



Environmental Impact Statement

Proposed Heavy Industry – Precursor Facility

1216 Braymont Road, Boggabri

July 2017

Hanwha Mining Services Australia



Environmental Impact Assessment

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Proposal: Heavy Industry – Precursor Facility

Certification

I certify that I have prepared the content of this Environmental Impact Assessment and to the best of my knowledge has been prepared, in accordance with the *Environmental Planning and Assessment Act 1979* and the *Environmental Planning and Assessment Regulation 2000*, and that it is true in all material particulars and does not mislead nor by presentation or omission of information materially mislead.



Warwick Stimson MPIA CPP
Director



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1 Executive Summary

Introduction

The proposed development includes the construction of a precursor facility located at 1216 Braymont Road, Boggabri. Specifically, the proposal seeks approval to produce some 28,000 tonnes of precursor material, to be delivered by road to four mine sites in the surrounding region. The site will receive some 27,000 tonnes of raw material, to be delivered from Bomen, Sydney, Newcastle and Brisbane.

The precursor material is essential in the blasting activities of open cut mines and the proposed development has been appropriately sited for this reason.

The application seeks approval for the construction of hard stand areas, installation of plant and office buildings and the ongoing use of the site.

The proposed processing capacity triggers the need for an Environmental Impact Statement (EIS) to be submitted to Narrabri Shire Council for consideration. On this basis Secretary's Environmental Assessment Requirements (SEARs) have been sought from NSW Department of Planning & Environment (DPE) for the preparation of this EIS.

Site Context

The site is located at 1216 Braymont Road, Boggabri, is legally described as Lot 1 DP 1145592 and the area on which the proposal is to be situated is 1.45ha. This area will be leased from the owner of the site, Whitehaven Coal. Surrounding land uses are agricultural and mining related in nature and it is noted that the site is situated within the 'buffer' area of the Maules Creek mine.

Project Description

The proposal is for the construction of a precursor facility, with approval to produce 28,000 tonnes per year of precursor material. The material will be delivered to four mine sites in the region, playing an integral part of the blasting activities of each mine.

Physical works and improvements on the site will include hard stand areas, plant and a number of enclosing sheds. Site amenities and car parking will also be included.

Up to five permanent staff would be needed on site.

Alternatives Considered

A number of alternative site were considered for this facility, including on the edge of the townships of Boggabri and Baan Baa. The subject site was chosen primarily because of its location and proximity to the mines and the local site characteristics.

The proposed development, is considered to meet the requirements with regard to economic, environmental and social matters.

EIS Requirements and Scope

NSW Planning & Environment issued Secretary's Environmental Assessment Requirements in April 2016 with the following key issues being identified needing consideration.

Key Issue	Requirement for Consideration
Strategic Context	Detailed justification for the proposal and suitability of the site for the development. Demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, development control plans (DCPs), or justification for any inconsistencies. A list of any approvals that must be obtained under any other Act or law before the development may lawfully be carried out.
Air quality & odour	Description of all potential sources of air and odour emissions. An air quality impact assessment in accordance with relevant EPA guidelines. Description and appraisal of air quality impact mitigation and monitoring measures.
Noise & vibration	Description of all potential noise and vibration sources during construction and operation, including road traffic noise. A noise and vibration assessment in accordance with relevant EPA guidelines. Description and appraisal of noise and vibration mitigation and monitoring measures.
Soil & water	Description of local soils, topography, drainage and landscapes. An assessment of potential impacts on the quality and quantity of surface and groundwater resources. Details of sediment and erosion controls. Details of the proposed stormwater and wastewater management systems (including sewage), water monitoring program and other measures to mitigate surface and groundwater impacts; and a description and appraisal of impact mitigation and monitoring measures
Traffic and Transport	Details of road transport routes and access to the site. Road traffic predictions for the development during construction and operation. Assessment of impacts to the safety and function of the road network. Details of any road upgrades required for the development.
Waste Management	Details of waste handling including, transport, identification, receipt, stockpiling and quality control including off-site reuse and disposal; and the measures that would be implemented to ensure that the proposed development is consistent with the aims, objectives and guidelines in the <i>NSW Waste Avoidance and Resource Recovery Strategy 2014-21</i> .
Visual	Impact assessment at private receptors and public vantage points.
Biodiversity	Accurate predictions of any vegetation clearing on site or for any road upgrades. A detailed assessment of the potential impacts on any threatened species, populations, endangered ecological communities or their habitats, groundwater dependent ecosystems and any potential for offset requirements; and a detailed description of the measures to avoid, minimise, mitigate and offset biodiversity impacts.
Heritage	Aboriginal and non-Aboriginal cultural heritage
Hazards and Risk	The Environmental Impact Statement must include a preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 - Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is "potentially hazardous" a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011)

These matters have been addressed within the body of this EIS and/or in the accompanying reports.

An extension to the SEAR's was issued by the Department on 30 November 2016 with the original SEAR's considered remaining valid.

Planning and Legislative Framework

A range of Federal and State legislation, as well as local environmental planning instruments, has been considered in the preparation of this development proposal. The proposal is considered to be satisfactory in the context of the legislative environment within which it sits, on the basis that:

- The proposal is permissible in the zone.
- The objectives of the zone are satisfied.
- The range of applicable State Environmental Planning Policies have been considered.

- Strategic documents that apply to the locality and wider region have identified that the proposed use is consistent with the strategic context of the area.
- At a micro scale, the proposed development can satisfy the relevant provisions of the Building Code of Australia and applicable Australian Standards.

The facility will need to be referred to the EPA as an Environmental Protection Licence (EPL) will need to be issued for its operation.

The consent authority for the application is Narrabri Shire Council.

Public Notification and Consultation

A range of authorities have been consulted with during the preparation of this application, primarily through the processing of the SEAR's. These include NSW Environment Protection Authority, NSW Office of Environment and Heritage and NSW Roads & Maritime Services. This consultation is detailed throughout the SEAR's and is addressed in this submission.

Several meetings have been held with Narrabri Shire Council in relation to this proposal.

Environmental Impact Assessment

An assessment has been undertaken against the relevant planning controls and policies. Additionally, a number of independent consultants have been engaged to specifically consider certain aspects of the proposal. As a result, the proposed development complies with the relevant controls and it is considered that appropriate mitigation measures can be put in place to minimise any identified risks. Mitigation measures that could be required have been identified.

The proposed development is considered acceptable in a legislative sense.

Conclusion

The proposed development has been assessed against the requirements of the Narrabri LEP and the relevant State Environmental Planning Policies and is considered to represent a form of development that is acceptable.

The proposal is considered to be permissible within the zone and is one that can sit comfortably within the context of the locality. The proposal is considered to comply with relevant planning instruments and controls.

Adequate arrangements can be made for the provision of vehicular access to and from the site, essential utilities, sewerage, waste and drainage. The site is located a suitable distance from residential receptors and is not anticipated to significantly impact on the surrounding locality. On this basis, the subject site is considered acceptable for the proposed development.

Accordingly, it is recommended that the proposed development be approved.

2 Introduction

2.1 Project Overview

This Environmental Impact Statement (EIS) has been prepared by Stimson & Baker Planning in support of a proposed precursor facility at a site known as 1216 Braymont Road, Boggabri. The facility is proposed to service the nearby mining industry.

The subject site has been the subject of a rezoning application that has seen amendments made to Narrabri LEP 2012 to allow heavy industry on land that is currently zoned RU1 Primary Production. The rezoning was made and notified on the Department of Planning & Environments (DPE) website on 24 July 2017 and was noted as Amendment no.10 to the LEP.

The application seeks approval for the facility to receive approximately 27,000 tonnes of raw materials from Bomen, Brisbane, Sydney and Newcastle and dispatch 28,000 tonnes of finished product to four existing mine sites in the region. Various plant, hardstand areas, and enclosing sheds are proposed to be constructed on the site.

The development requires licensing by the EPA and concurrence will be needed from the EPA prior to determination.

The DPE has provided SEARs that have guided the preparation of this assessment.

2.2 Project History and Feasible Alternatives

The proponent first initiated the identification of a suitable site to situate this facility in 2013. At that time, consideration was being given to locating the site adjacent to the existing rail loop that itself is located near the point where the Maules Creek rail line branches from the Werris Creek – Moree rail line. We understand commercial terms could not be agreed and for that reason the site was discounted.

A number of options were considered to locate the facility within existing industrial land at Boggabri, as well as within the vicinity of a rail siding at Baan Baa. These sites were discounted on the basis of proximity to residential dwellings and the inability to reach suitable commercial terms.

The subject site was identified in 2015 and discussions commenced with Narrabri Shire Council in relation to the potential for an additional permitted use to be added to the land in the Narrabri LEP. The site was chosen due to its location within existing mine 'buffer' areas, its location on a main mine haul road, and its considerable separation distances to potential sensitive receptors. Its central location between the various product destinations was also a determining factor.

Importantly, the site was also chosen on the basis that Council had, in 2007, approved a similar facility on the opposite side of the road which still stands today. We are advised this facility will be removed when the proposed development is commissioned.

2.2.1 Need for the Proposed Development

2.2.1.1 Factors to be Considered

Servicing of Established Mines

The proposed development will provide a necessary element in the blasting process for each of the open cut mines it is intended to service. The precursor material blended at the proposed site, is done so through a specialist function contracted by such mines. The expertise is required by each mine for its blasting regime to be carried out as required within its existing approvals and in accordance with all relevant environmental legislation.

Increased Mine Production

Over several years, the production of the mines has increased considerably and the need to provide the proposed facility's function within the region is considered to bring improved economies to the provision of this function. Currently, the mines are serviced from outside of the region with the precursor material being brought in to the region via road transport.

