

Appendix D

Project Environmental Risk Register



Risk Category	Risk Ref. Number	Potential Issue / Risk (Impact)	Loss Type	Inherent/Existing Controls and/or Management Responses	RCE	Inherent Controls			Proposed Additional Controls and/or Management Actions	Comments / Notes	Responsibility	
						C	L	Rating				
Project Planning and Consultation	001	Issues and/or objections received from local community during the development exhibition period delays consent.	CR, MI, FI	Legislative development assessment process for SSD under Part 4 of the EP&A Act.	Improving	2	B	2B	II	Ensure the assessment and consultation requirements specified in the SEARs, where applicable & appropriate, are undertaken. Prepare and implement a consultation register.	SLR / ProTen	
	002	Issues raised by government agencies during the development exhibition and assessment phases delays consent.	CR, MI, FI	Legislative development assessment process for SSD under Part 4 of the EP&A Act.	Improving	2	C	2C	II	Ensure the assessment and consultation requirements specified in the SEARs, where applicable & appropriate, are undertaken. Prepare and implement a consultation register.	SLR / ProTen	
Agronomic and Land Use Conflict	NA	The potential for conflict between the proposed poultry development and the existing surrounding agricultural production activities is considered low. The proposed PPU sites are relatively small and the commercial activity associated with the development will be largely confined to these areas. For further discussion refer to the Project Briefing Paper.										
Air Quality	003	Proposed poultry development generates unacceptable odour emissions impacting on surrounding privately-owned residences.	CR, EN, LC	Development site is removed from any urban areas and there is a low density of surrounding privately-owned residences. Specialist air quality consultancy (Pacific Environment) has been engaged to undertake appropriate assessment and reporting, including cumulative impacts. Development design. ProTen's knowledge and experience, including best management practices.	Improving	3	C	3C	III	Based on PacEnv's Air Quality Impact Assessment, ensure best practice development design, management practices and mitigation measures are implemented. If necessary, undertake additional consultation with the EPA. Include air quality management in an Operational EMP.	Air quality is a sensitive issue associated with intensive poultry. It is inevitable that there may be the <u>intermittent</u> release of some fugitive odours and particulate matter during the production cycle. However this statement is applicable to many agricultural pursuits. The odour and particulate matter produced in broiler farms (as proposed) is generally less than that associated with older poultry and also other intensive livestock operations (e.g. piggeries and cattle feedlots).	SLR, PacEnv and ProTen
	004	Construction and operation of the proposed poultry development generates unacceptable particulate matter emissions impacting on surrounding privately-owned residences.	CR, EN, LC	Development site is removed from any urban areas and there is a low density of surrounding privately-owned residences. Specialist air quality consultancy (PacEnv) has been engaged to undertake appropriate assessment and reporting, including cumulative impacts. Development design. ProTen's knowledge and experience, including best practice management.	Improving	2	B	2B	II			
Noise	005	Construction and operation of the proposed poultry development generates unacceptable noise levels at surrounding privately-owned residences.	CR, EN, LC	Development site is removed from any urban areas and there is a low density of surrounding privately-owned residences. Specialist noise consultancy (Global Acoustics) has been engaged to undertake appropriate assessment and reporting, including cumulative impacts. Development design. ProTen's knowledge and experience, including best practice management.	Improving	2	B	2B	II	Based on Global Acoustics' Noise Impact Assessment, ensure best practice development design, management practices and mitigation measures are implemented. If necessary, undertake appropriate consultation with the relevant agencies. Include noise management in the Operational EMP.		
