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**Pacific Beverages Pty Ltd**  
**Proposed Brewery, Burnet Road,**  
**Warnervale**  
**Preliminary Environmental Assessment**

March 2008





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# 1. Introduction

## 1.1 Overview

GHD Pty Ltd (GHD) has been engaged by Pacific Beverages Pty Ltd (Pacific Beverages) to prepare documentation to support a project application for a proposed brewery at Warnervale (referred to hereafter as 'the proposal'). Pacific Beverages is seeking project approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The brewery will have a capacity of 100 million litres (1 million hectolitres) and is expected to be completed in 2010.

The proposal includes:

- » Brewing facility;
- » External malt and grain storage silos and fermentation/maturation tanks;
- » Packaging facility;
- » Warehouse;
- » External glass bottle storage area;
- » Utilities services;
- » Water and wastewater treatment plant;
- » Two-storey staff offices;
- » Visitor centre including café/restaurant facility and beer tasting facility;
- » Loading and unloading docks;
- » Access roads to accommodate on site vehicle circulation;
- » Car parking spaces; and
- » Associated landscaping.

More information on the proposal is included in Section 3.

## 1.2 Purpose of this report

The aim of this Preliminary Environmental Assessment (PEA) is to provide the Department of Planning (DoP) with information on the project so that the DoP can prepare Director General's Requirements (DGRs) for the Environmental Assessment (EA) under Part 3A of EP&A Act.

The PEA outlines the approvals process for the project, describes the existing environment, and outlines key issues that need to be addressed in the EA report.

## 1.3 The proponent

Pacific Beverages is a 50/50 joint venture between Coca-Cola Amatil Limited (CCA) and SABMiller plc (SABMiller). Based in Sydney, CCA is the largest bottler of non-alcoholic ready to drink beverages in the Asia-Pacific region and one of the top five



Coca-Cola bottlers in the world. CCA operates in Australia, New Zealand, Papua New Guinea, Fiji, and Indonesia and currently employs more than 1,850 people in NSW. SABMiller is one of the world's largest brewers, with brewing interests and distribution agreements in over 60 countries across six continents.

Formed in August 2006, Pacific Beverages imports, markets and distributes SABMiller international premium beer brands including Peroni Nastro Azzurro, Pilsner Urquell, Miller Genuine Draft, and Miller Chill, and holds sales and distribution rights for the Maximum portfolio of premium spirit brands including Remy Martin Cognac, Jim Beam and ABSOLUT VODKA.

Pacific Beverages acquired Bluetongue Brewery Pty Ltd in December 2007. Based in the outskirts of Newcastle, Bluetongue Brewery was launched in November 2003 and has quickly gained a strong following with many high-profile outlets selling its premium beer brands, which include Bluetongue Premium Lager, Bluetongue Premium Light, Bluetongue Traditional Pilsner and Bluetongue Alcoholic Ginger Beer, and Bondi Blonde. Bluetongue sales grew in total by more than 70% in 2007.



## 2. Site location

### 2.1 Site location and context

#### 2.1.1 Regional location

The proposal location is within the Wyong local government area (LGA), approximately 100 km north of Sydney (see Figure 1).

The site is located within the Warnervale Business Park, which is adjacent to the F3 Freeway at Sparks Road (see Figure 2). To the east of the Warnervale Business Park is the Warnervale Aerodrome. This is an operational aerodrome, mostly for charter flights and scenic joy rides. To the north of the Business Park is rural land, while to the west, on the western side of the F3 freeway, is rural residential development. The Porters Creek wetland sits to the south of the Warnervale Business Park.

#### 2.1.2 Strategic context

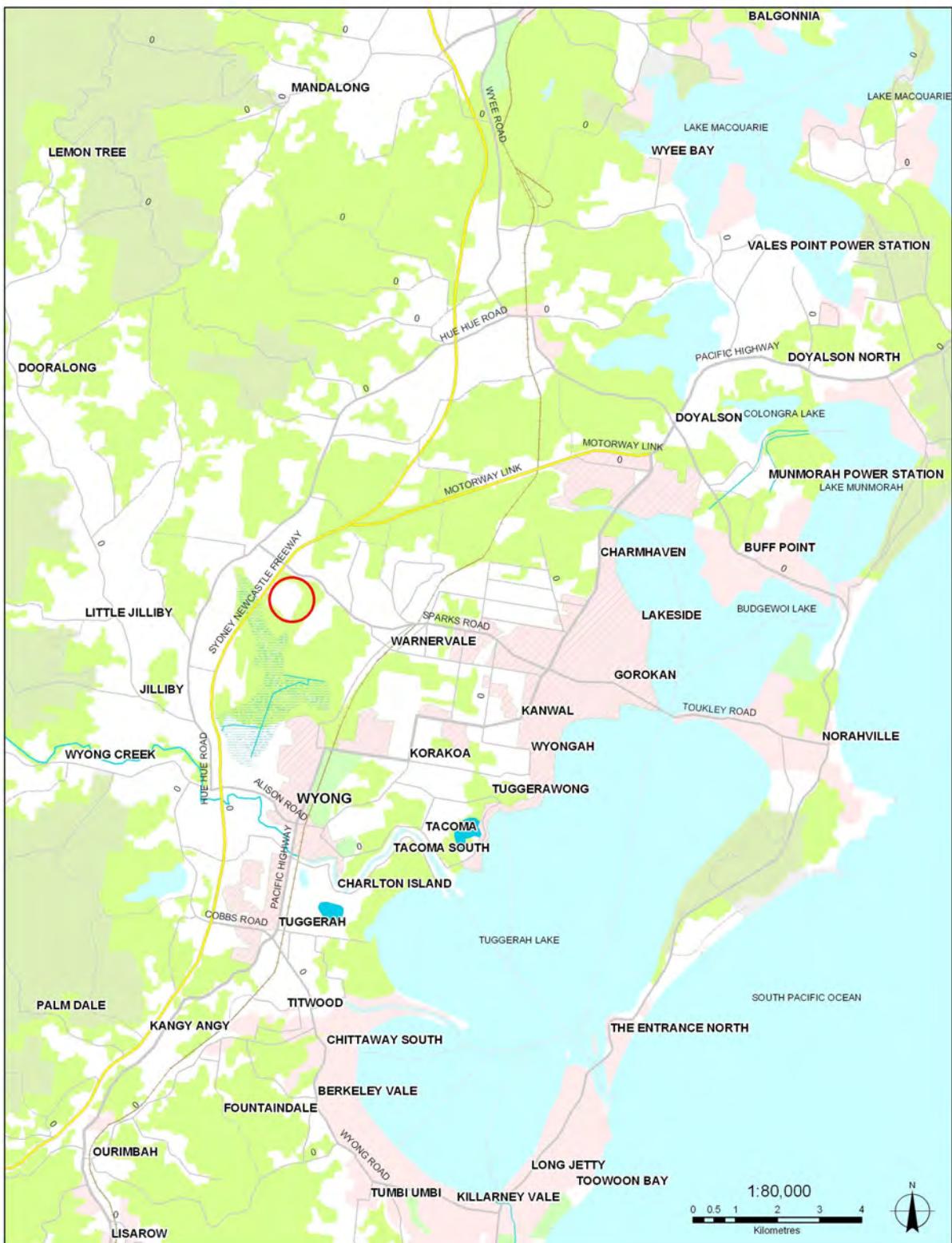
The Warnervale Business Park is identified as part of the Wyong Employment Zone, which is strategically placed between Warnervale Town Centre and the F3 Freeway. The Wyong Employment Zone is regarded as a vital employment opportunity for the Central Coast Region and, in addition to setting away conservation areas, is predicted to generate 6,000 new jobs.

As part of the NSW Government's regional planning initiatives, the Draft Central Coast Regional Strategy (DCCRS) illustrates the vision for future development, growth and desired qualities within the Central Coast region.

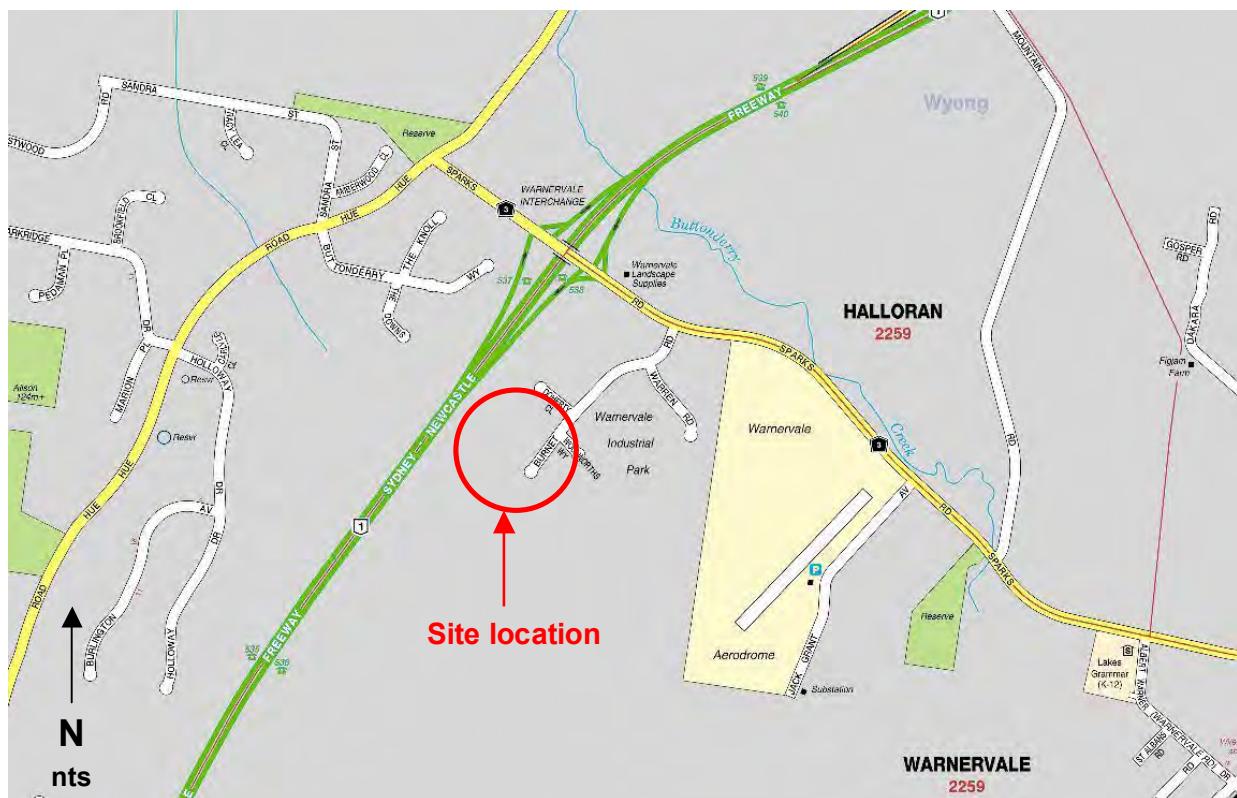
The Wyong Employment Zone is identified in the DCCRS as playing an important role in enhancing the region's economy and employment opportunities in a manner that is efficiently integrated within the natural environment.

Key statements within the DCCRS indicate that the future of the region is heading to:

- » Promote economic growth in the Region to maintain or increase the level of employment self-containment;
- » Ensure that sufficient employment lands and commercial office space is provided in appropriate locations to accommodate growth in existing and emerging industries and businesses; and
- » Provide a balance between future development and important conservation values.



