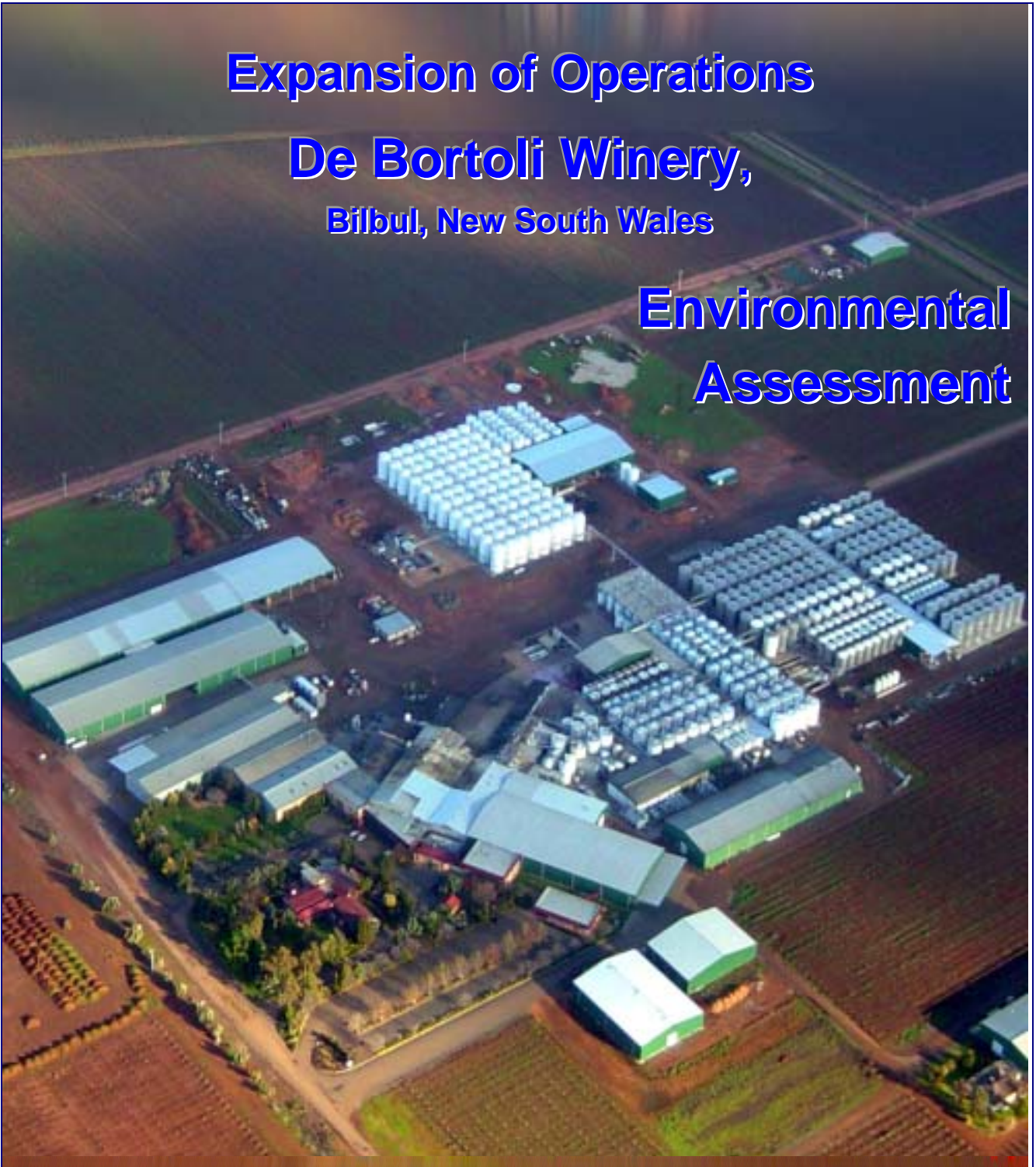


Expansion of Operations

De Bortoli Winery,

Bilbul, New South Wales

Environmental Assessment



Prepared by



For

De Bortoli

Wines Pty Limited

October 2005

Environmental Assessment

De Bortoli Winery Pty Limited

Bilbul, NSW

Prepared by

for



82 Glen Innes Road
ARMIDALE NSW 2350
Telephone: (02) 6771 4864
Facsimile: (02) 6771 4867
ABN: 67 081 536 281



PO Box 21
BILBUL NSW 2680
Telephone: (02) 6966 0100
Facsimile: (02) 6966 0199
ABN: 77 000 146 672

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Cover Photograph: Courtesy of Andrew Wetzel

**Submission of
Environmental Assessment**

prepared under the Environmental Planning and Assessment Act, 1979

EA prepared by:

name E.A. Systems Pty Limited
qualifications
address E.A. Systems Pty Limited
82 Glen Innes Road
Armidale, NSW 2350

in respect of The expansion of operations at
De Bortoli Wines Pty Limited, Bilbul.

development application

applicant name De Bortoli Wines Pty Limited
applicant address PO Box 21
BILBUL NSW 2680

land to be developed: address 1//1024102 winery and wastewater ponds; 3//837695 grape stalk area;
lot no., DP 115//751728 disused artificial wetland area; 145//751728 landscaped
garden, and; 165-168//751728 wastewater irrigation area. Parish of
Stanbridge, County of Cooper, Griffith City Council.

proposed development Development of infrastructure to facilitate an increase in grape
crushing and wine production operations. The development includes
crushing and pressing infrastructure, parking facilities, refurbishment
of bottling facility, tank farms, wastewater irrigation area, and visitors
centre.