Preferred Supplier

The proponent, Hanwha Mining Services Australia, has been selected via a tender process to provide the precursor material to the mines. It is crucial for Hanwha to establish a physical presence in the region from where it will be able to service its contract.

2.2.1.2 Analysis of Alternatives

The SEARs issued by the Department requires the applicant to provide an outline of the main alternatives considered in preparing the application, and an indication of the reasons for its choice taking into account the main environmental effects.

This section considers the alternatives investigated which include:

- Do-nothing approach.
- Alternatives to utilising the existing premises as the preferred option.

The proposed development has resulted from the need to provide a reliable supply of precursor material to the mines in the region. The starting point for the consideration of alternative options was the brief which is underpinned by a number of guiding principles:

- Develop a site with capacity to service the needs of the region's growing demand for precursor material.
- Access to a suitable road network.
- Appropriate zoning.
- Ensure that environmental impacts associated with the development are minimised.
- Ensure that appropriate separation existed from potential sensitive receptors.
- Ensure that the operational needs of the site can be satisfactorily met minimising conflict with surrounding land uses.
- Where practical, utilise existing site infrastructure.

The design process involved the consideration of site constraints and opportunities as well as key objectives and land use principles for the proposed development.

2.2.1.3 Do-Nothing Approach

The do-nothing approach was considered unacceptable given the proponent has secured the contract to provide precursor material to the surrounding open cut mines. The proponent is looking to establish its presence in New South Wales with this facility.

2.2.1.4 Alternatives to the subject site as the preferred location

The alternative sites considered have been nominated earlier in this report. The key benefits of the site as the preferred location are:

- Proximity to current client locations to be serviced.
- Zoning and the ability to develop on-site infrastructure.
- Access to an appropriate road network.
- Low amenity impacts including noise, air quality and visual impacts.

The proposed development, in terms of location, siting and design is considered to meet the requirements with regard to economic, environmental and social matters.

2.3 SEARs

NSW Planning & Environment issued Secretary's Environmental Assessment Requirements (SEARs) in April 2016 with the following key issues being identified as needing consideration:

Key Issue	Requirement for Consideration	EIS Location
Strategic Context	Detailed justification for the proposal and suitability of the site for the development. Demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, development control plans (DCPs), or justification for any inconsistencies. A list of any approvals that must be obtained under any other Act or law before the development may lawfully be carried out.	Section 4
Air quality & odour	Description of all potential sources of air and odour emissions. An air quality impact assessment in accordance with relevant EPA guidelines. Description and appraisal of air quality impact mitigation and monitoring measures.	Appendix C
Noise & vibration	Description of all potential noise and vibration sources during construction and operation, including road traffic noise. A noise and vibration assessment in accordance with relevant EPA guidelines. Description and appraisal of noise and vibration mitigation and monitoring measures.	Appendix D
Soil & water	Description of local soils, topography, drainage and landscapes. An assessment of potential impacts on the quality and quantity of surface and groundwater resources. Details of sediment and erosion controls. Details of the proposed stormwater and wastewater management systems (including sewage), water monitoring program and other measures to mitigate surface and groundwater impacts; and a description and appraisal of impact mitigation and monitoring measures	Appendix I
Traffic and Transport	Details of road transport routes and access to the site. Road traffic predictions for the development during construction and operation. Assessment of impacts to the safety and function of the road network. Details of any road upgrades required for the development.	Appendix E
Waste Management	Details of waste handling including, transport, identification, receipt, stockpiling and quality control including off-site reuse and disposal.	Section 6
Visual	Impact assessment at private receptors and public vantage points.	Section 6

Key Issue	Requirement for Consideration	EIS Location
Biodiversity	Accurate predictions of any vegetation clearing on site or for any road upgrades. A detailed assessment of the potential impacts on any threatened species, populations, endangered ecological communities or their habitats, groundwater dependent ecosystems and any potential for offset requirements; and a detailed description of the measures to avoid, minimise, mitigate and offset biodiversity impacts.	Appendix F
Heritage	Aboriginal and non-Aboriginal cultural heritage	Appendix G
Hazards and Risk	The Environmental Impact Statement must include a preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 - Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is "potentially hazardous" a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011)	Appendix H

2.4 Structure of the EIA

The report reviews the relevant environmental planning instruments for the area. An assessment of the potential effects of the proposal has also been undertaken. The EIS is set out as follows:

- Section 1 provides an executive summary;
- Section 2 provides an introduction;
- Section 3 describes the project in detail;
- Section 4 details the strategic and statutory context;
- Section 5 details the engagement undertaken;
- Section 6 details the environmental impact assessment;
- Section 7 summarises the recommended mitigation measure;
- Section 8 provides a conclusion.

The proposal is accompanied by the following documentation:

Appendix	Documentation	Prepared By
A	Secretary's Environmental Assessment Requirements	NSW Department of Planning & Environment
B	Development Plans and Survey	Various
C	Air Quality Impact Assessment	National Integrated Creative Solutions
D	Noise Impact Assessment	National Integrated Creative Solutions
E	Traffic Impact Parking Assessment	Stanbury Traffic Planning
F	Flora & Fauna Assessment	EcoLogical Australia Pty Ltd
G	Aboriginal Archaeological Due Diligence Assessment	EcoLogical Australia Pty Ltd
H	Preliminary Hazard Assessment	Benbow Environmental

Appendix	Documentation	Prepared By
I	Preliminary Site Investigation and Focused Environmental Site Assessment	National Integrated Creative Solutions
J	Gunnedah Emulsion Emergency Plan – Draft	Hanwha Mining Services

2.5 Proponent Details

Hanwha Corporation (Hanwha, also known as Hanwha Mining Services) was founded in 1952 as Korea Explosives Company, quickly becoming the leader in the South Korean explosives industry. It has since grown into a global manufacturing and trading company operating in four business areas—explosives, defense, trading, and machinery. In August 2015, Hanwha acquired LDE Corporation, expanding its business into Australia.

The Hanwha website also describes the Company as:

Hanwha Group, founded in 1952, is one of the Top-Ten business enterprises in South Korea and a “FORTUNE Global 500” company. Hanwha Group has 56 domestic affiliates and 226 global networks in three major sectors: manufacturing and construction, finance, and services and leisure. With more than 60 years track record of industrial leadership, Hanwha’s manufacturing and construction businesses encompass a broad range of fields from chemicals & materials, aerospace & mechatronics, total solar energy solutions, and global construction. The finance network, covering insurance, asset management and securities, is the second largest non-bank financial group in South Korea. The services and leisure sector offers premium lifestyle services with retail and resort businesses.

2.6 Existing Approvals

There are no existing approvals on the subject site.

Approval exists for a similar proposal on the subject site on the western side of the private haul road. Narrabri Council approved this development (DA 130/2007) under delegated authority on 30 January 2007.

3 Project Description

3.1 Summary Table

The following table summarises the proposed development.

Project Element	Summary of Project
Project Site Area	1.45 hectares (lease area within the property known as 1216 Braymont Road, Boggabri).
Site Description	Part of Lot 1 DP 1145592
Process Summary	Facility to receive some 27,000 tonnes of raw materials, with some 28,000 tonnes of finished product to be transported to four existing mines in the region. Raw materials are to be stored and processed on site, being mixed to produce a precursor material used in the blasting of open cut mines.
Maximum height of structures	A number of shed and awning structures accommodate the storage of material and processing plant, the maximum height of which is approximately 9.1m.
Parking Spaces	Room for 14 car parking spaces, inclusive of one accessible space.
Hours of Operation	Actual operation of the plant will be determined by the requirements of the surrounding mines. To maximise flexibility in the operations of the plant, the following hours of operation are sought as part of this application: Monday to Friday 6am to 6pm Saturday 8am to 1pm
Construction Hours	The following standard construction hours are sought a part of this application: Monday to Friday 7am to 6pm Saturday 8am to 1pm

Product Transport (Raw Materials in)

TABLE 1 INBOUND RAW MATERIALS VOLUME SUMMARY			
Product Origin	Product	Annual Volume	No. of Annual Deliveries
Newcastle	Ansol	11,500 tonnes	320 (36 tonne payload)
Brisbane & Bomen	Mineral oil	2,700 tonnes	57 (47.5 tonne payload)
Sydney	Calcium nitrate	12,000 tonnes	375 (32 tonne payload)
Sydney	Emulsifier	320 tonnes	10 (32 tonne payload)
Sydney	Expandable Polystyrene	500 tonnes	16 (32 tonne payload)
TOTAL		27,020 tonnes	778

Deliveries will be made by vehicles up to and including B-doubles.

Deliveries equate to an average of some three deliveries per day (based on a 5-day week).

Deliveries expected to be made to the site between 6.30am and 4.00pm Monday to Friday with occasional deliveries on weekends and public holidays as required.

Product Transport (Dispatches)

TABLE 2 OUTBOUND FINISHED PRODUCT VOLUME SUMMARY			
Product Origin	Product	Annual Volume	No. of Annual Deliveries
Maules Creek	Emulsion	12,500 tonnes	284 (44 tonne payload)
	Expandable Polystyrene	235 tonnes	118 (2 tonne payload)
Tarrawonga	Emulsion	8,500 tonnes	193 (44 tonne payload)
	Expandable Polystyrene	160 tonnes	160 (2 tonne payload)
Rocglen	Emulsion	3,000 tonnes	68 (44 tonne payload)
	Expandable Polystyrene	40 tonnes	20 (2 tonne payload)
Werris Creek	Emulsion	3,500 tonnes	80 (44 tonne payload)
	Expandable Polystyrene	65 tonnes	33 (2 tonne payload)
TOTAL		28,00 tonnes	956

Dispatches will be made by specialised Toll Mining Services vehicles up to and including B-doubles.