	006	Traffic movements associated with the proposed poultry development generate unacceptable noise levels at residences along the primary transport route/roads.	CR, EN, LC	Apart from the designated heavy vehicle transport routes through Griffith, there is a low density of residences along the primary transport route. Specialist noise consultancy (Global Acoustics) has been engaged to undertake the appropriate assessment and reporting, including cumulative impacts.	Improving	2	B	2B	II			
Traffic and Transport	007	Traffic movements associated with the operation of the proposed poultry development increases impacts and/or safety risks on local traffic and transport routes.	HS, CR, LC	Development site is located within a rural environment on the Sturt Highway, which appears in adequate condition. A new intersection will be required off the Sturt Highway to the development site. Specialist traffic consultancy (RoadNet) has been engaged to undertake appropriate assessment and reporting. Relevant contribution(s) will be imposed for road maintenance works under the applicable Section 94 plan.	Improving	3	C	3C	III	Based on RoadNet's Traffic Assessment, ensure necessary road works, management practices and mitigation measures are implemented. If necessary, undertake additional consultation with relevant agencies. Include traffic and transport in the Operational EMP.	Intersection construction on the Sturt Highway will require consultation with RMS.	SLR, RoadNet and ProTen
Lighting	008	External development lighting negatively impacts upon surrounding privately-owned residences.	CR	Development site is removed from any urban areas and there is a low density of surrounding privately-owned residences. Development design.	Satisfactory	2	A	2A	I	External lighting to be addressed in the EIS, including best management practices and mitigation measures. Include external lighting in the Operational EMP.	The primary source of external lighting will comprise one luminaire mounted over the loading-unloading pad areas of each poultry shed. Each luminaire will be aimed downwards and will only be switched on when the loading-unloading areas are in use outside of daylight hours of during times of heavy fog.	SLR
Flora and Fauna	009	Proposed poultry development will impact upon threatened flora and fauna.	EN	The proposed disturbance footprints are highly disturbed and do not appear to support significant vegetation.	Satisfactory	2	B	2B	II	Flora and fauna to be addressed in the EIS, including best management practices and mitigation measures. This is to include: - a search of OEH's "Bionet Atlas of NSW Wildlife"; and - a EPBC Act Protection Matters Search on DE's website. Include flora and fauna management in the Operational EMP.	The development site is highly modified and largely devoid of significant vegetation due to historic land clearing and long-term agricultural production activities.	SLR
Water Resources	010	Proposed poultry development will result in unacceptable impacts to the flow and/or quality of local surface water and/or groundwater resources.	EN	No notable surface water or drainage features identified within the development site. Development operation will be subject to the conditions imposed by the EPL administered by the EPA. Broiler complexes are largely dry operations with minimal chemical usage. Development design, including fully sealed shed floors and perimeter concrete dwarf walls, and engineered surface water management system. No on-site mass disposal of birds in the event of a mass mortality is proposed, therefore no potential impact on groundwater as a result.	Improving	2	B	2B	II	Engage a suitably qualified consultant to develop engineered surface water management system. Include water management in the Operational EMP.		SLR and engineering consultancy
		Flooding in the area resulting in isolation of the farm.	FI	A minimum of 5 different options exist for access to and from the development site, minimising the risk of isolation during a flood event.	Improving	2	B	2B	II	A flood management plan will be prepared as part of the EIS		SLR and ProTen