**Figure 1 Regional context**



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**Figure 2 Local context**

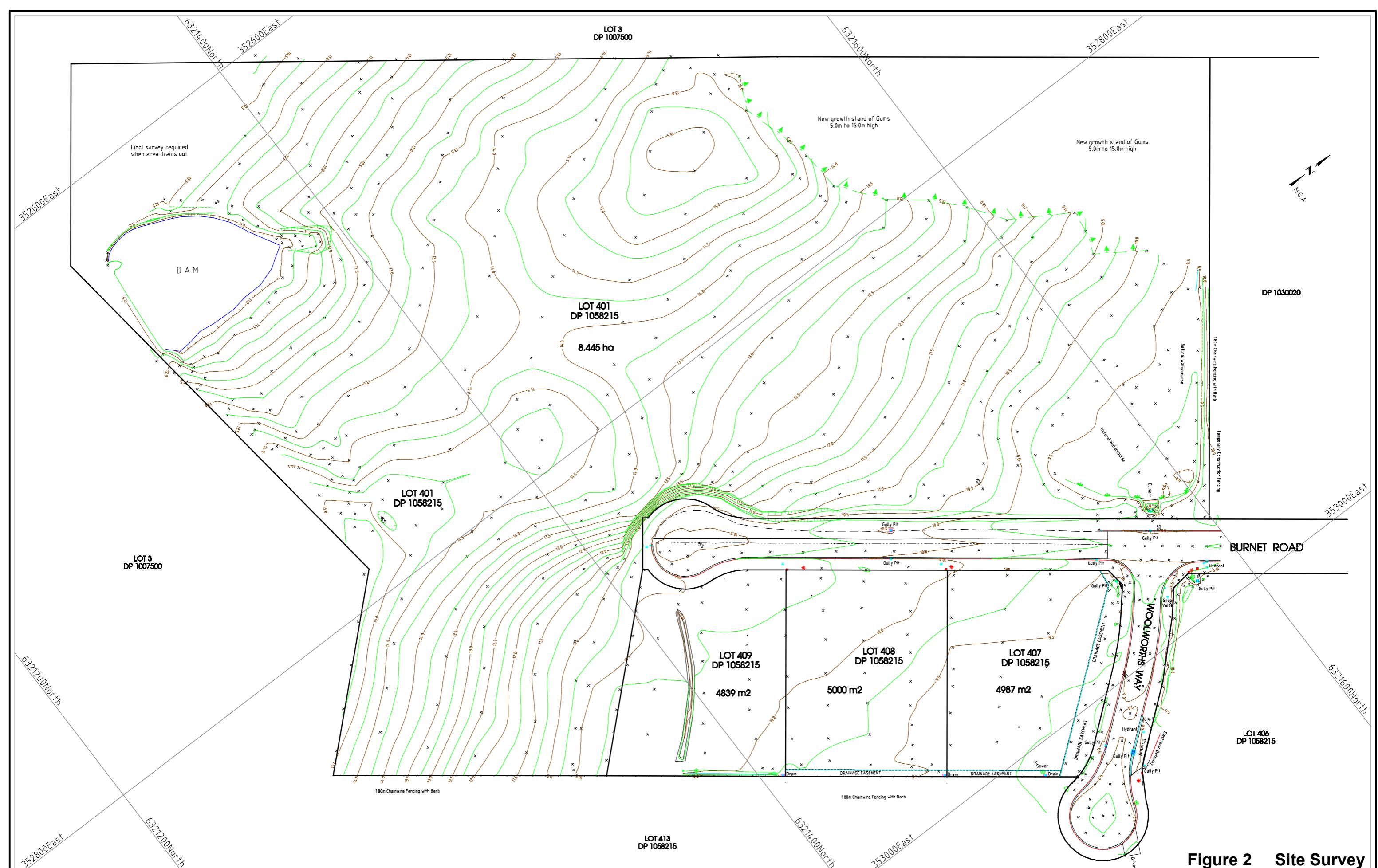
## 2.2 Site description

The subject site is located at the south-western end of Burnet Road. The land is currently zoned Industrial 4(e) Regional Industrial & Employment Zone under the Wyong Local Environment Plan 1991 (WLEP 1991).

The subject site is comprised of four adjoining lots, which are legally described as Lots 401, 407, 408 and 409 in DP 1058215. It is proposed that, subject to Ministerial approval, Burnet Road south of Woolworths Way be closed and transferred to Pacific Beverages, and that the development site will also include that part of Burnet Road. Figure 3 shows the site survey.

The site is an irregular shaped allotment, and has a total area, excluding Burnet Road, of 9.9 hectares (approximately 10 hectares including the future closed section of Burnet Road).

The site is currently vacant. A review of historical aerial photographs indicates that the site has previously been cleared, with a number of areas of scattered regrowth vegetation.



## **Figure 2 Site Survey**



The topography of the site is gently undulating terrain, with a general increase in elevation towards the south. Lots 407, 408 and 409, to the east, are generally flat, while Lot 401 rises approximately 6m from the north-eastern corner to a high point just south of the end of Burnet Road.

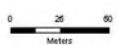
There is a small dam situated in the south-western corner of the site, which was most likely a detention pond used during the original earthworks undertaken during creation of the subdivision, as the dam was not present prior to 1995. An intermittent natural watercourse crosses the north-eastern corner of the site and drains to a culvert under Burnet Road.

Figure 4 shows an aerial photograph of the site.

### **2.3 Surrounding development**

Immediately adjoining the site to the north are industrial allotments, some of which have been developed with light industrial activities including Central Coast Cranes and Linfox truck parking.

To the east is the Woolworths Regional Distribution Centre, which occupies a large allotment of land. To the south and east is bushland which forms part of a conservation zone under the Wyong LEP 1991.

**Legend** Site Boundary

**Figure 4 Aerial photograph of the site**



## 3. The proposal

### 3.1 Overview

Pacific Beverages Pty Ltd is seeking approval to construct a new brewery within Warnervale Business Park. The brewery will facilitate the production and packaging of premium beer brands Bluetongue and Bondi Blonde with the possibility of other brands to follow. The brewery will be a national facility, servicing product demand for all states via the existing CCA distribution network.

At full production, the proposed facility will operate 24 hours per day 7 days per week and is anticipated to produce 100 million litres of beer per annum. The proposed brewery's built form and site configuration is designed as to mirror that of a high quality industrial development that appropriately addresses existing constraints and complements surrounding land uses.

### 3.2 Need for the project

The current Bluetongue Brewery production facility in Cameron Park, NSW, operates at capacity and is site-constrained with no opportunity for substantial or cost-effective expansion. The proposed development is envisioned to play an integral part in improving Pacific Beverage's competitiveness and long-term viability within the Australian market.

The proposed Bluetongue Brewery at Warnervale will:

- » Materially increase the production capacity for the NSW-based Bluetongue and Bondi Blonde brands to grow their market profile and meet national demand, while also providing capacity for the potential production of other premium beers;
- » Provide a new landmark tourist attraction in the established Central Coast / Hunter Valley tourist zone, building on the Hunter Valley's reputation for premium-quality food and beverage manufacture;
- » Allow potential replacement of imported product with local production, including supply of labour, packaging materials and services, thereby reducing overall environmental footprint and potentially benefiting the local manufacturing economy;
- » Reinforce the identity of Wyong Employment Zone as a major employment hub in the region;
- » Progressively create employment opportunities that will benefit the regional economy and contribute to its future growth;
- » Establish facilities to improve energy and water efficiency, reduce waste and pollution and protect the natural environment; and
- » Improve efficiency and patterns of distribution and reduce transportation costs through advantages enjoyed by ready access along the F3 Freeway.



### 3.3 Options considered

Warnervale was selected as the site for the Pacific Beverages brewery at the conclusion of an extensive site evaluation process.

Other locations included in the study, identified on the basis of the availability of industrial-zoned parcels of approximately 10 hectares in area in relative close proximity to major markets, included:

- » Western Sydney (Eastern Creek, Erskine Park, Prestons);
- » Newcastle (Steel River);
- » Kurri Kurri (Hunter Economic Zone);
- » Mooroopna, Victoria; and
- » Richlands, Queensland.

The evaluation process considered the following key criteria:

- » Transport – access / noise / traffic control, parking;
- » Potable water supply;
- » Sewer / waste disposal;
- » Stormwater – flooding / detention;
- » Environmental – flora / fauna / contamination; and
- » Planning - zoning, approval process.

The western Sydney sites were discounted on the basis that potential savings in transport costs for Sydney (NSW) sales volumes for these locations were insufficient to offset the land cost premium and / or the potential lead time for development. The Hunter Economic Zone was not considered suitable due to environmental issues associated with heavy vegetation, remoteness from adjoining development, bush fire risk, and distance to existing major transport corridors. The Steel River location was eliminated due to the lack of a sufficiently large lot, potential geotechnical issues and the risk of contamination posed by former steel industry use.

The Richlands and Mooroopna sites represent surplus land available at two current CCA operating sites, and potentially provided operating cost synergies for a co-located brewery operation. Warnervale was selected ahead of these interstate options due to its close proximity to a major transport corridor (F3 Freeway), cooperative local and state government authorities, and the potential to leverage brand equity, and thereby additional sales, from a continuation of the strong association of the “Bluetongue” brand and the Central Coast / Hunter region. Being an established tourist area, the Central Coast / Hunter region also provides the opportunity for the brewery to become an attraction in its own right, and a means to grow reputation outside of the immediate area.



## 3.4 The proposal

### 3.4.1 Detailed description

The proposed development, at full production, consists of a brewery with a gross floor area (GFA) of approximately 30,000m<sup>2</sup>, and associated servicing, landscaping, car parking and public domain works on the site. Figure 5 shows the proposed site layout.

Specifically the proposed development comprises:

- » Brewing facility, including a mill tower;
- » External malt and grain storage silos and fermentation/maturation tanks;
- » Packaging facility, including a bottle filling line, a bottle/can filling line and a keg filling line;
- » Warehouse;
- » External glass bottle storage area;
- » Utilities services including boilers for steam raising, refrigeration plant, air compressors, carbon dioxide recovery plus water, natural gas and power intake and reticulation;
- » Water and wastewater treatment plant;
- » Two-storey staff offices;
- » Visitor tourist centre including café/restaurant and beer tasting facility;
- » Loading and unloading docks;
- » Access roads to accommodate on site vehicle circulation;
- » Car parking spaces; and
- » Associated landscaping.

The buildings will generally have a maximum height of approximately 12m above finished ground level. The mill tower will have a maximum height of approximately 33m above finished ground level. Indicative elevations are shown in Figure 6.

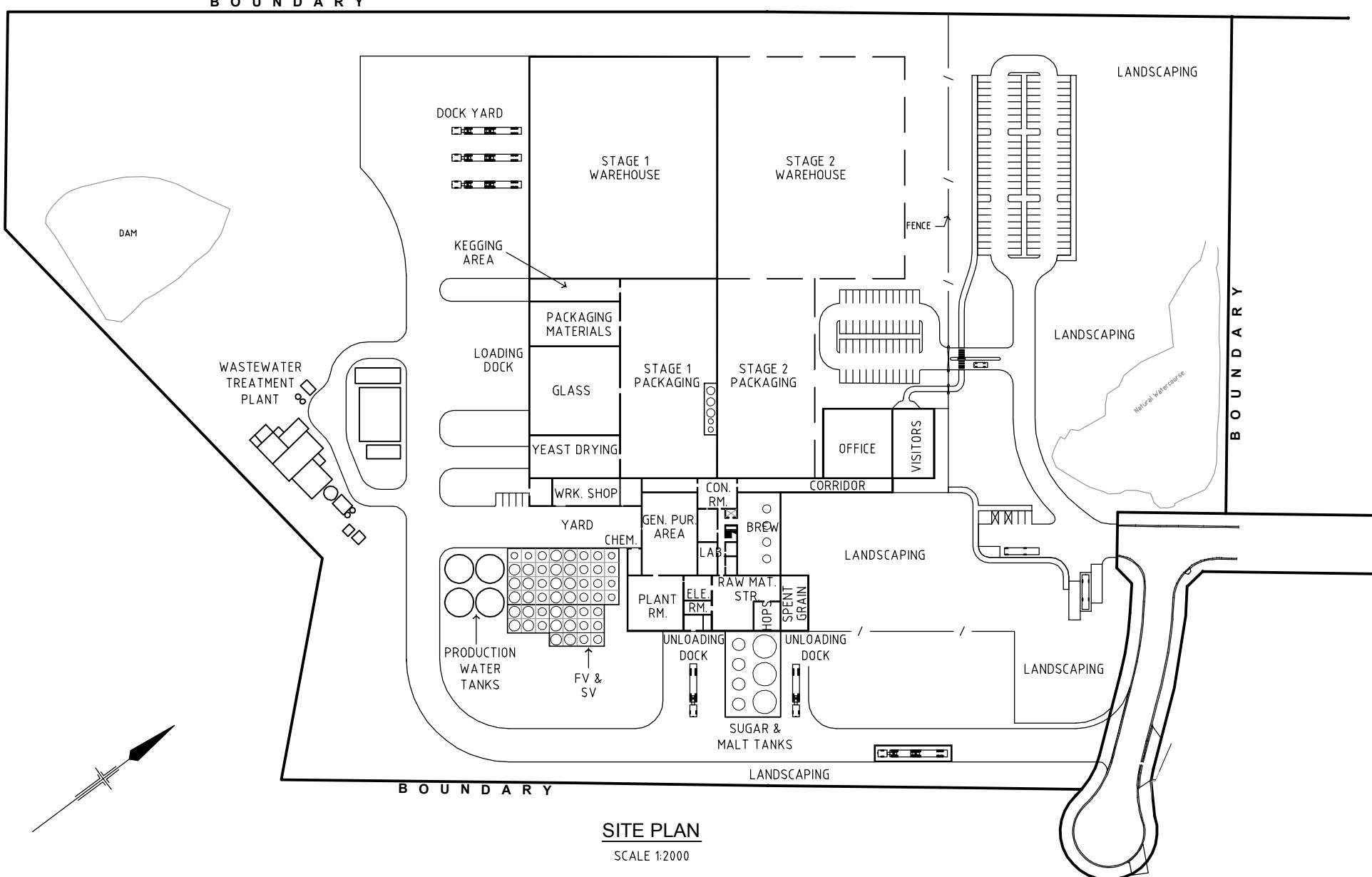
### 3.4.2 Operation

At full production, the proposed development will produce 100 million litres of beer per annum, operating 24 hours per day, 7 days per week.

The Visitor Centre and restaurant facility is likely to operate from Wednesday to Sunday, 10am-4pm.

The estimated full time equivalent employment generated at full production would be 140 direct employees, comprising:

- » 110 production staff;
- » 15 sales and marketing staff; and
- » 15 visitor centre staff.