**Environmental Impact
Statement:**

an Environmental Assessment (EA) is attached

certificate

I certify that I have prepared the contents of this Environmental
Assessment and to the best of my knowledge

- it is in accordance with the Environmental Planning and
Assessment Act and Regulations; and
- it is true in all material particulars and does not, by its presentation
or omission of information, materially mislead.

signature:



name: Richard Pillow
date: 19th October 2005

Executive Summary

Introduction

De Bortoli Wines propose to expand winery operations at Bilbul, New South Wales. The current processing rate is 85,000 tonnes of crush per annum (2005 vintage), which produces approximately 60 million litres of grape juice. Onsite processing is expected to increase to 150,000 tonnes of crush within five years. An increase of this scale requires the construction of additional infrastructure for crushing, processing, and storage of the grape juice as well as expansion and upgrade of waste management systems.

Planning and preparation for the expansion project commenced in April 2005 when a Planning Focus Meeting was held onsite at the Bilbul winery. Upon receipt of draft Director General's requirements from the Department of Planning (DoP), the development was classed as 'integrated' and 'designated' under the *Environmental Planning and Assessment Act Regulation 2000*. Requirements of the agencies that were present at the Planning Focus Meeting were submitted to DoP. At time it was anticipated that the project would cost approximately \$60 million, most of this encompassed by refurbishment of existing buildings and construction of large storage tanks (tank farms) for grape juice. Since March 2005, a new State Environmental Planning Policy for major developments came into force which determined that as the development exceeded \$30 million, it was classed as a Major Development, for which DoP is the consent authority.

This environmental assessment addresses the Director Generals Draft Requirements that were received on 15th August 2005. Final requirements had not been set out upon submission of this Environmental Assessment.

Benefits of the Expansion

The winery is currently operating with a throughput of about 85,000 tonnes of grapes with a projected throughput within five years of approximately 150,000 tonnes. The increase in operations is desirable due to an over-supply of grape berries in the region and the increasing demand for Australian wine. De Bortoli wines are sold both domestically throughout Australia and exported to a number of key international markets.

Expansion of the winery is expected to produce social and economic benefits for the region, New South Wales and Australia. The increased level of operational expenditure, apart from the employment generated by the expansion, will provide one of the biggest drivers to boosting the local and regional economy. Two particular items of note are increased contributions to the regions salary account of \$13.3 Million and, an increase in the value of fruit material purchased locally from \$32.2 Million to \$57.0 Million.

The regional impact of increases in operational expenditure of this magnitude is not inconsiderable. Principally it underpins growth in key support service industries which in turn provides stimulus to the local economy.

The local economy is anticipated to benefit from employment, maintenance contracts and the injection of workforce disposable income. The winery presently employs approximately 240 staff (2005 vintage) and by the year 2010, employment numbers are expected to rise to over 400 staff during vintage.

In addition to the direct employment benefits, the added stimulus to the local economy through increased operational expenditure provides further indirect employment stimulus for the region as a whole.

Project Description

The key aspects that arise from the expansion of operations from 85,000 tonnes of throughput to 150,000 tonnes over five years include redesign of the wastewater treatment system and establishment of a wastewater reuse farm; upgrading of road and intersection areas to improve vehicle flow and safety; construction of additional warehouses for packaging and processing; construction of grape processing equipment; and infrastructure including crusher pits, presses and refrigeration.

Additional components of the development include the establishment of memorial gardens for Deen De Bortoli and a Managers residence; relocation of the cellar door sales and visitors area; upgrading of internal roads; provision of safe pedestrian access routes over key industrial areas; and refurbishment of existing bottling and office areas.

Solid Waste Management

Solid wastes produced as a result of grape processing and general activities undertaken primarily include stalks and marc from processing of grapes; wastes such as lees and diatomaceous earth, oak chips and staves, spent filter cartridges and packaging wastes from bottling, packaging and containers.

Materials such as marc, oak additives, diatomaceous earth and lees are considered to be ‘by-products’ rather than ‘wastes’ as they are collected for further processing and recovery of products from residues. Improvements in machinery and processing methodologies will lead to a reduction in these by-products by the year 2010.

De Bortoli Wines is a member of the Regional Innovation and Technology Adoption Committee (RITA). This dedicated to a coordinated regional waste management strategy, whereby current methods of solid waste management and disposal, from packaging materials to wood additives and sludges will be reviewed.

De Bortoli Wines is also a member of the National Packaging Covenant which assists in the management of consumer produced wastes. Under this scheme, De Bortoli Wines have introduced a number of procedures to reduce packaging wastes.

Liquid Waste Management

The wastewater holding pond system at the winery receives most of the liquid wastes generated within the winery. The influent wastewaters come from a variety of sources such as rinse water, stormwater and various processing and filtration stages, and are of a diverse character, volume, and flow pattern.

In this proposal, the system of wastewater will move from an evaporative system to an irrigation reuse scheme and will undergo engineering redesign to effectively treat the wastewater to mitigate associated odour emissions. With the proposed increase in throughput, it is expected that wastewater generation will increase proportionally to approximately 213ML of wastewater per annum. The winery wastewater will be screened to remove gross solids; pH adjusted using lime dosing; transferred to a retention tank; and will undergo primary and secondary treatment prior to land application for crop growth.

Domestic wastewater and septic overflow will also be treated in a pond system using primary, secondary and tertiary treatment followed by sample analysis prior to land application.

Redesign of the wastewater treatment system will enable effective management and mitigation of odour emissions that are generated by reactions that occurred within the wastewater. A network of piezometers has been strategically installed around the treatment ponds to monitor groundwater quality. The internal walls of the wastewater ponds have been compacted to mitigate potential seepage of wastewater. Furthermore, the ponds will be completely drained on a regular basis as the water is used for irrigation allowing for structural maintenance.