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Heritage	011	Proposed poultry development will impact upon areas/sites of Aboriginal cultural heritage significance.	CR	The proposed disturbance footprints are highly disturbed. OzArk engaged to prepare an Aboriginal Heritage Impact Assessment of the proposed development.	Improving	2	B	2B	II	Cultural heritage to be addressed in the EIS, including best management practices and mitigation measures. OzArk engaged to undertake an Aboriginal Heritage Impact Assessment. This is to include a search of OEH's AHIMS database. Include Aboriginal heritage in the Operational EMP.	The development site is highly modified and disturbed due to historic land clearing and long-term agricultural production activities.	SLR
	012	Proposed poultry development will impact upon items of European heritage significance.	CR	The proposed disturbance footprints are highly disturbed.	Improving	2	A	2A	I	European heritage to be addressed within the EIS, including best management practices and mitigation measures. Include European heritage in the Operational EMP.		SLR
Visual Amenity	013	Proposed poultry development adversely impacts upon the visual amenity of the local area.	CR	Development site is located in a rural environment removed from any urban areas and there is a low density of surrounding privately-owned residences. Development design.	Improving	2	C	2C	II	Visual amenity to be addressed in the EIS, including best management practices and mitigation measures. Include a Landscaping Strategy in the EIS. Include visual amenity in the Operational EMP. Visual amenity would be included in an Operational Management Plan.	The proposed PPU sites are relatively small and the commercial activity associated with the development will be largely confined to these areas. The development site is highly modified and largely devoid of significant vegetation cover due to historic clearing and long-term agricultural production activities.	SLR
Greenhouse Gas	014	Proposed poultry development leads to unacceptable additional greenhouse gas emissions.	EN, CR	Tunnel-ventilated fully-enclosed climate-controlled poultry sheds (as proposed) improve efficiency by continuously monitoring parameters such as light, temperature, humidity and static pressure, and adjusting ventilation to suit conditions. As such, the development will require less energy to regulate the internal conditions of the poultry sheds. It is understood that a series of larger sheds (as proposed) is more energy efficient to operate than a greater number of smaller sheds.	Satisfactory	2	B	2B	II	Greenhouse gas and energy efficiency to be addressed within the EIS, including best management practices and mitigation measures.		SLR
Site Services	015	Inadequate servicing infrastructure is available to service the proposed poultry development.	FI, MI, LC	Consultation has commenced with Essential Energy regarding the upgrade of electricity in the area to service the development site. Consultation has also commenced with NSW Office of water regarding water supply.	Improving	3	B	3B	III	Continue consultation with the relevant service providers to ensure requirements can be met. Address site servicing provisions in the EIS.		ProTen and SLR
Waste Management	016	Inappropriate storage and/or disposal of waste materials generated by the poultry operation results in environmental risks and/or impacts to surrounding populace (e.g. odour).	EN, CR	ProTen's knowledge and experience, including best practice management. ProTen has committed to no on-site stockpiling or disposal of waste materials. Development operation will be subject to the conditions imposed by the EPL administered by the EPA.	Improving	2	B	2B	II	Waste management to be addressed in the EIS, including best management systems and mitigation measures. Include waste management in the Operational EMP.	ProTen has committed to no on-site stockpiling or disposal of waste materials.	SLR
Chemicals	017	Inappropriate storage and use of chemicals, or inappropriate management and disposal of chemical containers, results in environmental risk or incident.	EN, HS	ProTen's knowledge and experience, including best practice management. Development design, including fully sealed shed floors and concrete dwarf walls. Poultry developments typically have limited chemical requirements. Development operation will be subject to the conditions imposed by the EPL administered by the EPA.	Improving	2	B	2B	II	Chemical management to be addressed within the EIS, including best management practices and mitigation measures. Include chemical management in the Operational EMP.		SLR
Poultry Disease	018	A major poultry disease outbreak at the development site.	CR, MI, FI	ProTen's knowledge and experience, including best practice management and strict biosecurity procedures. Development design and operation, including PPU separation, strategic timing of bird placement, pest control measures, etc.	Satisfactory	3	A	3A	II	Poultry disease, disease prevention and disease management (in the unlikely event of an outbreak) to be addressed within the EIS, including biosecurity measures. Include biosecurity in the Operational EMP.	ProTen has demonstrated a strict biosecurity commitment and will implement a range of proven biosecurity measures. These, with Australia's strong record on quarantine and stringent disease control measures, will be key to maintaining flock health.	SLR
Pest Populations	019	Poor farm management leads to increased pest populations.	HS, CR, EN	ProTen's knowledge and experience, including best management practices and pest control measures. Development design and operation.	Satisfactory	2	B	2B	II	Pest management to be addressed within the EIS, including best management practices and mitigation measures. Include pest management in the Operational EMP.		SLR
Cumulative Impacts	NA	Cumulative impacts will be addressed in the EIS, including air quality, noise and traffic.										
Socio-Economic	NA	The potential for notable adverse socio-economic impacts as a result of the proposed poultry development, including upon local land use and amenity, is considered minimal. The proposal actually presents the opportunity for significant and sustained economic activity within the Narrandera LGA and local region.										

