matter Variable are to be submitted weekly to Hunter Water via email to [plumbing@hunterwater.com.au](mailto:plumbing@hunterwater.com.au)

On the 25th day of each month (or next available business day) for the term of the Deed The Customer shall, on a monthly basis submit to Hunter Water a flow meter report containing Trade Wastewater discharged to the Sewer. The report is to include daily pumped flows and monthly totals.

## 10.4 Soil Monitoring

As a condition of EPL 5810, soil sampling was performed in areas nominated for Points 14, 15, 16 and 17 and shown in Table 10.4. The soil monitoring points were shown previously in Table 10.2.

**Table 10.4: Cargill's soil monitoring points**

<b>EPL Point</b>	<b>Identification</b>	<b>Description</b>
14	Soil Monitoring	Soil monitoring within the effluent utilisation area with effluent provided from Point 12.
15	Soil Monitoring	Soil monitoring within the effluent utilisation with effluent provided from Point 13.
16	Soil Monitoring	Soil monitoring within the effluent utilisation area shown to the east of the Raven Street site with effluent provided from Point 12.
17	Soil Monitoring	Soil monitoring within the effluent utilisation area shown to the northwest of the Raven Street site with effluent provided from Point 12.

The licence outlines a list of analytes that are to be monitored annually and every three (3) years. The licence states that the sampling is to be undertaken based on Special Method 1, which indicates that for each old no longer used irrigation area a representative of composite samples should be taken of:

- Top soils; and
- sub soils.

AS4482.1 states that the individual samples are to be collected from the same depths at more than one sample location to form a single composite sample, and no greater than 4 samples are to be taken from the same depth for each composite sample.

**Table 10.5: Cargill's Soil Monitoring Requirements as per EPL 5810 for Points 14 and 15**

<b>Analyte</b>	<b>Sampling Frequency</b>	<b>Analyte</b>	<b>Sampling Frequency</b>
Bray phosphorus	Annual	Moisture	Annual
Cation Exchange Capacity	Annual	Nitrate	3- Yearly

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Chloride	Annual	Nitrogen (total)	3- Yearly
Collwell Phosphorus	Annual	Nitrogen Oxides	3- Yearly
Conductivity	Annual	pH	Annual
Exchangeable Calcium	Annual	Phosphorus (total)	3- Yearly
Exchangeable Magnesium	Annual	Phosphorus Sorption Capacity	3- Yearly
Exchangeable Potassium	Annual	Total Kjeldahl Nitrogen	3- Yearly
Exchangeable Sodium	Annual		

## 10.5 Dust and Odour Management and Monitoring

As per Condition O3.1 of the EPL and Condition 2.1 of the Project Approval, Cargill is to operate and maintain the plant in a manner that minimises or prevents the emission of dust from the premises.

Cargill performs annual monitoring of inhalable dust for employees. Potential dust hazard areas are identified, and suitable personal protective equipment (PPE) is recommended to ensure the health of Cargill's employees is not impaired or that they feel undue discomfort whilst carrying out their tasks.

As per Section 129 of the Protection of the Environment Operations Act 1997, Cargill must not cause or permit the emission of any offensive odours from the site. In line with the EPL, odour is monitored annually as outlined in Section 6.5 below. Cargill has identified that the solvent extraction processes may be the major contributor to any odour generated at the site.

As per Cargill's EPL condition E1.1, Cargill is required to notify the EPA of the details of every odour complaint received, the action taken to identify the source and the action taken to control the odour within 24 hours of receipt of complaint. In the case of an odour complaint the environmental complaints procedure outlined in Section 5.1 should be followed. All complaints are to be recorded on Cargill's local electronic database on the internal share drive (O:\ENVIRONMENT\Odour Complaints).

In order to further reduce odour emissions at the plant Cargill constructed a biofilter which was commissioned in August 2013. The biofilter treats air streams from the Prep and Extraction plants onsite. Commissioning of the biofilter was performed as per Cargill's Pollution Reduction Program in the EPL, and completed by the due date of 31 December 2012. Subsequent modelling of biofilter emissions was completed as per PRP 3 in the EPL, on 30 September 2013, demonstrating its conformance with guideline criteria at sensitive receptor locations. The successful commissioning of the Biofilter has led to the removal of point 2 (Final Vent emissions) as a regular monitoring point in EPL 5810.

The open bed biofilter essentially comprises two separate odour control system (OCS) units which treat the streams from the Prep and Extraction plants individually. Odour and performance monitoring of the biofilter is performed regularly. Regular works and upgrades are performed on the biofilter including media replenishment / replacement, upgrade of fans and ductwork, and inclusion of additional point source capture points on conveying equipment and section of the Prep plant.

## 10.6 Air Emissions Management

The specific locations of the sampling discharge points outlined in the EPL are:

- EPA Point 1 – Boiler Stack (15 MW) at northern end of preparation building
- EPA Point 2 – Final Vent in extraction building
- EPA Point 4 – Meal Grinding dust collection stack
- EPA Point 10 – Boiler Stack at refinery building (High Pressure Boiler)

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- EPA Point 11 – Boiler Stack (3MW) west of 3MW boiler house

The EPL and Condition 2.2 of the MP 05\_0122 outlines that Cargill must ensure that for the discharge points the pollutant concentration listed does not exceed the maximum allowable discharge concentration limit. Condition 3.1 of the Project Approval outlines that Cargill must periodically determine the pollutant concentrations for the indicated discharge points and employ the specified sampling methods. Odour is required to be monitored for Point 4. Point 2 remains in the EPL, but does not have monitoring conditions associated with the point. Table 10.6 and Table 10.7 show the air monitoring requirements for each point.

**Table 10.6: Air Monitoring Requirements for Points 1, 10 & 11 as per EPL 5810**

<b>Parameter</b>	<b>Frequency</b>	<b>Sampling Method</b>	<b>Limit</b>
Oxides of Nitrogen (as equivalent NO <sub>2</sub> ) at 7% O <sub>2</sub> (mg/m <sup>3</sup> )	Annual	TM-11	350
Temperature (°C)	Annual	TM-2	-
Moisture (%)	Annual	TM-22	-
Volumetric flow rate dry STP (m <sup>3</sup> /s)	Annual	TM-2	-
Oxygen (%)	Annual	TM-25	-
Velocity (m/s)	Annual	TM-2	-

**Table 10.7: Air Monitoring Requirements for Point 4 as per EPL 5810**

<b>Parameter</b>	<b>Frequency</b>	<b>Sampling Method</b>
Temperature (°C)	Annual	TM-2
Moisture (%)	Annual	TM-22
Volumetric flow rate dry STP (m <sup>3</sup> /s)	Annual	TM-2
Oxygen (%)	Annual	TM-25
Velocity (m/s)	Annual	TM-2
Odour (OU)	Annual	OM-7

The results of the monitoring are published on Cargill's website within 14 business days of receiving the results in line with Protection of Environment Operations Amendment 2011.

## 10.7 Noise Management

Condition 2.5 of MP 05\_0122 outlines that noise generated by the facility's operations shall not exceed the noise impact assessment criteria specified in Table 10.8 for the indicated locations and periods.

**Table 10.8: Noise criteria**

<b>Location</b>	<b>Day 7am – 6pm dB(A)</b>	<b>Evening 6pm – 10pm dB(A)</b>	<b>Night 10pm – 7am dB(A)</b>
Mayfield East Primary School	54 L <sub>Aeq</sub> (60 min)	-	-
1 Arthur Street Mayfield	54 L <sub>Aeq</sub> (period)	48 L <sub>Aeq</sub> (period)	45 L <sub>Aeq</sub> (period)
73 Bull Street Mayfield	58 L <sub>Aeq</sub> (15 min)	47 L <sub>Aeq</sub> (period)	49 L <sub>Aeq</sub> (period)
27 Groongal Street Mayfield West	59 L <sub>Aeq</sub> (15 min)	53 L <sub>Aeq</sub> (15 min)	45 L <sub>Aeq</sub> (period)
5 Decora Street Warabrook	50 L <sub>Aeq</sub> (15 min)	44 L <sub>Aeq</sub> (period)	49 L <sub>Aeq</sub> (15 min)
2 Main Road Fern Bay	50 L <sub>Aeq</sub> (period)	44 L <sub>Aeq</sub> (period)	43 L <sub>Aeq</sub> (period)

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Stockton Centre, western rooms	51 $L_{Aeq(period)}$	47 $L_{Aeq(period)}$	48 $L_{Aeq(period)}$
75 Fullerton Street Stockton	48 $L_{Aeq(period)}$	43 $L_{Aeq(period)}$	41 $L_{Aeq(period)}$

Cargill undertakes environmental noise monitoring annually to ensure noise levels generated by the facility comply with the Project Approval threshold limits. The nearest of the above receiver locations are in Stockton, approximately 2.6 km from the facility. It is therefore difficult to obtain an accurate representation of the environmental noise produced by the facility by measuring at the above receiver locations, given the remote location of the facility in relation to the above locations, along with the presence of many other large industries in the region.