The perimeters of the wastewater ponds will be raised so that surface water runoff during rainfall events will be diverted and retained within the treatment area. Surface water runoff from areas within the winery which are likely to contain residues of grape material, rinse water etc, will be diverted into the wastewater treatment ponds for treatment. Fresh water runoff will be diverted and used to irrigate gardens.

Farm Management

Irrigation of wastewater will occur over seven land lots which comprise a total area of 120 hectares. Of these lands, De Bortoli Wines own four lots (Lots 165, 166, 167, and 168 DP 751728) and the three additional areas of land to be leased are Lots 169, 170 and 171 DP 751728. The suitability of these sites for irrigation purposes was assessed using a combination of electromagnetic surveys and soil analyses. The PERFECT™ model was used to model crop growth and estimate crop yields within the original wastewater reuse area. The two crops that are appropriate for the four De Bortoli owned lots are forage maize and forage oats. The lease areas will be sown with lucerne.

To mitigate the effects of enhanced deep drainage, deep-rooted perennial trees will be planted in a non-irrigated area on the subject land. Approximately 5% of the subject land will be planted with trees. A number of piezometers have been installed around the De Bortoli owned irrigation areas with additional piezometers to be installed around the lease property prior to irrigation, to monitor groundwater.

Air Quality Management

Winery wastewater, in particular hydrogen sulphide (H₂S), was determined to be the prevalent odour source. This is likely to be due to the relatively large production volumes, the input quantities of sulphur, and the substantial biochemical oxygen demand of winery wastewater. Mitigation of odour impacts is the primary goal of redesign of the wastewater treatment ponds.

Feasible measures exist to manage H₂S emissions from the wastewater pond system at the winery. These measures will reduce the amount of sulphur entering the main wastewater stream and maintain an environment in the ponds that is not conducive to the reduction of sulphate into sulphide. The measures that will be implemented include:

- Separation of the acidic, sulphate-rich ion exchanger rinsate from the main wastewater treatment system,
- Well controlled and monitored aeration of the primary wastewater ponds to provide for aerobic conditions, and
- Automated pH control to provide a pH value of around 7 units.

Background levels of particulate (dust) matter in the region were determined to be relatively high, which is mainly due to the semi-arid conditions and depleted plant matter in the region. Dust emissions associated with the winery complex were primarily related to traffic movement on unpaved, hardstand areas.

The sequential bitumen sealing of high-traffic areas within the site (principally the access from Lawrence Road to the weighbridge and the unloading areas and loading docks) should maintain particulate emissions at their current level or even reduce them slightly, despite the increase in production.

Other management practices, such as the use of a water cart to increase superficial moisture levels, will also provide additional dust control when abnormal activity occurs on unsealed areas or extraordinary weather conditions increase the risk of dust emissions on the site.

Traffic and Transport Management

Expansion of the operation will result in an increase in both light and heavy traffic. Light traffic is currently associated with winery staff, contractors and visitors. Heavy traffic is associated with deliveries, final product collections throughout the year, and delivery of grapes, which occurs during vintage months.

Employee traffic will increase in proportion to the increased winery throughput. Light traffic from cellar door sales is expected to remain relatively constant from year to year. Heavy vehicles in the form of rigid axles, semi-trailers and b-doubles are expected to increase two fold.

The two entry points to the winery are Lawrence Road and De Bortoli Road, off Burley Griffin Way. Both these intersections currently do not meet Roads and Traffic Authority standards and have numerous potential safety issues due to potholes, lack of line markings and narrow culverts which cause congestion.

Heavy vehicle traffic movements at the winery are presently split between Lawrence Road and De Bortoli Road. Lawrence Road is primarily used only during vintage months by heavy vehicles for delivery of grapes and other vintage related contracting services. De Bortoli Road is used throughout the year for product despatch and receipt. De Bortoli Road is not used for grape deliveries.

De Bortoli Wines would prefer to maintain and subsequently upgrade Lawrence Road for continuation of future grape deliveries, as this system segregates vintage traffic from non-vintage traffic, and reduces traffic congestion that would otherwise occur if De Bortoli Road were to be the sole entry point for the winery.

Lawrence Road is a 'four-ways' intersection and is also one of the entry points to the village of Bilbul. Therefore if winery traffic is to increase on this intersection, it will be necessary to either relocate the entrance to Bilbul, essentially making Lawrence Road a safer 'T' intersection, or alternatively upgrade the intersection to become a safer cross-road. De Bortoli Wines prefer the former option.

De Bortoli Road intersection also requires upgrades to meet a safe standard that would support B-doubles, with the potential for upgrading to support future utilisation by road trains along Burley Griffin Way. Continued usage of the Lawrence Road intersection for grape deliveries during vintage would reduce the congestion of traffic on De Bortoli Road.

It is proposed that De Bortoli Wines purchase the section of De Bortoli Road that extends from the Burley Griffin Way intersection to the limit of the winery buildings. This length of road is approximately 730 metres, and is flanked either side by De Bortoli owned property.

Acoustics

The potential for noise depends on the number and nature of noise emitting operations, the noise level commonly associated with those operations, climatic conditions, noise reductions over distance, and the proximity of sensitive receptors (e.g. residences). The nearest residential area to the winery is the village of Bilbul approximately 600m to the north and northwest beyond the Burley Griffin Way. The surrounding area is predominantly rural and flat with vineyards separating the De Bortoli Winery and Bilbul. The residential areas of Bilbul are not currently affected by any other existing industrial noise other than the winery.

The major sources of noise emissions associated with the project are: the arrival and departure of trucks; refrigeration plants; pumps; crushers; bottling operations; front end loader operations, and; warehousing operations (forklifts and truck movements). The proposed expansion of the winery will increase the occurrence of all of these types of noise emissions.