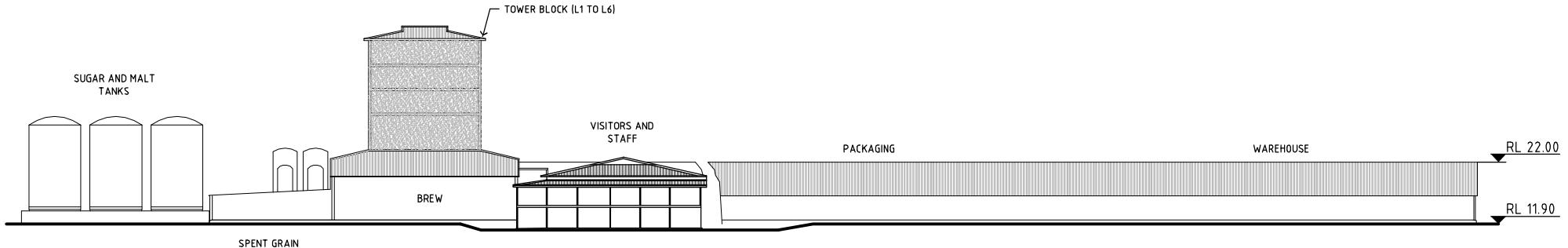


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# Pacific Beverages Blue Tongue Brewery Proposed Site Layout

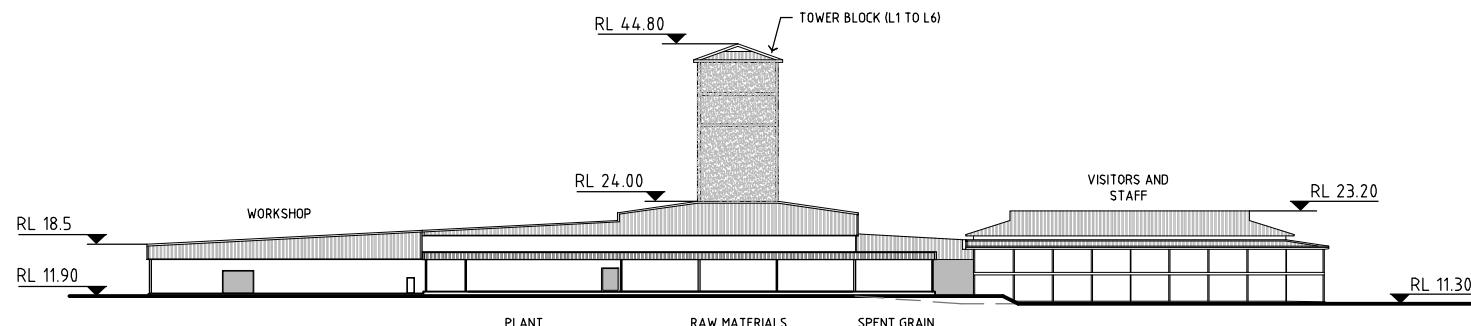
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Figure 5



EAST ELEVATION

SCALE 1:1000



NORTH ELEVATION

SCALE 1:1000



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Pacific Beverages Blue Tongue Brewery  
Proposed Indicative Elevations

job no. | 21-17252  
rev no. | A

Figure 6

scale | 1:1000 for A4 date | Mar 2008

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## **General description of beer production process**

A general description of the beer production process likely to be employed at the Warnervale Brewery is provided below. A process diagram is shown in Figure 7.

### **Materials delivery**

Malted barley (“malt”) is the main source of fermentable material used to make beer. It is delivered by truck to the brewery and transferred to storage silos.

Other raw materials used in the brewing process include hops, yeast and adjuncts (sugars or other grains: maize, for example). Hops and hops extract are stored in temperature controlled conditions. A brewery will typically employ more than one yeast strain, and these are propagated from small amounts maintained in the laboratory. Yeast collected in excess from the fermentation process is stored in tanks stored at cold temperatures for a limited amount of time for later re-use in the fermentation process. Sugar is stored in tanks or silos, and maize is typically delivered and stored in bagged form.

### **Wort Production**

The grain is cleaned and weighed as required and transported to the brewing facility malt tower where it is milled to a “grist”. “Wort” production occurs in the brewhouse and encompasses the process operations combining the malt grist and adjunct prior to fermentation.

Malt grist and water are mixed into mash tuns located within the brewhouse and heated in a controlled manner to produce a malt grist and water slurry known as “mash”. The mashing process converts starches in the grain to fermentable sugars. The mash is then pumped to the lauter tuns within the brewhouse building where the insoluble grains are allowed to settle on a false bottom which acts as a filter bed to separate the liquid, called “wort”, from the insoluble part of the grain (called “spent grain”).

The spent grain is extracted and sold as animal feed.

The final brewhouse operation is the boiling of the wort in kettles. Hops and hop extracts are added at this time depending on the type of beer to be produced. This process stops the starch to sugar conversion, sterilises and concentrates the wort, extracts bitterness and flavour compounds from the hops, and removes undesirable flavours.

After boiling, the hops are strained and the remaining insoluble material is allowed to settle in a vessel known as a whirlpool. The solids are transferred to the spent grain holding tanks and the wort is cooled and transferred to the fermentation tanks.

## STANDARD BREWERY, 1 MILL.HL / YEAR

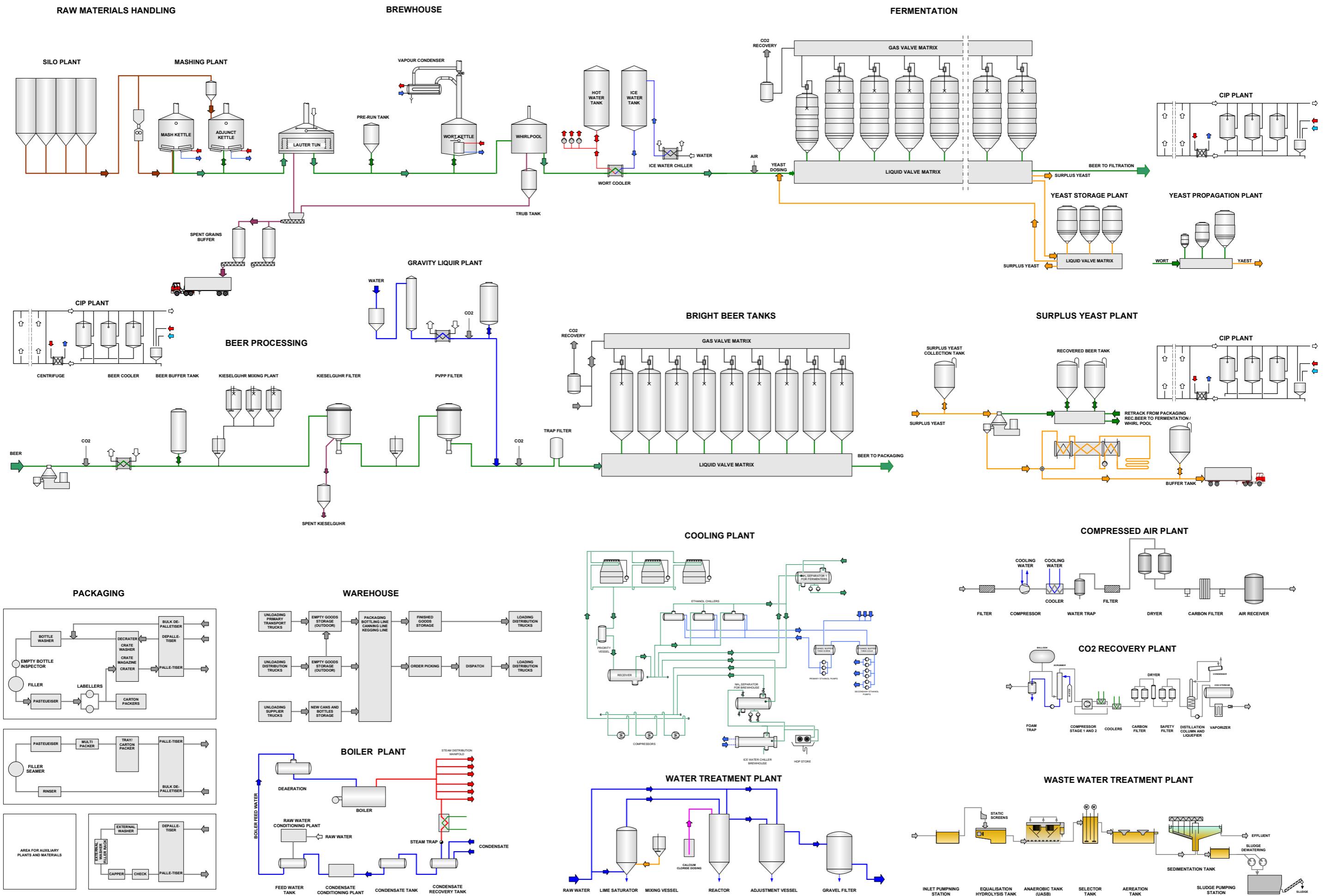


Figure 7 Process flow diagram



### **Fermentation/Maturation**

Fermentation occurs when yeast is added to the cooled wort, converting the sugars in the wort to ethanol and carbon dioxide (CO<sub>2</sub>) within fermentation tanks.

Yeast (either propagated or re-used) is added to the wort within stainless steel fermentation tanks, often located outdoors. The CO<sub>2</sub> generated is recovered for reuse in beer carbonation.

The first fermentation stage, converting the wort to “green beer”, is typically completed within 7-12 days. At this stage of the process, the carbohydrate material is converted to alcohol and CO<sub>2</sub> and various other materials, which contribute to the flavour and character of the beer.

Subsequent maturation or aging removes the last remains of undesirable flavour and aroma components and is controlled at lower temperatures than the first fermentation stage. This occurs over a 5-10 day period within maturation tanks.

### **Beer Processing**

After the primary fermentation, most of the solids (mainly yeast) are removed from the green beer by centrifugation. The waste solids are stored in the surplus yeast tanks and sold as a revenue generating stream. The green beer is further chilled during the centrifugation process.

Following the maturation, the beer is dosed with a filter powder (Diatomaceous Earth (DE)) and filtered, clarifying the beer by removing residual yeast and other solids. The spent DE is partially dried and removed from site as potential by-product or for disposal. At this stage the beer is also carbonated and is “gravity adjusted” (diluted) to final sales beer strength by addition of de-oxygenated water.

The beer product ready for packaging, known as “bright beer”, is stored prior to packaging within Bright Beer Tanks.

### **Packaging**

It is envisaged that this facility will include a bottle filling line, a bottle/can filling line and a keg filling line.

Bottling and canning lines comprise automated mechanical equipment for the operations of bottle/can depalletising, rinsing, filling & capping, pasteurisation, labelling, packing and palletising, plus connecting conveyors and control systems.

A kegging line comprises equipment for keg loading and unloading, washing (externally and internally), filling, weight checking and capping, plus associated keg conveyors.

### **Warehouse**

Pallets of finished products are stored on site in the warehouse before loading for delivery. It is anticipated that the warehouse will handle full pallet deliveries only, for despatch to the national CCA warehouse network and direct delivery to major customer distribution centres. Outbound delivery operations will typically utilise articulated (single or double) vehicles side-loaded by forklift truck.



The warehouse will have a capacity to store approximately 15,000 pallets of finished product.

### **Utilities Services**

The brewing process is supported by a number of key utility services, including boilers for steam raising, refrigeration plant, air compressors, carbon dioxide recovery, plus water, natural gas and power intake and reticulation. It is envisaged that this facility will also employ a waste water treatment process that facilitates reuse of recovered water on certain duties within the brewery.

### **3.5 Construction**

The project would be carried out in two stages.

The first stage involves construction of the brewing facility including tanks, beer processing plant, visitors centre, packaging facility, including a bottle filling line and a keg filling line, warehouse, and utilities plant. This facility would have a production capacity of 50 million litres (0.5 million hectolitres) and would have a GFA of approximately 20,000m<sup>2</sup>.

Construction of Stage One would commence in October 2008 and would take approximately 12 months, as follows:

- » Site preparation, including bulk earthworks and piling – 2 months;
- » Construction of brewery process area – 4 months;
- » Construction of packaging facility, warehouse and visitor centre – 6 months.

Brewery process equipment would be installed while the packaging facility, warehouse and visitor centre are being constructed.

Proposed construction hours are 5am to 8pm, seven days per week. During construction, up to 100 oversize loads would be required to transport tanks and other vessels to the site. Due to RTA and NSW Police requirements, delivery of these oversize loads would need to occur outside of the proposed construction hours.

The peak construction workforce is estimated to be approximately 200 persons.

The second stage would be constructed within five years of initial production, and would involve construction of an additional packaging facility and additional warehouse area, and installation of an additional filling line. At completion of Stage Two, the facility would have a production capacity of 100 million litres (1 million hectolitres) and a GFA of approximately 30,000m<sup>2</sup>.



## 4. Statutory context

### 4.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) forms the statutory framework for planning approval and environmental assessment in NSW.

