

Development Consent

Section 89E of the *Environmental Planning and Assessment Act 1979*

As delegate for the Minister for Planning under delegation executed on 14 September 2011, I approve the Development Application referred to in Schedule A, subject to the conditions in Schedules B to D.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the Development.



Anthea Sargeant
Executive Director
Key Sites and Industry Assessments

Sydney

1 July,

2016

SCHEDULE A

Application No.:	SSD 6281
Applicant:	Dongmun Greentec Pty Ltd
Consent Authority:	Minister for Planning
Land:	Lot 234, 272 and 273 DP 756325, Deniliquin Barham Road, Deniliquin
Development:	Construction and operation of an ethanol production plant

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DEFINITIONS

Applicant, the	Dongmun Greentec Pty Ltd, or anyone else entitled to act on this consent
B-Double	A combination consisting of a prime mover towing 2 semi-trailers where the first semi-trailer is connected to the prime mover by a fifth wheel coupling and the second semi-trailer is connected to the first semi-trailer by a fifth wheel coupling
BCA	<i>Building Code of Australia</i>
CEMP	Construction Environmental Management Plan
Certifying Authority	Means a person who is authorised by or under section 109D of the <i>Environmental Planning and Assessment Act 1979</i> to issue certificates
Construction	The demolition of buildings or works, the carrying out of works, including bulk earthworks, and erection of buildings and other infrastructure covered by this consent
Council	Edward River Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment or its successors
Development	The Development to which this consent applies, as described in Schedule A, being for the construction and operation of an ethanol production plant
DPI	NSW Department of Primary Industries
EEC	Endangered Ecological Communities
EIS	Environmental Impact Statement titled, " <i>Deniliquin Ethanol Plant Environmental Impact Statement</i> ", prepared by AECOM, dated 2 October 2015
ENM	Excavated natural material
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence under the <i>Protection of the Environment Operations Act 1997</i>
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build
Heavy vehicle	Any vehicle with a gross vehicle mass of 5 tonnes or more
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement such as a shared associations in pastoral landscapes as well as associations linked with the mission period
Heritage Item	An item as defined under the <i>Heritage Act 1977</i> , and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the <i>National Parks and Wildlife Act 1974</i>
ICNG	NSW Interim Construction Noise Guideline, DECC 2009
Incident	A set of circumstances that: • causes or threatens to cause material harm to the environment; and/or • breaches or exceeds the limits or performance measures/criteria in this consent
INP	NSW Industrial Noise Policy, EPA 2000
Management and Mitigation Measures	The Management and Mitigation Measures at Appendix 1 of this consent
Minister	Minister for Planning (or delegate)

Mitigation	Activities associated with reducing the impacts of the Development prior to or during those impacts occurring
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
OEH	Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
RMS	Roads and Maritime Services
RTS	Response to Submissions titled, " <i>Deniliquin Ethanol Plant Response to Submissions</i> ", prepared by AECOM, dated 12 May 2016
Secretary	Secretary of the Department of Planning and Environment, or nominee
Site	Land referred to in Schedule A
VENM	Virgin excavated natural material

SCHEDULE B

ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

- B1. In addition to meeting the specific performance criteria established under this consent, the Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the Development.

TERMS OF CONSENT

- B2. The Applicant shall carry out the Development in accordance with the:
- (a) State Significant Development Application SSD 6281;
 - (b) the EIS and RTS;
 - (c) the Management and Mitigation Measures located at Appendix 1; and
 - (d) the plans and drawings located at Appendix 2.
- B3. If there is any inconsistency between the plans and documentation referred to in Condition B2 above, the most recent document shall prevail to the extent of the inconsistency. However, conditions of this consent prevail to the extent of any inconsistency.
- B4. The Applicant shall comply with any reasonable requirement(s) of the Secretary arising from the Department's assessment of:
- (a) any reports, plans or correspondence that are submitted in accordance with this consent; and
 - (b) the implementation of any actions or measures contained within these documents.

LIMITS OF CONSENT

- B5. This consent lapses five years after the date from which it operates, unless the Development has physically commenced on the land to which the consent applies before the date on which the consent would otherwise lapse under Section 95 of the Act.
- B6. The Applicant shall not produce on site more than 115 million litres of ethanol per year.
- B7. With the exception of traffic movements between the site and the Deniliquin Rice Growers Rail Siding, the Applicant shall ensure that no more than 30 percent of raw materials and output products are transported by road.

Note: Any increase in road traffic above 30 percent as a result of the Development shall be subject to further assessment as part of a modification to the consent.

STATUTORY REQUIREMENTS

- B8. The Applicant shall ensure that all licences, permits and approvals are obtained and kept up to date as required throughout the life of the Development. No condition of this consent removes the obligation the Applicant to obtain, renew or comply with such licences, permits or approvals.

STRUCTURAL ADEQUACY

- B9. The Applicant shall ensure all new buildings and structures on the site are constructed in accordance with the relevant requirements of the *Building Code of Australia* (BCA).

Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.

STAGED SUBMISSION OF PLANS AND PROGRAMS

- B10. With the approval of the Secretary, the Applicant may:

- (a) submit any strategy, plan or program required by this consent on a progressive basis; and/or
- (b) combine any strategy, plan or program required by this consent.

DISPUTE RESOLUTION

B11. In the event of a dispute between the Applicant and a public authority, in relation to an applicable requirement in this consent or relevant matter relating to the Development, either party may refer the matter to the Secretary for resolution. The Secretary's determination of any such dispute shall be final and binding on the parties.

UTILITIES AND SERVICES

B12. Utilities, services and other infrastructure potentially affected by the construction and operation of the Development shall be identified prior to construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the Development shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The cost of any such arrangements shall be borne by the Applicant.

OPERATION OF PLANT AND EQUIPMENT

B13. The Applicant must ensure that any plant and equipment used on site, or in connection with the Development is operated and maintained in a proper and efficient manner.

HEADWORKS

B14. Prior to the issue of a construction certificate headworks charges must be paid to Council pursuant to Section 306 of the *Water Management Act 2000* and the Council's '*Water and Sewer Demand Assessment Policy*', '*Development Servicing Plan for the Deniliquin Sewerage Scheme*' and '*Development Servicing Plan for the Deniliquin Water Supply Scheme*' of headworks charges.

Determination of the number of equivalent tenements to be paid will be determined upon submission by the Applicant of an estimation of the equivalent tenements for water consumption and volumes to be discharged to Council's sewer.

The headworks charges are those that apply at the date of issue of this consent. Rates are adjusted annually on 1 July. Contributions will only be accepted at the rate applying at the date of payment. Council's Technical Services should be contacted to confirm the contribution amount.

If Council is to construct the water and sewer services to the subject site, headworks will be required to be paid prior to the commencement of any works.

PROTECTION OF PUBLIC INFRASTRUCTURE

B15. The Applicant shall:

- (a) prepare a dilapidation report of the public infrastructure in the vicinity of the site (including roads, gutters, footpaths), in consultation with Council, and submit a copy of this report to the Department prior to the commencement of construction;
- (b) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the Development; and
- (c) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the Development.

POSITIVE COVENANTS – NON-RESIDENTIAL LOW PRESSURE SEWER

B16. A positive covenant over the site is to be created stating the following:

- (a) any buildings erected on the site containing fixtures required to be connected to the sewerage system are to be connected to a low pressure sewerage system;
- (b) the registered proprietor must enter into a formal and ongoing maintenance agreement with Council regarding operation of the system;

- (c) the registered proprietor will be responsible to pay for the power used by the pumping unit;
- (d) any buildings incorporating a liquid waste disposal system erected on the site are to be connected to the low pressure sewerage system, or such other system; and
- (e) the pumping unit associated fittings and the pipe from the unit to the sewer main will remain the property of Council or its successors.

MAINTENANCE BOND

B17. Prior to the issue of an Occupation Certificate a maintenance bond is to be lodged with Council which is five percent of the total contract price of the engineering works associated with the development or \$500, whichever is the greater. The bond covers works for which Council shall have responsibility for following construction. The Applicant is to submit a copy of the successful quote(s) for the works in order for Council to calculate the cost of the maintenance bond. Council has the right to review the submitted quotes if they do not appear to be a realistic value.

SCHEDULE C

ENVIRONMENTAL PERFORMANCE

AIR QUALITY AND ODOUR

Air Quality Discharges

- C1. The Applicant shall install and operate equipment in line with best practice to ensure that the Development complies with all load limits, air quality criteria and air quality monitoring requirements as specified in the EPL for the site.