The major source of noise emissions not associated with the project is from heavy vehicles on the Burley Griffin Way. This is classified as an arterial road and currently has some 3,500 vehicle movements per day with 10% heavy vehicles.

The recommended acceptable noise level for ‘urban’ areas like Bilbul are 60 dB(A) during the day, 50 dB(A) in the evening and 45 dB(A) at night. Comparison of the sound levels at the two measurement locations in Bilbul demonstrate that the winery has little to no influence on the ambient sound levels throughout the day. The study found that the area is dominated by noise from heavy vehicles on the Burley Griffin Way throughout the day, evening and night.

Sound emissions from the winery to the residential area of Bilbul are significantly attenuated by the large sheds that lie between the two areas. Two additional intervening building structures are proposed that will further attenuate noise from the main noise producing areas of the site. The site is laid out intentionally to provide attenuation from building structures to the benefit of the nearest residences. The major sound sources are all centralised within the site and surrounded by buildings that do not have openings through which sound can travel.

With regard to current and future operations, planned construction activities, and predicted future traffic levels, the report found that sound emissions from the proposed expansion of operations of the winery comply with the project specific noise criteria specified, and therefore no adverse acoustic impacts are predicted for the proposed development.

Heritage

A survey of the site was undertaken by Donald Tompkins of the Griffith Local Aboriginal Land Council. Particular areas targeted during the survey were along the proposed pipeline from the wastewater treatment area to the irrigation area, the irrigation area and the site of the proposed memorial gardens and Managers residence on De Bortoli Road.

No archaeological or cultural heritage sites were found in the study area. There was no evidence of specific landforms such as sandhills which would indicate the possible presence of any archaeological material. The alluvial sediments on site have been well modified over time through irrigation, agricultural activity, vehicular movements and erosion. There was no native woody vegetation present to indicate the presence of Aboriginal carvings or scarring. No European historic sites were recorded or identified in the proposed study area.

Flora and Fauna

The farming land is dominated by introduced annual species, and has been extensively modified, cleared and developed for broadacre production of irrigated crops and pastures. No threatened plants were recorded during the survey. The existing native vegetation is isolated and not generally significant, and only exists on the road reserve along Lowe Road. There was some regeneration of the existing small clumps of Miljee (*Acacia oswaldii*) and Emu bush (*Eremophila longifolia*) however, given the limited extent of the existing individuals represented, and the ground layer which is dominated by introduced annual species, the proposed development will have minimal impact on this native vegetation.

Given the history of disturbance, and the highly modified and degraded nature of the proposed area, especially in relation to native vegetation, it is unlikely that any threatened or other significant plant species would occur within the study area. Considering the lack of any evidence of threatened species occurring within the area or locality, the extensive coverage of introduced weed species, and the grazing and cultivation that have occurred at the site, it is considered highly unlikely that the proposed development would have any significant effect on any threatened flora.

The habitat within the study site is generally highly degraded, and offers little habitat value to any native fauna. There are no mature trees which would provide hollows for nesting and roosting for birds, reptiles, arboreal mammals or bat species. The ground layer is dominated by introduced annual species, and the complete absence of any non-vascular ground cover (such as leaf litter, fallen timber, logs etc) provides little habitat value. In general, there is a distinct lack of suitable resources to provide any suitable habitat for native fauna.

A summary of regulatory authority requirements followed by the Proponent's responses is provided below.

Issue	Government Authority	Regulator Questions/Comments	Winery Expansion Project Response	Refer to EA Section	Refer to Appendix
Summary	DOP (mandatory)	Summary of the environmental assessment.	A concise overview of the Environmental Assessment (EA) is provided in the executive summary	Executive Summary	Attachment A
Objectives	DOP(mandatory)	Statement of the objectives of the development.	<p>The objective of the development is to increase the production capacity of De Bortoli Wines from the current 85,000 tonnes grape crush per annum to 150,000 tonnes per annum within 5 years.</p> <p>The development also aims to address and mitigate existing and potential future impacts that may result from the development.</p> <p>Other objectives include: addressing outstanding issues that have resulted in the expansion and to plan and address and mitigate potential future impacts that may result as the operation increases to capacity.</p>	1.3	
Feasible Alternatives	DOP(mandatory)	Analysis of any feasible alternatives to the carrying out of the development, having regard to its objectives, including the consequences of not carrying out the development.	Feasible alternatives to key aspects of the winery expansion and operation are addressed in the EA.	5	
Approvals and Planning	DOP	Assess the development against the following environmental planning instruments:	The EA includes an assessment of the development against all pertinent planning instruments	1.10	
		<ul style="list-style-type: none"> SEPP 33 Hazardous and Offensive Development. 	<p>A SEPP 33 risk screening was undertaken as part of the EA. The development is not considered a hazardous development and a Preliminary Hazard Assessment is not required.</p> <p>Licensing under the POEO Act requires that the winery is licensed and therefore classifies the winery as "offensive". The EA identifies measures used to mitigate offensive emissions including noise, odour, dust, controls for surface water and ground water.</p>	4.7.1	Appendix C