Implementation of the EP&A Act is the responsibility of the Minister for Planning, statutory authorities and local councils.

The EP&A Act contains three schemes that impose requirements for planning approval:

- » Part 3A provides for control of 'major projects' that require approval from the Minister for Planning;
- » Part 4 provides for control of 'local development' that requires development consent from the local Council; and
- » Part 5 provides for control of 'activities' that do not require approval or development consent under Part 3A or Part 4.

The need or otherwise for development consent is set out in environmental planning instruments – State Environmental Planning Policies (SEPPs), Regional Environmental Plans (REPs) or Local Environmental Plans (LEPs).

Major projects to which Part 3A applies are identified in *State Environmental Planning Policy (Major Projects) 2005*, as well as in declarations made by the Minister for Planning. As discussed in Section 4.3.1, the proposal is identified in clause 3 of the *State Environmental Planning Policy (Major Projects) 2005* as a project to which Part 3A would apply as the proposal is for a brewery that would employ 100-120 people and has a capital investment (excluding land) of approximately \$100 million.

In accordance with clause 75B of the EP&A Act, Part 3A of the Act applies to the proposal. As a result, the Minister for Planning is the approval authority for the proposal, and an environmental assessment is required to support the application for development approval. This preliminary assessment has been prepared to initiate this process.

According to Section 75R(3) of the EP&A Act, for projects declared to be a project to which Part 3A applies, the Minister may declare that only State environmental planning policies apply.

Section 75U(1) of the EP&A Act specifies certain authorisations which are not required for an 'approved project' under Part 3A, namely:

- (a) the concurrence under Part 3 of the Coastal Protection Act 1979 of the Minister administering that Part of the Act,
- (b) a permit under section 201, 205 or 219 of the Fisheries Management Act 1994,
- (c) an approval under Part 4, or an excavation permit under section 139, of the Heritage Act 1977,



- (d) a permit under section 87 or a consent under section 90 of the National Parks and Wildlife Act 1974,
- (e) an authorisation referred to in section 12 of the Native Vegetation Act 2003 (or under any Act to be repealed by that Act) to clear native vegetation,
- (f) a permit under Part 3A of the Rivers and Foreshores Improvement Act 1948,
- (g) a bush fire safety authority under section 100B of the Rural Fires Act 1997,
- (h) a water use approval under section 89, a water management work approval under section 90 or an activity approval under section 91 of the Water Management Act 2000.

Section 75A defines 'approved project' as 'a project to the extent that it is approved by the Minister under this Part, but does not include a project for which only approval for a concept plan has been given'. Consequently, these approvals would not be required if the Minister grants project approval to carry out the project under Part 3A.

Under Section 75V(1) of the EP&A Act, the following authorisations cannot be refused if necessary for the carrying out of an 'approved project' and are to be substantially consistent with an approval to carry out the project given under Part 3A:

- » An environment protection licence under Chapter 3 of the *Protection of the Environment Operations Act 1997*; and
- » A consent under s138 of the *Roads Act 1993*.

## **4.2 Other regulatory licences and approvals that may be required**

### **4.2.1 Protection of the Environment Operations Act 1997**

Activities for which a licence is required under the *Protection of the Environment Operations Act 1997* (POEO Act) are detailed in Schedule 1 of the Act.

Schedule 1 includes:

*Breweries or distilleries that produce alcohol or alcoholic products and that have an intended production capacity of more than 30 tonnes per day or 10,000 tonnes per year.*

The proposal would fit within this category and therefore a licence under the POEO Act would be required.

Other general requirements of the POEO Act that are relevant to the proposal include:

- » Any hazardous waste must be stored in an environmentally safe manner and not come into contact with any incompatible waste;
- » Waste must be transported only to a controlled waste facility, or to a waste facility that can lawfully receive waste;
- » Transport vehicles must be kept in a clean condition and be constructed and maintained so as to prevent waste spillage;



- » Transport vehicles must be covered when loaded so as to prevent spilling and loss of waste and to prevent emission of odours; and
- » The waste transport must have a licence to transport waste.

#### **4.2.2 Roads Act 1993**

The proposal involves construction on a public road, being part of Burnet Road. It is proposed that this part of Burnet Road would be closed upon receiving approval for development. However, as Burnet Road is currently a public road, the provisions of the *Roads Act 1993* have been considered.

Section 138 of the Roads Act states:

- (1) *A person must not:*
- (a) *erect a structure or carry out a work in, on or over a public road, or*
  - (b) *dig up or disturb the surface of a public road, or*
  - (c) *remove or interfere with a structure, work or tree on a public road, or*
  - (d) *pump water into a public road from any land adjoining the road, or*
  - (e) *connect a road (whether public or private) to a classified road,*  
*otherwise than with the consent of the appropriate roads authority.*

The proposal involves erecting a structure on a public road, as well as digging up the surface of a public road. Therefore, approval from Wyong Council (as the roads authority for Burnet Road) would be required.

However, as the road will be closed upon receiving approval for the development, this approval would not be required.

### **4.3 State Environmental Planning Policies**

#### **4.3.1 State Environmental Planning Policy (Major Projects) 2005**

Major projects are defined by clause 6 of *State Environmental Planning Policy (Major Projects) 2005* as:

*'Development that, in the opinion of the Minister, is development of a kind:*

- (a) *Described in Schedule 1 or 2, or*
- (b) *Described in Schedule 3 as a project to which Part 3A of the Act applies,*  
*is declared to be a project to which Part 3A of the Act applies.'*

Clause 3 of Schedule 1 of the SEPP states that the following development is a major project:

*Development that employs 100 or more people or has a capital investment value of more than \$30 million for any of the following purposes:*



- (a) abattoirs or meat packing, boning or products plants; milk or butter factories; fish packing, processing, canning or marketing facilities; animal or pet feed; gelatine plants; tanneries; wool scouring or topping; rendering plants, or
- (b) cotton gins; cotton seed mills; sugar mills; sugar refineries; grain mills or silo complexes; edible or essential oils processing; breweries; distilleries; ethanol plants; soft drink manufacture; fruit juice works; canning or bottling works; bakeries; small goods manufacture, cereal processing or margarine manufacturing; wineries, or
- (c) organic fertiliser plants or composting facilities or works, or
- (d) any purpose that the Minister considers constitutes an agricultural produce industry or food and beverage processing.

As the proposed use of the site is a brewery that is to employ approximately 140 people and has a capital investment of \$120 million, the proposal is therefore considered a major project, and requires the approval of the Minister for Planning under Part 3A of the *Environmental Planning and Assessment Act 1979*.

#### **4.3.2 State Environmental Planning Policy (Infrastructure) 2007**

*State Environmental Planning Policy (Infrastructure) 2007* came into operation on 1 January 2008. One of the aims of the SEPP is to provide for consultation with relevant public authorities about certain development during the assessment process or prior to development commencing.

Clause 104 of SEPP (Infrastructure) relates to traffic generating development, and applies to development of a size or capacity specified in Schedule 3 of the SEPP.

Schedule 3 identifies industrial activities with an area of 20,000m<sup>2</sup> or greater. The proposed brewery will have a GFA of approximately 30,000m<sup>2</sup> at full production. As such, the proposal falls within the development identified in Schedule 3 of the SEPP.

Clause 104(3) states that, before determining a development application for development identified in Schedule 3, the consent authority must:

- (a) give written notice of the application to the RTA within 7 days after the application is made, and
- (b) take into consideration:
  - (i) any submission that the RTA provides in response to that notice within 21 days after the notice was given (unless, before the 21 days have passed, the RTA advises that it will not be making a submission), and
  - (ii) the accessibility of the site concerned, including:
    - (A) the efficiency of movement of people and freight to and from the site and the extent of multi-purpose trips, and
    - (B) the potential to minimise the need for travel by car and to maximise movement of freight in containers or bulk freight by rail, and



(iii) any potential traffic safety, road congestion or parking implications of the development.

As such, the Department of Planning will be required to consult with the RTA, and the Environmental Assessment will need to address the matters in Clause 104(3)(b).

#### **4.3.3 State Environmental Planning Policy No. 14 – Coastal Wetlands**

*State Environmental Planning Policy No. 14 – Coastal Wetlands* aims to ensure that the coastal wetlands are preserved and protected, and applies to identified coastal wetlands. The SEPP contains restrictions on the development of land within identified coastal wetlands.

The Porters Creek wetland to the south of the site is identified as a coastal wetland under SEPP 14. No part of the site falls within the area identified as a coastal wetland.

#### **4.3.4 State Environmental Planning Policy No. 33 – Hazardous and Offensive Development**

*State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP No. 33) relates to potentially hazardous and offensive developments. The proposed brewery is likely to be considered a potentially hazardous industry under the SEPP, given the dangerous goods storage on site. Risks and hazard assessment is discussed in Section 5.1.3.

The brewery is also likely to be considered a potentially offensive development given the potential for noise and air emissions. An Environment Protection Licence under the Protection of the Environment (Operations) Act 1997 will be required for the proposed brewery.

#### **4.3.5 State Environmental Planning Policy No. 55 – Remediation of Land**

*State Environmental Planning Policy No. 55 – Remediation of Land* (SEPP 55) applies to the State and provides a Statewide planning approach to the remediation of contaminated land.

Clause 7 of SEPP 55 states:

- (1) A consent authority must not consent to the carrying out of any development on land unless:
  - (a) it has considered whether the land is contaminated, and
  - (b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and
  - (c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

As discussed in Section 5.2.3, a contamination assessment has been carried out, which concluded that the site does not appear to have been historically used for any



activity with a potential to generate gross contamination. Chemical testing of soils on the site identified no evidence of any contaminants exceeding the applicable thresholds for commercial or industrial land use.

As such, the site is considered to be suitable for the proposed use and no remediation is required.

#### **4.4 Regional Environmental Plans**

No Regional Environmental Plans apply to the site.

#### **4.5 Local Environmental Plans**

##### **4.5.1 Wyong Local Environmental Plan 1991**

Wyong Local Environmental Plan 1991 (the LEP) applies to the site. The site is zoned 4 (e) – Regional Industrial and Employment Development Zone under the LEP.

Under the provisions of Zone 4(e) the proposed development is permissible with development consent, as the use of the site for the purpose of a brewery is not listed under the provisions of Zone 4(e) as either development without consent or prohibited development.

#### **4.6 Development Control Plans and Policies**

##### **4.6.1 Warnervale Business Park – Development Control Plan No. 73**

The Warnervale Business Park DCP applies to all land zoned 4(e) – Regional Industrial and Employment Development under the Wyong LEP 1991.

The following is a list of the provisions that would need to be considered as relevant during the preparation of the Environmental Assessment:

- » Subdivision;
- » Site cover;
- » Setbacks;
- » Building heights;
- » Design and construction;
- » Materials and colours;
- » Outdoor business activities;
- » Signs (works in conjunction with DCP 50);
- » Land adjoining the airport;
- » Parking and access (works in conjunction with DCP 61);
- » Flora and fauna;
- » Landscaping;



- » Noise criteria;
- » Hazard minimisation;
- » Bushfire management;
- » Soil conservation;
- » Total water management;
- » Waste management;
- » Energy efficiency; and
- » Services.

#### **4.6.2 Car parking – Development Control Plan No. 61**

The Car Parking DCP sets out standards by which car parking shall be provided within the Wyong LGA. This DCP would be considered as relevant during the preparation of the Environmental Assessment.

#### **4.6.3 Guidelines for Advertising Signs – Development Control Plan No. 50**

The Guidelines for Advertising Signs DCP sets out standard by which the erection of advertising signs within the Wyong LGA. This DCP would be considered as relevant during the preparation of the Environmental Assessment.

### **4.7 Commonwealth legislation**

#### **4.7.1 Environmental Protection and Biodiversity Conservation Act 1999**

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) prescribes the Commonwealth's role in environmental assessment, biodiversity conservation and the management of protected areas and species, populations and communities and heritage items.

The approval of the Commonwealth Minister of Environment and Heritage is required for:

- » An action which has, will have or is likely to have a significant impact on "matters of National Environmental Significance" (NES matters). The current NES matters include:
  - The world heritage values of a declared World Heritage property;
  - The National Heritage values of a listed National Heritage place;
  - The ecological character of a declared Ramsar wetland;
  - Listed threatened species and ecological communities;
  - Listed migratory species;
  - The Commonwealth marine environment; and
  - Nuclear actions.
- » An action by the Commonwealth or a Commonwealth agency which has, will have or is likely to have a significant impact on the environment;



- » An action on Commonwealth land which has, will have or is likely to have a significant impact on the environment; or
- » An action which has, will have or is likely to have a significant impact on the environment on Commonwealth land, no matter where it is to be carried out.

Based on a preliminary assessment, the proposal is not expected to have a significant impact on any NES matters, or on Commonwealth land. As such, the proposal is unlikely to require a referral to the Commonwealth Minister for Environment under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*. However this will be further considered as the project progresses.

#### **4.7.2 Civil Aviation Safety Regulations 1998**

As the site is located near Warnervale Aerodrome, the provisions of the *Civil Aviation Safety Regulations (CASR) 1998* are relevant.