Odour

- C2. The Applicant shall ensure the Development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).

Post-Commissioning Air Emissions Report

- C3. Within 12 months of the completion of commissioning, the Applicant must undertake a post-commissioning air emissions report to verify the major emission sources assessed in the air quality impact assessment report (*Deniliquin Ethanol Plant - Revised Air Quality Assessment*, prepared by AECOM dated 20 April 2016). The post-commissioning air emissions report must include:
- (a) post-commissioning sampling and analysis of all pollutants from the steam boiler discharge point, waste heat boiler discharge point and CO₂ scrubber. Sampling must be undertaken by a suitably qualified person and in accordance with the requirements specified in the *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW*;
 - (b) records of the operating capacity and process rate of the activity at the time of sampling;
 - (c) a comparison of the results of the post-commissioning sampling and analysis with the modelled emissions in the air quality impact assessment and demonstrate compliance with the ground level criteria in the *Approved Methods for Modelling and Assessment of Air Pollutants in NSW*;
 - (d) an assessment of the results of the post-commissioning sampling and analysis with the EPL limit conditions; and
 - (e) if necessary, recommend, prioritise and implement measures to improve air quality controls on site to ensure the Development meets relevant criteria and protects off-site receivers from nuisance emissions.

Dust Management

- C4. The Applicant shall carry out all reasonable and feasible measures to minimise dust generated by the Development.
- C5. During construction and operation of the Development, the Applicant shall ensure that:
- (a) all vehicles on-site do not exceed a speed limit of 60 kilometres per hour;
 - (b) all loaded vehicles entering or leaving the site have their loads covered;
 - (c) all loaded vehicles leaving the site are cleaned of dirt, sand and other materials before they leave the site, to avoid tracking these materials on public roads; and
 - (d) all heavy vehicles do not use engine brakes.

BIODIVERSITY

Pre-Clearance Surveys

- C6. Prior to commencement of construction or any clearing works, pre-clearance flora and fauna surveys shall be undertaken by a suitably qualified person in accordance with the Management Measures FF1 and FF2 specified in Table 13.1 of the RTS. The pre-clearance survey area will

include site access roads and Line Road intersection, waste storage areas and any other area where vegetation will be disturbed or cleared during construction and operation of the Development.

Biodiversity Management Plan

- C7. Prior to clearing for construction, the Applicant shall prepare a **Biodiversity Management Plan** (BMP) for the Development in collaboration with the OEH to the satisfaction of the Secretary. The Biodiversity Management Plan will be in place prior to clearing for construction and shall form part of the CEMP in Condition D1 and include the following:
- (a) results of pre-clearance surveys for threatened fauna and ecological communities (as required by Condition C6);
 - (b) results of pre-clearance surveys for flora (including threatened species) (as required by Condition C6);
 - (c) a Plains Wanderer Habitat Management protocol, including maintaining grassland habitats by not planting native trees and shrubs in native grassland or Plains-wanderer habitat;
 - (d) details of vegetation clearing, including staging and season of hollow-bearing tree removal to consider requirements of bats hibernating in winter and bird breeding in spring, topsoil handling and storage and fauna rescue;
 - (e) weed management protocol;
 - (f) details of revegetation and a vegetation management protocol;
 - (g) a fauna management plan incorporating biodiversity management actions (based on results of pre-clearance surveys);
 - (h) a biodiversity offset strategy in accordance with the *Framework for Biodiversity Assessment* (OEH 2014) and the *NSW Biodiversity Offsets Policy for Major Projects* (OEH 2014);
 - (i) a monitoring and reporting program; and
 - (j) a process for evaluating the effectiveness of biodiversity management actions.

TRAFFIC AND TRANSPORT

Site Access, Internal Roads and Parking

- C8. The Applicant shall ensure that:
- (a) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the Development are constructed and maintained in accordance with the latest versions of AS 2890.1 and AS 2890.2;
 - (b) at least one carparking space per 100 carparking spaces or part thereof is provided on-site for people with disabilities, and designed in accordance with AS 2890.6 – 2009;
 - (c) access for people with disabilities is provided in accordance with AS 1428.1 – 2009;
 - (d) the number of and design of any access driveway(s) to the site is to the satisfaction of Council, in accordance with the Austroads *Guide to Road Design* and is to include the sealing of the access driveway from the edge of the road seal/driveway crossover to the front boundary;
 - (e) the location of any access driveway is located, constructed and maintained to provide Safe Intersection Sight Distance (SISD) in either direction along the carriageway of Deniliquin-Barham Road;
 - (f) the swept path of the longest vehicle entering and exiting the subject site, as well as manoeuvrability through the site, is in accordance with Austroads guidelines;
 - (g) the Development does not result in any vehicles queuing on the public road network;
 - (h) heavy vehicles and bins associated with the Development do not park or stand on local roads or footpaths in the vicinity of the site;
 - (i) all vehicles are wholly contained on site before being required to stop;
 - (j) all vehicles shall enter and exit the site in a forward direction;
 - (k) all loading and unloading of materials is carried out on site;
 - (l) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times;
 - (m) all trucks entering or leaving the site with loads have their loads covered;

- (n) trucks associated with the Development do not track dirt onto the public road network; and
- (o) entry and exit signs are erected within the site boundaries clearly identifying each driveway to the users of the site.

C9. Prior to the commencement of operation, the Applicant is to obtain appropriate approval from Council under the Heavy Vehicle National Law for the use of Leetham Road by B-Double trucks or road trains.

Road Works

C10. Prior to the commencement of construction, the Applicant shall prepare a road condition report to the satisfaction of Council to identify the existing condition of local roads and intersections used during construction and operation of the Development. For the purposes of preparing this report, and for the purposes of Condition C11, the Applicant shall establish the condition of roads and intersections by field surveys and regular site inspections during construction and operation.

C11. Prior to the commencement of construction, the Applicant shall enter into a road maintenance agreement with Council to repair damage to the road network caused by heavy vehicle movements associated with the construction and operation of the Development. Rehabilitation of the pavement and/or edges of seal, shoulders and verges shall be carried out in accordance with the road maintenance agreement. All costs of rehabilitation and repairs shall be borne by the Applicant.

C12. Prior to the commencement of construction, the Applicant shall obtain a road opening permit shall be obtained for any works being undertaken within the road reserve.

C13. Prior to the commencement of operation, the Applicant is to construct Leetham Road from its intersection with Barham Road and along the frontage of the site and extending a distance of 20 metres past the south eastern boundary of the site, including a full road seal and drainage in accordance with the specifications outlined in Council's Development Manual.

C14. Works associated with the Development shall be at no cost to the RMS.

Traffic Management Plan

C15. Prior to the commencement of construction, the Applicant shall prepare a **Traffic Management Plan** (TMP) for the Development in consultation with Council and to the satisfaction of the Secretary. The plan shall form part of the CEMP required under Condition D1. The TMP shall:

- (a) describe the number, type and duration of the vehicle movements;
- (b) include a swept path analysis for construction vehicles, where appropriate;
- (c) detail the measures that would be implemented to ensure road safety, network efficiency and access during construction;
- (d) identify any hazards and risks associated with the movement of construction vehicles through and along the railway corridor, including at level crossings;
- (e) identify appropriate controls to address any hazards and risks identified in (d) above;
- (f) focus on the management of light and heavy vehicle traffic generated by the construction activity of the Development, the potential impacts, the measures to be implemented, and the procedures to monitor and ensure compliance;
- (g) contain a drivers code of conduct to:
 - (i) minimise the impacts of construction on the local and regional road network; and
 - (ii) minimise conflicts with other road users.
- (h) detail heavy vehicle routes, access and parking arrangements; and
- (i) if necessary, detail procedures for notifying any nearby residents of any potential disruptions to routes.

Pre-Construction Traffic and Transport Study

- C16. Prior to the commencement of construction, the Applicant shall undertake a traffic and transport study in consultation with the RMS and to the satisfaction of the Secretary. The study shall verify the predicted traffic and transport impacts in the *Traffic and Transport Technical Report*, prepared by AECOM dated 2 October 2015. The study shall:
- (a) detail the number and type of vehicles to be generated by the proposed development;
 - (b) identify transport / haulage routes to be utilised by traffic generated by the proposed development;
 - (c) determine mode share between road and rail;
 - (d) include SIDRA modelling to demonstrate that traffic generated by the proposed development and any other development on site could be safely accommodated by the road network;
 - (e) detail any necessary road and infrastructure upgrades and interim access arrangements;
 - (f) include details of parking provision; and
 - (g) provide evidence from the rail infrastructure and Rice Growers Rail Siding owner, manager and operator that sufficient capacity and infrastructure requirements will be provided.