Issue	Government Authority	Regulator Questions/Comments	Winery Expansion Project Response	Refer to EA Section	Refer to Appendix
		<ul style="list-style-type: none"> SEPP 52 Farm Dams and Other Works in Land and Water Management Plan Areas. 	<p>A portion of the irrigation channel beside De Bortoli Road will be widened to provide a winter storage of irrigation water with a capacity of 3.5 ML.</p> <p>The channel is located within the Mirrool No 1 irrigation area listed in Schedule 1 of SEPP 52. The Griffith local government area in which De Bortoli Wines resides is not listed under Schedule 2. Therefore the consent authority for the proposed channel widening development is the NSW Department of Planning. Verbal approval for the proposed widening has been obtained from MIL and written confirmation will be forwarded to DOP.</p>	1.10.4	
		<ul style="list-style-type: none"> SEPP 55 Remediation of Land. 	<p>A site history assessment was undertaken following the procedures outlined in the “Managing Land Contamination Planning Guidelines” (DUAP 1998). One site was identified as a potentially contaminated site. A preliminary contaminated site investigation will be undertaken within the next 12 months to evaluate the nature and extent of any contamination and to assess the degree of hazard present relative to the specified criteria in SEPP 55.</p>	4.8.1	
		<ul style="list-style-type: none"> SEPP 64 Advertising and Signage. 	<p>The existing tourist signs on Burley Griffin Way are planned to be upgraded within two years and will meet all relevant standards.</p>	1.10.4 4.6	
		<ul style="list-style-type: none"> Griffith LEP 2002. 	<p>The Project area spans a number of different zone classes: Zone 1(b) Rural Agricultural Protection, Zone 1(e) Rural Industry and Employment, and Zone 5(a) (Special Uses).</p>	1.10.6	
		<ul style="list-style-type: none"> Development Control Plan 28. 	<p>Some of the suggested mitigation measures include provision of ample buffers from possible sources of noise, odour, light and air emissions, dust generating uses and pollutants, and installing barriers with materials that may absorb or reflect noise</p>	1.10.6	Appendix B Attachment B

Issue	Government Authority	Regulator Questions/Comments	Winery Expansion Project Response	Refer to EA Section	Refer to Appendix
		<ul style="list-style-type: none"> NSW Groundwater Quality Protection Policy. 	The EA outlines measures that will be used to mitigate pollution to groundwater from any activity undertaken on site and to ensure groundwater systems are protected for present and future use.	1.10.3 4.2	Appendix D Appendix E Appendix F
		<ul style="list-style-type: none"> NSW Groundwater Dependent Ecosystem Policy; 	Precautions to prevent groundwater contamination are discussed in the EA. No groundwater is presently extracted for irrigation or any other use on the De Bortoli property. Piezometers have been established for monitoring groundwater quality and quantity.	1.10.3 4.2	
		<ul style="list-style-type: none"> NSW Wetland Management Policy. 	Measures to prevent polluted surface water runoff are addressed in the EA.	1.10.3 4.2	
Justification of the development	DOP (mandatory)	The reasons justifying the carrying out of the development in the manner proposed, having regard to biophysical, economic and social considerations, including the following principles of ecologically sustainable development:	The justification for the development has been addressed in the EA.	6	
		<ul style="list-style-type: none"> Precautionary principle. 	In planning for facilitation of the increased production at the winery, the precautionary principle has been applied, and emphasis has been placed upon anticipating and preventing environmental damage.	6.1.1	
		<ul style="list-style-type: none"> Inter-generational equity. 	The proposal should not have a significant or disproportionate impact on environmental diversity on a local, regional or larger scale. The proposal offers some benefits toward improvements and better protection of the environment.	6.1.2	
		<ul style="list-style-type: none"> Conservation of biological diversity and ecological integrity. 	The proposal involves disturbance of ecological systems that have been subjected to extensive prior development and modification. Part of the proposal is to plant at least 1000 native trees, which may have a positive effect on biodiversity.	6.1.3	Appendix A
		<ul style="list-style-type: none"> Improved valuation, pricing and incentive mechanisms. 	De Bortoli Wines will directly bear the costs associated with implementing mitigation measures as well as the costs of monitoring and reporting of environmental outcomes and other compliance costs.	6.1.4	

Issue	Government Authority	Regulator Questions/Comments	Winery Expansion Project Response	Refer to EA Section	Refer to Appendix
	DOP	Include a comprehensive operations environmental management plan as well as a full environmental audit in accordance with AS/NZS ISO 19011:2003 of the past operational compliance of the plant with all relevant legislation and licences (all monitoring data collected to date should be included). This should incorporate details of the means by which proposed new work will rectify any known breaches of environmental management goals as well as details of complaints received during the operation of the premises and actions taken to remedy these issues.	Discussions with DoP indicated a comprehensive operations environmental management plan and associated audit was not required.		
	DOP	Details of the proposed future expansion of the crush volumes per year should be provided with specific details of the staging of all construction works required to accommodate the proposed expansion. This is to be illustrated by coloured drawings of the site that specifically highlights approved works, any works constructed without approval and works now proposed.	A detailed description of the proposed development including yearly plans and colour illustrations is provided in the EA.	3.4	
Description of the development	DOP	Include complete and specific details of works approved and those constructed to date without approval including but not limited to effluent dams and ponds, wetlands, tank farms, crushers, presses and dangerous good store, with details of operation commencement. This should be accompanied by details of proposed modifications to these works in order to accommodate the proposed future expansion.	A detailed description of the approval status of existing infrastructure on the site, as well as planned modifications is provided in the EA.	3.4	
	DOP(brewery works)	Characteristics and economic significance of the product.	Economic significance of the product is discussed in the EA.	6.1.5	
	DOP (brewery works)	Plans of operation (existing and proposed).	A description of the existing and proposed operations is provided in the EA.	3.4	
	DOP (brewery works)	Production output staging and timing.	A description of the proposed staging of the development and predicted throughput is provided in the EA.	3.4	
	DOP (brewery works)	Construction program and detailed staging of construction and commissioning of proposed works; including land clearing, earth works, water supply, ponds, wetlands and drainage systems, effluent and solid and liquid waste management, demolition, construction, and construction problems envisaged.	A description of the proposed staging of the development is provided in the EA.	3.4	
	DOP (brewery works)	Any proposals for future expansion including staging and timing.	The EA addresses all current plans for expansion.	3.4	
	DOP (brewery works)	Capacity of plant now and in the future.	The current and future capacity of the development is described in the EA.	3.4	
	DOP (brewery works)	Sources and quantities of raw materials.	Grapes are the primary raw material for the winery. A description of current and future grape throughput is provided in the EA.	3	