Dispatches equate to an average of some three to four vehicle loads per day (based on a 5 day week).

Operational Workforce

Up to five permanent staff would be needed on site. Contracted drivers (up to four) would drive private vehicles to and from the site where delivery vehicles will be stored.

General Infrastructure	<p>The following built elements form part of the proposed development:</p> <ul style="list-style-type: none"> • A covered emulsion facility providing a height of approximately 9m that blends raw materials to form finished products to service the mine industry is to be approximately centrally located within the portion of land subject to this assessment; • the above facility is to be serviced by a circulating internal service roadway providing a minimum width of 15m, accommodating one-way clockwise vehicle circulation around the plant; • A separate storage facility including three silos is to be located to the north of the abovementioned emulsion plant; • A small office, reception, lunch room and toilet facility is to be provided to the south-west of the emulsion plant; • A passenger vehicle parking area is to be located to the north of the office facility, in the central western portion of the site; <p>Vehicular access between the facility and Whitehaven Haul Road is proposed via separate ingress and egress driveways located within the south-western and north-western corners of the portion of land subject to this assessment.</p>
Waste Management	<p>Waste is proposed to be collected via a private contractor. This will include office based waste, very little of which is expected to be generated.</p> <p>Sewer waste and grey water will be held in tanks and collected by pump out collection vehicles via a private contractor.</p>
Capital Investment	\$4,343,722.00

3.2 The Subject Site

The subject site is located within part of the property known as 1216 Braymont Road, Boggabri, which is legally described as Lot 1 DP1145592. The portion of the subject site to be actually used for the development is a 1.45 hectare lease area on the southern section of the eastern-most part of the property.



Figure 1 Site Context (showing entire site)

The subject site is bounded by Hoad Lane to the south and the existing Whitehaven Coal haul road (privately owned) to the west. Further north of the site is Rangari Road. The site is

currently used for agricultural uses. There are no significant vegetation examples in the vicinity of the proposed development.

The topography in the locality is generally flat.



Figure 2 Subject site - proximity to Boggabri – showing vicinity of proposed lease area

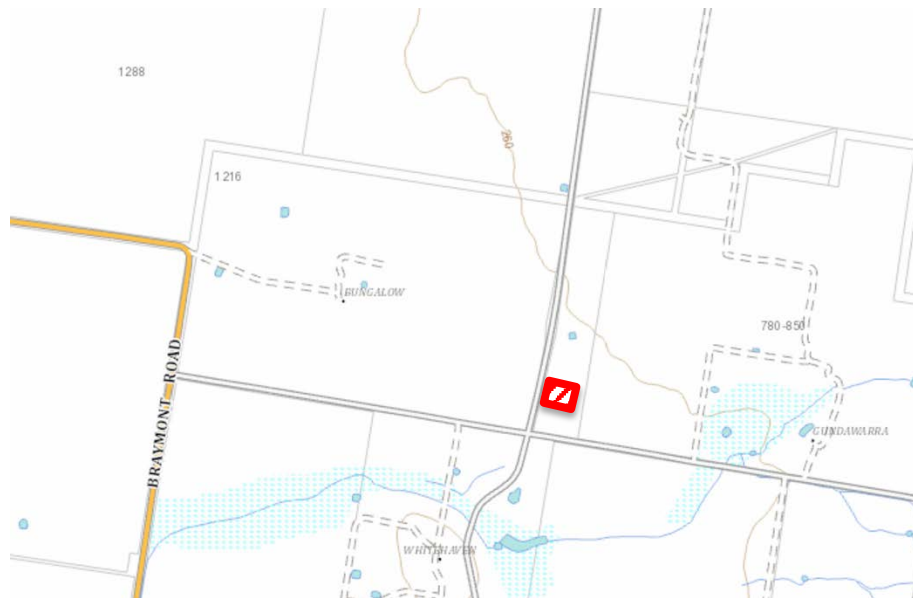


Figure 3 Subject site – showing the proposed lease area/location of facility

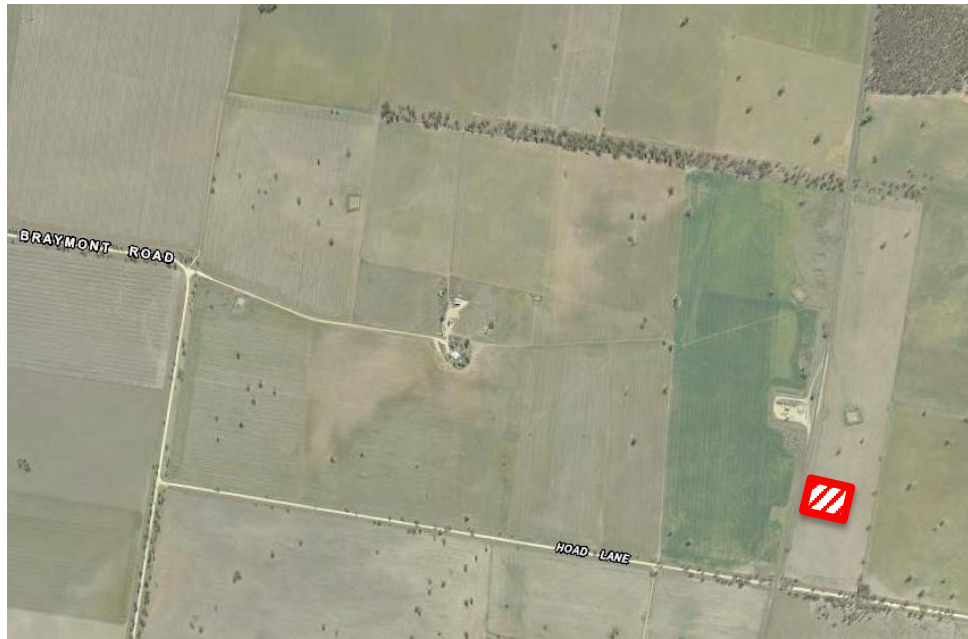


Figure 4 Subject site showing proposed lease area/location of facility

3.3 Surrounding Land Uses and Development

The subject site is located at the eastern extent of the Boggabri locality. It is located approximately 35kms north of Gunnedah, and 14km east of the Boggabri village.

Surrounding land uses are primarily agricultural, however it is noted that the Tarrawonga mine is located approximately 7.5kms to the north.

The subject site currently accommodates a north-south aligned Whitehaven Coal (privately) owned haulage road and this is located within the eastern half of the property. The subject lease area is on the eastern side of that haul road.

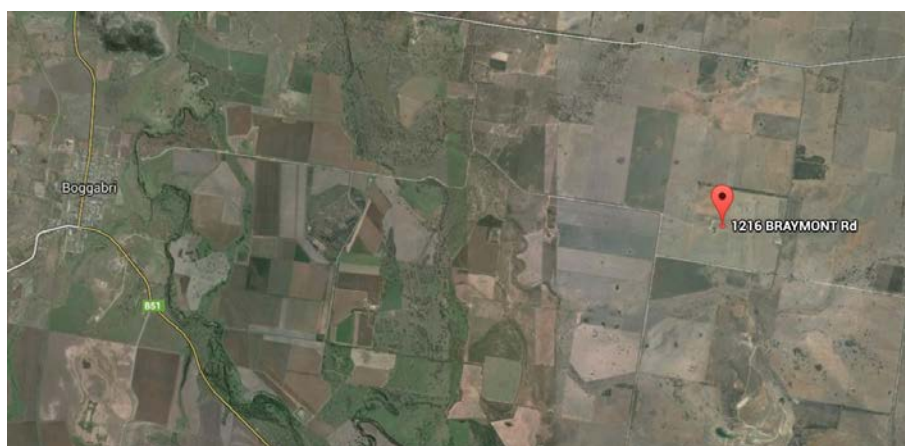


Figure 5 Proximity to Boggabri - Aerial

3.4 Site History

The subject site has traditionally been used for agricultural purposes.

However, it is noted that in 2007 Narrabri Shire Council approved a similar facility on the western side of the haul road and that this included formal subdivision. That site has no relevance to this proposal.

3.5 Topography

The site is relatively flat on topography, as would be expected from areas containing large scale cropping and agricultural land uses.

3.6 Vegetation

The site is currently used for cropping and agricultural purposes. No significant vegetation exists in the vicinity of the proposed development. Some existing vegetation is found along the Hoard Lane frontage and this has been considered in the accompanying flora and fauna assessment.

3.7 Climatic Conditions

A summary of local climatic conditions is provided in the accompanying Air Quality Impact Assessment.

3.8 Potential Sensitive Residential Receivers

Based on the EPA's document *"NSW DEC (EPA) Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales – August 2005"*, the following definition of sensitive receptor is provided: **"Sensitive Receptor** - *A location where people are likely to work or reside; this may include a dwelling, school, hospital, office or public recreational area.*". However, as the site is located within a rural zone Industrial where a variety of activities are permitted, it was considered appropriate to pay a greater attention to the location of the site relative to the residential zoned areas.