Part 139 of the Manual of Standards of the CASR relates to aerodromes, and Chapter 7 relates to obstacle restriction and limitation.

The Obstacle Surface Limitation Map for Warnervale Aerodrome indicates that the maximum height of buildings on the site is RL 52.6m AHD. The proposal has a maximum height of RL 44.8m AHD, which is below the obstacle height limitation surface.



## 5. Environmental risk assessment

This section provides a brief overview of existing information on key environmental features. It identifies potential issues that will require detailed studies in the environmental assessment, and provides an outline of the scope of studies that will be undertaken as part of the environmental assessment process.

### 5.1 Key issues

#### 5.1.1 Air quality

##### Existing Environment

The site is currently vacant and is not impacting on air quality. As the surrounding area is predominantly rural, the area around the site can be considered to have good air quality with very few sources of air pollution located in the vicinity of the site. The main contributors to possible air pollution in the area are traffic on the F3 freeway, trucks entering and exiting the Woolworths Distribution Centre, Warnervale Aerodrome and various small scale businesses located within the Warnervale Business Park.

The nearest sensitive receivers are rural dwellings located to north of Sparks Road and rural residential dwellings located to the west of the F3 Freeway.

##### Potential Impact

The proposed brewery will result in emissions associated with:

- » Point source emissions from the boiler stack;
- » Emissions from the brewhouse stacks; and
- » Fugitive process emissions from process losses and spills.

Emissions that are expected to occur include odour, H<sub>2</sub>S, ethanol and particulates. In addition, products of combustion (NO<sub>2</sub>, CO, PM<sub>10</sub>, SO<sub>2</sub>) are expected from boiler stack emissions.

In addition, the proposal will result in additional truck movements, and air quality is likely to be impacted by vehicle emissions.

##### Proposed Response

An air quality assessment would be undertaken in order to assess the impacts of the proposed brewery on air quality. The following tasks will be undertaken:

###### 1. Emissions Inventory

A thorough understanding of the activities will be used to develop an emissions inventory. Point sources (stacks) and volume sources are expected. The process description will be used to define the associated release parameters (i.e. exit velocity, stack temperature etc.)



## 2. Meteorological data

A site representative 12-month meteorological data file, to Ausplume format, will be developed taking account of the following:

- Norah Head has a Bureau of Meteorology (BoM) Automatic Weather Station (AWS) with half hourly observations of temperature, wind speed and direction. This AWS has operated since 1989. Warnervale Aerodrome may have recorded meteorological data.
- Additional data is required to obtain modelling input concerning the atmospheric stability (including vertical mixing height). Cloud data from the Norah Head lighthouse was available until October 2004. These 3-hourly observations may have been restricted to just 5 observations per day in latter years but as many as 7-per-day earlier. An overlapping period of maximum cloud observations and AWS data will be found to complete a one-year dataset. Mixing heights will be derived by calculating a mechanical mixing height varying with wind speed.

## 3. Background air quality

As this is a green-fields site, background levels of odour, hydrogen sulfide and ethyl alcohol will be assumed to be zero. Background levels for fine particulates and class 1 constituents ( $\text{NO}_2$ , CO,  $\text{SO}_2$ ; also known as products of combustion) will be obtained from Department of Environment & Climate Change (DECC) for an equivalent site.

## 4. Dispersion modelling

AUSPLUME V6.0 is an approved dispersion model. The site is flat enough that terrain effects are not expected to be significant; however, Egan half-height modelling approach can be used for elevated receptors. Plumes will be from point sources (stacks) or volume sources without the confounding effect of buoyant line plumes. No significant coastal effects are expected. Pollutant transformations need not be considered.

Process-specific constituents that will be modelled are expected to include odour,  $\text{H}_2\text{S}$ , ethanol and particulates. In addition, products of combustion ( $\text{NO}_2$ , CO,  $\text{PM}_{10}$ ,  $\text{SO}_2$ ) will be modelled from boiler stack emissions.

Output will be presented as contour plots of predicted peak levels for each constituent with the corresponding EPA-NSW design criteria noted.

## 5. Reporting

A report suitable for inclusion in the Environmental Assessment will be produced using the above methodology. This will involve predicted Ground Level Concentration (GLCs) around the plant, displayed as contour plots superimposed on an aerial photograph. Comparisons against the impact assessment criterion will be reported.



### 5.1.2 Noise

#### Existing environment

Currently the site is vacant and therefore does not generate any noise. As the surrounding area is predominantly rural, the ambient noise environment is considered to be relatively quiet. Surrounding land uses that contribute to background noise levels at the site are:

- » Traffic on the F3 Freeway;
- » Woolworths Distribution Centre, in particular truck movements;
- » Other small businesses located within the Warnervale Business Park; and
- » Warnervale Aerodrome.

Sensitive receivers in the vicinity of the site are rural dwellings located to north of Sparks Road and rural residential dwellings located to the west of the F3 Freeway, as well as a rural property to the south of the Warnervale Business Park. The nearest sensitive receivers are approximately 500m from the proposed site, on the western side of the F3 Freeway.

#### Potential impacts

The proposal is expected to have noise impacts during construction and operation.

During construction, noise impacts will be generated by construction equipment, as well as traffic movements, including those oversize loads that are required to occur during evening and night time due to RTA and NSW Police requirements.

Noise impacts during operation will be generated by machinery used to brew and package the beer. Operational noise impacts will also be generated by traffic movements for delivery of raw materials and distribution of finished product.

#### Proposed response

A noise impact assessment will be undertaken in order to assess the impacts of the proposed brewery on noise. The following tasks will be undertaken during the noise impact assessment:

- » Noise monitoring of the existing environment. This will include:
  - Based on an initial desktop review of the site, it is proposed unattended noise monitoring be undertaken for a period of 1 week at 3 locations in the vicinity of the site to establish the background noise environment. Preferred locations shown in Figure 8.
  - Attended noise measurements will be undertaken at the noise monitoring locations to supplement the unattended measurements; and
  - Noise data will be assessed and filtered to remove invalid noise data due to extraneous noise or adverse weather conditions.



**Legend**

Site Boundary   Noise Testing Locations

0 100 200  
Meters



**Figure 8 Proposed noise monitoring locations**

- » Undertake a construction noise assessment with consideration to the *NSW DECC Environmental Noise Control Manual - Chapter 171*. This will include:
  - Review construction program and equipment;



- Determine equipment noise source level;
  - Determine construction noise goals;
  - Generate noise model and predict noise associated with construction works at the sensitive receivers;
  - Assess predicted noise levels against construction noise goals; and
  - Outline in-principle noise mitigation measures to address any exceedences to the adopted noise goals.
- » Undertake an operational noise assessment with consideration to the NSW DECC *Industrial Noise Policy*. This will include:
- Review site plans and equipment;
  - Determine equipment noise source level;
  - Determine operational noise goals;
  - Generate noise model and predict noise associated with operations at the sensitive receivers;
  - Assess predicted noise levels against the operational noise goals; and
  - Outline in-principle noise mitigation measures to address any exceedences to the adopted noise goals.
- » Undertake a road traffic noise assessment with consideration to the NSW DECC *Environmental Criteria for Road Traffic Noise*. This will include:
- Review road traffic data;
  - Determine road traffic noise goals;
  - Predict existing road traffic noise level;
  - Predict future road traffic noise levels generated by the proposed development;
  - Assess predicted noise levels against the road traffic noise goals; and
  - Outline in-principle noise mitigation measures to address any exceedences to the adopted noise goals.

### 5.1.3 Traffic and transport

#### Existing environment

Entry to the Warnervale Business Park is located 500 metres east of the F3 Freeway on the southern side Sparks Road, at Burnet Road. The site of the proposed brewery is located at southern end of Burnet Road.

As the site is currently vacant, it does not generate any traffic. Surrounding land uses within the Warnervale Business Park generate considerable volumes of traffic, in particular:

- » Woolworths Distribution Centre;
- » Linfox parking lot; and
- » Concrete batch plant.



The Woolworths Distribution Centre would account for most traffic entering the Warnervale Business Park, including the Burnet Road/Sparks Road intersection. However, access to the Distribution Centre is generally via Warren Street, which is 100 metres south of Sparks Road. Traffic generated by the Woolworths Distribution Centre generally does not enter the southern end of Burnet Road.

### Potential impacts

During the construction of the site, a large number of heavy vehicles would be required for the delivery of materials and the removal of waste. Due to the size of tanks and other vessels required, up to 100 oversize loads (200 oversize movements) will be required. These oversize loads would need to occur outside of the proposed construction hours. Construction workers would also generate additional traffic through private cars coming to the site.

During operation the proposal will increase the number of vehicles entering the surrounding network. Many of these vehicles will be trucks that will continually deliver material to the brewery as well as removing the final product for distribution. Workers and visitors to the site will also generate additional traffic on the surrounding road network.

Traffic operational numbers have been estimated at 75 heavy vehicles per day (150 total heavy vehicle movements) and 200 passenger vehicles, including visitors (400 passenger vehicle movements).

Given the anticipated large volume of traffic generated by the Woolworths Regional Distribution Centre, there are likely to be cumulative impacts on the surrounding road network as a result of the additional traffic generated by the proposal.

### Proposed Response

A traffic and transport assessment would be undertaken in order to assess the impacts the new brewery will have on the surrounding traffic network. The following steps will be undertaken:

1. Review of Existing Data, Documentation and Scoping
  - » Review documentation and plans for the Wyong Employment Zone and the Wyong Shire LGA relating to relevant planning strategies, policies and control affecting the Study Area;
  - » Review of RTA data and project reports for similar developments relating to the proposed link to the road network;
  - » Identify key transport and related issues, constraints (such as the interaction with the Woolworths Distribution Centre), opportunities and requirements for the site;
  - » Confirm existing land uses and current planning controls;
  - » Identify new and proposed developments (land use and infrastructure) within the influence area that will impact the study area;
  - » Identify traffic and transport generation for the proposal, including:
    - forecast production volumes

- average truck loads
- time variation of dispatch and arrival
- directional distribution of empty and loaded trucks
- employee traffic generation
- parking requirements.

## 2. Organise Surveys, Collect and Analyse Data

It is anticipated that the following surveys are necessary to characterise the existing traffic environment (including traffic generated by the Woolworths Regional Distribution Centre):

- » Traffic volume counts (tube counts – 7 days/24 hours) along Sparks Road between Burnet Road and the Sydney-Newcastle Freeway;
- » Traffic volume counts (tube counts – 7 days/24 hours) along Burnet Road between Sparks Road and the Woolworths Distribution Centre;
- » Intersection counts at the Sparks Road – Burnet Road intersection (peak period).

## 3. Estimate of Traffic Generation

To assess and confirm trip generation by the proposed development (arrivals and departures):

- » Review RTA traffic generation rates applied for the specified land use developments and compare with data from other traffic studies / surveys undertaken for similar developments;
- » Apply traffic generation rates to proposed land use areas and calculate generated traffic for each nominated stage of future development for the site;
- » Review modal distribution of employee traffic and verify potential mode share.

## 4. Alternative Transport Modes

To identify initiatives for alternative transport modes for the employee traffic, and to identify an appropriate mode share target for the development:

- » Review and assess existing public transport services, and identify current bus initiatives, in terms of scheduling, routing and patronage;
- » Identify public transport initiatives to cater for future traffic demand;
- » Review mode forecasts in light of forecasts for cycling (Council & RTA), parking, public transport (Ministry of Transport, bus operators, etc.) for the subregion;
- » Identify mode share thresholds to minimise infrastructure investment;
- » Review and assess existing cycle networks and pedestrian links to the area and within the development;
- » Recommend public transport service improvements (bus routes – internal and external, bus stop locations, pedestrian access, cycle route connectivity);
- » Identify development controls and public domain improvements to support sustainable transport modes (i.e. walking, cycling and public transport).

## 5. Assess Impact of Proposed Development

To assess the traffic / transport impacts of the proposed development:

- » Distribute generated trips from the proposed development;
- » Prepare two scenarios for testing;
- » Assess intersection performance (using SIDRA Intersection) with the proposed land use;
- » Assess internal site circulation and movement.

## 6. Construction Traffic Impact

Assess the impacts of the project's construction phase on the transport / traffic network:

- » Confirm phasing / staging of construction activities and schedules;
- » Estimate likely construction traffic generation;
- » Identify likely impacts of construction traffic.

## 8. Transport Capacity Assessment

To assess the future capacity of the transport network taking into consideration the estimated natural traffic growth and the traffic generated from the proposed development.

- » Identify the extent of spare capacity in the local transport network to cater for additional traffic demands to be generated by the proposed development;
- » Identify potential traffic improvement measures in order to alleviate any capacity problems for the local network, identified in the above assessment;
- » Identify requirements for proposed access and circulation;
- » Identify heavy vehicle controls and restrictions;
- » Provide recommendations for traffic speed control and intersection controls/configurations.

### 5.1.4 Flora and fauna

#### Existing environment

The site is predominately cleared with grasses making up the majority of the flora that is found on site. A concentration of regrowth vegetation can be found surrounding the intermittent watercourse that is located in the northern part of the site. The southern part of the site also contains a concentration of regrowth vegetation, which is located around a small dam.