Issue	Government Authority	Regulator Questions/Comments	Winery Expansion Project Response	Refer to EA Section	Refer to Appendix
	DOP (brewery works)	Type of machinery and equipment used.	A detailed description of current and future operations, including types of plant and equipment used is provided in the EA.	3	
	DOP (brewery works)	Expected life of operation of the plant.	It is anticipated that the plant will continue to operate indefinitely.	3	
	DOP (brewery works)	Number of persons to be employed.	The current and future number of persons employed by De Bortoli Wines at Bilbul, including seasonal variation, is described in the EA.	3.5	
	DOP (brewery works)	Hours of operation.	The hours of operation during vintage and non-vintage seasons are described in the EA.	4.5.5	
	DOP (brewery works)	Details of storage of materials and any necessary stockpiling.	Grape raw materials are processed on receipt and stored as grape juice. Some organic waste products (stalks and marc) require temporary stockpiling.	4.7.1	Appendix C
	DOP (brewery works)	Access arrangements – truck routes, truck numbers, parking, including emergency access and disease management arrangements.	Traffic and delivery issues are addressed in detail in the EA. With regard to disease, De Bortoli Wines will not accept any grapes that are infected with Phylloxera.	4.5	
	DOP (brewery works)	Site drainage and erosion controls.	A detailed description of site drainage and stormwater management together with mitigation measures to minimise erosion and sedimentation are provided in the EA.	2.4 4.2.3	
	DOP (brewery works)	Source of water supply and demand on water resources.	Irrigation water for vineyards is sourced from Murrumbidgee Irrigation Limited (MIL) via open channels. Domestic water for cleaning and processing operations is sourced from Griffith City Council. The EA provides a detailed description of historical and future water requirements and sources for water.	2.4 3.6 Attachment D	Attachment D
	DOP (brewery works)	Operational regime including timing, monitoring, ongoing maintenance, access, and stability and risk management including disease management arrangements.	The operational regime at the winery is divided into vintage and non-vintage operations. Monitoring regimes are in place to ensure that the winery complies with Pollution Reduction Programs (under DEC licensing requirements). De Bortoli Wines will not accept any grapes that are infected with Phylloxera.	3	Appendix D Appendix E Appendix F Appendix G
Description of the Environment.	DOP (brewery works)	Existing land use.	A detailed description of existing land use is provided in the EA.	2.3	

Issue	Government Authority	Regulator Questions/Comments	Winery Expansion Project Response	Refer to EA Section	Refer to Appendix
	DOP (brewery works)	Landform and geology.	A detailed description of the landform, geology and soils on the De Bortoli Wines Bilbul properties is provided in the EA.	2.3	
	DOP (brewery works)	Surface water regime including drainage patterns, dimensions, flows, quality and use of water courses.	A detailed description of the surface water environment on and around the site is provided in the EA.	2.4	
	DOP (brewery works)	Ground water regime, including nature, depth and quality of the groundwater bearing zone and incidence of prior streams.	A detailed description of the groundwater environment at the site is provided in the EA.	2.4	
	DOP (brewery works)	Flood regime.	A description of the flooding regime around the site is provided in the EA.	2.4	
	DOP (brewery works)	Soil types of the area and respective attribute including physical properties (soil depth, water holding properties, hydraulic conductivity) and chemical properties.	A detailed description of the soil attributes on the De Bortoli Wines Bilbul properties is provided in the EA.	2.3	Appendix H
	DOP (brewery works)	Meteorological conditions including rates of evaporation.	A detailed description of the climatic conditions, including precipitation and evaporation rates at the site is provided in the EA.	2.1	Appendix G
	DOP (brewery works)	Aesthetics.	A detailed description of the current and future visual amenity of the development is provided in the EA.	4.6	
	DOP (brewery works)	Documentation of native vegetation and fauna.	A detailed description of the existing flora and fauna at the site, including native vegetation, is provided in the EA.	4.9.1	Appendix A
	DOP (brewery works)	Presence of any items or sites of heritage or archaeological significance.	An assessment of Aboriginal and cultural heritage by E.A. Systems and Griffith Aboriginal Land Council found no evidence of sites or items of significance on the site.	4.9.2	Appendix A Attachment E
Water Quality and Quantity	DOP	Include an assessment of water quality impacts associated with the development, including details of the expected water balance for the site.	A detailed assessment of potential water quality impacts of the development, including details of the expected water consumption and volumes of wastewater generated is provided in the EA.	2.4 4.2	
	DOP	Justification for any increase in groundwater extraction and the effects of this extraction on the aquifer must be provided.	Groundwater is currently not extracted. Three piezometer will be installed that may be utilised for groundwater extraction if necessary.	4.2	Appendix D
	DOP	Minimisation of water consumption (including water supply sources, both surface and groundwater).	The EA provides a detailed description of historical and future water consumption and water use minimisation.	3.6	Attachment D
	DOP	Details of existing and proposed storage including storage volumes, water licence details and volumetric allocations.	A description of De Bortoli Wines existing and proposed water storage facilities is provided in the EA.	3.6 4.4.7	Attachment D