In any case, based on this assessment during our inspections of the site and surrounding environment, the proposed activities are unlikely to have any adverse impact on any sensitive residential receptor under any adverse weather and operating conditions. Similarly, the proposed activities are unlikely to have any impact on the neighbouring or nearby properties provided that the recommended mitigations measures are implemented and maintained at all times. The closest potentially sensitive residential receptors are included in the accompanying Air Quality Impact Assessment as reproduced as follows:

Receptor ID	Address	Lot & DP	Approx. Distance from Proposed Development	Type of Receptor
R1*	1216 Braymont Road, Boggabri	Lot 1 DP 1145592	1400 m NW	Residential
R2	237 Floodhill Road, Boggabri	Lot 402 DP 858087	6600 m W	Residential
R3	1574 Braymont Road, Boggabri	Lot 149 DP 754926	5850 m NW	Residential
R4	170 Barbers Lagoon Road, Boggabri	Lot 132 DP 754926	6550 m NW	Residential
R5	5747 Rangari Road, Boggabri	Lot 2 DP 1131282	3700 m N	Residential
R6	5603 Rangari Road, Wean	Lot 1 DP 1015921	3550 m N	Residential
R7	5402 Rangari Road, Wean	Lot 65 DP 754953	5950 m NE	Residential
R8	780 Hoad Lane, Boggabri	Lot 122 DP 834141	1550 m E	Residential
R9	692 Hoad Lane, Wean	Lot 1 DP 830730	3050 m E	Residential
R10	616 Hoad Lane, Boggabri	Lot 14 DP 754951	3250 m SE	Residential
R11	557 Hoad Lane, Boggabri	Lot 21 DP 754951	2600 m SE	Residential
R12	999 Hoad Lane, Boggabri	Lot 4 DP 1145592	1180 m SW	Residential
R13	1588 Braymont Road, Boggabri	Lot 208 DP 754926	6000 m NW	Commercial Premises
R14	Wean Road, Wean	Lot 5232 DP 1207130	5650 m E	Passive Recreation

*Outside the proposed development site

The above locations are identified in the following map.

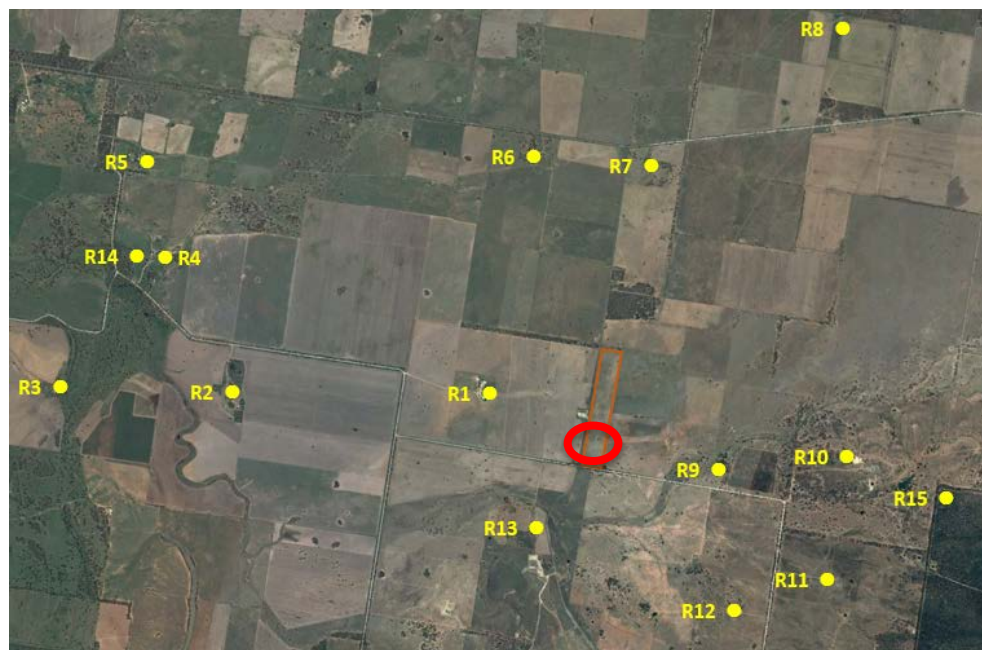


Figure 6 Map showing potential sensitive residential receivers

3.9 Detailed Description of Proposed Development

3.9.1 Overview

The subject site has been the subject of a rezoning application that has seen amendments made to Narrabri LEP 2012 to allow heavy industry on the land that is currently zoned *RU1 Primary Production*. The rezoning was made on 24 July 2017.

The application seeks approval for the facility to receive approximately 27,000 tonnes of raw materials from Bomen, Brisbane, Sydney and Newcastle and dispatch 28,000 tonnes of finished precursor material product to four existing mine sites in the region. Various plant, hardstand areas, and enclosing sheds are proposed to be constructed on the site.

3.9.2 The Proposed Use of the Site

The proposed development comprises a precursor facility that is intended to supply non-explosive precursor requirements of the surrounding mines. For this reason, the site requirements for such a facility are specific and include that of separation from other land uses or populated areas, and proximity to the mine site itself.

The useful life of the proposed development would only be as long as the life of the surrounding mines.

In brief, the site will receive a range of non-explosive raw materials products by road, and prepare these non-explosive precursor products for delivery by tanker-vehicle to the required mine locations in the coal fields for use in the on-mine site manufacture of explosives.

The following definitions have been taken from the *AEMC Code of Good Practice – Precursors for Explosives*

Precursor - A material resulting from a chemical or physical change when two or more substances consisting of fuels and oxidizers are mixed and where the material is intended to be used exclusively in the production of an explosive.

Precursor building - A building, in which a precursor is normally manufactured, stored and transferred and where no additional processing of the material into an explosive occurs.

Precursor facility - A facility where precursors are manufactured, handled or stored.

3.9.3 The On-site Process

The plant operation consists of several phases (also called nodes) and processes as outlined below. The proposed site is shown in the Figure below.

Node Description

Node 1

Water unloading and Storage Tanks TK-901, TK-902, TK-903, TK-904.

All water for the site will be purchased and brought in to the site by tankers and transferred to the water holding tanks.

Water will be pumped and plumbed to the various water systems throughout the plant via 4 x 25kL storage tanks (plant systems) and 1 x 25kL storage tanks (cooling tower).

Water systems include:

1. Domestics supply to offices and crib rooms.
2. Various hose points (as required),
3. Boiler supply, steam system,
4. Cooling tower/heat exchanger,
5. Process/manufacturing water,
6. Eye wash stations and safety showers.

Node 2

Water Tank TK-905 to Cooling Tower and Safety Showers.

The Water Tank TK-905 has a capacity of 25kL.

The cooling tower system will be integrated to the completed emulsion pipework.

This system will be able to draw water from the main water storage tanks into its own dedicated and closed water system.

The water will be treated or conditioned as required to maintain a safe and uncontaminated water source.

This water will not be used for any other purpose within the plant.

Node 3

Diesel unloading and Storage Tank TK-601 and Diesel Day Tank TK-602.

The site facility will consist of one 30kL self-bunded storage tank, which will be connected as a feed for the steam boiler and generator.

The diesel will be unloaded into the storage tank using the diesel tank truck pump.

Node 4

Mineral Oil Unloading and Storage Tanks TK-401, TK-402.

The site facility will consist of 1 x 68.8 kL and 1 x 73.86 storage tanks, which will be connected to the Fuel Blend manufacture as a feed through the centrifugal Pump P-402.

The mineral oil will be unloaded into the storage tanks using a permanently installed pump P-401.

Node 5

Emulsifier Storage TK-403 and TK-404 and transfer to blend tank Emulsifier will be delivered in Intermediate Bulk Containers (IBC).

These IBCs will be unloaded and stored in a semi-bunded area with a capacity to store 50 IBC's under a roof.

The loading point for the emulsifier and mineral oil will be contained in a bunded area for the capturing of any spills during the blending process.

Node 6

Emulsifier / Mineral Oil Blend (Fuel Blend) Tank TK-405 Mineral oil and Emulsifier will be drawn in the correct amounts into the fuel blend tank via pumps.

The fuel blend tank has a 5kL capacity and is controlled by Programmable Logic Controller (PLC) mounted on load cells.

The fuel blend tank will have a stirrer to combine the emulsifier and mineral oil correctly to the desired mix. Once the correct batch make up has been blended, a transfer pump P-404 will move the fuel blend to the manufacturing skid for use in the emulsion manufacturing phase.

Node 7

ANSOL Unloading and Storage TK-201 to TK-206.

There are 6 x 24kL iso tanks plumbed to a process pump and load in pump.

All ANsol tanks will be on load cells for stock control, and process management of contents. (QA/QC) ANSol will be sourced from Kooragang Island (Orica) manufacturing plant (hot 90% ANSol) and be delivered to site by solution tankers.

All tanks will be temperature regulated by the steam boiler system to control the temperature of the contents.

All tanks will be located on a concrete pad and contained within a concrete bund to control any spills.

The loading point for the AN Solution will be sealed concrete area for capturing of any spills during connection, disconnection and loading.

The storage tanks will hold the inventory of the delivery vehicle.

Node 8

Calcium Nitrite (CN) Solid Loading to Hopper and Augers.

A large shed adjacent to the manufacturing shed/skid will be constructed to store the CN bulka bags. The shed will have capacity to store up to 416 bulka bags (500t) stacked up to 3 tiers high. Large access roller doors will provide adequate access for forklift operations to move and manage stock rotation and usage.

Node 9

Meltdown Tanks TK-301 and TK-302 CN will be delivered to site in bulka bags which will be emptied into the CN hopper for inclusion into the ANSOL/CN melt tanks to create the correct AN/CN solution.

ANSOL will be drawn by a pump into the AN/CN melt tanks. Steam will be used to maintain the correct melt temperature, and the tanks will be mounted on load cells. The process is again controlled by PLC panels. Once the correct AN/CN solution has been reached, transfer pumps will move the solution into the emulsion batching tanks in the manufacturing skid along with fuel blend and the emulsification pump to produce the final emulsion batch.

Node 10

Emulsifier Oil to Emulsifier Oil Tank TK-305

Node 11

Blend Tanks TK-303/TK-304, Pump P-301.

3.9.4 On-Site Storage

The following table details the materials and their maximum quantities to be stored on site.