Note: Any increase in the 30 percent mode share for transportation of raw materials and products by road shall be subject to a separate modification application to the Minister.

Operational Traffic Movements

- C17. The Applicant shall keep accurate records of the volume of inputs and processed goods transported via rail and on public roads and the associated traffic movement numbers on a monthly basis. These records shall be made available at the request of either Council or the RMS.
- C18. Prior to the commencement of operation, the Applicant shall prepare a **Transport Management Plan**, prepared in consultation with Council and RMS, and to the satisfaction of the Secretary. The Plan shall form part of the OEMP required by Condition D4 and be prepared in accordance with Condition D6. The Plan shall:
- (a) outline measures to manage traffic related issues associated with the operation of the ethanol plant;
 - (b) focus on the management of light and heavy vehicle traffic generated by the Development, the potential impacts, the measures to be implemented, and procedures to monitor and ensure compliance;
 - (c) detail measures to minimise queuing and stacking at the level crossing on Ricemill Road to reduce impact on other road users;
 - (d) include a Transport Protocol for heavy vehicle drivers in the transportation of goods and measures to ensure compliance with and enforcement of the Protocol;
 - (e) identify any hazards and risks associated with the movement of operational vehicles through and along the railway corridor, including at level crossings; and
 - (f) identify appropriate controls to address any hazards and risks identified in (e) above.

WASTE MANAGEMENT

- C19. All waste materials generated by the Development shall be removed from the site on a daily basis and shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.
- C20. Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*, if such a licence is required in relation to that waste.
- C21. On site waste bins shall be provided for waste materials generated during construction and a bin(s) with a tight fitting lid for food scraps.

HAZARD AND RISK

Pre-construction

- C22. At least one month prior to the commencement of construction of the Development (except for construction of those preliminary works that are outside the scope of the hazard studies), or within such further period as the Secretary may agree, the Applicant shall prepare and submit for the approval of the Secretary the studies set out under subsections (a) to (c) (the pre-construction studies). Construction, other than of preliminary works, shall not commence until approval has been given by the Secretary and, with respect to the Fire Safety Study, approval has also been given by the Commissioner of the NSW Fire Brigades.
- (a) A Fire Safety Study for the Development. This study shall cover the relevant aspects of the Department's Hazardous Industry Planning Advisory Paper No. 2, 'Fire Safety Study Guidelines' and the New South Wales Government's 'Best Practice Guidelines for Contaminated Water Retention and Treatment Systems'. The study shall also be submitted to the NSW Fire Brigades.
 - (b) A Hazard and Operability Study for the Development, chaired by an independent qualified person approved by the Secretary prior to the commencement of the study. The study shall be carried out in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 8, 'HAZOP Guidelines'. The study report must be accompanied by a program for the implementation of all recommendations made in the report. If the Applicant intends to defer the implementation of a recommendation, justification must be included.
 - (c) A Final Hazard Analysis of the Development prepared in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 6, 'Guidelines for Hazard Analysis'. The Final Hazard Analysis shall report on the implementation of the safeguards at the site.

Pre-commissioning

- C23. The Applicant shall develop and implement the plans and systems set out under subsections (a) to (c) below. No later than two months prior to the commencement of commissioning of the Development, or within such further period as the Secretary may agree, the Applicant shall submit for the approval of the Secretary documentation describing those plans and systems. Commissioning shall not commence until approval has been given by Secretary.
- (a) Arrangements covering the transport of hazardous materials including details of routes to be used for the movement of vehicles carrying hazardous materials to or from the Development. The routes shall be selected in accordance with the Department's draft 'Route Selection' guidelines. Suitable routes identified in the study shall be used except where departures are necessary for local deliveries or emergencies.
 - (b) A comprehensive Emergency Plan and detailed emergency procedures for the Development. This plan shall include detailed procedures for the safety of all people outside of the Development who may be at risk from the Development. The plan shall be prepared in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 1, 'Industry Emergency Planning Guidelines'.
 - (c) A document setting out a comprehensive Safety Management System, covering all on-site operations and associated transport activities involving hazardous materials. The document shall clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures. Records shall be kept on-site and shall be available for inspection by Secretary upon request. The Safety Management System shall be developed in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 9, 'Safety Management'.

Pre-startup

- C24. One month prior to the commencement of operation of the Development, the Applicant shall submit to the Secretary, a **Pre-Startup Compliance Report** detailing compliance with conditions C22 and C23, including:
- (a) dates of study/plan/system submission, approval, commencement of construction and commissioning;

- (b) actions taken or proposed, to implement recommendations made in the studies/plans/systems; and
- (c) responses to any requirement imposed by the Secretary under Condition B4.

Post-startup

- C25. Three months after the commencement of operation of the Development, the Applicant shall submit to the Secretary, a **Post-Startup Compliance Report** verifying that:
- (a) transport routes specified under condition C23(a) are being followed;
 - (b) the Emergency Plan required under condition C23(b) is effectively in place and that at least one emergency exercise has been conducted; and
 - (c) the Safety Management System required under condition C23(c) has been fully implemented and that records required by the system are being kept.

NOISE

Construction Noise

- C26. The Applicant shall comply with the hours detailed in Table 1, unless otherwise agreed in writing by Council and the Secretary.

Table 1: Hours of Work

Activity	Day	Night
Earthworks and construction	Monday – Friday	7:00am to 6:00pm
	Saturday	8:00am to 1:00pm

- C27. The Development shall be constructed with the aim of achieving the construction noise management levels detailed in the ICNG. All feasible and reasonable noise mitigation measures shall be implemented and any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the CEMP.

Note: The ICNG identifies 'particularly annoying' activities that require the addition of 5dB(A) to the predicted level before comparing to the construction NML.

- C28. Where feasible and reasonable, operation noise mitigation measures shall be implemented at the start of construction (or at other times during construction) to minimise construction noise impacts.

Construction Noise Management Plan

- C29. Prior to the commencement of construction, the Applicant shall prepare a **Construction Noise Management Plan** (CNMP) for the Development in consultation with Council, to the satisfaction of the Secretary. The plan shall form part of the CEMP required under Condition D1. The CNMP shall:
- (a) identify each work area, site compound and access routes (both public and private);
 - (b) identify the specific activities that will be carried out and associated noise sources at the premises and access routes;
 - (c) identify all potentially affected sensitive receivers;
 - (d) include the construction noise objectives identified in accordance with the *NSW Interim Construction Noise Guideline*;
 - (e) details of potential noise and vibration from the proposed construction methods (including noise from construction traffic) against the objectives identified in (d);
 - (f) include an analysis of feasible and reasonable noise mitigation measures that can be implemented to reduce construction noise impacts where the objectives are predicted to be exceeded; and
 - (g) detail the management measures and specific noise mitigation treatments that will be implemented to control noise and vibration during construction.

Operational Noise Limits

- C30. The Applicant shall ensure that noise from the operation of the Development does not exceed the limits specified in Table 2 below at all privately owned residential premises:

Table 2: Noise Limits dB(A)

Location	Day L _{Aeq} (15 minute)	Evening L _{Aeq} (15 minute)	Night L _{Aeq} (15 minute)	Night L _{A1} (1 minute)
All privately owned residential premises	35	35	35	45

Note: Noise generated by the Development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the INP. Appendix 9 of the INP sets out the meteorological conditions under which this criterion applies.

Post-Commissioning Noise Compliance Report

- C31. A noise compliance report must be submitted to the EPA within three months of the completion of commissioning. The report must be prepared by a suitably qualified and experienced acoustical consultant and include:
- (a) an analysis of compliance with noise limits specified in Condition C30; and
 - (b) an outline of management actions to be taken to address any exceedances of the limits specified in Condition C30.

SOIL, WATER QUALITY AND HYDROLOGY

Construction Soil and Water Management

- C32. Prior to the commencement of construction, the Applicant shall prepare a **Soil and Water Management Plan** for the Development to the satisfaction of the Secretary. The plan shall form part of the CEMP required under Condition D1.
- C33. Soil and water management measures consistent with Managing Urban Stormwater - Soils and Construction Vol. 1 (Landcom, 2004) (the Blue Book) shall be employed during the construction of the Development to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters.
- C34. The Applicant shall provide evidence to the Secretary stating where the soil used for any filling of the land has been sourced from and that the soil is VENM/ENM.