Issue	Government Authority	Regulator Questions/Comments	Winery Expansion Project Response	Refer to EA Section	Refer to Appendix
	DOP (brewery works)	Where dams are proposed, details of catchment yield and proposed storage capacity as well as groundwater levels should be provided.	No new dams are proposed as part of the development. A portion of an existing Murrumbidgee irrigation channel is proposed to be widened to provide a winter storage with a 3.5ML capacity.	4.4.7 2.4.2 2.4.3	
	DOP (brewery works)	Measures to reduce water consumption to industry best practice levels should be addressed.	De Bortoli Wines consume significantly less water than the industry average per tonne of grape throughput. Historical data on water consumption at the facility are provided in the EA.	3.6	
	DOP (brewery works)	A groundwater monitoring program including details of the location of any proposed monitoring bores/piezometers, the depth of any proposed monitoring bores/piezometers and the rationale for the proposed location and depths of monitoring bores.	A groundwater monitoring program has been designed in accordance with AS/NZS 5667.11:1998 Water Quality Sampling - Guidance on Sampling of Ground waters. The EA includes a description of the piezometer network for monitoring groundwater.	4.4.5.3	Appendix D
Wastewater	DOP	An assessment of wastewater impacts associated with the development, including wastewater quality and quantity to be generated.	A detailed description of current and predicted wastewater quantity and quality, as well as potential wastewater impacts is provided in the EA.	4.2 4.4.5.1	
	DOP	Flow buffering and measures to minimise discharges. this assessment shall consider wastewater.	The EA includes a detailed overview of wastewater management and mitigation measures, including methods to minimise the quantity of wastewater.	4.2 4.4.5.1	
	DOP (brewery works)	Wastewater reuse and disposal should be described in terms of the proposed means of accommodating the requirements of the complete expansion, as well as the method by which it is proposed to stage the development in accordance with the proposed expansion of production.	The EA includes a detailed overview of wastewater management, including planned re-use strategies for irrigated cropping. The development of infrastructure associated with wastewater re-use and irrigation is also described in the EA.	4.2 4.4.6 3.4	
	DOP (brewery works)	Improved methods and quantities of waste re-use should be considered.	The EA includes a detailed overview of wastewater management, including planned strategies for improved methods and quantities of waste water for irrigated cropping.	4.2 4.4.6	
	DOP (brewery works)	Where stormwater, processing water and other waters are not currently separated, demonstrate safe and uncontaminated means of disposal and include details of proposed timing and measures proposed to separate them.	A detailed description of the management of different wastewater streams is provided in the EA.	4.2	

Issue	Government Authority	Regulator Questions/Comments	Winery Expansion Project Response	Refer to EA Section	Refer to Appendix
	DOP (brewery works)	Specific details of wastewater emission targets as well as the proposed methods of monitoring and addressing non-compliances should be provided. In this regard a range of options for reuse and disposal should be addressed, with consideration given to regional and cumulative impacts of the proposed expansion and a Waste Management Plan submitted.	With the proposed increase in grape throughput, it is expected that wastewater generation will increase proportionally to approximately 213ML of wastewater per annum, with the majority of this wastewater discharged to the wastewater treatment ponds during the vintage period. The EA incorporates detailed plans for waste management and monitoring.	4.2 4.2.1.3	
	DOP (brewery works)	If detention or evaporation basins or other structural works are proposed, then full design characteristics, including soil tests and groundwater levels should be supplied to ensure there is no potential for groundwater contamination.	The design characteristics of retention and evaporation ponds are provided in the ERA. Representative soil samples were obtained from embankments and pond floors for relevant testing including permeability and dispersion. The pond bases and walls been compacted such that the permeability is better than 1×10^{-9} m/s to mitigate against the possibility of leakage into groundwaters.	4.2.1.3	Appendix H
	DOP (brewery works)	Details of stormwater management proposals and effluent and solid waste disposal systems (industrial and domestic) should be provided.	Detailed descriptions of existing and proposed stormwater and liquid and solid waste management systems is provided in the EA.	4.1 4.2 4.2.3.3	
Traffic and Transport	DOP	Traffic implications of the proposed development, with reference to the capacity, safety and design of key haulage routes to and from the development site. Clear details of any road infrastructure upgrades, particularly at the entrance to the site must be provided.	A detailed description of the traffic attributes of the site and potential implications of the development and proposed traffic mitigation measures is provided in the EA.	4.5	
	RTA DOP	Types and volumes of vehicles to be used.	The current and predicted types and volumes of vehicular traffic to and from the site is described in the EA.	4.5.3	
	RTA DOP	The direction of travel of all vehicles entering and exiting the site.	Details of the source and direction of travel of vehicular traffic to and from the site is described in the EA.	4.5.3	
	RTA DOP	AADT (annual average daily traffic) on key streets.	Data on average daily traffic is presented in the EA	4.5.3	
	RTA DOP	Peak period traffic volumes and congestion levels at key adjacent intersections.	Data on peak periods of traffic is presented in the EA.	4.5.3	
	RTA	Hours and days of operation.	The noise assessment report includes data on hours and days of operation in relation to traffic.	4.1	Appendix B
	RTA	Impact of generated traffic on key adjacent intersections, the environment and other major traffic generating developments in close proximity.	Predicted impacts of traffic to and from the site on adjacent intersections and the township of Bilbul is described in the EA.	4.5	