The assessment criteria used for environmental noise at Cargill followed the EPA's *Noise Policy for Industry* (NPFI, 2017). The NPFI states that objectives for environmental noise are to 'determine the project noise trigger levels relevant to a particular industrial development'. Limits are specified where the 'noise that intrudes above the background level by more than 5 decibels.

The amenity is protected by 'noise criteria specific to land use and associated activities. The amenity criterion is a cap for noise levels. Cargill's site is considered an industrial zone according to NPFI definitions. In Cargill's case, the amenity criterion applies 'when in use' as per the NPFI 2017.

The limits for Cargill's Noise are indicated in Table 10.9.

Table 10.9: Industrial premises amenity criteria  $L_{Aeq}$  as per EPA's NPFI

Cargill noise criteria	$L_{Aeq}$ dB(A)
Acceptable	70 <sup>1</sup>
Maximum	75 <sup>1</sup>

<sup>1</sup> Criterion as per NPFI 2017 Table 2.2 for an Industrial Premises

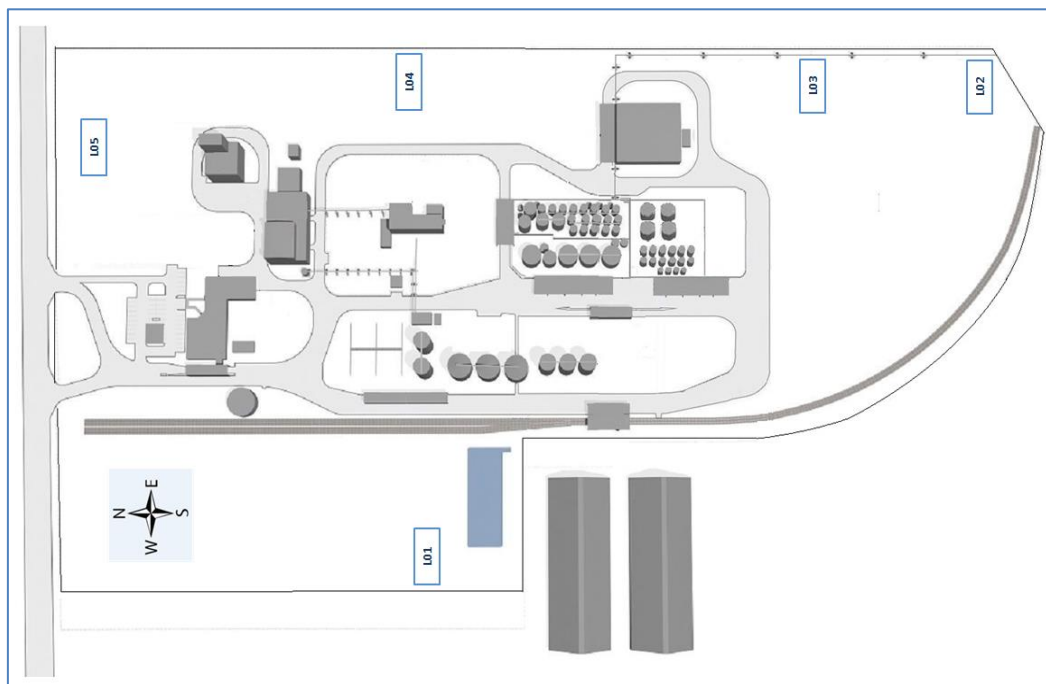


Figure 10.3: Cargill environmental noise sampling locations

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## 10.8 Traffic and transport management

### TRAFFIC AND TRANSPORT IMPACTS

Conditions 5.2 c) and 5.5 (b) of MP 05\_0122 outlines that a Traffic Management Plan is to be implemented to control the impacts of the facility expansion on traffic.

Cargill has developed and implemented a Traffic Management Plan which includes measures to manage heavy vehicle movement to and from the site. The following transport related studies have been conducted for Cargill:

- Transport Safety Study, completed by Advitech Pty Ltd in May 1996
- Assessment of Transport Implications of Bulk Liquid Shipping Terminal Kooragang Island, completed by Christopher Hallam and Associates Pty Ltd in October 1998
- Traffic Assessment Report – Cargill Oilseed Processing Plant Proposed Alterations and Additions, completed by Stapes Pty Ltd in September 2005
- Cargill Oil Seed Manufacturing Facility Expansion Operational Traffic Management Plan August 2014 (GHD)

Cargill consulted with both the Roads and Maritime Services (RMS, previously RTA) and Newcastle City Council (NCC) in 2005 in regards to the facility expansion impacts on traffic. As per Condition 2.10 of the Project Approval, Cargill investigated options to remove or reduce the volume of heavy vehicles accessing Cormorant Road via Egret Street. The Traffic Assessment Report investigated options and addressed issues raised by the RMS and NCC during consultation with Cargill. Access to Cormorant Road from Egret Street has been made and maintained as a left turn only, as recommended by the RMS to improve traffic safety. Contracts between Cargill and bulk transport companies outline the vehicle movements to be taken by the vehicle to and from site.

Speed limits are clearly marked to and from the facility and are signposted as 15 km/h within Cargill's site. Movement scheduling, where practical, to minimise noise and traffic volume impacts during sensitive times of the day was not identified as an issue. This is due to the findings of such studies as the Traffic Assessment Report and the road traffic noise assessment undertaken by Spectrum Acoustics Pty Ltd.

As per Condition 2.9 of MP 05\_0122, Cargill undertakes all reasonable endeavours to ensure that vehicles associated with the facility do not stand or park on any public road or footpath adjacent to the site. This is stated in Cargill's internal site document *NEWC-EHS-054: Traffic Management Plan*. All internal roads are sealed and maintained onsite.

### HAULAGE ROUTES

Condition 2.10 of MP 05\_0122 requests distribution of haulage routes for trucks to and from the Cargill site, and consideration of potential road improvements or works to reduce impact of heavy vehicles accessing Cormorant Road via Egret Street.

A report was completed by GHD *Cargill Oil Seed Manufacturing Facility Expansion Operational Traffic Management Plan* (OTMP) dated 18 August 2014. The OTMP addresses Condition 2.10 of MP 05\_0122 and the OTMP was submitted with Cargill's 2014-2015 AEMR. Section 4.1 of the OTMP directly addresses Condition 2.10, and related conditions, being Condition 5.5 (b) (i) through to (v). The OTMP also includes the approval letters received from RMS, Newcastle City Council and Port of Newcastle following review of the OTMP by the aforementioned authorities.

The Egret Street and Cormorant Road intersection has signage and traffic islands installed that restrict and redirect vehicle access.



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## **TRANSPORT REGULATION**

As per the original OEMP, Cargill has established a Transportation Code of Practice to regulate vehicles of external transportation companies. The code addresses such aspects as:

- Quality Accreditation
- Compliance with laws and requirements
- Product Security
- Work Health and Safety
- Food Safety
- Chain of Responsibility Guidelines
- Cargill Vegetable Oils Cargo Loading Order
- Emergency Response Systems

Non-conformance reports are required to be completed by transportation companies in the event of a breach of Cargill's Transportation Code of Practice. The reports include such aspects as:

- Incident description
- Immediate cause(s)
- Basis cause(s)
- Consequence(s)
- Risk assessment
- Immediate preventative action(s)
- Corrective action(s)

All non-conformance reports are reviewed and closed by a senior Cargill manager.

## **10.9 Landscape management**

The manufacturing site is located within an established industrial setting, within the existing oilseed processing plant. The locality is dominated by the industrial operations of Kooragang Island and is of low aesthetic value. Existing structures at the Facility consist of large scale industrial sheds and silos constructed of metal cladding. Strategically planted trees align the entire length of the Project site's eastern and northern boundaries, with isolated groups of mature landscape trees located in the north eastern and south eastern corners of the site.

As per Condition 5.5 (c) of MP 05\_0122 a Landscape Management Plan has been developed for the Cargill site. HLA Envirosiences Pty Ltd completed the initial plan in 1995, in consultation with Newcastle City Council and the EPA. This is outlined in Section 8 of the original OEMP and includes measures to ensure appropriate development and maintenance of landscaping on the site.