CONSEQUENCE CRITERIA

RATING	FINANCIAL IMPACT (\$AUD)	HEALTH & SAFETY	ENVIRONMENT	COMMUNITY / REPUTATION	LEGAL & COMPLIANCE	MANAGEMENT IMPACT
5	>\$1M+ loss or gain	<ul style="list-style-type: none"> - Multiple fatalities; or - Significant irreversible effects to 10's of people 	<p>Category 5 An incident that has caused disastrous environmental impact with long term effect requiring major remediation</p>	<ul style="list-style-type: none"> - Prominent negative international media coverage over several days - Significant negative impact on share price for months 	<ul style="list-style-type: none"> - Major litigation or prosecution with damages of \$10M+ plus significant costs - Custodial sentence for company executive - Prolonged closure of operations by authorities 	<ul style="list-style-type: none"> - Disaster with long term significant impact on the business that requires senior executives to spend considerable time to handle for several months - Full implementation of business-wide crisis management plan
4	\$250K - \$1M loss or gain	<ul style="list-style-type: none"> - Single fatality; and/or - Sever irreversible disability to one or more persons 	<p>Category 4 An incident that has caused serious environmental impact with medium term effect requiring significant remediation</p>	<ul style="list-style-type: none"> - National media coverage over several days - Significant negative impact on share price for weeks - Community / NGO legal actions - Impact on local economy 	<ul style="list-style-type: none"> - Major litigation costing \$1M+ - Investigation by regulatory body resulting in long term interruption to operations - Possibility of custodial sentence 	<ul style="list-style-type: none"> - Critical event or disaster with significant impact on a business unit that requires considerable senior management time to handle over several months - Full implementation of a business unit crisis management plan
3	\$50K - \$250K loss or gain	<ul style="list-style-type: none"> - Extensive injuries or irreversible disability or impairment to one or more persons 	<p>Category 3 An incident that has caused moderate reversible environment impact with short term effect requiring moderate remediation</p>	<ul style="list-style-type: none"> - Local media coverage over several days - Negative impact on local economy - Persistent community complaints 	<ul style="list-style-type: none"> - Major breach of regulation with punitive fine - Significant litigation involving many weeks of senior management time 	<ul style="list-style-type: none"> - Major event that requires the implementation of crisis contingency plans at a site level - Will require the involvement of business level managers and will take up the time of site managers for several weeks
2	\$5k - \$50K loss or gain	<ul style="list-style-type: none"> - Medium term largely reversible disability to one or more persons - Significant medical treatment, disabling or lost time injury <2 weeks 	<p>Category 2 An incident that has caused minor reversible environmental impact requiring minor remediation</p>	<ul style="list-style-type: none"> - Local media coverage - Complaint to site and/or regulator 	<ul style="list-style-type: none"> - Breach of regulation with investigation or report to authority with prosecution and/or moderate fine possible 	<ul style="list-style-type: none"> - Significant event that can be managed with careful attention – will take some site-level management time over several days - Local operation emergency and crisis response plan implemented
1	<\$5k loss or gain	<ul style="list-style-type: none"> - First aid treatment or minor medical treatment 	<p>Category 1 An incident that has caused negligible reversible environmental impact requiring very minor or no remediation</p>	<ul style="list-style-type: none"> - No media coverage - No community complaints 	<ul style="list-style-type: none"> - Minor legal issues, non-compliances and breaches of regulation 	<ul style="list-style-type: none"> - Local operation of contingency plan - Will require some local management attention over several days

LIKELIHOOD CRITERIA

CATEGORY	CRITERIA
E	<ul style="list-style-type: none"> - 99% probability; or - Impact is occurring now; or - Could occur within "days to weeks"
D	<ul style="list-style-type: none"> - >50% and <99% probability; or - Balance of probability will occur; or - Could occur within "weeks to months"
C	<ul style="list-style-type: none"> - >20% and <50% probability; or - May occur shortly but a distinct probability it won't; or - Could occur in "years to decades"
B	<ul style="list-style-type: none"> - >1% and <20% probability; or - May occur but not anticipated; or - Could occur in "years to decades"
A	<ul style="list-style-type: none"> - <1% probability; or - Occurrence requires exceptional circumstances; or - Exceptionally unlikely, even in the long term future; or - Only occur as a "100 year event"

RISK MATRIX

LIKELIHOOD RATING	E	II	III	IV	V	V
	D	II	III	IV	IV	V
	C	I	II	III	IV	IV
	B	I	II	III	III	IV
	A	I	I	II	III	III
		1	2	3	4	5
CONSEQUENCE RATING						

RISK CONTROL EFFECTIVENESS (RCE)

RCE	GUIDE
Satisfactory	Nothing more to be done except review and monitor the existing controls. Controls are well designed for the risk, are largely preventative and address the root causes and Management believes that they are effective and reliable at all times. Reactive controls only support preventative controls
Improving	Most controls are designed correctly and are in place and effective. Some more work to be done to improve operating effectiveness or Management has doubts about operational effectiveness and reliability.
Poor	While the design of controls may be largely correct in that they treat most of the root causes of the risk, they are not currently very effective. There may be an over-reliance on reactive controls or some of the controls do not seem correctly designed in that they do not treat root causes, those that are correctly designed are operating effectively.
Very Poor	Significant control gaps. Either controls do not treat root causes or they do not operate at all effectively. Controls if they exist are just reactive.
None	Virtually no credible control. Management has no confidence that any degree of control is being achieved due to poor control design and/or very limited operational effectiveness.