Issue	Government Authority	Regulator Questions/Comments	Winery Expansion Project Response	Refer to EA Section	Refer to Appendix
	RTA	Accident history of road network in the area.	Accident history of the road network in the area was not addressed in the EA.	4.5	
	RTA	Access location and width. Sight distance at access location.	Details of the attributes of key traffic access roads and intersections are provided in the EA.	4.5	
	RTA	Safety and efficiency of access to site from adjacent road network.	Details of the safety and efficiency of key traffic access roads and intersections is provided in the EA, together with recommended mitigation measures.	4.5	
	RTA	Assessment of traffic noise and dust effects.	A detailed assessment of traffic noise and traffic generated dust is included in the EA.	4.1 4.3	Appendix B Appendix G
	RTA DOP	Suitable intersection treatment is to be constructed at the Burley Griffin Way for right and left turning vehicles into and out of De Bortoli Road.	Proposed modifications to the Burley Griffin Way and De Bortoli Road intersection are included in the EA.	4.5	
	RTA DOP	Consideration is to be given for separation of heavy vehicles, staff parking and visitor parking on site, as well as details of the safety and efficiency of the internal road layout and access to and from the site.	Plans for the separation of heavy vehicles, staff parking and visitor parking on site, as well as details of the safety and efficiency of the internal road layout and access to and from the site are presented in the EA.	4.5	
	DOP	Proposed timing of Lawrence Road upgrade should be provided or details of alternative truck access if proposed. Details of proposed contingency plan for traffic movement in the event of a disease outbreak (and any necessary road upgrade or traffic management works).	Proposed upgrades to Lawrence Road are included in the EA. Phylloxera is not present in the region. De Bortoli Wines will not accept any diseased grapes.	4.5	
	DOP	Evidence of consultation with both the RTA and Council should be submitted.	Liaison with RTA and Council was undertaken at the Planning Focus Meeting and comments are included in the EA.	1.1	Attachment A
Heritage	NSW Heritage Office DOP	Heritage significance of the site and any impacts the development may have upon this significance. The assessment should include natural areas and places of Aboriginal, historic or archaeological significance. It should also include a consideration of wider heritage impacts in the area surrounding the site.	An assessment of Aboriginal and cultural heritage by E.A. Systems and Griffith Aboriginal Land Council found no evidence of sites or items of significance on the site.	4.9.2	Appendix A Attachment E
	DOP	Evidence of recent consultation with the community in relation to the proposed expansion and any potential concerns raised by neighbours must be provided with broad mechanisms for ongoing consultation.	Community consultation with potentially affected residents was undertaken prior to and after the Planning Focus Meeting and is discussed in the EA.	1.11	

Issue	Government Authority	Regulator Questions/Comments	Winery Expansion Project Response	Refer to EA Section	Refer to Appendix
Air Quality	DOP	Include an assessment of the air quality impacts of the proposed development, prepared in accordance with the <i>Approved Methods for the Modelling and Assessment of Air Pollutants in NSW</i> (EPA, 2001), <i>Assessment and Management of Odour from Stationary Sources in NSW</i> (EPA, 2001) and <i>Technical Notes: Draft Policy: Assessment and Management of Odour from Stationary Sources in NSW</i> (EPA, 2001). This assessment must specifically focus on point source emissions, odour impacts, and particulate impacts during operation and construction works and its potential impacts on sensitive receptors.	A comprehensive assessment of air quality impacts is included in the EA. The assessment specifically focuses on point source emissions, odour impacts, and particulate impacts during operation and construction works and its potential impacts on sensitive receptors.	4.3	Appendix G
Noise	DOP	An assessment of the noise impacts of the proposed development during construction and operation, including operational traffic noise, consistent with the criteria and assessment guidance provided in: <i>NSW Industrial Noise Policy</i> (EPA, 1999) and <i>Environmental Criteria for Road Traffic Noise</i> (EPA, 1999).	A detailed assessment of the current and future noise impacts of the development is provided in the EA.	4.1	Appendix B
Visual	DOP	Impact of the proposed development on visual amenity with specific reference to the setback and view of the proposed development from the site boundary, adjacent roads, the public domain and any nearby private properties with particular consideration of external treatments of buildings and works and the local impacts of lighting.	A detailed description of the current and future visual amenity of the development is provided in the EA.	4.6	
Waste	DOP	Waste management, particularly with regard to what solid and liquid wastes would be generated during construction and operation, and how this waste would be reduced, reused, recycled or disposed of, in accordance with the DEC guideline <i>Assessment, Classification and Management of Liquid and Non-liquid Waste</i> .	A detailed description of waste management, including specific details of the types and quantities of liquid and solid wastes is provided in the EA. Waste management and mitigation measures in accordance with DEC EPA (1999) are also addressed in the EA.	4.1 4.2	
Consultation	DOP	Detail the results of consultation with Griffith City Council, Department of Environment and Conservation, NSW Heritage Council, local Aboriginal Land Council and community groups and potentially-affected residents, including how any issues raised by these parties have been addressed as part of the preparation of the EA.	Liaison with agencies was undertaken at the Planning Focus Meeting and comments are included in the EA. Community consultation with potentially affected residents was undertaken prior to and after the Planning Focus Meeting and is discussed in the EA.	1.11	Attachment A
Assessment of Hazard	DOP (brewery works)	An evaluation of the proposal with regard to any dangerous goods on the site should be undertaken. The evaluation should use the Department's publication <i>Applying SEPP 33</i> to verify if the quantity and locational thresholds are being exceeded.	A SEPP 33 risk screening was undertaken as part of the EA. The development is not considered a hazardous development and a Preliminary Hazard Assessment is not required.	4.7 4.7.1	Appendix C

Issue	Government Authority	Regulator Questions/Comments	Winery Expansion Project Response	Refer to EA Section	Refer to Appendix
		<p>If the thresholds are exceeded, a preliminary hazardous analysis (PHA), in accordance with <i>Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis</i>, should be included with the EA. If a PHA is required, the EA should also include:</p> <ul style="list-style-type: none"> • An outline of emergency/counter-disaster principles for the site. • A description of fire prevention and protection measures with details of the basis upon which they have been formulated and which includes proposals for separation of incompatible materials as well as retention and control of fire water run-off to ensure waterways are not contaminated with hazardous and other materials. • The adequacy of water supplies for fire fighting should also be addressed. • In addition, any proposal to monitor and reduce environmental impacts should be included. 	<p>The development is not considered a hazardous development and a Preliminary Hazard Assessment is not required.</p>	<p>4.7.1</p>	<p>Appendix C</p>

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