The site is bounded to the west and south by a conservation zone that was established as part of site-specific controls for the Warnervale Business Park. Established trees are located within this conservation zone and form part of a corridor which is to be preserved to allow the movement of fauna species, as well as to provide a buffer from the F3 Freeway.

To the south of the site is the Porters Creek wetland, which is listed as a SEPP 14 wetland.

Available literature, background information and searches of databases pertaining to the site and locality (i.e. 10 km radius) were reviewed and included. A summary of these searches is discussed below. Appendix A contains the results of both searches discussed below, they highlight the threatened flora and fauna species that are known to occur within the vicinity of the site.

#### *DECC NSW Wildlife Atlas*

A search of the DECC NSW Wildlife Atlas database has revealed that threatened species have not been recorded on the site.

The searched highlighted that 12 threatened species of flora and 41 threatened species of fauna are located within the 10 kilometre search radius. The following threatened flora species are located in close proximity of the site (within approximately 500m of the site):

- » *Grevillea parviflora* subsp. Parviflora;
- » *Tetrapanax juncea*; and
- » *Angophora inopina*.

The following threatened fauna species have been recorded in close proximity to the site:

- » Wallum Froglet.
- » Giant Barred Frog;
- » Masked Owl;
- » Yellow-tailed Sheathtailed-bat;
- » Eastern Bentwing-bat; and
- » Koala.

It is specifically noted that the flora and fauna assessment for the Wyong Employment Zone State Significant Site Study (Wyong Council, 2008) recorded the occurrence of the Wallum Froglet in or adjacent to the north-eastern corner of the site, where the intermittent watercourse is located.

#### *Department of Environment, Water, Heritage and the Arts (DEWHA) Protected Matters Search Tool for Matters of NES (EPBC Act)*

A search of the EPBC Act database has revealed that 26 threatened species and 16 migratory species are likely to occur within a 10 kilometre radius of the site.

#### **Potential impacts**

Although the site is largely cleared, the proposal would require further clearing of regrowth vegetation. The proposal is also likely to have direct and indirect impact on the existing waterbodies, being the small dam in the south-western corner of the site and the intermittent watercourse in the north-western corner.



The proposal is also likely to generate off-site impacts in terms of stormwater runoff, both during construction and operation.

### **Proposed response**

An ecological impact assessment of the proposed brewery will be undertaken. This assessment will meet the necessary legislative requirements including, but not limited to:

- » NSW *Threatened Species Conservation Act 1995* (TSC Act); and
- » Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The flora and fauna assessment will consider the existing environment, assess the likely impacts of the proposal on flora and fauna and propose appropriate mitigation measures.

The flora and fauna assessment will:

- » Detail the existing environment of the proposed brewery site, including the presence of species of conservation concern and these will include:
  - Rare or Threatened Australian Plants (RoTAP);
  - Species, populations and communities listed under the TSC Act; and
  - Species, populations and communities listed under the EPBC Act.
- » Undertake field surveys for important species, such as listed threatened species or those likely to occur if suitable habitat is present;
- » Report and map the extent and current condition of vegetation communities and fauna habitat in the specified study area;
- » Note the area and extent of noxious weed invasion present in the specified study area;
- » Identify any areas of particular conservation significance in or near the specified study area;
- » Determine likely impacts of the proposal on fauna and flora values of the specified study area;
- » Make recommendations as to the need for referral to DEWHA under the EPBC Act; and
- » Propose management actions to mitigate impacts on the biodiversity values of the specified study area.

### **5.1.5 Bushfire**

#### **Existing environment**

Vegetation to the west and south of the site is identified as Category 1 vegetation under the Wyong Shire Council's bushfire prone land mapping. The 100m buffer to this vegetation extends into the site. As such, the site is bushfire prone land, and a bushfire assessment will be required.

### **Proposed response**

A bushfire assessment will be undertaken, and will include the following tasks:

- » Assess maps of bushfire prone land for the site held by Council;
- » Undertake an analysis of the vegetation category, bushfire issues and hazards, and flora and fauna habitat features within the proposal area and surrounding broader environment (natural and human);
- » Conduct a field assessment to identify bushfire issues for the site and determine potential fire protection zones and any measures that are required or appropriate;
- » Identify and address any bushfire constraints at the site or requirements consistent with *Planning for Bushfire Protection (2006)* and incorporating consideration of potential flora and fauna impacts; and
- » Prepare a bushfire assessment report including recommendations as to the compatibility of development concept in relation to bushfire risk.

### **5.1.6 Hydrology and flooding**

#### **Existing environment**

As noted previously, the topography of the site is gently undulating terrain, with a general increase in elevation towards the south. Lots 407, 408 and 409, to the east, are generally flat, while Lot 401 rises approximately 6m from the north-eastern corner to a high point just south of the end of Burnet Road.

An intermittent natural watercourse crosses the north-eastern corner and drains to a culvert under Burnet Road. This intermittent watercourse is not a prescribed stream. There is a small dam situated in the south-western corner of the site, which was most likely a detention pond used during the original earthworks undertaken during creation of the subdivision, as the dam was not present prior to 1995. Both the steam and the existing dam will not be impacted by the proposed development.

The site is not affected by flooding (Wyong Shire Council, Wyong Employment Zone State Significant Site Study, January 2008).

#### **Potential impacts**

The construction of the proposal would require clearing and substantial earthworks to occur in order to make the site suitable for the proposal. This clearing and earthworks would leave the site vulnerable to erosion for the 12 month construction period.

The existing small dam is proposed to remain in situ, and is likely to be used for stormwater drainage purposes. The intermitted watercourse is not proposed to be altered, however may also be used for stormwater drainage purposes.

The proposal will result in an increase in impervious area, which will therefore increase stormwater runoff during operation.

### **Proposed response**

An erosion and sedimentation control plan will be prepared, outlining the measures to be implemented during construction.



The existing drainage network will be reviewed, and the interface of the proposed drainage design for the new plant and equipment with the existing network will be assessed with reference to Wyong Shire Council requirements.

Where relevant, existing and proposed spill reduction and spill containment measures will also be described.

### **5.1.7 Hazards**

#### **Potential Impacts**

The brewery will store and use a number of dangerous goods, including ammonia, caustic soda (NaOH), acids and natural gas.

#### **Proposed Response**

A Preliminary Hazard Analysis would be undertaken in accordance with AS 4360:2004 Risk Management and *State Environmental Planning Policy 33 – Hazardous and Offensive Development*.

The following tasks will be undertaken:

- » Review of the concept design and clarifications for the proposed facility;
- » Risk register generation and review of client input;
- » Risk Screening in accordance with *State Environmental Planning Policy 33 – Hazardous and Offensive Development*;
- » PHAST or SAFETY model for risk contour for identified event/s; and
- » Reporting.

### **5.1.8 Energy and Greenhouse gas**

#### **Potential impacts**

The proposed brewery would access gas and electrical services through connections to the local WEZ supply. Greenhouse gases would be produced indirectly through the consumption of gas and electricity from these services required for the operation of gas-fired boilers for steam generation and general use of electrical power associated with a beer production facility.

Another source of greenhouse gases that the site would process is the additional trucks that will enter the area to deliver materials required for production to remove complete product for distribution.

#### **Proposed response**

A greenhouse assessment will be prepared in accordance with the general principles of:

- » The recognised international standard – the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* developed by the World Business Council for Sustainable Development (GHG Protocol);

- » The Draft Guidelines from the NSW Department of Infrastructure, Planning and Natural Resources (2002) *Energy and Greenhouse in EIA* (Level 2 Assessment required);
- » Life Cycle Assessment principles (ISO 14040 series); and
- » The Australian Government Department of Climate Change (DCC) *National Greenhouse Accounts (NGA) Factors* (January 2008).

These are considered to represent best practice in Australian greenhouse gas accounting.

The following tasks would be undertaken to calculate the greenhouse gas emissions associated with the project in accordance with the methodology outlined in the Draft Guidelines *Energy and Greenhouse in EIA*:

#### *Information review*

Information will include estimates for each emission source including raw material acquisition, production, transportation and use.

Depending on the boundaries that are selected, other information may be required. Priority will be given to obtaining credible information for the components likely to result in the highest emissions, and therefore account for significant fractions of the total inventory.

Wherever possible, measurements with high accuracy will be used to calculate greenhouse gas emissions. For example, electricity consumption figures can be multiplied by the DECC's current emission factors to calculate greenhouse gas emissions with a high degree of accuracy. When data is unavailable or inaccessible in a convenient format, assumptions and approximations must be made in order to obtain a reasonable estimate. For example, emissions factors for some of the materials used in beer manufacture may not be readily available, and these will need to be estimated based on the best available information. Recognised standards, such as the World Business Council Greenhouse Gas Protocol, will be used to assist in these estimations.

#### *Greenhouse Assessment*

The following tasks will be undertaken to develop the greenhouse assessment:

- » Define an appropriate scope for the greenhouse gas assessment, considering the possible emission sources of greenhouse gases, including carbon dioxide, nitrous oxide, methane, perfluorocarbons, hydrofluorocarbons and sulphur hexafluoride (SF6);
- » Identify relevant aspects of energy use and emissions;
- » Identify and apply appropriate emission factors from the current DCC NGA Factors workbook;
- » Identify and apply appropriate factors for raw materials and other emission sources where available;
- » Outline the calculation procedures used to create the greenhouse gas emissions inventory;



- » Convert energy consumption data into quantities of carbon dioxide equivalent emissions for each emissions source, and sum these values to estimate the total greenhouse gas emissions attributable to the project; and
- » Estimate the overall accuracy and comment on the sensitivity of the greenhouse assessment to possible changes that could occur during operation.

### **5.1.9 Water consumption**

#### **Potential impacts**

The proposed brewery will use water as an input to the brewing process. It is anticipated that this water will be supplied by the Gosford/Wyong Councils' Water Authority.

The proposed brewery will target worlds' best practice in relation to water consumption. A full onsite recycling process will enable wastewater to be re-used as general purpose process water and as grey water, thereby reducing overall water consumption, with an aim of using less than 3 litres of water input for every litre of beer output.

#### **Proposed response**

The Environmental Assessment will present a water balance and describe the proposed water saving initiatives in greater detail.

### **5.1.10 Consultation**

#### **Stakeholder consultation**

Consultation with a number of stakeholders has already commenced.

Discussions have been held with Wyong Shire Council as landowner. Preliminary discussions have also been held with NSW Department of State and Regional Development, NSW Tourism and the NSW Roads and Traffic Authority.

Further consultation would take place with these agencies during the preparation of the Environmental Assessment.

#### **Community consultation**

Consultation would be undertaken with the community during the preparation of the EA, it is proposed to prepare and distribute a brief newsletter, along with a feedback form, to nearby residents and industrial businesses.

The newsletter would introduce the project, and provide the community with the opportunity to identify issues that should be addressed in the EA. A second newsletter would also be prepared to announce the exhibition of the EA.

In addition, a project website would be established, to provide additional information on the project.

A project infoline (1800 number), email contact facility and reply paid post would be established.



A database management system would be established to manage contacts and issue information received throughout the project.

A brief report would be prepared for inclusion in the Environmental Assessment, summarising the stakeholder and community consultation process, along with the key issues raised during consultation.

## **5.2 Other issues to be addressed by management measures**

### **5.2.1 Visual impacts**

#### **Existing Environment**

The visual impact of the site is currently minimal as the site is cleared and contains no buildings.

The site is located within an industrial zone and is surrounded by other industrial units. The largest visual impact from the site is the Woolworths Regional Distribution Centre which is a large building located to the east of the site. To the west of the site is the F3 Freeway that has no visual impact on the site due to a vegetation corridor located between the site and the freeway acting as a buffer zone.

#### **Potential impacts**

The proposal would not impact on its surrounding uses as it will be in the character of an industrial zone.

The surrounding land uses not located within the business park would not be visually impacted upon by the proposal, due to the Warnervale Business Park having a natural buffer zone consisting of vegetation of between 5 and 15m in height.

#### **Proposed response**

An analysis of visual impacts will form part of the EA. A landscaping plan would also be prepared and submitted with the EA.

### **5.2.2 Indigenous Heritage**

A search of the Aboriginal Heritage Information Management System (AHIMS) register indicated that no known sites of Indigenous archaeological significance are located within the site.

The site was part of a broader study area that was the subject of an archaeological investigation for sites of Indigenous cultural heritage undertaken by Archaeological Surveys and Reports Pty Ltd in March 2004, as part of the Wyong Employment Zone State Significant Site Study (Wyong Council, 2008). This study identified no sites or relics of cultural significance on the site of the proposed brewery.

Figure 9 shows an aerial view of earthworks that were undertaken in around 2004 during the construction of roads and services for the Business Park.

This figure shows that the majority of the site has been heavily disturbed by these earthworks, as well as clearing and mulching with chipped vegetation. As such, the

likelihood of finding any Indigenous archaeological material is considered to be low. No further assessment of Indigenous archaeological impacts is proposed.