Tree planting on the site includes:

- heavily planted garden areas with weed mat, wood chips and imported soil, located near the office building
- tree screening areas at the site perimeter
- trees planted into the turfed parking area at the front of the Facility

The vegetation located around the perimeter of the site includes maximising native species and includes those suggested in NCC's preferred species list. The site vegetation is maintained in suitable health and the site landscaped areas are to be maintained in a tidy, healthy and weed-free state. A landscape gardener is engaged to control weeds onsite, remove dead



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limbs and trees and to mow the lawn and grassed areas across the facility with the goal to maintain in a tidy, healthy and weed free state. The gardening frequency is adjusted basis both the growing conditions and weather conditions.

As per Condition 2.11 of MP 05\_0122, the night lighting required for site security and for continuous operation of the plant is designed so that neighbouring industrial locations and roads are not affected, along with the navigation beacons in the harbour.

#### **10.9.1 Existing Vegetation**

Vegetation occurring on the original sand filled site consists of exotic grasses and weeds commonly found on Kooragang Island. The two main species were Couch Grass (*Cynodon dactylon*) and Paspalum (*Paspalum dilatatum*). Grasses are regularly mown to produce a thin cover. The grass sward thickens after good rain (or with irrigation). Native trees and shrubs were existing and have been added to around the perimeter of the site on Cormorant Road (to South) and Raven Street (to North) and also to the east along Raven Street. Species used in these clumps include species in Councils preferred list for the area. The site and the surrounding area is predominately flat and has been subjected to reclamation and filling. As a result it has been cleared of native vegetation for industrial use. Isolated groups of planted mature trees are located in the north eastern and south eastern corners of the Facility, and strategically planted trees align the entire length of the Facility's eastern and northern boundaries. The landscaped areas comprise a variety of native species, including *Acacia* spp., *Casuarina* spp., *Eucalyptus* spp., *Leptospermum* spp. and *Melaleuca* spp. See Appendix 1, Table 1 for a matrix of the suitable plants for the site.

#### **10.9.2 Soils**

As mentioned, the area has previously been reclaimed using sand fill. As a result soils are porous and free draining. Consequently, shallow rooted plant species are susceptible to drought.

The Environmental Impact Statement (EIS) for the project for an Oilseed Processing Plant on Kooragang Island indicates that the site is apparently free of contamination by metals, organochlorine pesticides and oil and grease. Soil depth averages approximately 1m above the groundwater table.

#### **10.9.3 Water Elements**

There are no natural drainage channels crossing the site. Draining in the immediate area is towards the South Arm of the Hunter River.

Rainfall incident on Kooragang Island generally infiltrates the sandy material to join groundwater approximately 1m below the surface. Some temporary ponding may occur for short periods after heavy rain. The landfill on Kooragang Island has raised the islands level, restricting floods which previously passed over the islands of the estuary.

The site is not considered to be in a potential flood zone. This is indicated by Newcastle City Councils Development Control Plan No.18, "Interim Policy on Floodplain Management, Hunter River Floodplain" that shows the subject site is not located on "flood liable land". More recent modelling undertaken by the Public Works Department has confirmed that the development site is well above the 1:100 year flood level.

As per OEMP section 10.3, treated process waste water and septic waste water are no longer irrigated onsite. All treated waste water and septic water is removed from site via the trade waste pump station.

#### **10.9.4 Heritage**

The subject area of Kooragang Island has been highly disturbed land reclamation and industrial activity. It is highly unlikely that sites of Aboriginal or European significance exist in the immediate area.

#### **10.9.5 Other Landscape and Site/Industrial Features**

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The site is part of the Kooragang Island industrial area which is flat and low lying. The landscape is characterised by large scale industrial and port developments.

Views in the vicinity of the site to the south are dominated by the Kooragang Coal Terminal ship loaders and the ex BHP Steelworks across the South Arm of the Hunter River. To the north, the coal stackers and reclaimers at the Kooragang Coal Terminal are clearly visible.

The site generally falls towards the north. The oilseed processing plant is a complex of plant buildings and storage sites. The structures are clad in colourbond steel sheeting, consistent with others in the industrial area.

The highest structure is the elevator for the meal silos at 44m. The grain and meal silos are 30m. The Refinery Building is 40m high. Other plant buildings are 18m to 20m. The bulk, scale and height of the plant are such that it is clearly visible from within the industrial estate, but in this context, the plant is not visually obstructive.

More distant views of the plant are possible from the top of Stockton Bridge (westbound traffic), from the more elevated areas of Mayfield (past the BHP Steelworks), and from the Queens Wharf area. For all distant views, the plant has a negligible impact in the overall industrial setting.

The site is screened by tree planting around the entire frontage with Cormorant Road and Raven Street. This screening and planting needs to be maintained on a regular basis.

Night lighting for the purposes of continuous operation of the plant, and for security reasons, is designed so as not to interfere with navigation beacons in the harbour or cause issues for neighbours to the site.

#### **10.9.6 Site finish levels**

Outside of normal footings and foundation preparation (up to 0.5m) the flat nature of the site has resulted in minimal changes to existing surface levels. As a result there is minimal cut and fill and no requirement for bank stabilisation.

#### **10.9.7 Site Planting**

The location and nature of the tree planting is shown in Appendix 1 Figure 1 and Appendix 1 Figure 2. These figures describe the location, species, numbers, spacings, site preparation, container sizes, method of planting, type of soil used, weed control, protective measures and maintenance requirements. A typical planting cross section of Areas A, B, C and D and E is shown. Tubestock have been used in all areas.

### **10.10 Underground Hexane Storage Tanks Management**

Cargill possesses underground storage tanks (USTs) onsite. The USTs are used to store hexane, and are located within the Solvent Extraction facility.

The UPSSs at Cargill are a recycle and recovery system. The hexane used in seed processing is recovered and recycled back into the UPSSs, and trace amounts leave the site in the meal product. Cargill has a loss monitoring procedure. A hexane dip is performed at the end of each month, and the dip is used to calculate the percentage hexane loss over the month in relation to tonnes of feed crushed. The hexane loss is recorded closely as part of plant data for efficiency, costs and safety statistics.

The hexane is used as a solvent to extract edible oils from seed and crops at the plant.

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Cargill removed and replaced the underground hexane tanks in September 2014. The previous USTs were mild steel internal with a fibreglass outer, and the upgraded tanks are stainless steel internals with a fibreglass outer and are of greater capacity than the previous tanks. The tanks are located at a depth of approximately five (5) metres below ground, which is below the approximate level of the groundwater at site. During the project groundwater was intercepted and was required to be pumped out of the pit. It was reported by Cargill that the services of a consultant were utilised to monitor water quality and ensure appropriate disposal of the groundwater during replacement.

Table 10.10 shows the USTs tanks' capacities and Figure 10.4 shows a site diagram with the approximate location of the tanks onsite.

Table 10.10: Storage system tanks and capacity

Tank	Capacity (L)
Tank 1	94,000
Tank 2	94,000
Tank 3 (as safety; tank is kept empty)	94,000
<b>TOTAL STORAGE CAPACITY</b>	<b>282,000</b>