Item	Product	DG Class	UN	Storage
1	AN Emulsion	5.1	3375	176 tonnes
2	AN Solution	5.1	2426	215 tonnes
3	Mineral Oil	Combustible Liquid	None	1 x 68,800L 1 x 73,860L
4	Diesel	Combustible Liquid	None	31,400L
5	Diesel – Day Tank	Combustible Liquid	None	4,534L
6	Calcium Nitrate	None	None	500 tonnes
7	Emulsifier	None	None	50 x 1kL

As indicated above, the only DG (Dangerous Goods) classes materials on site will be the AN emulsion and AN solution. All other materials are non-DG with no UN number of DG classification.

3.9.5 Built form

A range of shed and awning structures are proposed to be constructed on site to accommodate the storage of raw material and plant and these are detailed in the accompanying plans. Two administration style buildings are proposed to be located at the front of the site – one accommodating a small office and meeting room, the other accommodating both male and female amenities. Another small office building is proposed to be located immediately adjacent to the proposed weighbridge.

Figure 9 below shows a 3D representation of the proposed development.

3.9.6 Vehicular elements

Deliveries to the site will be undertaken by contractor (Toll). These vehicles will not be kept on the site and once raw material is delivered to the subject site, they will return to their point of origin.

Finished precursor material will be transported to the various mine sites by specially designed vehicles up to B-double in size. These vehicles will be based on the subject site and stored overnight. There is enough room on site to accommodate the storage of these vehicles.

Both plant staff and drivers will use private vehicles to the site where they will be parked in the car park through a typical work day.

The site is proposed to be accessed and egressed via two new driveways capable of accommodating the range of vehicles proposed to be utilised.

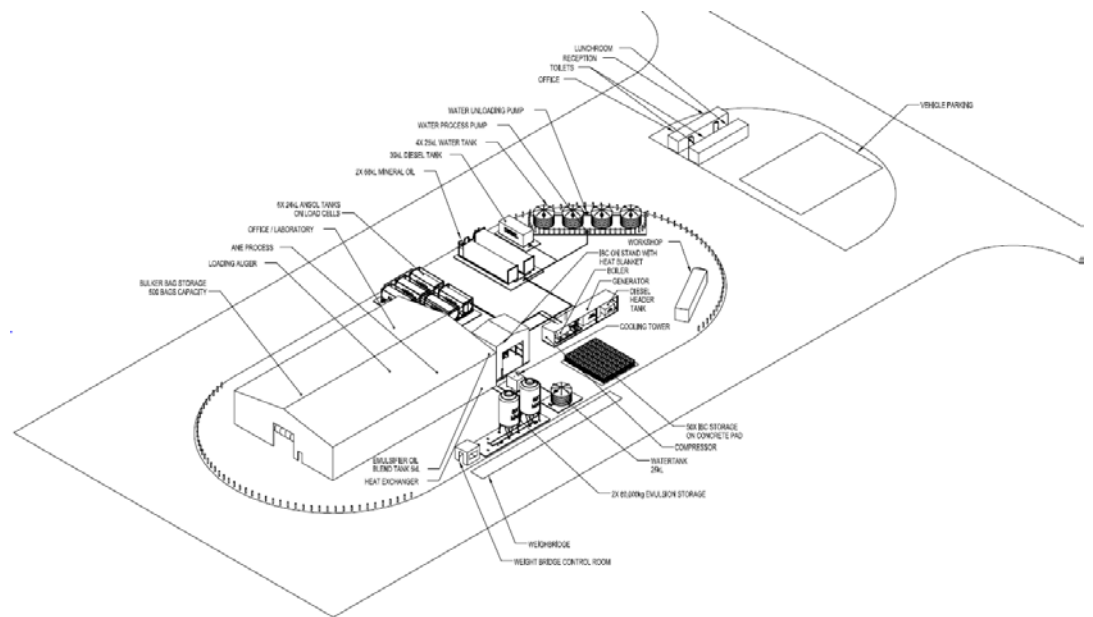


Figure 8 3D representation of proposed development

3.9.7 Transport Routes

The plant is proposed to import five key raw materials by road transport contractors, as follows:

- ANsol from Newcastle by Toll Mining Services;
- Mineral oil from Brisbane and Bomen by Forsyth’s Transport;
- Calcium nitrate from Sydney by REDOX;
- Emulsifier from Sydney by Toll Mining Services; and
- Expandable polystyrene from Sydney by RMAX.

The plant is scheduled to receive approximately 27,000 tonnes of raw materials per annum.

Raw material deliveries will be undertaken by vehicles up to and including B-doubles.

Transport routes proposed to be taken with raw materials are detailed in the Traffic Impact Assessment.

The plant is proposed to dispatch two finished products, being emulsion and expandable polystyrene, by road to four key mine sites, as follows:

- Maules Creek Mine;
- Tarrawonga Mine;
- Rocglen Mine; and
- Werris Creek Coal Mine.

The plant is proposed to dispatch approximately 28,000 tonnes of finish products per annum.

Products will be dispatched by Toll Mining Services in vehicles up to and including B-doubles.

Transport routes to each of the mines are detailed in the Traffic Impact Assessment.

Heavy vehicles are largely expected to utilise the main Whitehaven owned haul road to access the majority of mine destinations. When servicing the mine at Werris Creek, the vehicle route proposed to be utilised is detailed in the accompanying Traffic Impact Assessment Report.

3.9.8 Other Operational elements

Other operational elements not covered either above or in the Summary Table at Section 3.1 as addressed as follows.

Stormwater

Stormwater from rooves will be collected in rainwater tanks on site. Collected water will be utilised for amenities and washing down.

Wastewater

There are two sources of wastewater including grey water a sewage, and waste water from washing down plant or machinery.

Grey water and sewage will be collected and held in self-contained tanks located underneath the office buildings. These will be pumped out by private contractors when and as required.

Waste water generated from the washing down of plant or machinery will be directed to pits that will contain gross pollutant traps in order to provide an appropriate level of primary treatment. Water would then be directed off the site and dispersed across the ground surface.

Electricity and Water Supply

Electricity supply will be provided to the site. This is currently available along the private haul road. Water will be collected on site, but also purchased when required. Deliveries of water might be expected several times each month.

Signage

No signage forms part of this application.

External lighting

Some exterior lighting of the surrounding yard will likely be required. Details of this would be able to be provided at the time of a Construction Certificate being considered.

Contamination

The site is not considered to be a high risk of being contaminated given its historical cropping use. Existing contamination is not expected to be an issue for the subject site.

Landscaping

Some basic landscaping could be proposed and details of this would be provided at the time of a Construction Certificate being considered.

4 Strategic and Statutory Context

4.1 Strategic Context

4.1.1 Draft New England North West Regional Plan

The *Draft New England North West Regional Plan* applies to 12 local government areas including Narrabri Shire Council. The draft Plan promotes a holistic approach to land, environmental, water and natural resource management. It aims to maintain the productive capacity of natural resources, improve the agriculture sector's capacity to cope with changes in markets and weather patterns, and maintain and preserve areas of high environmental value, water catchments and heritage. It provides an overarching framework to guide development and investment in the New England North West to 2036.

The draft Plan consolidates strategic planning considerations for land use and infrastructure for the local government areas of the New England North West. Once the plan is finalised, it will replace the *New England North West Strategic Regional Land Use Plan*, released by the NSW Government in 2012. The relevant policies will continue to apply and are addressed in this draft plan.

The draft Plan recognises that the value of the region's mining production grew by 24 per cent each year between 2006 and 2014, contributing approximately \$1 billion in gross domestic product in 2014-15. The region will continue to benefit from the economic diversity and employment flow-on effects of the mining industry.

The largest mineral resource development is in the North West. This area contains the region's coal and coal seam gas reserves, with existing open cut and underground mining concentrated either side of the Kamilaroi Highway between Narrabri and Werris Creek. The New England contains important deposits of other minerals, including gemstones, industrial minerals and extractive materials, with many small-scale mines in operation.

In the context of the above objectives, the proposed development is considered to be consistent with the provisions of the draft Plan.



4.1.2 Narrabri Shire Council – Community Strategic Plan 2017-2027

The Community Strategic Plan presents the community endorsed vision and strategic plan for Narrabri Shire. Informed through extensive community engagement, the plan captures the voice of our local community and expresses key priorities and strategic directions for the Narrabri Shire Local Government Area. The Community Strategic Plan has a minimum 10-year timeframe and is the highest level document that Council prepares on behalf of the community.

The Plan recognises the important contribution that the mineral and resources sector makes to the area. The Plan also enforces the community's expectations for sensible and environmentally appropriate development.

In this context, the proposed development is not considered to be inconsistent with the Plan.

4.2 Statutory Context

4.2.1 Summary Table

The following table summarised the range of other statutory considerations relating to this proposed development.

Regulatory Requirements	Considerations	Location in the EIS
Protection of the Environment Operations Act 1997	The application is considered to be integrated development and as such, concurrence will be required to be obtained from the EPA prior to any determination.	Section 4, All Appendices
SEPP 33	Hazard and risk analysis of the materials used and transporting of same. The SEPP requires the proponent to provide a Preliminary Hazard Analysis (PHA) when Dangerous Goods are involved in the development.	Appendix H
SEPP 55	Requires the consent authority to consider the potential for land contamination on a subject site.	Section 4
Narrabri LEP 2012	The LEP details the Council statutory planning controls. Primarily that of land use permissibility.	Section 4
Narrabri Council DCP's	DCP's contain finer grain development controls, in this case, matters relating to setbacks, OSSM and parking are considered relevant	Section 4
Narrabri Council S94A Plan	Councils S94A Contribution Policy applies to this proposal. A condition of consent would sit within any approval detailing what the levy is.	Section 4

4.2.1 Protection of the Environment Operations Act 1997

The proposed development is considered to be a *scheduled activity* as identified in Schedule 1 of the POEO Act. This arises because of the storage of materials on site and their blending to form the finished product.