Surface Water Discharge Limits

- C35. The Applicant shall ensure that all licensed surface water discharges from the site comply with the discharge limits (volume and quality) set for the Development in any EPL or relevant provisions of the POEO Act.

Stormwater

- C36. Prior to the commencement of operation, the Applicant shall prepare a **Stormwater Management Plan** for the Development to the satisfaction of the Secretary. The plan shall form part of the OEMP required under Condition D4 and be prepared in accordance with Condition D6. The plan must effectively mitigate the impacts of stormwater runoff from the site during operations and should be consistent with *Managing Urban Stormwater: Council Handbook* and the Applicant's Management and Mitigation Measures in Table 13.1 of the RTS.

- C37. All stormwater from the roof of the proposed buildings and all hardstand areas including the overflow from any rainwater tanks shall be disposed of to an on-site detention dam designed in accordance with AS3500.3 – 2003 – Plumbing and Drainage.

Bunding

- C38. The Applicant shall store all chemicals, fuels and oils used on-site in appropriately banded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's *Storing and Handling Liquids: Environmental Protection – Participants Handbook*.

Water Management Plan

- C39. Prior to the commencement of operation, the Applicant shall prepare a **Water Management Plan** to the satisfaction of Council that:
- (a) addresses the impact of the Development's water consumption on the Council town water supply;
 - (b) includes modelling of the proposed reservoir to be built in the industrial area to the east of the subject site; and
 - (c) contains a contingency plan for the operation of the facility during extreme weather events such as heat wave or drought. Examples of contingency options may include (but are not limited to) securing sufficient water access licences to service the facility during inclement conditions, or adjusting the scale of the operation to meet the available water supply.

Groundwater Management Plan

- C40. Prior to the commencement of operation, the Applicant shall prepare a **Groundwater Management Plan** in consultation with the Department of Primary Industries. The plan shall form part of the OEMP in Condition D4 and be prepared in accordance with Condition D6. The plan shall include:
- (a) an outline of all risks to groundwater quality due to the leakage of fuels, chemicals and on-site stored wastewater;
 - (b) baseline data on groundwater levels and quality;
 - (c) a program to monitor groundwater levels and quality;
 - (d) groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts; and
 - (e) a protocol for the investigation and mitigation of identified exceedances of the groundwater impact assessment criteria.

UTILITIES AND SERVICES

Approvals

- C41. Prior to the commencement of construction, the Applicant shall obtain the relevant license/approval from Council under section 68 of the *Local Government Act 1993* for all water supply, stormwater and sewerage works associated with the Development.
- C42. Prior to construction of any utility works, the Applicant must obtain relevant approvals from service providers.

Water Supply

- C43. Prior to the commencement of operation, Council's water main is to be extended to service the development including the installation of the required water meter(s).
- C44. All taps to fittings for drinking water are to be connected to the Council mains water supply once connected to the site. Alternatively, if town mains water supply is not connected to the site, the Applicant must develop and implement a Quality Assurance Program in accordance with the NSW Private Water Supply Guidelines to the satisfaction of Council.

- C45. A backflow prevention device is to be installed in accordance with AS3500 and Council requirements in order to prevent any process water / recycled water or tank water syphoning back to Council's water mains.

Low Pressure Sewer System

- C46. Prior to the commencement of operation, the Applicant must sign an owner's maintenance agreement and obtain an owner's manual outlining their responsibilities with regard to the low pressure sewer pump.
- C47. The sewer line is to be extended to the site, including the installation of a low pressure sewer unit.
- C48. Wastewater to be disposed to Council's sewer via the low pressure sewer system shall be limited to kitchen, toilet, shower and hand wash basic waste fixtures. No trade waste fittings or laboratory sinks or the like are to be connected to Council's sewer main unless a trade waste approval is obtained from Council.

Gas Supply

- C49. Prior to the commencement of construction, the Applicant must provide evidence to the Secretary that connection to an appropriate and adequate gas supply for operation of the Development can be provided.

LANDSCAPE

External Lighting

- C50. All external lighting associated with the Development shall be mounted, screened, and directed in such a manner so as not to create a nuisance to the surrounding environment, properties and roadways. The lighting shall be the minimum level of illumination necessary and shall comply with Australian Standard AS4282 1997 – *Control of the Obtrusive Effects of Outdoor Lighting*.

Landscape Management Plan

- C51. Prior to the commencement of operation, the Applicant shall prepare a **Landscape Management Plan** to manage the revegetation and landscaping works on-site, to the satisfaction of the Secretary. The plan shall form part of the OEMP in Condition D4 and be prepared in accordance with Condition D6. The plan shall:
- (a) include a vegetated buffer of endemic species along the north, west and southern site boundaries;
 - (b) detail the species to be planted on-site;
 - (c) describe the monitoring and maintenance measures to manage revegetation and landscaping works; and
 - (d) be consistent with the Applicant's Management and Mitigation Measures LV1 to LV17 at Appendix 1.

GREENHOUSE GAS

- C52. The Applicant shall implement all reasonable and feasible measures to minimise energy use on site and greenhouse gas emissions produced on-site.

HERITAGE

Aboriginal Cultural Heritage Management Plan

- C53. Prior to the commencement of clearing for construction, the Applicant shall prepare an **Aboriginal Cultural Heritage Management Plan** in collaboration with the OEH and RAPs to the satisfaction of the Secretary. The plan shall form part of the CEMP in Condition D1 and be prepared in accordance with Section 3.7.1 of the Response to Submissions and shall include:

- (a) archaeological salvage program for unidentified sites including surface collection and test excavation;
- (b) salvage excavation (if warranted by results of test excavation);
- (c) scarred tree management, including reassessment of scarred trees by a qualified arborist, and recording and removal of trees (if warranted by reassessment);
- (d) management of non-impacted sites, including protective fencing, and annual monitoring;
- (e) management actions for the six known Aboriginal sites (234-1, 234-2, 234-3, 234-4, 272-1 and DQ-15-AS1) during construction and operation;
- (f) incorporation and management of any additional sites found during pre-clearance surveys;
- (g) site reporting and registration requirements for Aboriginal heritage sites;
- (h) describe Aboriginal heritage induction & cultural awareness training; and
- (i) development of procedures for accidental and chance finds in relation to cultural heritage items, including Aboriginal archaeological sites/materials and human remains.

Protection of Aboriginal Heritage Items

- C54. Any subsequent alterations to the Development footprint that are outside the study areas of the Aboriginal Heritage Impact assessment (prepared by AECOM, dated October 2015 at Appendix R of the EIS) should be assessed in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (OEH, 2010), as amended.

Note: Any change to the approved Development footprint shall be the subject of a modification to the consent.

- C55. The two known Aboriginal sites to remain *in situ* (234-4 and 272-1) shall be fenced during construction and operation of the Development to exclude vehicles, people and animals from the sites.
- C56. Prior to the commencement of construction, re-evaluation of scarred trees on the site shall be undertaken by a qualified arborist to determine if the trees are Aboriginal in origin. Registered Aboriginal Parties must be invited to inspect the trees and inform the development of recommended management actions in the Aboriginal Cultural Heritage Management Plan (required by Condition C53).

Unexpected Finds Protocol

- C57. If any historical (European) archaeological relics are uncovered during the course of construction of the Development, then all works shall stop immediately in that area and contact the OEH on 131555.
- C58. In the event that human remains are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and OEH contacted.
- C59. If any Aboriginal object is discovered and/or harmed in, or under the land in any other portions of the proposed works, the proponent must: not further harm the Aboriginal object; immediately cease all work at the particular location; secure the area so as to avoid further harm to the Aboriginal object; notify the OEH as soon as practicable on 131 555, providing any details of the Aboriginal object and its location; and not recommence any work at the particular location unless authorised in writing by OEH. A detailed unexpected finds protocol will be developed as part of the Aboriginal Cultural Heritage Management Plan in Condition C53.

Consultation with Registered Aboriginal Parties

- C60. Additional Registered Aboriginal Parties identified in Table A1 in the RTS shall be provided with copies of project reports and invited to register interest prior to development of the Aboriginal Cultural Heritage Management Plan. Registered Aboriginal Parties shall be provided with the opportunity for visual inspection of the site.