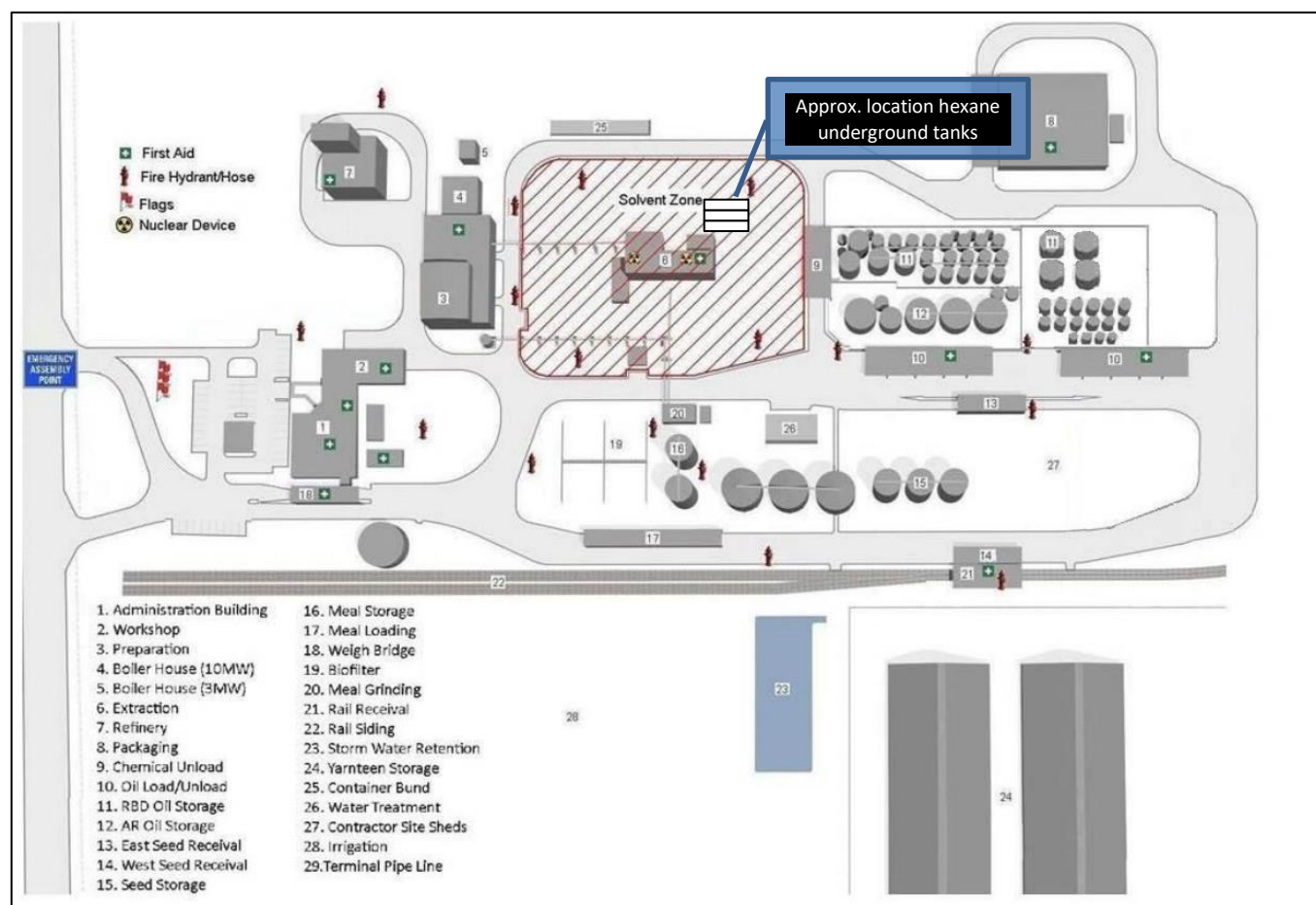


Figure 10.4: Location of hexane underground storage tanks

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The *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008* (the Regulation) under the *POEO Act 1997* commenced on 1 June 2008. In 2011 it was believed that Cargill was to comply with then-current Regulation 2008 and works began in order for Cargill to comply with the Regulation. The Regulation was updated in 2014 to its current version.

As part of the work a *UPSS Environmental Protection Plan* (EPP) was written to assist Cargill in complying with the Regulation. The purpose of the EPP was to:

- Provide a description of the environmental procedures to be implemented as per requirements of the Regulation
- Provide employees of Cargill with a description of environmental measures to follow in relation the operation of the UPSS
- Outline measures and actions to be undertaken by Cargill to minimise the environmental risks associated with the operation of the UPSS

Cargill continued work in order to comply with the Regulation. It was confirmed by EPA in a letter dated 30 February 2012 that Cargill was not required to comply with the UPSS Regulation as the hexane is not combusted or used as a fuel. The EPP remains onsite as a document, as leak detection and loss monitoring is an important part of Cargill's processes.

As previously discussed in Section 10.1 Cargill performs groundwater monitoring biannually to identify and understand the movement of pollutants in order to assess their impact on groundwater quality, as a loss detection tool, and for compliance with EPL 5810. Parameters analysed include hexane and TRH, which were added in 2011 as they were of interest in relation to Cargill's UPSS operation as a secondary leak detection tool. The groundwater monitoring results have consistently shown hexane below laboratory detection levels from the groundwater samples.

The *Loss Monitoring Procedure* performed monthly for Cargill's UPSSs includes:

- Levels of hexane in tanks are measured with dipstick readings weekly.
- A mass balance is performed on the total hexane stocks held onsite in the UPSS, and any deliveries of hexane during the month.
- Prior to meal product leaving the site, laboratory analysis determines the trace amount of hexane retained in the meal product. It is noted here that most production data at Cargill refers to Refinery and Packaging plant processes. Hexane is used in production however is considered used for a Crush Plant product (meal).
- Calculations are performed to determine hexane loss through the process, which is reported as a percentage loss usually in the range of 0.01% to 0.06%. These losses occur through evaporation in the process and trace amount of hexane remaining in the product.

If an incident were to occur at the UPSS, the incident will be entered to the event management system ENABLON. The follow-up activities include root cause, preventative and corrective actions are recorded in this system.

### **10.11 Waste Management Review**

Condition L3.1 of the EPL and Condition 2.13 of the Project Approval outlines that Cargill shall not cause, permit or allow any waste generated by the Facility or from outside the site to be received at the site for storage, treatment, processing, reprocessing or disposal, except as permitted by the EPL. Waste management includes appropriate disposal and recycling procedures to minimise environmental issues.

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All waste generated at the facility site is disposed of appropriately through municipal waste or licenced offsite disposal through contract with the waste management company Remondis. Waste such as paper and cardboard, plastic wrap, bulka bags, drums, metals, timber pallets, oils and greases, spent clay and telecommunications equipment are recycled when possible.

Cargill's Waste Inventory provides a complete summary of waste at the site.

## **10.12 Energy Management Review**

Cargill reports annually for the National Pollutant Inventory (NPI) and National Greenhouse and Energy Reporting System (NGERS). These reports provide a summary of Cargill's yearly waste thresholds and greenhouse gas emissions respectively. Consultant MJM Environmental generally completes the NPI and NGER reports for Cargill. Cargill also maintains an internal Resource Efficiency reporting and trending system which is updated on a quarterly basis.

A Behaviour Based Energy Management (BBEM) self-analysis survey is completed annually, which identifies areas in the facility where improvements in energy/resource efficiency can be made, and sets goals to implement energy management systems and reduction practices. The survey is utilised by the broader GOSC Business Unit to identify best practices and common opportunities for improvement.

Energy consumption data is also provided by Ausgrid business services, which graphs daily power consumption according to usage periods.

Cargill have implemented an NGER Management System for the entire Corporation, including procedures for the Kooragang Facility which are the following:

- NGER 1.0 - CAL NGER Management System Protocol
- NGER 1.1 - Sources Monitored Procedure
- NGER 1.2 - Activity Data Used Procedure
- NGER 1.3 - Documentary Evidence Procedure
- NGER 1.4 - Monitoring Methods Chosen Procedure
- NGER 1.5 - Processes for collecting Facility Activity Data Procedure
- NGER 1.6 - Processes for recording business decisions Procedure
- NGER F1.1 - NGER Six-monthly Internal Reporting Form

The NGER Management System is structured to ensure that:

- all sources of energy consumption and greenhouse gas emissions are monitored at the Kooragang facility in line with current NGER legislation; and that
- all sources of energy consumption and greenhouse gas emissions are reported annually to CER through the reporting tool the *Emissions and Energy Reporting System* (EERS).

Cargill is therefore tracking energy usage through the above methods. Cargill is also looking at natural gas and electricity suppliers regarding energy efficiency opportunities. The outcomes of discussions will be assessed for possible implementation.

## **10.13 Hazard and Safety Management**

Hazard assessments of operations conducted at both the Newcastle Plant and Terminal sites occur on a daily basis. Prior to commencing any work, a Pre-Job Hazard Analysis is required to be completed by persons conducting non-standard work, which

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is to detail any risks to health, safety and the environment. Below are some other common Hazard assessments reviewed regularly. Health and Safety auditing is also undertaken as outlined below.

### CRITICAL TASKS

A safety review of regular tasks performed in each area of the Newcastle facilities by personnel occurs annually. Scores tasks based on risk severity, repetitiveness and probability, and any program requirements. Tasks that score 9 or 10 out of 10 are classed as 'critical tasks'. Cargill currently has five (5) tasks rated as critical:

- Lockout tag out
- Extraction start up
- Extraction shut down
- Extraction air purge
- Extraction steam purge

### CRITICAL 5 OPERATIONS

*Critical 5* operations are fatality precursor activities that represent approximately 75% of operational fatalities occurring in Cargill facilities. These are:

- confined space entry
- lockout / tag out
- elevated work
- mobile equipment operation
- contractor safety

Safety assessments for each Critical 5 activity are completed and evaluated in each work area at least annually.

### SIF RISK ASSESSMENT

Entails a risk assessment to be performed on an operational task where persons undertaking task are deemed to be at risk of a *Significant Injury or Fatality* (SIF). SIF potential activities are identified through task analysis, and include in depth risk analysis of each step of the task with controls. SIF assessments can be located on the server under Health and Safety – Risk Management.