Accordingly, the proposal is considered to be *integrated development* and so concurrence will need to be obtained from the EPA by Council prior to determining the application.

4.2.2 SEPP 33 – Hazardous and Offensive Development

A comprehensive assessment against the SEPP has been made and is included within the PHA Appendix H. The PHA concludes that, with appropriate measures and procedures in place, the site and its potential risks and hazards can be appropriately managed. Mitigation measures have been recommended and a Draft Emergency Plan from Hanwha has been appended to this report.

4.2.3 SEPP 55 – Remediation of Land

Under Clause 7(1)(A) the consent authority must not consent to a development application unless consideration has been given to whether the land is contaminated. A Preliminary Site Investigation that concluded the following:

The contamination of soil, subsoil or groundwater was not detected and is unlikely to be of concern except for the nutrients as outlined in this document. Based on the results and findings presented in this document, the site is considered to be suitable for the proposed development as designed which includes the concreted and fully sealed areas which cover the active working areas.

A Stage 2 Detailed Contamination assessment is not required and the site is suitable in this regard.

4.2.4 Narrabri Local Environmental Plan 2012

The Narrabri LEP is the main environmental planning instrument applicable to the subject site. The subject site is zoned *RU1 Primary Production* with the following zone objectives applying to that zone.

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To encourage diversity in primary industry enterprises and systems appropriate for the area.*
- *To minimise the fragmentation and alienation of resource lands.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*
- *To allow for non-agricultural land uses that will not restrict the use of other land for agricultural purposes.*

The proposed development is consistent with the objectives of the zone in that:

- The small footprint of the proposal in the context of the surrounding agricultural land is minimal and so there would be no perceptible impact on agricultural activities.
- The site sits within the existing 'buffer' area of the Maules Creek mine and as such, it is highly unlikely that any potential land use conflicts would ever arise.
- The proposed use a non-agricultural use, the specific intention of which is to service and support the surrounding resources activities.
- The subject site is the most suitable location to provide the required support to the surrounding resources activities.

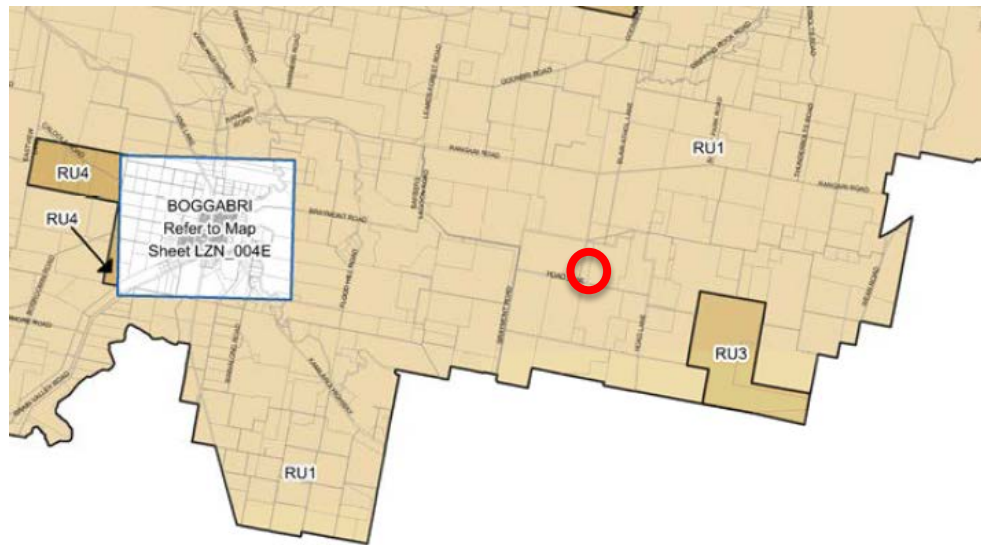


Figure 9 Land use zoning map - Narrabri LEP 2012

Discussions with Narrabri Shire Council confirmed the appropriate land use definition for the proposed use was *heavy industry*, which is defined in the LEP as follows:

heavy industry means a building or place used to carry out an industrial activity that requires separation from other development because of the nature of the processes involved, or the materials used, stored or produced, and includes:

- (a) hazardous industry, or
- (b) offensive industry.

It may also involve the use of a hazardous storage establishment or offensive storage establishment.

At the time of the project initiation, *heavy industry* was a prohibited land use in the RU1 zone.

In 2015, a Planning Proposal was lodged with Narrabri Shire Council seeking the land use definition to be nominated as an 'additional permitted use' on the land under Schedule 1 of the LEP. Gateway Approval was granted on 10 November 2015 and the Planning Proposal was placed on exhibition.

On 31 July 2017, the decision to make the LEP amendment and add *heavy industry* as an additional permitted use under Schedule 1 of the LEP was published on the DPE's website and it at that point came into force.

The proposed development is therefore permissible in the zone with consent.

There are no clauses of the LEP that are specifically relevant to the proposed development.

4.2.5 Narrabri Shire Council Development Control Plans

Narrabri Council has a number of Development Control Plans that may be considered against the proposed development in relation to parking, notification and industrial development. These have been considered in the design of the proposed development and it is considered generally consistent with the provisions of these policies.

4.2.6 Narrabri Shire Council S94A Plan

Narrabri Shire Council has a S94A Plan that would be applicable to this development. The appropriate contribution would be calculated at the time any consent was issued.

4.3 Federal Legislation

The following section provides an overview of relevance of certain pieces of federal legislation with regards to the proposed operations.

4.3.7 Environment and Biodiversity Conservation Act 1999

The Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) requires the approval of the Commonwealth Minister for Environment Protection, Heritage and the Arts for actions that may have a significant impact on matters of National Environmental Significance (NES). Approval from the Commonwealth Minister is in addition to any approvals under NSW legislation.

The EPBC Act also provides for the identification, conservation and protection of places of national heritage significance and provides for the management of Commonwealth heritage places and establishes the Australian Heritage Council.

The EPBC Act lists seven matters of NES which must be addressed when assessing the impacts of a proposal. A search of the EPBC protected Matters database has been undertaken in respect of the proposal. A summary of how the proposal may impact on the matters of NES is provided below:

Matter of NES	Comments
World Heritage Properties	There are no world heritage properties proximate to the proposed development, or that would potentially be affected by the proposed development.
National Heritage Properties	There are no wetlands located near the subject site.
Wetlands of International Importance	There are no nearby wetlands.
Commonwealth Listed Threatened Species and Communities	The proposed development is not expected to impact upon any know threatened species.
Commonwealth Listed Migratory Species	The proposal is not expected to have an impact on any listed migratory species.
Nuclear Action	The proposed development would not involve nuclear action as defined under EPBC Act 1999.
Commonwealth Marine Areas	There are no Commonwealth marine areas proximate to the proposed development, or that would potentially be affected by the proposed development.
Commonwealth Land	The subject site is not Commonwealth Land, nor would Commonwealth land likely be affected by the proposed development.

Given that the proposed development would not have a significant impact on matters of NES or on Commonwealth Land, the requirements of the EPBC Act are not triggered and approval from the Commonwealth Minister for Environment Protection, Heritage and the Arts is not required.

5 Engagement

5.1 General

Consultation with government departments and the local community plays an important role in ensuring all potential environmental impacts are evaluated. The consultation process provides the opportunity to identify and prioritise issues. Key aspects identified through both the government and community consultation process are addressed in varying degrees throughout this report.

The three (3) items listed are considered to be extremely important in the consultation process for most proposals included this one:

- Liaison with relevant local, state and federal government authorities regarding the proposed development and requirements of the report;
- Consultation with relevant stakeholders including community and industry in the vicinity of the subject site; and
- Compilation of issues of concern raised and outcomes of any meetings undertaken during the consultation process.

5.2 Government Consultation

The proponent has undertaken consultation with relevant local, state and federal Government agencies as part of the preparation of the Secretary's Environmental Assessments Requirements (SEARS). The key agencies that the applicant has consulted include:

- The Department of Planning and Environment (Department);
- The NSW Environment Protection Authority (EPA);
- The NSW Roads and Maritime Services (RMS);
- Narrabri Shire Council (Council).

Several meetings and phone conferences were held with officers from Narrabri Shire Council throughout the rezoning assessment and the preparation of this application.

Specific consultation has been undertaken with SafeworkNSW to confirm the proposed facility is not regarded as a major hazard facility. This confirmation is appended to this report.

5.3 Community Consultation

There are very few potential community stakeholders for this proposal, with the site being located within an established mine buffer area.

That said, the rezoning of the land was the subject of community consultation and it is noted that those same parties will have an opportunity to comment on this project through the public exhibition stage.

6 Environmental Impact Assessment

6.1 Key Issue Assessment

The following matters are considered to be key issues in relation to the proposal development and have been considered accordingly.

6.1.1 Traffic and Transport

6.1.1.1 Existing Environment

The subject site is currently used for agriculture purposes. The adjoining access road is privately owned and is used as a haulage route. Hoad Lane, located to the south, is a public road.

Currently mine vehicles transporting coal are passing the proposed site regularly throughout the day. All other traffic in the locality is limited to low level local traffic or staff related movements for the mines.

6.1.1.2 Assessment

The proposed development introduces two main additional traffic streams – delivery of raw materials in, and dispatching of finished product out.