SCHEDULE D

ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

- D1. The Applicant shall prepare a **Construction Environmental Management Plan (CEMP)** to the satisfaction of the Secretary. The Plan shall:
- (a) be approved by the Secretary prior to the commencement of construction;
 - (b) identify the statutory approvals that apply to the Development;
 - (c) outline all environmental management practices and procedures to be followed during construction works associated with the Development;
 - (d) describe all activities to be undertaken on the site during construction of the Development, including a clear indication of construction stages;
 - (e) detail how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts;
 - (f) describe the roles and responsibilities for all relevant employees involved in construction works associated with the Development; and
 - (g) include the management plans under Condition D2 of this consent.
- D2. As part of the CEMP for the Development, required under Condition C1 of this consent, the Applicant shall address the following:
- (a) Dust Management;
 - (b) Biodiversity (see Condition C7)
 - (c) Traffic Management (see Condition C15);
 - (d) Noise Management (see Condition C29);
 - (e) Construction Soil and Water Management (see Condition C32);
 - (f) Aboriginal Cultural Heritage (see Condition C53);
 - (g) Community Consultation and Complaints Handling; and
 - (h) Landscape and visual impact management.
- D3. The Applicant shall carry out the construction of the Development in accordance with the CEMP approved by the Secretary (and as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

- D4. The Applicant shall prepare an **Operational Environmental Management Plan (OEMP)** for the Development to the satisfaction of the Secretary. The OEMP shall:
- (a) be submitted to the Secretary for approval prior to the commencement of operation;
 - (b) be prepared by a suitably qualified and experienced expert;
 - (c) provide the strategic framework for environmental management of the Development;
 - (d) identify the statutory approvals that apply to the Development;
 - (e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the Development;
 - (f) describe the procedures that would be implemented to:
 - (i) keep the local community and relevant agencies informed about the operation and environmental performance of the Development;
 - (ii) receive, handle, respond to, and record complaints;
 - (iii) resolve any disputes that may arise;
 - (iv) respond to any non-compliance;
 - (v) respond to emergencies; and
 - (g) include the following environmental management plans:
 - (i) Biodiversity (see Condition C7);
 - (ii) Stormwater (see Condition C36);
 - (iii) Groundwater (see Condition C40);
 - (iv) Landscaping (see Condition C51); and
 - (v) Aboriginal Cultural Heritage (see Condition C53).

- D5. The Applicant shall operate the Development in accordance with the OEMP approved by the Secretary (and as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

MANAGEMENT PLAN REQUIREMENTS

- D6. The Applicant shall ensure that the environmental management plans required under Condition D4 of this consent are prepared by a suitably qualified person or persons in accordance with best practice and include:
- (a) detailed baseline data;
 - (b) a description of:
 - (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - (ii) any relevant limits or performance measures/criteria; and
 - (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the Development or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:
 - (i) impacts and environmental performance of the Development;
 - (ii) effectiveness of any management measures (see (c) above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences;
 - (f) a program to investigate and implement ways to improve the environmental performance of the Development over time;
 - (g) a protocol for managing and reporting any:
 - (i) incidents;
 - (ii) complaints;
 - (iii) non-compliances with statutory requirements; and
 - (iv) exceedances of the impact assessment criteria and/or performance criteria; and
 - (h) a protocol for periodic review of the plan.

Revision of Strategies, Plans and Programs

- D7. Within three months of the submission of an:
- (a) annual review under Condition D8;
 - (b) incident report under Condition D9;
 - (c) audit under Condition D12; or
 - (d) modification to this consent,

the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary.

Notes: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Development.

ANNUAL REVIEW

- D8. Each year for the first three years and then as directed by the Secretary, the Applicant shall review the environmental performance of the Development to the satisfaction of the Secretary. This review must:
- (a) describe the Development that was carried out in the previous reporting year, and the Development that is proposed to be carried out over the next year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the Development over the previous reporting year, which includes a comparison of these results against the:
 - (i) the relevant statutory requirements, limits or performance measures/criteria;
 - (ii) requirements of any plan or program required under this consent;
 - (iii) the monitoring results of previous years; and

- (iv) the relevant predictions in the EIS;
- (c) identify any non-compliance over the last reporting period, and describe what actions were (or are being) taken to ensure compliance;
- (d) identify any trends in the monitoring data over the life of the Development;
- (e) identify any discrepancies between the predicted and actual impacts of the Development, and analyse the potential cause of any significant discrepancies; and
- (f) describe what measures will be implemented over the next reporting period to improve the environmental performance of the Development.

REPORTING

Incident Reporting

- D9. Upon detecting an exceedance of the limits/performance criteria in this consent or the occurrence of an incident that causes (or may cause) material harm to the environment, the Applicant shall immediately (or as soon as practical thereafter) notify the Secretary and other relevant agencies of the exceedance/incident. Within seven days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.
- D10. The Applicant shall maintain a register of accidents, incidents and potential incidents. The register shall be made available for inspection at any time by the independent auditor and the Secretary.

Regular Reporting

- D11. The Applicant shall provide regular reporting on the environmental performance of the Development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

AUDITING

Independent Environmental Audit

- D12. Within one year of the commencement of operation, and every three years thereafter, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the Development. This audit must:
- (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - (b) include consultation with the relevant government agencies;
 - (c) assess the environmental performance of the Development and assess whether it is complying with the requirements in this consent, and any other relevant approvals (including any assessment, plan or program required under these approvals);
 - (d) review the adequacy of any approved strategy, plan or program required under the abovementioned consents; and
 - (e) recommend measures or actions to improve the environmental performance of the Development, and/or any strategy, plan or program required under these consents.

Note: This audit team must be led by a suitably qualified auditor, and include relevant experts in any other fields specified by the Secretary.

- D13. Within three months of commissioning this audit, or as otherwise agreed by the Secretary, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

Hazard Audit

- D14. Twelve months after the commencement of operations of the Development or within such further period as the Secretary may agree, the Applicant shall carry out a comprehensive Hazard Audit of the Development. The audit must:

- (a) be carried out at the Applicant's expense by a duly qualified independent person or team approved by Secretary prior to commencement of the audit. Further audits shall be carried out every five years or as determined by the Secretary;
- (b) be carried out in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 5, 'Hazard Audit Guidelines'; and
- (c) include a review of the site Safety Management System and a review of all entries made in the incident register since the previous audit.

D15. Within one month of an audit required under Condition D14, the Applicant shall submit a report to the Secretary accompanied by a program for the implementation of all recommendations made in the audit report. If the Applicant intends to defer the implementation of a recommendation, justification must be included.

ACCESS TO INFORMATION

D16. The Applicant shall:

- (a) make copies of the following publicly available on its website:
 - (i) the documents referred to in Condition B2;
 - (ii) all current statutory approvals for the Development;
 - (iii) all approved strategies, plans and programs required under the conditions of this consent;
 - (iv) a comprehensive summary of the monitoring results of the Development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
 - (v) a complaints register updated on a monthly basis;
 - (vi) the annual reviews of the Development;
 - (vii) any independent environmental or hazard audit of the Development, and the Applicant's response to the recommendations in any audit;
 - (viii) any other matter required by the Secretary; and
- (b) keep this information up to date,

to the satisfaction of the Secretary.

APPENDIX 1: MANAGEMENT AND MITIGATION MEASURES

(Source: RTS)

Table 13.1 Summary of safeguards and management measures

Impact	Ref #	Environmental management measure	Timing
Biodiversity			
Potential impacts to threatened flora and ecological communities	FF1	Pre-clearance surveys would be undertaken by a suitably qualified person, in Spring for threatened flora species, including native grasslands and ecological communities within the Project Site prior to any clearing activities. <u>Plant community mapping to be undertaken following completion of the surveys to confirm absence of Threatened Ecological Communities.</u>	<u>Pre-commencement</u> <u>In Spring, prior to clearing for construction</u>
Potential impacts to <u>threatened and native fauna.</u> Potential impacts to Plains-wanderer habitat. Potential disturbance to, or mortality of, Plains-wanderer individuals or breeding pairs.	FF2	Pre-clearance surveys would be undertaken by a suitably qualified person, for Corben's Long-eared Bat, Plains-wanderer, Plains-wanderer breeding places and native fauna species prior to any clearing activities.	<u>Pre-commencement</u> <u>In Spring, prior to clearing for construction</u>
Removal of native vegetation	FF3	A vegetation management plan would be prepared and include: - Clear delineation of clearing extent - How clearing is to be undertaken, e.g. timing, staging - How topsoil is to be handled and stored	<u>Pre-commencement</u> <u>Prior to clearing for construction</u>
Spread of weeds	FF4	A weed management plan would be prepared including: - Weed control and hygiene measures to be applied within the project footprint and immediately outside the perimeter fence. - Methods to remove African boxthorn and Bathurst burr would be removed from the Project Footprint pre-construction, and disposal protocols. - Weed hygiene procedures to be followed during the construction phase, with particular emphasis on limiting the spread or movement of the noxious weed species African boxthorn and Bathurst Burr. - Continued weed hygiene and monitoring procedures to be followed throughout the life of the Project.	<u>Pre-commencement</u> <u>Prior to clearing for construction</u>