### SWIFT STUDY

A SWIFT (Structured What-if Technique) study is conducted for Extraction Plant operations and reported onsite every five (5) years, as an effective alternative to a Hazard and Operability (HAZOP) study. As with a HAZOP study, the SWIFT study focuses on identifying hazard and operability concerns, and is undertaken by facility personnel with the assistance of the company Loss Control Solutions. The study effectively identifies potential hazards within the Facility and recommendations for addressing these. The specific SWIFT study recommendations cannot be disclosed, as they are commercially sensitive. However, all SWIFT recommendations are considered and have or will be implemented by Cargill to the best of its ability.

### EAP

In accordance with Division 4 of the NSW Work Health & Safety Regulation 2011, Cargill maintains and implements an Emergency Management Action Plan, which encompasses all operations at the Newcastle Plant and Terminal Facilities. The EAP is reviewed annually, or whenever there is a change in conditions onsite.

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## PIRMP

Cargill also implements and reviews annually a Pollution Incident Response Management Plan (PIRMP), in accordance with the Protection of the Environment Operations (POEO) (General) Amendment (Pollution Incident Response Management Plans) Regulation 2012, Chapter 7 part 3A.

## LOSS PREVENTION

Cargill maintains a chemical inventory via the Chemwatch on line program subscription, which includes maximum quantities of chemicals stored, dangerous goods class and required MSDS updates.

Cargill enlists F.M. Global and Global Risk Consultants (GRC) to conduct regular loss prevention audits as tabled below.

Table 10.11: Loss prevention audits

Audit	Audit Frequency
FM Global Loss Prevention Fire and Associated Perils	Annually
FM Global Boiler and Machinery	Annually
GRC Thermographic Survey	Annually

## INCIDENT REPORTING

In the event an environmental incident occurs it must be reported by employees to local management immediately and entered to the Cargill First Event Notification system (Enablon) within 24 hours of the event transpiring. The non-conformance procedure is detailed in *NEWC-EHS-005: Environmental Management System*. Cargill's Pollution Incident Response Management Plan (PIRMP) identifies controls and actions to minimise risks of a pollution incident onsite, outlines persons responsible for staff training and implementation of the plan, and contains relevant emergency authority contact details.

Categories and required responses are summarised in Table 10.12. In the event of any Category 1 pollution incident where regulatory authorities must be notified,

Table 10.13 is followed for notification procedures.

Table 10.12: Incident Classification and Actions

Classification	Immediate Action	Follow-up Action
Category 1: Serious Incident		
Physical evidence of a breach of a legislated Condition (EPL, Project Approval) or regulation (Bushfire Act, Waste Avoidance and Resource Recovery Act etc); An incident causing or threatening material harm to human beings or	Invoke the Emergency Response Plan if necessary; Immediately report the incident to the Environment Supervisor;	All serious incidents are formally investigated by a Committee of Inquiry established by the Cargill Chief Executive using legal advice; Subject to legal rights, a summary report on the incident, investigations and actions will be communicated to the Site Manager and General Manager



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<b>Classification</b>	<b>Immediate Action</b>	<b>Follow-up Action</b>
the environment, which requires mandatory notification to the EPA; Incident beyond the control of Cargill personnel, requiring external resources; or Incident where actual or potential loss to recover from exceeds \$10,000.	Environment Supervisor immediately ensure that the Site Manager and other relevant site staff are notified; Environment Supervisor shall notify appropriate regulatory authorities as required (refer to Table 10.); and Cargill corporate management shall be notified by the Site Manager.	The Environment Supervisor shall enter details of the incident into the Enablon (FEN) System; and The General Manager shall review the incident report and summarise it to the Executive Management Committee.
<b>Category 2: Significant Incident</b>		
Potential or suspected breach of legislated Condition or regulation with no physical evidence (significant or prolonged noise, short term dust emission, spill with no measurable adverse effects etc.); or A non-trivial discharge that is contained within a facility designed as a “last line of defence” against discharges to the external environment.	Invoke the Emergency Response Plan if necessary; Where a suspected legislative breach has occurred, it shall be immediately reported to the Plant Manager Where the Plant Manager is confident that it is a Category 2 incident, he shall notify the GM and other relevant site staff; and Where there is any doubt whether a Category 1 incident has occurred, the Plant Manager shall refer to the GM for determination.	Plant Manager or a delegate shall conduct an investigation into the root cause of the incident and instigate actions to prevent recurrence; Summary report of all details of the incident shall be prepared by the Plant Manager and communicated to the GM; Plant Manager shall enter incident and subsequent response details into the Enablon (FEN) System; and The General Manager shall review the incident report and summarise it to the Executive Management Committee.
<b>Category 3: Minor Incident</b>		
Trivial discharges to the environment; or On-site incidents contained locally and are not Category 1 or 2 incidents.	The Environment Supervisor shall be notified immediately; and If there is no doubt that the incident is a Category 3 incident, no further immediate action is required.	Plant Manager or a delegate shall conduct an investigation into the root cause of the incident and instigate actions to prevent recurrence; Plant Manager shall enter incident and subsequent response details into the Enablon (FEN) System; and Summary reports of all Category 3 incidents are tabled at the next Production Environment Meeting.
<b>Category 4: Near Miss</b>		
A “near-miss” or unplanned event that did not result in an actual incident. Only a fortunate break in the chain of events prevented an incident from occurring.	The Environment Supervisor shall be notified immediately; and If there is no doubt that the incident is a Category 4 incident, no further immediate action is required.	Plant Manager or a delegate shall conduct an investigation into the root cause of the incident and instigate actions to prevent recurrence;

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<b>Classification</b>	<b>Immediate Action</b>	<b>Follow-up Action</b>
		<p>Plant Manager shall enter incident and subsequent response details into the Enablon (FEN) System; and</p> <p>Summary reports of all Category 4 incidents are tabled at the next Production Environment Meeting.</p>

**Table 10.13: Regulatory Authority Incident Notification Guide**

<b>Notification Requirement</b>	<b>Details</b>
What must be reported	<p>Category 1 incidents. These include licence breaches and incidents causing or threatening material harm to the environment.</p> <p>Meaning of Harm: Actual or potential harm to health/safety of humans or to ecosystem that is not trivial or results in actual loss or property damage of an amount exceeding \$10,000.</p> <p>It does not matter if the pollution event did not go off-site. Pollution events on-site that meet these criteria have to be notified.</p>
Responsibility	Plant Manager is responsible for coordinating communications with regulatory authorities.
Who to notify	<p>NSW EPA</p> <p>NSW Department of Planning</p>
Contact Details	<p>NSW EPA - 131 555 (local call cost throughout NSW except from mobile phones), or (02) 9995 5555 (if calling from outside NSW).</p> <p>NSW Department of Planning – (02) 6575 3400 (Singleton office)</p>
When to notify	<p>Notification via EPA's Pollution Line service on 131 555 as soon as practicable after becoming aware of the incident;</p> <p>Any form of notification to the Director-General (Department of Planning) within 12 hours of becoming aware of the incident; and</p> <p>Full written details to both the EPA and Department of Planning within 7 days of the incident occurring.</p>
Notification Details	<p>The cause, time and duration of the event;</p> <p>The type, volume and concentration of every pollutant discharged as a result of the event;</p> <p>The name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;</p> <p>The name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;</p>

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<b>Notification Requirement</b>	<b>Details</b>
	<p>Action taken by the licensee in relation to the event, including any follow-up contact with any complainants;</p> <p>Details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and</p> <p>Any other relevant matters.</p>

## EMERGENCY CONTACT AND RESPONSE

Cargill has developed a Pollution Incident Response Management Plan (PIRMP) that specifies procedures to minimise the potential for emergency incidents to occur on site and to provide an effective and rapid response to control the incident. The PIRMP is a detailed resource that is used to assist decision making regarding environmental emergency events.

Key personnel and organisations that may need to be contacted in an Environmental Emergency, along with their contact details are listed in Table 10.14. If the incident does not require an initial combat agency, or after the 000 call has been made, notify the relevant authorities in the following order. The 24-hour hotline for each authority is given when available.

**Table 10.14: Emergency Contacts**

<b>Contact</b>	<b>Telephone</b>	<b>Alternate contact</b>
EPA Newcastle	02 4908 6800	EPA NSW (131 555)
The Ministry of Health, NSW	02 4924 4649	02 4921 3000 (John Hunter Hospital)
SafeWork NSW	13 10 50	
Newcastle Council	02 4974 2000	<p>Pollution events can be entered onto the Newcastle Council website reporting form</p> <p><a href="http://newcastle.nsw.gov.au/Council/Forms-Publications/Forms/Regulatory-Pollution-Notification-form">http://newcastle.nsw.gov.au/Council/Forms-Publications/Forms/Regulatory-Pollution-Notification-form</a></p>

## 10.14 Other environmental monitoring practices and inspections

As required by approvals, licences and other legislative documents, monitoring of environmental performance is required throughout the Project lifecycle. This enables the overall effectiveness of established environmental controls and compliance procedures to be assessed, and allows areas of underperformance to be identified so corrective actions can be taken to strengthen environmental safeguards or improve outcomes.