Deliveries of raw material come from four locations – Bomen, Sydney, Newcastle and Brisbane- and the total tonnage of materials to be delivered each year is approximately 27,000 tonnes. The traffic routes proposed to be taken are detailed in the Traffic Impact Assessment (TIA), but these trips have been summarised in Section 3.1 of this report. Some 778 Delivery trips are anticipated each year.

Dispatches of finished product are made to four destinations – Tarrawonga, Maules Creek, Rocglen and Vicary mines. The total approximate annual tonnage is expected to be 28,000.00 tonnes. The traffic routes proposed are detailed in the TIA and the despatch parameters have been summarised in Section 3.1 of this report. Some 956 despatch trips are anticipated each year.

The existing traffic volumes are considered quite low and this is detailed in the TIA. The existing road network arrangements have also been considered and found to be satisfactory, although intersection line-marking was found to be worn. It was also noted that entry and exit arrangements to the site are considered acceptable in light of the low traffic volumes and excellent sight distances along the haul road. The proposal is expected to generate up to 18 daily heavy vehicle movements in total, and up to 20 daily passenger movements in total.

The expected impacts of traffic are low. The safety issues associated with development traffic are considered to be minimal, although given the materials being transported, a Transport Risk Management Strategy has been appended to the TIA. This contains a series of processes and measures employed to ensure safe transportation of materials.

6.1.1.3 Mitigation Measures

The assessment of traffic and transport related matters concerning this proposal has resulted in the following mitigation measures being recommended.

- The existing priority line-marking at the intersection of Hoad Lane and the Whitehaven haul road be remarked.
- Appropriate “truck Turning’ warning signage be provided within the Whitehaven haul road on approach to the facility to alert motorists to the potential for vehicle movements.
- The Transport Risk Management Strategy is to be adopted and function as an overarching document in the formulation of site specific policies.
- A Traffic Management Plan shall be submitted to Narrabri Shire Council prior to the issue of any Construction Certificate.

6.1.2 Air Quality

6.1.2.1 Existing Environment

An Air Quality Impact Assessment (AQIA) was conducted on the subject site and proposed development. The distances attributed to potential sensitive receptors was the main factor in the conclusions made. New plant equipment, designed to satisfy the relevant Australian Standards also contributes to overall compliance.

6.1.2.2 Assessment

In terms of impacts arising from construction activities. Potential impacts are considered to be negligible. This is mainly because of the relatively low level of activity required on the site.

In terms of potential operational impacts, full compliance is achieved with the EPA’s guidelines. Both dust and odour impacts are negligible.

6.1.2.3 Mitigation Measures

Despite potential impacts being negligible, the following voluntary mitigation measures are recommended.

- Within 6 months from the commencement of normal operations of the plant, an air quality validation report, by an appropriately qualified person, shall be undertaken. The report shall be submitted to the EPA and Narrabri Shire Council within 6 months from the commencement of normal operations of the plant. If the air emissions confirm compliance with the criteria, no further air emission measurements should be required unless substantial complaints are received.
- A complaints handling register shall be included in the sites operational manual. Record keeping shall be in accordance with the EPA’s standard requirements which are included in every Environmental Protection Licence.

6.1.3 Acoustic Impact

6.1.3.1 Existing Environment

A Noise Impact Assessment (NIA) was conducted on the subject site and proposed development. The distances attributed to potential sensitive receptors was the main factor in the conclusions being made. New plant equipment designed to satisfy the relevant Australian Standards also contributes to overall compliance.

6.1.3.2 Assessment

Logging and modelling was undertaken in accordance with EPA requirements. Based on the assessment, both proposed construction and operational activities comply with the Project Specific Noise Levels (PSNL) at the specified times as defined in the EPA Industrial Noise Policy 2000.

6.1.3.3 Mitigation Measures

Despite compliance being achieved, the following voluntary mitigation measure is recommended.

- Within 6 months from the commencement of normal operations of the plant, a noise validation Report shall be provided by an appropriately qualified person to Narrabri Shire Council and the EPA. If noise emissions confirm compliance with the criteria, no further noise emission measurements should be required unless substantial complaints are received.

6.1.4 Flora and Fauna

6.1.4.1 Assessment

An assessment was undertaken in relation to the proposed impacts on ecological values listed under the TSC Act and the EPBC Act. No Significant impacts are expected as a result of the proposed development and this is detailed in the accompanying consultant report.

6.1.4.2 Mitigation Measures

Despite there being no expected impacts arising from the proposal, the following mitigation measures are proposed on the site.

- Ensure protection of native vegetation outside the construction footprint.
- Limit construction duration where possible to reduce indirect impacts to native fauna,
- Control noxious weeds prior to development to avoid the spread of these into adjacent native vegetation, specifically management of African Boxthorn present within the subject site.

6.1.5 Aboriginal Archaeology

6.1.5.1 Assessment

An Aboriginal Heritage Due Diligence Assessment was conducted on the site. A site inspection was carried out, attended by the Red Chief Local Aboriginal Land Council, as well as an extensive search of relevant resources and databases. No aboriginal objects or sites were located within the study area. The accompanying assessment also concluded that it was unlikely that the proposed works would impact on any previously unrecorded Aboriginal archaeological site or objects.

6.1.5.2 Mitigation Measures

The following mitigation measures are recommended.

- Aboriginal objects are protected under the NPW Act regardless if they are registered on AHIMS or not. If suspected Aboriginal objects, such as stone artefacts are located during future works, works must cease in the affected area and an archaeologist called in to assess the finds. If the finds are found to be Aboriginal objects, the OEH must be notified under section 89A of the NPW Act. Appropriate management and avoidance or approval under a section 90 AHIP should then be sought if Aboriginal objects are to be moved or harmed.
- In the extremely unlikely event that human remains are found, works should immediately cease and the NSW Police should be contacted. If the remains are suspected to be Aboriginal, the OEH may also be contacted at this time to assist in determining appropriate management.

6.1.6 Hazard and Risk Assessment

6.1.6.1 Assessment

Given the materials stored and processed on site, a Preliminary Hazard Analysis (PHA) has been completed and accompanies this report.

Based on the initial screening of the proposed storage and transport of hazardous materials, a Preliminary Hazard Analysis is required as more than 500 kg of Hazardous materials, a Class 5.1 Dangerous Goods, will be stored on site at any time.

The accompanying report identifies and examined a number of potential events/consequence scenarios that could occur at the Site. The prevention and protection measures designed into the operation of each of the activities associated with each event were listed and discussed in a series of Hazard Identification Charts.

From the Hazard Identification Charts a list of potentially hazardous events was prepared which was then examined in greater detail to determine which events would be credible and may have significant impacts outside the Site boundary.

The risk criteria for land use safety planning specified in the Department of Planning, NSW documents Hazardous Industry Planning Advisory Paper (HIPAP) No.4 and Multi-Level Risk

Assessment guidelines would not be exceeded at any residential receptor provided that certain mitigation measures are implemented on site.

The ground level concentrations for a worst-case event were found to be below published data on air emissions at residential areas.

As standard operating procedure for industrial activities an emergency plan is needed. This is a widely adopted procedure whereby an industrial operation has a process in place that involves informing their commercial/industrial neighbours if an emergency event such as a fire should occur. An outcome of the Department of Planning SEPP33 process is also the preparation of an emergency plan. Hanwha have provided a Draft Emergency Plan that is appended to this report.

6.1.6.2 Mitigation Measures

The following mitigation measures are proposed in respect of this issue.

- The prevention and protection measures in Table 8-2 within the PHA shall be incorporated into the Final Emergency Plan
 - The transport and handling of chemicals and, if applicable, related wastes should be in accordance with the following guidelines:
 - Managing Risks of Hazardous Chemicals in the Workplace – Code of Practice Published by Safe Work Australia
 - AS 1940:2004 the storage and handling of flammable and combustible liquids
 - AS 2714:2008 The storage and handling of hazardous chemical materials - Class 5.2 substances (organic peroxides)
 - Storage and of Dangerous Goods – Code of Practice Published by WorkCover NSW
 - Australian Dangerous Goods Code (ADGC);
- The following safeguard procedures should be developed for the site if considered necessary:
 - Traffic Flow and Transport Procedure;
 - Spill Procedure;
 - Handling of Chemicals Procedure;
 - Transport Procedure;
 - Hygiene Procedure;
 - Disposal Procedure;
 - Handling of Chemicals Procedure;
 - Plant Operation Procedure;
 - Plant Emergency Shutdown Procedure;
 - Plant Maintenance Procedure;
 - Preventative Maintenance Program;
 - Emergency Response Plan and Procedures;

- The emergency plan would also need to include notification to the surrounding community, so the evacuation procedures can be implemented at these premises.
- Evacuation Procedure;
- Pollution Incident Response Management Plan;
- Non – compliance and Corrective Action Report Procedure; and
- Change Management Procedure.
- All employees should be trained in the Environmental Safeguard Procedures;
- All employees should be provided with appropriate personal protective equipment;
- Suitable bunding should be provided at local process points and around buildings. These should be re-assessed and modified to contain 68,580 L of firewater as determined previously.
- All unloading operations should be conducted within bunded areas or inside the buildings, when possible.

6.2 Other Issue Assessment

6.2.1 Soils

6.2.1.1 Assessment

With construction disturbing the subject site, risks will arise around the appropriate control or sediment and erosion. Although a temporary consideration, normal construction mitigation measures can be put in place.

Once operational, the site will be contained with all water being collected and treated prior to disposal or re-use. No long term impacts would arise in relation to potential impacts on soils.

6.2.1.2 Mitigation Measures

Appropriate erosion and sediment control measures need to be put in place for the duration of the construction of the facility.

6.2.2 Waste

6.2.2.1 Assessment

The proposed development will generate three streams of waste.

Office waste, although very small in volume, may be generated by on site staff. A commercial waste collection provider can be engaged to provide a regular collection service.