Impact	Ref #	Environmental management measure	Timing
Habitat loss Fauna disturbance Fauna mortality	FF5	A Fauna Management Plan would be prepared addressing: - Supervision of the felling of hollow bearing trees and translocating permitted animals to approved sites by an experienced and licensed ecologist. - Staging of native vegetation clearance. - Felling of trees outside the main bird-nesting season i.e. winter months. - Use of fauna spotters during clearing to minimise this potential impact. - Procedures for the identification and management of injured and rescued fauna, including qualification requirements for fauna handlers and details of animal welfare organisations who have agreed to assist in the event of an injured animal being located. - Implementation of appropriate speed limits and fencing. - Measures to reduce impacts from noise, light and vibration pollution. - Process for evaluating the effectiveness of the Fauna Management Plan	<u>Pre-commencement</u> <u>Prior to clearing for construction</u>
Potential impacts to Plains-wanderer habitat. Potential disturbance to or mortality of, Plains-wanderer individuals or breeding pairs.	FF6	A Plains-wanderer Species Management Plan would be prepared in consultation with the <u>Office of Environment and Heritage</u>. The requirements within the plan would include but not be limited to: - Outlining the inter-relationship between the Plains-wanderer species Management Plan and the Fauna Management Plan including the monitoring, inspection and reporting requirements of Plains-wanderer observations - Identification of measures implemented to minimise impacts including: • Clearing extents within Plains-wanderer habitat would be clearly delineated to ensure no over-clearing occurs • Efforts to minimise noise would be undertaken where possible (e.g. mufflers on machinery) • Design and installation of permanent lighting would be directed away from adjacent Plains-wanderer habitat - Staff training requirements, including the use of toolboxes would be delivered to all staff associated with the clearing and management of Plains-wanderer habitat - Procedures for reporting sightings of, and incidents with, Plains-wanderer to OEH - Process for evaluating the effectiveness of the Plains-wanderer Species Management Plan and Fauna Management Plan - Details of improvements and/or changes made to the Management Plan as a result of the evaluation.	<u>Pre-commencement</u> <u>Prior to clearing for construction</u>
Removal of native vegetation. Habitat loss.	FF7	Landscaping would use native species where possible.	Construction phase

Impact	Ref #	Environmental management measure	Timing
<u>Offsets</u>	<u>FF8</u>	A biodiversity offset plan would be prepared in consultation with the OEI with consideration of the Biodiversity Offsets Policy for Major Projects, the Framework for Biodiversity Assessment and the NSW Biodiversity Banking and Offsets Scheme. The plan would include, but not be limited to: - Assessment of credits required to offset the residual area of secondary Plains-wanderer habitat using the calculator - Investigation of availability biodiversity credits to meet offset requirements - Investigation of potential supplementary measures to meet requirements - Details of offsets implemented Dongmun Greentec agrees to offset any unforeseen loss of TECs, or Plains-wanderer habitat using the FBA.	<u>Design phase</u>
<u>Groundwater</u>			
Fuel spills and sedimentation	<u>GW1</u>	Preparation of a site specific CEMP by the contractor prior to construction would detail control measures for fuel spills and sedimentation.	Pre-construction phase
Water management	<u>GW2</u>	Implementation of a site wide IMS including an EMS system as well as specific water management plans.	Operations phase
Water storage	<u>GW3</u>	Constructing the water storages with concrete, and if required a cut-off trench, to reduce any leakage.	Construction phase
	<u>GW4</u>	Constructing the water storages with outer bunds to capture any leakages caused by a wall breach.	Construction phase
Water management	<u>GW5</u>	Implementation of a site wide IMS including an EMS system as well as specific water management plans: <i>Duplicate of GW2, renumbering of subsequent commitments.</i>	Operations phase
Fuel leaks and spills	<u>GW5</u> <u>GW6</u>	Providing bunding and spill kits around fuel depots and stockpile areas. Response plans would be developed to address fuel leaks and spills at machinery compounds or during refuelling including a spill emergency procedure.	Operation phase
	<u>GW6</u> <u>GW7</u>	Emergency response and management plans would be developed to address fuel leaks and spills at machinery compounds or during refuelling including a spill emergency procedure.	Operation phase

Impact	Ref #	Environmental management measure	Timing
Surface water			
Water usage efficiency	SW1	Water usage efficiency would be increased by minimising the water loss in the system. One of the major losses is in the cooling tower. The Project would collect blow-down water for reuse on-site which improves the efficiency of the system. Mitigation measures may include: - to install all valves properly to make sure that there is no leakage and to monitor water consumption - to replace the current open loop cooling tower system with a closed loop system. This would significantly reduce water loss in the cooling tower - to monitor the quality of the feed water and blow-down water conductivity to maintain higher average conductivity, thus reducing total blow-down.	Detailed design phase
	SW2	Rainwater tanks would be used for potable water supply	Operation phase
	SW3	A double waste water treatment system would be installed and the volume supplied by each system would be larger than the required volume.	Construction phase Operation phase
Storage	SW4	No organic waste would be pumped or released. Water, waste water and by-products would be stored on-site within sealed or concrete lined areas. <u>Monitoring and management to be undertaken to ensure the impermeability of the concrete liners.</u>	Operation phase
	SW5	Waste water and by-product storage should be constructed in accordance with Australian codes (such as Fertiliser Australia – Fertiliser Handling Code of Practice (December 2014) and Australian Fertiliser Services Association Code of Practice (August 2008)), standards and legislative requirements and follow the storage and handling procedures outlined in the CEMP. The construction management plan would document the nature of these dangerous goods in detail.	Construction phase
	SW6	All storage and containers would be labelled clearly and correctly so the contents are easily identifiable.	Operation phase
Accidental spills	SW7	Spill management equipment would be available in all areas where materials or goods are stored. All materials and goods would be stored in appropriate containers in designated areas, with bunding provided to contain any accidental spills and designed in accordance with the Australian Standards (such as AS1940 – 1993 for the Storage of Flammable and combustible liquids and AS 4452 – 1997 for the Storage and Handling of Toxic Substances).	Operation phase
	SW8	Spill kits would be provided on site and staff would be trained on the handling of chemicals and materials particularly spillage management	Operation phase

Impact	Ref #	Environmental management measure	Timing
Sewerage	SW9	Sewage generated by on site facilities (i.e. toilets and kitchen) would be disposed to Deniliquin Council's sewerage system via an extension provided by Deniliquin Council. Should a sewer connection not be available. <u>An off-line septic system</u> if required would be designed to comply with AS/NZS 1546.1:2008 On-site Domestic Wastewater Treatment Units – Septic Tanks standard.	Detailed design phase Operation phase
Anaerobic and aerobic digesters	SW10	Real-time monitoring would be carried out of various parameters in the anaerobic and aerobic digesters such as methane, oxygen and temperature	Operation phase
Effluents	SW11	Online monitoring would be carried out of various effluent parameters, including (but not limited to) DO, TSS, ORP, ammonia, nitrate/nitrite analysers. Real time monitoring of these parameters at key process units (i.e. in the intermediate basin) would ensure that all effluent directed towards the aerated lagoon would be of sufficient quality. In the event of an exceedance of any parameter, the effluent can be recycled back in the wastewater treatment system for additional treatment.	Operation phase
Potential fouling	SW12	Regular cleaning of the Membrane bioreactor membranes to prevent fouling. This may include membrane backwashing or chemical cleaning. The frequency of these backwashing events would be determined during operation.	Operation phase
Hazardous materials and accidental incidents	SW13	A Materials Storage and Handling Plan would be implemented during construction and <u>operation</u> for the on-site storage of potential pollutants, such as oil, to avoid accidental spillage into the receiving environment.	<u>Construction and</u> <u>Operation phases</u>
Stormwater impacts due to vegetation stripping and/or earthworks and site development	SW14	Temporary stormwater management measures will be installed during construction, to avoid stormwater impacts to the Project Site or receiving environment as a result of vegetation stripping and/or earthworks. The contractor would be required to prepare and implement a detailed construction Stormwater Management Plan, as part of the CEMP. Civil works would be staged to minimise disruption to the local drainage regime. At the detailed design stage, an updated MUSIC model would be developed to demonstrate water quality compliance with required targets. In addition to currently proposed water treatment features (e.g. vegetated swales and bioretention and flood detention basin) structural treatment devices, such as oil separators, may also be required. These will be confirmed during detailed design stage.	Detailed design phase Construction phase
Drainage	SW15	If stormwater drainage system not maintained properly, there is a residual flood risk associated with blocked or damaged stormwater infrastructure such as culverts and drains. A routine drainage inspection and maintenance program would be established as part of the overall site asset management plan	Construction phase
Erosion and sediment	SW16	The permanent vegetated swales would be established first, which would also fulfil a sediment and erosion control function during construction.	Construction phase