This section of the OEMP has been developed to complement the existing inspection and monitoring guidelines contained in Cargill's documents. It incorporates a system of routine and events-based inspections, maintenance and statutory monitoring. For full details of all specific statutory monitoring and reporting requirements, as well as internal monitoring and reporting requirements designed to satisfy general statutory requirements, refer to the Cargill Compliance Register available on the intranet.

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## ENVIRONMENTAL INSPECTIONS

### 10.14.1.1 Weekly Walkthrough Inspections

Weekly walkthrough inspections are undertaken or organised by the Cargill Environment Supervisor. These inspections consist of visual inspection of all work areas and environmentally-related activities in and around the site in order to check compliance with this OEMP and regulatory Conditions. At minimum, inspections should check for:

- Excessive vibrations from site activities;
- Excessive noise and inspect any noise monitors for malfunction;
- Air Quality, including dust generation and noticeable odour;
- Malfunction of continuous analysers;
- Water or liquid discharge from any plant and/or off-site;
- Oil/water separator and dirty water capture points functionality and cleanliness;
- Problems with bunded areas or dangerous goods storage areas;
- Spillage/issues with solid waste (bins) and liquid waste storage areas, and general site cleanliness; and
- Lighting coming from site that may affect nearby areas.

The results of these inspections shall be noted on a Weekly Walkthrough Inspection check sheet and filed. All identified issues shall be reported to the Plant Manager and Work Order(s) shall be entered into the Maximo system to carry out corrective measures.

### 10.14.1.2 Event Based Checks

Event based checks shall be conducted by the Cargill Environment Supervisor following any significant event such as rainfall of sufficient quantity to generate runoff, high winds, any suspected environmental incident or the receipt of an environmental complaint.

### 10.14.1.3 Operational Monitoring

It is the responsibility of the Cargill Maintenance Supervisor to ensure that all plant and equipment used on site is inspected by suitably qualified personnel for functionality in accordance with relevant plant and equipment inspection, maintenance and calibration schedules, manufacturer's manuals, Cargill Standards and Cargill Production Operating Procedures.

All contractor equipment used on site must be calibrated and tagged for safe and effective functionality, and all relevant records are to be supplied by each contractor.

## PEST MANAGEMENT REVIEW

Cargill experiences pests such as rodents and pigeons onsite. The control of pests is usually covered as part of food safety however has been included as part of Environment as agencies have been interested in pest management.

Pigeons can be a risk to Cargill products as they can carry salmonella. It was reported that salmonella is not conducive to survival in the oil production process at Cargill. The salmonella, if present, can survive in the meal product which proceeds to customers as chicken feed. A monitoring program for salmonella is in place for outgoing meal as a quality procedure and generally detections are rare. The results of the monitoring program are reported monthly to Cargill corporate. The load is also tested by the customer upon receipt and from there it is a decision for the customer whether to utilise the feed.

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Regular pest management is performed by contractors. Rodents are controlled through placement of toxic baits outside buildings and non-toxic baits inside site buildings. Contractors perform regular monitoring and inspections, and perform an annual pest audit. Weekly site inspections are performed to Cargill's fortnightly and monthly inspection schedules for the facility. The rodent baits appear to be successful.

The pigeons onsite are the main issue. Silos and conveyor systems onsite occasionally leak seed, and thus provide an easy food source for pigeons. Several methods have been put in place for a number of years for pigeon control at Cargill, which have included:

- Bird spikes placed on silos, tanks and areas where pigeons are known to sit and roost.
- Bird netting installed internal sections of open roofed areas to prevent roosting at internal areas.
- Installation of roller doors where applicable in building and loadout areas.
- Weekly cleaning of site using bobcat and sweepers.
- Implementation of trapping and/or culling programs.
- Annual internal washdown of solvent extraction plant and preparation plant.
- Installation of bird deterrent at loading areas.

Cargill put together a *Pest Control Action Plan* which included the following initiatives:

- Culling program(s) recommended by contractors.
- Regular trapping programs.
- Continue filling openings around pipework and corroded areas.
- Installation of sheeting, bird netting or steel mesh on internal walls of east and west seed receival pits.
- Focused plan on identifying and repairing seed leaks to remove food source for the birds.
- Reinstate bird spikes that may have fallen off silo structures.
- Keep doors in Prep, Meal Grinding and Refinery closed to minimise opportunities for pigeon entry.
- Installation of hardstand and concrete areas under the silos and conveyor areas, which enable seed spills to be collected and cleaned faster and more effectively compared to the grassed areas previously present.

Current works for bird control include a combination of rapid culling (shooting), trapping, netting and baiting. The rapid culling (shooting) appeared to be the most effective in reducing bird numbers in the short term. However in the long term rapid culling appears to have limited success. Organisation of a culling event involves strict planning, and stringent safety controls are required to be put in place.

Cargill perform ongoing maintenance to address seed escaping enclosed systems, installation of netting to prevent roosting, and general housekeeping. Internal inspections to identify and repair seed leaks to remove the food source for the birds are an ongoing initiative.

## **ANALYTICAL MONITORING**

Specific analytical monitoring requirements, including parameters, sampling points, frequency and methods required are determined by approvals, licences and permits held by Cargill.

Routine analytical monitoring is required, as well as in response to incidents, complaints and concerns. Analytical monitoring requirements are explained in the management plans. Also, all statutory Conditions, along with actions and responsibilities to satisfy the Conditions are tabled in the Cargill Compliance Register.

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The Cargill Environmental Supervisor is responsible for organising all analytical monitoring, including sampling with field instruments and the establishment of quality control and chain of custody protocols for laboratory testing. The taking and laboratory analysis of all samples or raw monitoring data shall only be conducted by quality endorsed (ISO9001) and NATA endorsed consultants.

## **11 Environmental performance and compliance**

### **11.1 General**

To assess Cargill's environmental performance and compliance with licence and approval conditions, regular systematic audits are undertaken. Carrying out environmental audits assists in identifying any environmental compliance and management system implementation gaps.

As of 2012, the Protection of the Environment Operations Act (POEO Act) 1997 was amended under the Protection of the Environment Legislation Amendment Act 2011. The changes apply, in general, to holders of EPLs under the POEO Act including Cargill. Amendments to the POEO requiring action by Cargill are outlined in this section of the EMP.

### **11.2 External audits**

As per the requirements of Cargill's ISO14001:2015, ISO 9001:2015, ISO 22000, HACCP, FSSC 22000 accreditations, surveillance audits are carried out on the environmental management system by the external certification body Lloyd's.

Further audits can also be performed by customers that also incorporate environmental components (i.e. Arnott's, YUM, McDonalds), Cargill Corporate Food Safety, and Cargill Corporate EH&S.

The findings of the audit reports are communicated to the Plant Manager and supervisors to ensure the outcomes and recommendations of such audits are reviewed and implemented.

The reports completed by the auditing companies are commercially sensitive documents. However, Cargill policies state that each auditing recommendation is to be closed out within a year of being identified.

### **11.3 Internal audits**

An internal audit schedule is in place to ensure ongoing conformity to the business operating system and the requirements of ISO 14001:2015, ISO 9001:2015, ISO 22000:2005, FSSC 22000 and HACCP. The audits are undertaken by staff members who have received appropriate training from a recognised organisation. Audits are conducted twice per year against ISO 14001:2015, and Cargill's Corporate Food Safety Quality and Regulatory audit is conducted annually. The findings of these are followed up within one year of being identified. The Business Management Representative ensures that audits are conducted and recommendations are implemented.

Area-Based Internal Audits are also performed. Cargill Plant is divided into specific "areas" for auditing purposes. These "areas" consist of elements that have similar functions or locations and are able to be easily assessed concurrently. Area-based internal audits are conducted by a suitably qualified Cargill staff member or contractor nominated by the Plant Manager. Each audit assesses one "area" of Cargill for compliance with operational requirements.

Prior to each audit, a checklist is developed that includes fields for:

- Each item or operational requirement being assessed;
- Compliance with each requirement;
- Corrective action required; and

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- Current Risk associated with any non-compliances discovered.

Each area shall undergo an annual area-based internal audit. Findings and recommendations are reported to the Plant Manager by the designated auditor.