**Figure 9    Aerial view of site clearing and earthworks, circa 2004**

### **5.2.3    Non-indigenous Heritage**

A search on the State Heritage Register revealed no items of non-indigenous heritage exists within the suburb of Warnervale.

Items listed by the Wyong Shire Council include the Methodist Church and a Shop/Residence development along Warnervale Road. Both of these items are located over 3 kilometres away from the site.

It is unlikely that the site will impact on any non-indigenous heritage sites due to the distance they are from the site, and no further assessment is proposed.

### **5.2.4    Soil Contamination**

#### **Existing environment**

An initial (desktop) review was undertaken, supplemented via the excavation and sampling of soil from forty (40) test pits, positioned across the Site on an approximate grid-basis.

Collected soil samples were analysed by a NATA certified testing laboratory for a broad suite of chemical contaminants, plus asbestos.

On the basis of results obtained, the following conclusions are made:



- » The site does not appear to have been historically used for any activity with a potential to generate “gross” contamination.
- » Whilst the site has been subject to some filling, this appears to have occurred relatively recently. Where used, fill material comprises mainly clay and sand (with occasional organic mulch), none of which exhibited physical evidence of potential contamination.
- » Chemical testing of the site soils identified no evidence of any contaminants exceeding the applicable thresholds for commercial or industrial land use.

It is concluded that currently, no evidence exists to suggest that the site is subject to soil contamination that would pose a constraint to its future development for commercial or industrial purposes.

#### **Proposed response**

As the site does not contain any contamination and is meets the applicable thresholds for industrial land use, no further assessment is proposed.

#### **5.2.5 Acid Sulphate Soil Mapping**

##### **Existing environment**

A desktop study using the Dooralong Acid Sulphate Soil Risk Map – Edition Two (Land and Water Conservation, 1997), indicates the site is mapped as “No known occurrence of acid sulphate soil materials”.

The mapping does indicate a “low probability” of acid sulphate soils at depths of 1 to 3m below ground level in the alluvial in filled drainage feature to the immediate north of the site.

##### **Potential impacts**

The proposal will result in the disturbance of soils, including likely disturbance of the intermittent watercourse for the purposes of constructing sedimentation ponds.

##### **Proposed response**

An Acid Sulphate Soils management plan would be prepared to address any potential acid sulphate soils impacts.

#### **5.2.6 Other issues**

The EA will also address the following other issues:

- » Cumulative impacts; and
- » Ecologically sustainable development.



## 6. Conclusion

Pacific Beverages proposes to construct a new brewery at Warnervale. The proposal is a 'Major Project' in accordance with *State Environmental Planning Policy (Major Projects) 2005* and therefore requires approval from the Minister for Planning under Part 3A of the *Environmental Planning and Assessment Act 1979*.

This report provides a description of the proposed development, and presents a concept project description in order to inform the Environmental Assessment process.

The preliminary environmental assessment contained in this document identifies environmental issues that will require further assessment and the methods proposed for assessing these issues as part of the detailed Environmental Assessment.

This document acts as a formal request to the Department of Planning for the Director-General's Environmental Assessment requirements for this proposal.

Upon receipt of the Director General's Requirements, Pacific Beverages will undertake a detailed Environmental Assessment and submit it to the Department of Planning as part of formal application for project approval.



## Appendix A

# Database searches

EPBC Act database search  
DECC database search



## EPBC Act database search

A search of the Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Database reveals that the subject site is situated within an area containing 26 threatened species of flora and fauna and 16 migratory species of fauna.

### Flora

**Table A1 EPBC Act threatened flora species likely to occur in the study area**

Species	Level of threat	Likelihood of occurrence
<i>Acacia bynoeana</i> * Bynoe's Wattle, Tiny Wattle	Vulnerable	Species or species habitat likely to occur within area
<i>Angophora inopina</i> *	Vulnerable	Species or species habitat likely to occur within area
<i>Caladenia tessellata</i> * Thick-lipped Spider-orchid, Daddy Long-legs	Vulnerable	Species or species habitat likely to occur within area
<i>Cryptostylis hunteriana</i> * Leafless Tongue-orchid	Vulnerable	Species or species habitat may occur within area
<i>Eucalyptus camfieldii</i> * Camfield's Stringybark	Vulnerable	Species or species habitat likely to occur within area
<i>Grevillea parviflora</i> subsp. <i>parviflora</i> *	Vulnerable	Species or species habitat likely to occur within area
<i>Melaleuca biconvexa</i> * Biconvex Paperbark	Vulnerable	Species or species habitat likely to occur within area
<i>Prostanthera askania</i> Tranquillity Mintbush	Endangered	Species or species habitat may occur within area
<i>Prostanthera slateri</i> Somersby Mintbush	Endangered	Species or species habitat may occur within area
<i>Rhizanthella slateri</i> * Eastern Underground Orchid	Endangered	Species or species habitat may occur within area
<i>Syzygium paniculatum</i> Magenta Lilly Pilly, Magenta Cherry, Pocketless Brush Cherry, Scrub Cherry, Creek Lilly Pilly, Brush Cherry	Vulnerable	Species or species habitat likely to occur within area
<i>Tetraptheeca juncea</i> *	Vulnerable	Species or species habitat likely to occur within area



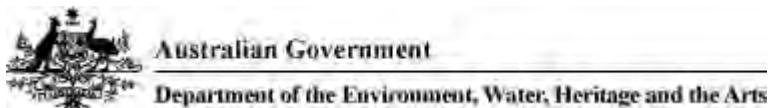
## Fauna

**Table A2 EPBC Act threatened and migratory fauna species likely to occur in the study area**

<b>Species</b>	<b>Level of threat</b>	
<i>Lathamus discolor</i> *	Endangered	Species or species habitat may occur within area
Swift Parrot		
<i>Rostratula australis</i> *	Vulnerable	Species or species habitat may occur within area
Australian Painted Snipe		
<i>Xanthomyza phrygia</i> *	Endangered	Species or species habitat likely to occur within area
Regent Honeyeater		
<i>Heleioporus australiacus</i> *	Vulnerable	Species or species habitat likely to occur within area
Giant Burrowing Frog		
<i>Litoria aurea</i> *	Vulnerable	Species or species habitat may occur within area
Green and Golden Bell Frog		
<i>Litoria littlejohni</i> *	Vulnerable	Species or species habitat may occur within area
Littlejohn's Tree Frog, Heath Frog		
<i>Mixophyes balbus</i> *	Vulnerable	Species or species habitat likely to occur within area
Stuttering Frog, Southern Barred Frog (in Victoria)		
<i>Mixophyes iteratus</i> *	Endangered	Species or species habitat likely to occur within area
Southern Barred Frog, Giant Barred Frog		
<i>Chalinolobus dwyeri</i> *	Vulnerable	Species or species habitat may occur within area
Large-eared Pied Bat, Large Pied Bat		
<i>Dasyurus maculatus</i> <i>maculatus</i> (SE mainland population)*	Endangered	Species or species habitat may occur within area
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)		
<i>Petrogale penicillata</i> *	Vulnerable	Species or species habitat may occur within area
Brush-tailed Rock-wallaby		
<i>Potorous tridactylus</i> <i>tridactylus</i> *	Vulnerable	Species or species habitat may occur within area
Long-nosed Potoroo (SE mainland)		
<i>Pteropus poliocephalus</i> *	Vulnerable	Species or species habitat likely to occur within area
Grey-headed Flying-fox		



<b>Species</b>	<b>Level of threat</b>	
<i>Hoplocephalus bungaroides</i> * Broad-headed Snake	Vulnerable	Species or species habitat likely to occur within area
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle	Migratory	Species or species habitat likely to occur within area
<i>Hirundapus caudacutus</i> White-throated Needletail	Migratory	Species or species habitat may occur within area
<i>Merops ornatus</i> * Rainbow Bee-eater	Migratory	Species or species habitat may occur within area
<i>Monarcha melanopsis</i> Black-faced Monarch	Migratory	Breeding may occur within area
<i>Myiagra cyanoleuca</i> Satin Flycatcher	Migratory	Breeding likely to occur within area
<i>Rhipidura rufifrons</i> Rufous Fantail	Migratory	Breeding may occur within area
<i>Xanthomyza phrygia</i> Regent Honeyeater	Migratory	Species or species habitat likely to occur within area
<i>Ardea alba</i> Great Egret, White Egret	Migratory	Species or species habitat may occur within area
<i>Ardea ibis</i> Cattle Egret	Migratory	Species or species habitat may occur within area
<i>Calidris acuminata</i> Sharp-tailed Sandpiper	Migratory	Species or species habitat may occur within area
<i>Charadrius mongolus</i> Lesser Sand Plover, Mongolian Plover	Migratory	Species or species habitat may occur within area
<i>Gallinago hardwickii</i> * Latham's Snipe, Japanese Snipe	Migratory	Species or species habitat may occur within area
<i>Rostratula benghalensis</i> s. <i>lat.</i> Painted Snipe	Migratory	Species or species habitat may occur within area
<i>Apus pacificus</i> Fork-tailed Swift	Migratory	Species or species habitat may occur within area



## Protected Matters Search Tool

You are here: [Environment Home](#) > [EPBC Act](#) > [Search](#)

7 March 2008 11:04

# EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Information on the coverage of this report and qualifications on data supporting this report are contained in the [caveat](#) at the end of the report.

You may wish to print this report for reference before moving to other pages or websites.

The Australian Natural Resources Atlas at <http://www.environment.gov.au/atlas> may provide further environmental information relevant to your selected area. Information about the EPBC Act including significance guidelines, forms and application process details can be found at <http://www.environment.gov.au/epbc/assessmentsapprovals/index.html>

**Search Type:** Point

**Buffer:** 10 km

**Coordinates:** -33.23399,151.422444

Map of Search Region including any Buffer

Thumbnail Map of Search Region

This map may contain data which are  
© Commonwealth of Australia  
(Geoscience Australia)  
© 2007 MapData Sciences Pty Ltd, PSMA

**Report Contents:** [Summary](#)

[Details](#)

[Matters of NES](#)

[Other matters protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgments](#)

## Summary

## Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance - see <http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html>.

<b>World Heritage Properties:</b>	None
<b>National Heritage Places:</b>	None
<b>Wetlands of International Significance: (Ramsar Sites)</b>	None
<b>Commonwealth Marine Areas:</b>	None
<b>Threatened Ecological Communities:</b>	None
<b><u>Threatened Species:</u></b>	26
<b><u>Migratory Species:</u></b>	16

## Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage/index.html>.

Please note that the current dataset on Commonwealth land is not complete. Further information on Commonwealth land would need to be obtained from relevant sources including Commonwealth agencies, local agencies, and land tenure maps.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species. Information on EPBC Act permit requirements and application forms can be found at <http://www.environment.gov.au/epbc/permits/index.html>.

<b><u>Commonwealth Lands:</u></b>	3
<b>Commonwealth Heritage Places:</b>	None
<b><u>Places on the RNE:</u></b>	3
<b><u>Listed Marine Species:</u></b>	14
<b>Whales and Other Cetaceans:</b>	None
<b>Critical Habitats:</b>	None
<b>Commonwealth Reserves:</b>	None

## Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

<b>State and Territory Reserves:</b>	None
<b>Other Commonwealth Reserves:</b>	None

Regional Forest Agreements:

1

**Details****Matters of National Environmental Significance**

Threatened Species [ <a href="#">Dataset Information</a> ]	Status	Type of Presence
<b>Birds</b>		
<a href="#"><i>Lathamus discolor</i></a> *	Endangered	Species or species habitat may occur within area
Swift Parrot		
<a href="#"><i>Rostratula australis</i></a> *	Vulnerable	Species or species habitat may occur within area
Australian Painted Snipe		
<a href="#"><i>Xanthomyza phrygia</i></a> *	Endangered	Species or species habitat likely to occur within area
Regent Honeyeater		
<b>Frogs</b>		
<a href="#"><i>Heleioporus australiacus</i></a> *	Vulnerable	Species or species habitat likely to occur within area
Giant Burrowing Frog		
<a href="#"><i>Litoria aurea</i></a> *	Vulnerable	Species or species habitat may occur within area
Green and Golden Bell Frog		
<a href="#"><i>Litoria littlejohni</i></a> *	Vulnerable	Species or species habitat may occur within area
Littlejohn's Tree Frog, Heath Frog		
<a href="#"><i>Mixophyes balbus</i></a> *	Vulnerable	Species or species habitat likely to occur within area
Stuttering Frog, Southern Barred Frog (in Victoria)		
<a href="#"><i>Mixophyes iteratus</i></a> *	Endangered	Species or species habitat likely to occur within area
Southern Barred Frog, Giant Barred Frog		
<b>Mammals</b>		
<a href="#"><i>Chalinolobus dwyeri</i></a> *	Vulnerable	Species or species habitat may occur within area
Large-eared Pied Bat, Large Pied Bat		
<a href="#"><i>Dasyurus maculatus maculatus (SE mainland population)</i></a> *	Endangered	Species or species habitat may occur within area
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)		
<a href="#"><i>Petrogale penicillata</i></a> *	Vulnerable	Species or species habitat may occur within area
Brush-tailed Rock-wallaby		
<a href="#"><i>Potorous tridactylus tridactylus</i></a> *	Vulnerable	Species or species habitat may occur within area
Long-nosed Potoroo (SE mainland)		
<a href="#"><i>Pteropus poliocephalus</i></a> *	Vulnerable	Roosting known to occur within area
Grey-headed Flying-fox		
<b>Reptiles</b>		
<a href="#"><i>Hoplocephalus bungaroides</i></a> *	Vulnerable	Species or species habitat likely to occur within area
Broad-headed Snake		
<b>Plants</b>		
<a href="#"><i>Acacia bynoeana</i></a> *	Vulnerable	Species or species habitat likely to occur within area
Bynoe's Wattle, Tiny Wattle		
<a href="#"><i>Angophora inopina</i></a> *	Vulnerable	Species or species habitat likely to

		occur within area
<i>Caladenia tessellata</i> *	Vulnerable	Species or species habitat likely to occur within area
Thick-lipped Spider-orchid, Daddy Long-legs		
<i>Cryptostylis hunteriana</i> *	Vulnerable	Species or species habitat may occur within area
Leafless Tongue-orchid		
<i>Eucalyptus camfieldii</i> *	Vulnerable	Species or species habitat likely to occur within area
Camfield's Stringybark		
<i>Grevillea parviflora</i> subsp. <i>parviflora</i> *	Vulnerable	Species or species habitat likely to occur within area
<i>Melaleuca biconvexa</i> *	Vulnerable	Species or species habitat likely to occur within area
Biconvex Paperbark		
<i>Prostanthera askania</i> *	Endangered	Species or species habitat likely to occur within area
Tranquility Mintbush		
<i>Prostanthera junonis</i> *	Endangered	Species or species habitat likely to occur within area
Somersby Mintbush		
<i>Rhizanthella slateri</i> *	Endangered	Species or species habitat may occur within area
Eastern Underground Orchid		
<i>Syzygium paniculatum</i> *	Vulnerable	Species or species habitat likely to occur within area
Magenta Lilly Pilly, Magenta Cherry, Pocket-less Brush Cherry, Scrub Cherry, Creek Lilly Pilly, Brush Cherry		
<i>Tetrapetra juncea</i> *	Vulnerable	Species or species habitat likely to occur within area
Migratory Species [ <a href="#">Dataset Information</a> ]	Status	Type of Presence

**Migratory Terrestrial Species****Birds**

<i>Haliaeetus leucogaster</i>	Migratory	Species or species habitat likely to occur within area
White-bellied Sea-Eagle		
<i>Hirundapus caudacutus</i>	Migratory	Species or species habitat may occur within area
White-throated Needletail		
<i>Merops ornatus</i> *	Migratory	Species or species habitat may occur within area
Rainbow Bee-eater		
<i>Monarcha melanopsis</i>	Migratory	Breeding may occur within area
Black-faced Monarch		
<i>Myiagra cyanoleuca</i>	Migratory	Breeding likely to occur within area
Satin Flycatcher		
<i>Rhipidura rufifrons</i>	Migratory	Breeding may occur within area
Rufous Fantail		
<i>Xanthomyza phrygia</i>	Migratory	Species or species habitat likely to occur within area
Regent Honeyeater		

**Migratory Wetland Species****Birds**

<i>Ardea alba</i>	Migratory	Species or species habitat may occur within area
Great Egret, White Egret		
<i>Ardea ibis</i>	Migratory	Species or species habitat may occur within area
Cattle Egret		

<u><a href="#">Calidris acuminata</a></u>	Migratory	Species or species habitat likely to occur within area
Sharp-tailed Sandpiper		
<u><a href="#">Charadrius mongolus</a></u>	Migratory	Species or species habitat likely to occur within area
Lesser Sand Plover, Mongolian Plover		
<u><a href="#">Gallinago hardwickii</a></u> *	Migratory	Species or species habitat may occur within area
Latham's Snipe, Japanese Snipe		
<u><a href="#">Rostratula benghalensis s. lat.</a></u>	Migratory	Species or species habitat may occur within area
Painted Snipe		
<b>Migratory Marine Birds</b>		
<u><a href="#">Apus pacificus</a></u>	Migratory	Species or species habitat may occur within area
Fork-tailed Swift		
<u><a href="#">Ardea alba</a></u>	Migratory	Species or species habitat may occur within area
Great Egret, White Egret		
<u><a href="#">Ardea ibis</a></u>	Migratory	Species or species habitat may occur within area
Cattle Egret		

## Other Matters Protected by the EPBC Act

Listed Marine Species [ <a href="#">Dataset Information</a> ]	Status	Type of Presence
<b>Birds</b>		
<u><a href="#">Apus pacificus</a></u>	Listed - overfly marine area	Species or species habitat may occur within area
Fork-tailed Swift		
<u><a href="#">Ardea alba</a></u>	Listed - overfly marine area	Species or species habitat may occur within area
Great Egret, White Egret		
<u><a href="#">Ardea ibis</a></u>	Listed - overfly marine area	Species or species habitat may occur within area
Cattle Egret		
<u><a href="#">Calidris acuminata</a></u>	Listed	Species or species habitat likely to occur within area
Sharp-tailed Sandpiper		
<u><a href="#">Charadrius mongolus</a></u>	Listed	Species or species habitat likely to occur within area
Lesser Sand Plover, Mongolian Plover		
<u><a href="#">Gallinago hardwickii</a></u> *	Listed - overfly marine area	Species or species habitat may occur within area
Latham's Snipe, Japanese Snipe		
<u><a href="#">Haliaeetus leucogaster</a></u>	Listed	Species or species habitat likely to occur within area
White-bellied Sea-Eagle		
<u><a href="#">Hirundapus caudacutus</a></u>	Listed - overfly marine area	Species or species habitat may occur within area
White-throated Needletail		
<u><a href="#">Lathamus discolor</a></u> *	Listed - overfly marine area	Species or species habitat may occur within area
Swift Parrot		
<u><a href="#">Merops ornatus</a></u> *	Listed -	Species or species habitat may occur

Rainbow Bee-eater	overfly marine area	within area
<i>Monarcha melanopsis</i> Black-faced Monarch	Listed - overfly marine area	Breeding may occur within area
<i>Myiagra cyanoleuca</i> Satin Flycatcher	Listed - overfly marine area	Breeding likely to occur within area
<i>Rhipidura rufifrons</i> Rufous Fantail	Listed - overfly marine area	Breeding may occur within area
<i>Rostratula benghalensis s. lat.</i> Painted Snipe	Listed - overfly marine area	Species or species habitat may occur within area

Commonwealth Lands [ [Dataset Information](#) ]

Communications, Information Technology and  
the Arts - Australian Postal Corporation

Communications, Information Technology and  
the Arts - Telstra Corporation Limited

Defence - Defence Housing Authority

Places on the RNE [ [Dataset Information](#) ]

Note that not all Indigenous sites may be listed.

### **Historic**

[Alison Homestead NSW](#)

[Felton Mathews Tree NSW](#)

[Old Maitland Road Section NSW](#)

### **Extra Information**

Regional Forest Agreements [ [Dataset Information](#) ]

Note that all RFA areas including those still under consideration have been included.

Lower North East NSW RFA, New South Wales

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### **Caveat**

The information presented in this report has been provided by a range of data sources as [acknowledged](#) at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the *Environment Protection and Biodiversity Conservation Act 1999*. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under "type of presence". For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the [migratory](#) and [marine](#) provisions of the Act have been mapped.

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- | threatened species listed as [extinct or considered as vagrants](#)
- | some species and ecological communities that have only recently been listed
- | [some terrestrial species](#) that overfly the Commonwealth marine area
- | migratory species that are very [widespread, vagrant, or only occur in small numbers](#).

The following groups have been mapped, but may not cover the complete distribution of the species:

- | non-threatened seabirds which have only been mapped for recorded breeding sites;
- | seals which have only been mapped for breeding sites near the Australian continent.

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

## Acknowledgments

This database has been compiled from a range of data sources. The Department acknowledges the following custodians who have contributed valuable data and advice:

- | [New South Wales National Parks and Wildlife Service](#)
- | [Department of Sustainability and Environment, Victoria](#)
- | [Department of Primary Industries, Water and Environment, Tasmania](#)
- | [Department of Environment and Heritage, South Australia Planning SA](#)
- | [Parks and Wildlife Commission of the Northern Territory](#)
- | [Environmental Protection Agency, Queensland](#)
- | [Birds Australia](#)
- | [Australian Bird and Bat Banding Scheme](#)
- | [Australian National Wildlife Collection](#)

- | Natural history museums of Australia
- | [Queensland Herbarium](#)
- | [National Herbarium of NSW](#)
- | [Royal Botanic Gardens and National Herbarium of Victoria](#)
- | [Tasmanian Herbarium](#)
- | [State Herbarium of South Australia](#)
- | [Northern Territory Herbarium](#)
- | [Western Australian Herbarium](#)
- | [Australian National Herbarium, Atherton and Canberra](#)
- | [University of New England](#)
- | Other groups and individuals

[ANUCLIM Version 1.8, Centre for Resource and Environmental Studies, Australian National University](#) was used extensively for the production of draft maps of species distribution.

Environment Australia is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Last updated:

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## DECC database

A search of the Department of Environment and Climate Change (DECC) database reveals that the subject site is situated within an area containing 12 threatened species of flora and 41 species of threatened fauna.

### Flora

**Table A3 DECC threatened flora species likely to occur in the study area**

Scientific Name	Common Name	Level of Threat
Acacia bynoeana	Bynoe's Wattle	Endangered
Angophora inopina	Charmhaven Apple	Vulnerable
Caladenia tessellata	Tessellated Spider Orchid	Endangered
<i>Callistemon linearifolius</i>	Netted Bottle Brush	Vulnerable
<i>Cryptostylis hunteriana</i>	Leafless Tongue Orchid	Vulnerable
<i>Eucalyptus camfieldii</i>	Camfield's Stringybark	Vulnerable
<i>Eucalyptus pumila</i>	Pokolbn Mallee	Vulnerable
Grevillea parviflora subsp. <i>parviflora</i>	Small-flower Grevillea	Vulnerable
Melaleuca biconvexa	Biconvex Paperbark	Vulnerable
Rutidosis heterogama	Heath Wrinklewort	Vulnerable
Syzygium paniculatum	Magenta Lilly Pilly	Vulnerable
Tetratheca juncea	Black-eyed Susan	Vulnerable

### Fauna

**Table A4 DECC threatened fauna species likely to occur in the study area**

Scientific Name	Common Name	Level of Threat
Botaurus poiciloptilus	Australasian Bittern	Vulnerable
Ninox connivens	Barking Owl	Vulnerable
Ixobrychus flavicollis	Black Bittern	Vulnerable
Ephippiorhynchus asiaticus	Black-necked Stork	Endangered
Burhinus grallarius	Bush Stone-curlew	Endangered
Irediparra gallinacea	Comb-crested Jacana	Vulnerable



Scientific Name	Common Name	Level of Threat
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	Vulnerable
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	Vulnerable
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	Vulnerable
<i>Mixophyes iterates</i>	Giant Barred Frog	Endangered
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	Vulnerable
<i>Pterodroma leucoptera leucoptera</i>	Gould's Petrel	Endangered
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	Vulnerable
<i>Chelonia mydas</i>	Green Turtle	Vulnerable
<i>Litoria aurea</i>	Green and Gold Bell Frog	Endangered
<i>Litoria brevipalmata</i>	Green-thighed Frog	Vulnerable
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable
<i>Pterodroma neglecta</i>	Kermadec Petrel	Vulnerable
<i>Phascolarctos cinereus</i>	Koala	Vulnerable
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	Vulnerable
<i>Myotis aduersus</i>	Large-footed Myotis	Vulnerable
<i>Miniopterus australis</i>	Little Bentwing-bat	Vulnerable
<i>Tyto novaehollandiae</i>	Masked Owl	Vulnerable
<i>Grantiella picta</i>	Painted Honeyeater	Vulnerable
<i>Haematopus longirostris</i>	Pied Oystercatcher	Vulnerable
<i>Ninox strenua</i>	Powerful Owl	Vulnerable
<i>Xanthomyza Phrygia</i>	Regent Honeyeater	Endangered
<i>Tyto tenebricosa</i>	Sooty Owl	Vulnerable
<i>Isoodon obesulus obesulus</i>	Southern Brown Bandicoot (eastern)	Endangered
<i>Pyrrholaemus sagittatus</i>	Speckled Warbler	Vulnerable
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	Vulnerable
<i>Petaurus norfolcensis</i>	Squirrel Glider	Vulnerable
<i>Mixpphyes balbus</i>	Stuttering Barred Frog	Endangered
<i>Ptilinopus superbus</i>	Supurb Fruit-dove	Vulnerable



Scientific Name	Common Name	Level of Threat
<i>Lathamus discolor</i>	Swift Parrot	Endangered
<i>Neophema pulchella</i>	Turquoise Parrot	Vulnerable
<i>Crinia tinnula</i>	Wallum Froglet	Vulnerable
<i>Petaurus australis</i>	Yellow-bellied Glider	Vulnerable
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail-bat	Vulnerable



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