Similarly, waste generated from product and material packaging can also be collected by a commercial contractor on a regular basis.

A small amount of human waste will be generated from the amenities blocks that are proposed to be installed on the site. It is proposed that this waste will be contained within a closed unit, underneath the floor of the amenities block, and will be pumped out by an appropriate commercial contractor when required.

6.2.2.2 Mitigation Measures

Appropriate waste collection arrangements are to be made and confirmed prior to the issue of any Occupation Certificate and submitted to Council.

6.2.3 Natural Hazards

6.2.3.1 Assessment

It is not expected that any natural hazards would be encountered on the site. The site is not prone to flooding, nor bushfire.

6.2.3.2 Mitigation Measures

No mitigation measures required.

6.2.4 Technological Hazards

6.2.4.1 Assessment

There are no obvious technological hazards that relate to the proposed development. Assuming the process is properly operated and the handling of materials is in accordance with Hanwha procedures, it is unlikely there would be any technological hazards.

6.2.4.2 Mitigation Measures

No mitigation measures required.

6.2.5 Safety, Security and Crime Prevention

6.2.5.1 Assessment

The site is isolated and whilst it will be attended to most days, there may be periods where nobody is on the site. Appropriate security measures are proposed to be installed to monitor the site.

6.2.5.2 Mitigation Measures

The site shall be secured through the use of appropriate security fencing. Electronic monitoring should be installed, the appropriate level of that which is required should be determined prior to the issue of an Occupation Certificate and details provided to Council.

6.2.6 Social and Economic Impact

6.2.6.1 Assessment

The proposed development is not expected to result in any negative social or economic impacts. Additional employment will be created in the region and it is expected that, although small, an ongoing contribution to the local economy would arise.

6.2.6.2 Mitigation Measures

No mitigation measures required.

6.2.7 Visual Impact

6.2.7.1 Existing Environment

The subject site is very isolated and is located within the existing Whitehaven Coal buffer area. The nearest privately owned residential dwelling is some 1.4km to the west. The view from that dwelling is relatively obscured by the mere distance to the site.

6.2.7.2 Assessment

The current view however includes the existing precursor plant that appears, practically, on the horizon. The proposed development sits beyond that again, and will be contained within sheds and structures that would otherwise present as regular agricultural structures. In terms of visual impact, it is submitted there would be none.

6.2.7.3 Mitigation Measures

No mitigation measures required.

6.2.8 Construction

6.2.8.1 Assessment

The construction period is expected to be up to three months, although this is yet to be confirmed. Commonly used Council standard conditions of consent would be appropriate to apply to any consent to manage this process.

6.2.8.2 Mitigation Measures

Commonly used Council conditions of consent should be applied to any consent to cover the construction period of the development.

6.2.9 Cumulative Impacts

6.2.9.1 Existing Environment

The only matter of consideration in relation to potential cumulative impacts would be the existing precursor facility within the vicinity of the subject site. No other factors would be relevant to this consideration.

6.2.9.2 Assessment

We are advised that the existing precursor facility is to be dismantled and removed. In any case, the proponent has been successful in supplying the mines in the area with precursor material and this arrangement, we understand, has effectively made the existing facility redundant.

6.2.9.3 Mitigation Measures

No mitigation measures considered necessary for this issue.

7 Mitigation Measures

The following is a combined list of mitigation measures that can be incorporated into any consent for the proposal.

-
- The existing priority line-marking at the intersection of Hoad Lane and the Whitehaven haul road be remarked.
- Appropriate “Truck Turning’ warning signage be provided within the Whitehaven haul road on approach to the facility to alert motorists to the potential for vehicle movements.
- The Transport Risk Management Strategy is to be adopted and function as an overarching document in the formulation of site specific policies.
- A Traffic Management Plan shall be submitted to Narrabri Shire Council prior to the issue of any Construction Certificate.
- Within 6 months from the commencement of normal operations of the plant, an air quality validation report, by an appropriately qualified person, shall be undertaken. The report shall be submitted to the EPA and Narrabri Shire Council within 6 months from the commencement of normal operations of the plant. If the air emissions confirm compliance with the criteria, no further air emission measurements should be required unless substantial complaints are received.
- A complaints handling register shall be included in the sites operational manual. Record keeping shall be in accordance with the EPA’s standard requirements which are included in every Environmental Protection Licence.
- Within 6 months from the commencement of normal operations of the plant, a noise validation Report shall be provided by an appropriately qualified person to Narrabri Shire Council and the EPA. If noise emissions confirm compliance with the criteria, no further noise emission measurements should be required unless substantial complaints are received.
- Ensure protection of native vegetation outside the construction footprint.
- Limit construction duration where possible to reduce indirect impacts to native fauna,
- Control noxious weeds prior to development to avoid the spread of these into adjacent native vegetation, specifically management of African Boxthorn present within the subject site.
- Aboriginal objects are protected under the NPW Act regardless if they are registered on AHIMS or not. If suspected Aboriginal objects, such as stone artefacts are located during future works, works must cease in the affected area and an archaeologist called in to assess the finds. If the finds are found to be Aboriginal objects, the OEH must be notified under section 89A of the NPW Act. Appropriate management and avoidance or approval under a section 90 AHIP should then be sought if Aboriginal objects are to be moved or harmed.
- In the extremely unlikely event that human remains are found, works should immediately cease and the NSW Police should be contacted. If the remains are

suspected to be Aboriginal, the OEH may also be contacted at this time to assist in determining appropriate management.

- The prevention and protection measures in Table 8-2 within the PHA shall be incorporated into the Final Emergency Plan
 - The transport and handling of chemicals and, if applicable, related wastes should be in accordance with the following guidelines:
 - Managing Risks of Hazardous Chemicals in the Workplace – Code of Practice Published by Safe Work Australia
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 - Plant Emergency Shutdown Procedure;
 - Plant Maintenance Procedure;
 - Preventative Maintenance Program;
 - Emergency Response Plan and Procedures;
 - The emergency plan would also need to include notification to the surrounding community, so the evacuation procedures can be implemented at these premises.
 - Evacuation Procedure;
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 - Non – compliance and Corrective Action Report Procedure; and
 - Change Management Procedure.
- All employees should be trained in the Environmental Safeguard Procedures;
- All employees should be provided with appropriate personal protective equipment;
- Suitable bunding should be provided at local process points and around buildings. These should be re-assessed and modified to contain 68,580 L of firewater as determined previously.
- All unloading operations should be conducted within bunded areas or inside the buildings, when possible.

- Appropriate erosion and sediment control measures need to be put in place for the duration of the construction of the facility.
- Appropriate waste collection arrangements are to be made and confirmed prior to the issue of any Occupation Certificate and submitted to Council.
- The site shall be secured through the use of appropriate security fencing. Electronic monitoring should be installed, the appropriate level of that which is required should be determined prior to the issue of an Occupation Certificate and details provided to Council.
- Commonly used Council conditions of consent should be applied to any consent to cover the construction period of the development.

8 Evaluation and Conclusion

The proposed development includes the construction of a precursor facility located at 1216 Braymont Road, Boggabri. Specifically, the proposal seeks approval for the production of some 28,000 tonnes of precursor material, to be delivered by road to four mine sites in the surrounding region. The site will receive some 27,000 tonnes of raw material, to be delivered from Bomen, Sydney, Newcastle and Brisbane.

The application seeks approval for the construction of hard stand areas, installation of plant and office buildings and the ongoing use of the site.

The proposed development has been assessed against the requirements of the relevant Environmental Planning Instruments and is considered to represent a form of development that is acceptable.

The proposal is considered to be permissible within the zone and is not considered to be in conflict with the nature of surrounding rural environment.

In relation to the SEARs, the following commentary is provided in response to each potential issue identified.

Key Issue	Comment
Strategic Context	The proposal is not inconsistent with the strategic planning for the region. Its presence will support and supply the resources industry that is well established in this area.
Air quality	A comprehensive assessment has been undertaken that has concluded there will be no detrimental environmental impacts in this regard. Appropriate measures can be installed on the site that would address any unforeseen incidents.
Noise	The Noise Impact Assessment has concluded there will be no unacceptable impacts on any potential receiver. Appropriate mitigation measures are recommended for the operation of the facility.
Soil	The site is not currently contaminated and no further assessment is required in that regard. The proposed development will be contained, with no perceptible opportunity for any potential contaminants to leave the site.
Traffic and Transport	The traffic generation of this proposed development is considered low and the surrounding network has ample capacity to cater for it. The site has been designed for the truck types that are expected to service the facility. No unacceptable impacts are expected in relation to this issue.
Waste Management	The waste generation from this site and facility is expected to be low and can be adequately handled by commercial contractors.
Visual	Due to the isolation of the site and the extensive separation between it and the nearest privately owned dwelling, the proposed facility will not present as an offensive visual element. The development will be, when viewed from a distance, similar in size and scale to that of a large agricultural building and operation.
Biodiversity	There will be no unacceptable impacts on the biodiversity of the area.
Heritage	There will be no impacts on any heritage aspects of the site or the wider locality.
Hazards and Risk	The proposed development has been considered in the context of hazards and risks and appropriate measures can be put in place, including emergency evacuation procedures, that can be triggered on site in the case of an emergency. The proposed operation is not regarded as being a major hazard facility.

The proposal is considered to not result in a negative or social economic impact in the locality or wider area and is therefore in the public interest.

The potential impacts on the site and locality are low. The site is located within the mine buffer area and for those reasons, along with the imperceptible potential impacts, it is regarded as quite suitable for this use.

Accordingly, it is recommended that the proposed development be approved subject to the imposition of conditions requiring compliance with relevant Codes of Practice, guidelines and regulatory requirements.