#### 11.4 EH&S audits

Cargill's Environment, Health and Safety management systems are assessed annually in accordance with Cargill, Incorporated requirements. These are conducted by Cargill BU EHS Manager / AP Regional EHS Manager on alternate years. The results of such auditing help ensure that the Cargill Newcastle complies with Cargill Incorporated's requirements in addition to statutory and approval requirements.

Recommendations for corrective actions are generated from the audits. Action items that are identified will be addressed within the timeframe as outlined as a requirement of the EHS audit.

#### 11.5 Annual Return completion

The Annual Return is a statement of licence compliance and a monitoring and complaints summary for the preceding 12 months required by EPA as a condition of the EPL. The reporting period for Cargill is 27 May to 26 May each year. The Annual Return should be completed and approved by the Plant Manager or an appropriately experienced consultant. Two Directors are required to sign and post the form once completed to EPA within 60 days of the end of the reporting period, that is, before 27 July each year.

Cargill need to ensure that all sampling requirements are carried out as per the EPL. This includes calculating loads of assessable pollutants, sample results for concentrations of pollutants in the boreholes, wastewater treatment plant and sewage treatment plant, and the volume of liquids discharged to water or applied to the area.

The EPA posts the blank Annual Return Form to Cargill, or alternatively the form can be downloaded on the anniversary date from <http://www.epa.nsw.gov.au/licensing/licenceforms.htm> and using the EPA's eConnect system. Once received, Cargill checks that Section A of the form contains the correct licence details, such as licence number, address and activities. The number of environmental complaints received in the reporting year must be then entered into Section B.

Completion of Section C Statement of Compliance of the Annual Return requires declaring any non-compliance with licence conditions that occurred over the year.

Once completed and submitted to EPA, a copy of the Annual Return is kept onsite for minimum four (4) years in accordance with EPL condition R1.6.

#### 11.6 POEO Amendment – Website monitoring data

EPL monitoring requirements have been outlined in section 6 of this EMP. The results of monitoring are published on Cargill's website within 14 business days of receiving the results, in line with Protection of Environment Operations Amendment 2011. The website location is:  
<https://www.cargill.com.au/en/newcastle-environmental-monitoring>

#### 11.7 POEO Amendment – Pollution Incident Notification Requirements



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If the emergency is an environmental incident which causes or threatens to cause material harm to the environment or human health firstly call 000 if the incident presents an immediate threat. Fire and Rescue NSW, the NSW Police and the NSW Ambulance Service are the first contacts, as they are responsible for controlling and containing incidents.

If the incident does not require an initial combat agency, or after the 000 call has been made, notify the relevant authorities in the following order. The 24-hour hotline for each authority is given when available.

If the emergency is an environmental incident which causes or threatens to cause material harm to the environment or human health, the following authorities are to be informed immediately:

- Appropriate Regulatory Authority (ARA) is the EPA Newcastle (02 4908 6800) or EPA NSW Environment Line (131 555)
- The Ministry of Health (02 4924 6477)
- WorkCover NSW (13 10 50)
- Newcastle Council (02 4974 2000), or after hours emergency (02 4974 2000)
- Fire and Rescue NSW (1300 729 579)
- Port of Newcastle VTIC Incident report

## **11.8 POEO Amendment – Pollution Incident Response Management Plan (PIRMP)**

The POEO Amendment 2011 specifies that all EPL holders are to develop a Pollution Incident Response Management Plan (PIRMP). Cargill implemented a PIRMP on 1 September 2012 in accordance with the *Protection of the Environment Operations (POEO) (General) Amendment (Pollution Incident Response Management Plans)* Regulation 2012, Chapter 7 part 3A. The POEO Act states that a PIRMP may form part of another document that is required to be prepared under or in accordance with any other law, if the information required to be in the PIRMP is readily identifiable. Cargill has developed a separate document to cover specific requirements of the Amendment in NEWC-EHS-017.

The objectives of the PIRMP include the following:

- Identify the hazards to human health and environment onsite to which the EPL relates
- Consider and outline the likelihood of any such hazards occurring, and risks involved
- Detail pre-emptive actions to be taken to prevent or minimise risks
- Outline the possible pollutants onsite in an inventory, showing quantity and storage
- Outline safety equipment and devices used to control a pollution incident
- Contact details of each authority Cargill must contact following an incident
- Outline details of sites early warning mechanisms
- Measures to minimise the risk of harm to workers
- Maps indicating matters outlined in the EPL and surrounding areas and locations of potential pollutants
- Outline staff training programs
- Way the plan is to be tested and maintained

A copy of the plan is kept onsite and made available on request to an authorised officer. A version of the plan is available to the public on Cargill's publicly accessible website.

In line with EPA requirements, Cargill tests effectiveness of the PIRMP to ensure the information is up to date and the procedures are capable of being implemented. The test is carried out at minimum annually and within 1 month of any pollution incident to which Cargill's EPL relates. An annual assessment of the PIRMP is also performed, checking all PIRMP procedures,

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safety equipment and alarms, and consider any new site processes. The outcomes of the assessment are reviewed, the plan updated as necessary, and communicated to staff by the Plant Manager.

The PIRMP for Cargill Newcastle plant facility and terminal operations (NEWC-EHS-017) is available onsite at Cargill in the administration office and the terminal site office.

## 11.9 Management Review

Management review of environmental issues is an important part of complying with ISO14001. The facility completes regular communication to management, along with commitment to continual improvement.

An Annual Management Review Report is completed at Cargill, and is stated in the *NEWC-EHS-005: Environmental Management Systems* procedure to be completed at minimum annually. The Management Review document covers food and environment topics, and a Review of Environmental Compliance, which includes but is not excluded to:

- Internal and external audit results and actions
- Monitoring results
- Odour complaints and reports
- EPA officer site visits
- Project design, upgrades and constructions
- Annual Return requirements
- Reporting requirements

Cargill has regular onsite Safety and Environmental meetings and minutes are stored onsite. There are action groups at the Raven Street facility and at the Oil Transfer Terminal, and a Terminal employee attends the Raven Street facility's meetings. Internal audits also form part of management review.

## 12 EPL Pollution Reduction Programs

Cargill's EPL states in *Section 7 – General Conditions* and in *Section 8 – Special Conditions* require compliance. Cargill's progress and compliance with the EPL General Conditions, and Special Conditions are outlined in the following sections.

### 12.1 Completed Pollution Studies and Reduction Programs (PRPs)

Cargill's EPL contains a *Completed Pollution Studies and Reduction Programs* (PRPs) section under condition G2.1. Cargill has finalised all of the PRPs specified under condition G2.1. A list, description and completion dates for Cargill's PRPs are outlined below in Table 12.1.

Table 12.1: Cargill's EPL 5810 PRPs description and completion status

PRP	Description	Completed date
Develop site specific odour levels for the stacks	Develop site specific odour levels for the stacks on the premise in order to control odour emissions form the premises.	27 July 2001
Odour Mitigation Works	Construction of a biofilter to mitigate potentially offensive odours, with post commissioning testing of the effectiveness of the biofilter.	27 December 2012
PRP 3 – Modelling of Biofilter Emissions	Modelling of emissions from the biofilter to assess its effectiveness and demonstrate conformance with guideline criteria at sensitive receptor locations.	30 September 2013

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PRP 4 – Investigation to Reduce Irrigation Volumes	Investigate, identify and assess feasibility of available options to reduce volume of treated sewage and wastewater irrigated to ensure it is effectively utilised. Submission was provided with 2015 AEMR submission.	17 April 2015
PRP 5 – Design of Wastewater Treatment System Upgrades	Undertake the design of the proposed modification of the existing wastewater treatment plant to improve water quality to a level suitable for using recycled water in the facility's cooling towers, biofilter humidifier and potentially the DC scrubber; and with the residual waste stream from recycling operations and the onsite sewage treatment system to be discharged to sewer.	1 April 2016

## 12.2 PRP 5 – Design of Wastewater Treatment System Upgrades

Condition U1 of Cargill's EPL states the following:

*U1.1. The licensee must undertake the design of the proposed modification of the existing wastewater treatment plant to improve water quality to a level suitable for using recycled water in the facility's cooling towers, biofilter humidifier and potentially the DC scrubber; and with the residual waste stream from recycling operations and the onsite sewage treatment system to be discharged to sewer.*

*By 1 February 2016 the licensee must submit the necessary approval documentation to the NSW Department of Planning and Environment seeking development consent under the NSW Environmental Planning and Assessment Act 1979 in respect of the above proposed modification works.*

*The licensee must provide written notification to the EPA's Regional Manager – Hunter, at PO Box 488G, Newcastle NSW 2300 or by email to [hunter.region@epa.nsw.gov.au](mailto:hunter.region@epa.nsw.gov.au), advising the submission of the above approval documentation to the NSW Department of Planning and Environment.*

*Date for completion: 1 April 2016*

Cargill completed PRP 5 by the due date of 1 April 2016. Consent has been granted from the Department of Planning and Environment, with issue of approvals DA 18/95 MOD 2 and MP 05\_0122 MOD 3.