Impact	Ref #	Environmental management measure	Timing																	
	SW17	Any exposed areas of the Project Site would be covered as soon as possible, to prevent erosion and sediment mobilisation. An Erosion and Sediment Control Plan would be developed and implemented by the Contractor as part of the CEMP.	Pre-construction phase Construction phase																	
Waste and Co-products																				
Waste management	CW1	A waste management plan would be incorporated into the CEMP and operational EMP for the Project.	Construction phase and operations phase																	
	CW2	<table><tr><td colspan="2">Waste generated during construction would be managed and disposed of in accordance with Chapter 11 Waste and Co-products, Table 3.2 in Section 3.3 of this Report) reproduced below:</td></tr><tr><td>Waste type</td><td>Management measure</td></tr><tr><td colspan="2">Construction</td></tr><tr><td>Cleared vegetation</td><td>Cleared and stockpiled onsite. Vegetation would be chipped and reused for on-site rehabilitation following construction.</td></tr><tr><td>Soil (topsoil including grass)</td><td>Soil would be reused through direct placement in the first instance. Alternatively soil would be stockpiled and used for onsite rehabilitation following construction. Stockpiles would be located away from water sources and in clear areas. Grass would be incorporated into the topsoil to retain the biological activity and provide propagules for grass regrowth to stabilise stockpiles during temporary storage.</td></tr><tr><td>Hard waste (concrete, bitumen, wood pallets/ timber, other packaging materials)</td><td>Appropriate purchasing of construction materials would reduce hard waste produced during construction. Hard waste generated would be separated and returned to the supplier, where appropriate, or collected in industrial skips for disposal to the Deniliquin Landfill Depot or a licensed offsite recycling facility.</td></tr><tr><td>Scrap metal</td><td>Scrap metal would be stored on-site in a designated location. Scrap metal would be taken to the Deniliquin Landfill Depot or an off-site licenced metal recycler for recycling.</td></tr><tr><td>General municipal waste - Food waste</td><td>Collected on-site in designated waste collection bins. Transported to a licensed off-site waste facility, such as Deniliquin Landfill Depot or Moama Waste Disposal Depot.</td></tr><tr><td>Recyclable paper, cardboard, glass and plastic</td><td>Collected on-site in designated recycling collection bins. Transported to a licensed recycling facility, where practical.</td></tr></table>	Waste generated during construction would be managed and disposed of in accordance with Chapter 11 Waste and Co-products, Table 3.2 in Section 3.3 of this Report) reproduced below:		Waste type	Management measure	Construction		Cleared vegetation	Cleared and stockpiled onsite. Vegetation would be chipped and reused for on-site rehabilitation following construction.	Soil (topsoil including grass)	Soil would be reused through direct placement in the first instance. Alternatively soil would be stockpiled and used for onsite rehabilitation following construction. Stockpiles would be located away from water sources and in clear areas. Grass would be incorporated into the topsoil to retain the biological activity and provide propagules for grass regrowth to stabilise stockpiles during temporary storage.	Hard waste (concrete, bitumen, wood pallets/ timber, other packaging materials)	Appropriate purchasing of construction materials would reduce hard waste produced during construction. Hard waste generated would be separated and returned to the supplier, where appropriate, or collected in industrial skips for disposal to the Deniliquin Landfill Depot or a licensed offsite recycling facility.	Scrap metal	Scrap metal would be stored on-site in a designated location. Scrap metal would be taken to the Deniliquin Landfill Depot or an off-site licenced metal recycler for recycling.	General municipal waste - Food waste	Collected on-site in designated waste collection bins. Transported to a licensed off-site waste facility, such as Deniliquin Landfill Depot or Moama Waste Disposal Depot.	Recyclable paper, cardboard, glass and plastic	Collected on-site in designated recycling collection bins. Transported to a licensed recycling facility, where practical.
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Impact	Ref #	Environmental management measure	Timing
	CW4	A database inventory would be used to record and report all waste streams, quantities and management measures for all waste streams arising through the construction and operations phase of the Project.	Construction phase and operations phase
	CW5	A designated, secure waste storage area would be provided to enable waste separation into general waste and recycling	Construction phase and operations phase
	CW6	Bins and skips would be covered to prevent rubbish from blowing away or rainwater entering the waste receptacles	Construction phase and operations phase
	CW7	Temporarily stored construction waste would be located in a suitably stabilised area, e.g. construction compound or designated stockpile areas	Construction phase and operations phase
	CW8	Suitable containment would be provided for the temporary storage of wastes, which would be collected frequently	Construction phase and operations phase
	CW9	Temporarily stored putrescible waste, or other wastes that may attract vermin, would be stored in secure containers and be disposed of regularly	Construction phase and operations phase
	CW10	Waste and other potential polluting materials would be removed from the site and the site left in a clean and tidy state	Construction phase and operations phase
	CW11	Waste would be disposed of in accordance with statutory and local authority requirements by an appropriately licensed contractor	Construction phase and operations phase
	CW12	Waste would be disposed of in accordance with statutory and local authority requirements by an appropriately licensed contractor <i>Duplicate of CW11; renumbering of subsequent commitments.</i>	Construction phase and operations phase
	CW12	The Project Site would be kept in a neat and tidy condition through good house-keeping practices, including regularly removing waste bins (including recycling bins) to prevent bins overflowing, promptly cleaning up after spills, and regularly tidying up the site.	Construction phase and operations phase

Impact	Ref #	Environmental management measure	Timing
	CW13	Inspections of the waste management areas would be conducted on a weekly basis to ensure that correct waste management procedures are being followed	Construction phase and operations phase
Traffic and transport			
Construction and operational traffic management	TT1	For the construction phase, including any works on road corridors during construction, a detailed Road Use Management Plan (RMP) to include also known as a Construction Traffic Management Plan) would be provided to RMS and Deniliquin Council for review prior to project works or project related works occurring. Where appropriate, the Road Use Management Plan would also provide: - details on the number, type and duration of the <u>light, heavy and oversized vehicle movements during construction</u> - <u>potential impacts and measures to minimise these impacts</u> - <u>traffic management and controls</u> - <u>fatigue management</u> - <u>identification of impacts and mitigations associated with queuing and stacking at the level crossing</u> - <u>description of intended access locations</u> - <u>consideration of impacts to public transport (including school bus services) would be prepared by the construction contractor for the Project further to discussions with RMS and Deniliquin Council including any detailed traffic control plans and measures to minimise identified</u> - <u>transportation protocol for all heavy vehicles transporting construction materials</u> - <u>additional requirements associated (fatigue management), and transportation of hazardous materials</u> - <u>measures to monitor and evaluate compliance with the protocol</u>	Detailed design phase

Impact	Ref #	Environmental management measure	Timing
Road safety during construction	TT2	A Transport Management Plan (TMP) for the operations phase would be provided to Roads and Maritime Services and Deniliquin Council for review prior to project works or project related works occurring. Where appropriate, the TMP would also provide: - details on the number, type and duration of the <u>light, heavy and oversized</u> vehicle movements - potential impacts and measures to minimise these impacts - fatigue management - identification of impacts and mitigations associated with queuing and stacking at the level crossing - description of intended access locations - consideration of impacts to public transport (including school bus services) and measures to minimise - transportation protocol for all heavy vehicles transporting goods - additional requirements associated transportation of hazardous materials - measures to monitor and evaluate compliance with the protocol. <u>Should the rail siding not be available or used for the operational phase of the development as proposed, further assessment would be required to be undertaken of the alternative haulage routes on the road network for the transportation of goods to and from the development</u>	Detailed design phase Operations phase
	TT3	For safety reasons, the Deniliquin Barham Road entry and exit should have traffic management in place during the construction phase. Adequate signage should be displayed to inform motorists of the approach to the intersection for construction traffic turning. This should form part of the Road Use Management Plan (and governed by Australian Standard AS 1742.3 – 2009) for the construction phase of works.	Construction phase
	TT4	Once more detail is known around the exact construction vehicles and routing, then more detailed vehicle swept path analysis should be undertaken along the heavy vehicle route (if required). The outcomes would be included within the <u>Road Use Management Plan</u>. Large oversize materials (if required) should be transported outside of peak traffic times to reduce impacts on road network (subject to RMS approval) and the police should be contacted for any of these movements.	Detailed design phase Construction phase