## 13 Document Control

All internal and external documents included under the scope of Cargill's Business Management System (BMS) are classified as commercially sensitive. Therefore, they are confidential and are not to be disclosed to either the public or government authorities. As per Condition 4.1 of the Project Approval, this confidentiality consequently means that some Cargill documents required under this approval cannot be made available for public inspection. However, copies of Cargill's policies such as its Environment, Health and Safety commitments, along with the facility's EPL details, are displayed onsite in the office reception area.

## 14 Conclusion

This OEMP has outlined the relevant legislation, the development consent and EPA licence requirements pertaining to environmental management of the ongoing operation of Cargill's Kooragang facilities.

This OEMP is to be reviewed and updated annually to capture any changes to licence and approval conditions and changes to operations and environmental management.

### 14.1 Review of OEMP

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The OEMP is a continually revised, “living” document controlled electronically on the Cargill LAN. The Plant Manager is responsible for ensuring that the OEMP is current and that it reflects underpinning legislation and supporting documentation, by updating the OEMP in response to:

- Specific review of the OEMP;
- Regulatory changes;
- Internal audit recommendations;
- External audit recommendations;
- Issues identified in Annual Environmental Management Reports;
- Staff training changes;
- Implementation of corrective actions;
- The inclusion of new initiatives in environmental management; and
- Revision of any environmental documentation.

## 15 Further references

### 15.1 Further document reference

It is recommended the OEMP be implemented in conjunction with the following documents.

**Table 15.1: Further document references for Cargill**

Document Title	File Location
Environmental Protection Licence 5810	O:\ENVIRONMENT\EPL 5810
Department of Planning and Environment approval Major project MP05_0122	O:\ENVIRONMENT\AEMR –Dept. of Planning\Dept. Planning Development Approvals
Development Application (DA) 18-1995	O:\ENVIRONMENT\AEMR –Dept. of Planning\Dept. Planning Development Approvals
NEWC-EHS-017: Pollution Incident Response Management Plan	O:\ENVIRONMENT\Pollution Incident Response Procedure\PIRMP
NEWC-EHS-057: Emergency Action Plan	O:\HEALTH & SAFETY\Emergency response\EAP\Emergency Action Plan
NEWC-EHS-005: Environmental Management systems	O:\ENVIRONMENT\Environmental System Procedures
Aspects and Impacts Register	O:\environment\Aspects and Impacts
Waste inventory	O:\environment\Waste management
Chemical inventory SDS (ChemWatch)	Chemwatch web based inventory - <a href="http://jr.chemwatch.net/chemwatch.web/">http://jr.chemwatch.net/chemwatch.web/</a>
Dangerous Goods diagram of storage locations	O:\ environment\Dangerous Goods

### 15.2 PLANNING APPROVAL COMPLIANCE SUMMARY

Summary table containing Development approval compliance status and references within this OEMP.

**APPENDIX 1**

APPENDIX 1, TABLE 1

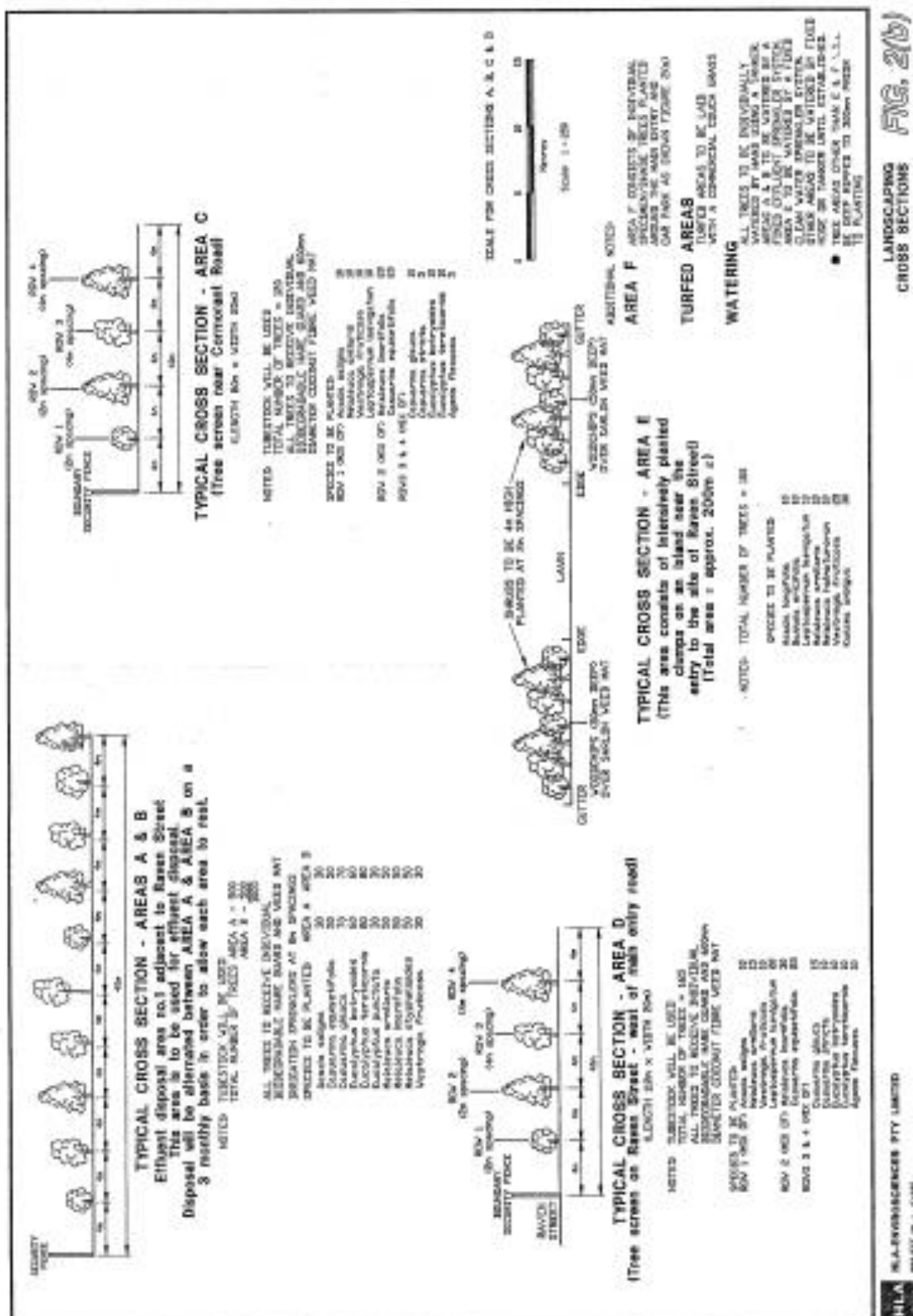
**Kooragang Industrial Zone – Plant Matrix**

*HLA Envirosiences, 28-11-1995 basis NCC/Dec Consultation*

Species	Primary Function					Height (m)	Comments
	Open Space Framework	Accent	Street		Screen		
			Major	Minor			
Acacia longifolia	*	*	-	-	*	3-6	
A. salinga	*	*	-	-	*	2-3	
Agonis flexuosa	*	-	*	-	+	5-6	
B. ericfolia	*	-	-	+	*	2-3	Needs Sheltered Position
B. integrifolia	*	+	+	*	+	8-10	
B. marginate	*	-	+	*	*	5-6	
B. serrata	*	-	+	*	*	5-8	
Casuarina equisetifolia	*	-	-	+	*	8-10	
C. Stricta	*	-	-	-	+	8-10	
Eucalyptus botryoides	*	-	*	-	+	10-20	
E. gomphocephala	*	-	*	-	+	10-20	
E. tetragona	+	-	-	+	*	3-4	
Leptospermum laevigatum	*	-	-	+	*	3-6	
Melaleuca armillaris	-	-	-	-	*	8-12	
M. halmaturorum	+	-	+	*	*	5-7	
M. lanceolata	+	-	+	*	*	5-7	
M. linariifolia	+	-	+	*	*	5-10	
M. squarrosa	+	-	-	+	*	3-6	
M. styphelioides	+	-	+	*	*	6-10	
Westringia fruticosa	+	-	-	-	*	1-2	
<b>Key:</b> * Most suitable + Moderately suitable - unsuitable							







### Figure 2: Landscaping Cross Sections