Impact	Ref #	Environmental management measure	Timing
Impacts on existing road surfaces and junctions (including safety)	TT5	The condition of the public roads to be used for the delivery of raw and fabricated materials should be established prior to commencement of works and then regularly monitored during the period of the works. The road and intersection conditions should be established by the use of field surveys and regular site inspections. When required, rehabilitation of the pavement and/or edges of seal, shoulders and verges would be carried out. At the completion of the construction works, the access roads should be in the same or be of superior condition than at the commencement of the works. The measures required to ensure safety and structural integrity of the section of Deniliquin Barham Road between the development site and the end of Deniliquin Council's upgrade (during construction and operations phases) would be the subject of further discussions with Deniliquin Council.	Detailed design phase <u>Construction Phase</u> <u>Operations Phase</u>
	TT6	Intersections and driveways used to enter and exit the site during operations phase would be designed in consultation with Deniliquin Council, during the detailed design phase to meet the Road Design Guide (RTA) and Austroads Guide to Road Design for the prevailing speed limit, including provision of acceleration and deceleration lanes where required. The design will also consider the requirements of the Safe Intersection Sight Distance in both directions along the carriageway in accordance with Austroads. The design would be approved by Deniliquin Council and/or RMS as appropriate and certified by an appropriately qualified person.	Detailed design phase
Transporting hazardous materials	TT7	Transportation of hazardous materials would be carried out in consultation with the consent authorities and in accordance with NSW Government's <i>Hazardous Industry Planning Advisory Paper No 11 on Route Selection, January 2011</i> . The TMP would include the following: - Hours of operation. - Routes to be used through the affected local government area(s). - The quantity of hazardous goods (i.e. ethanol product) to be transported. - Safety controls including fatigue management	Operations phase
Record keeping	TT8	Keep records of volume inputs and processed goods by method of transportation, including count of traffic movements on a monthly basis. The records would be made available at the request of either Deniliquin Council of RMS.	Operations phase
Hazard and Risk			
Safety in design	HR1	Locate product storage tanks at separation distances with specific reference to the applicable Australian Standards AS 1940:2004 <i>The storage and handling of flammable and combustible liquids</i> .	Design phase

Impact	Ref #	Environmental management measure	Timing
Safety in design	HR2	Conduct a fire safety study for the Project to determine appropriate fixed and portable fire protection systems for the Project Site to ensure the consequences of major fire incidents are adequately mitigated.	Design phase
Safety in design	HR3	Conduct a Hazard and Operability (HAZOP) study for the processes and plant items within the Project Site to identify potential hazards and operational problems in terms of plant design and human error. HAZOPs seek to minimise the effect of an atypical situation in the operation/process by ensuring that control and other safety systems such as functional safety (e.g. emergency safe shutdown) are in place and operate with a high level of reliability to achieve a safe outcomes.	Design phase
Explosive atmospheres and ignition sources	HR4	Conduct a Hazardous Area Classification Study in accordance with AS/NZS 60079 series which considers explosive dust atmospheres and explosive gas atmospheres and develop comprehensive ignition source control measures for the Project Site.	Design phase
Emergency response plan	HR5	Develop an Emergency Response Plan in accordance with <i>HIPAP No.1 – Industry Emergency Planning Guideline</i> , including actions to be taken in the event of an emergency, for the site including scenario based emergency response plans developed for the range of incident scenarios that have been identified as having significant consequences.	Design phase <u>Construction phase</u>
Dangerous goods transport	HR6	Develop a Traffic Risk Assessment and a detailed route selection study in line with <i>HIPAP No. 11 – Route Selection</i> and <i>Australian Dangerous Goods Code</i> for the dangerous goods transport activities particularly for the transport of ethanol from the Project Site.	Detailed design phase
Health and safety management	HR7	Develop a detailed Safety Management System prior to the commencement of operation in accordance with the requirements of the <i>NSW Work Health and Safety Regulation 2011</i> and <i>DP&I's HIPAP No. 9 – Safety Management</i>	Design phase, prior to commencement of operations
Hazard analysis	HR8	The results of the preliminary hazard analysis (PHA), would be used as inputs into other safety studies required to be developed as a part of the design, construction / commissioning and operations phase of the Project	Design phase and other subsequent phases
Safety Instrumented Systems	HR9	Identification and implementation of Safety Instrumented Systems in line with AS IEC 61511.1 -2004, <i>Functional safety – Safety instrumented systems for the process industry sector</i>	Design phase
Safety in design	HR10	Conduct safety in design reviews in accordance with <i>WHS Regulations and Code of Practice – Safe Design of Structures</i> .	Design phase and other subsequent phases
Safety for construction activities	HR11	Develop and implement an appropriate Safety Management Plan in line with <i>HIPAP No. 7 – Construction Safety Study Guidelines</i> . This should include access by workers to a risk register for all construction activities.	Construction phase

Impact	Ref #	Environmental management measure	Timing
Emergency response	HR12	Develop an Emergency Response Plan in accordance with DP&I's <i>HIPAP No. 1 – Industry Emergency Planning Guideline</i> , including actions to be taken in the event of an emergency.	Construction phase
High risk activities	HR12	<i>Combined with HR5, subsequent items renumbered</i> Ensure a permit to work system is implemented, in particular where workers may be exposed to high risk activities.	Construction phase
Appropriately managed and audited construction activities	HR13	Undertake <u>environmental and safety</u> audits of construction activities, and address and communicate any findings to relevant workers	Construction phase
Staff training and competency	HR14	Ensure workers have appropriate training and the necessary competencies <u>for the work being performed and equipment being used.</u>	Construction phase Operation Phase
High risk activities	HR15	Implement actions / risk reduction strategies as identified through Safety in Design reviews	Construction phase
Safety Management Plan	HR17	Develop an appropriate Safety Management Plan. This should include access by workers to a risk register for all operational activities.	Operation phase
Operational environmental health	HR18	Develop an Operations Environmental Management Plan	Operation phase
Staff training and competency	HR24	Ensure all workers have appropriate training and necessary competencies. <i>Combined with HR14, subsequent items renumbered</i>	Operation phase
Preventative maintenance programs	HR19	Implementation of appropriate preventive maintenance programs.	Operation phase
Exceedance of Schedule 15 chemicals threshold	HR20	Notify Work Cover NSW that the quantity of ethanol in relation to the Schedule 15 chemicals is likely to be exceeds 10% of the threshold quantity	Operation phase
Decommissioning plan	HR21	Develop a decommissioning plan. This should include a Project risk register that is available to all workers, including any risk items added during the construction and operations phases	Post closure phase
Appropriate records for future audits	HR22	Keep records of all workplace health and safety related information relating to the Project post closure phase	Decommissioning phase

Impact	Ref #	Environmental management measure	Timing
Rail Safety	HR23	A rail safety study, including risk assessment will be undertaken in consultation with Deniliquin Council and the rail infrastructure owners and operators to: - identify hazards associated with the movement of construction and operational vehicles through and along the railway corridor, including at level crossings; - assess the risks associated with the identified hazards; - determine appropriate controls to manage risks identified; - incorporate controls into the Road Use Management Plan and/or Transport Management Plan and Safety Management Plan(s) as appropriate, including development of safe work method statements; - identify information, processes, approvals, permits and/or training requirements associated with rail safety for contractors, subcontractor and/or employees; and - identify process and timeline for implementing the outcomes from the rail safety study.	Detailed design
Soil, Land Capability and Land Use			
General	SL1	Prepare and implement a <u>Construction Environmental Management Plan</u> .	Pre-commencement, Construction phase
	SL2	Prepare and implement an <u>Operational Environmental Management Plan</u> .	Pre-commencement, Operations phase
	SL3	Prepare an EMS to measure and manage environmental performance at the Project Site.	Pre-commencement, Operations phase
	SL4	All storage areas for chemicals, oils, fuels, solvents and other potentially hazardous materials would have adequate signage and comply with Australian Standards.	Operations phase
	SL5	All storage and handling areas would be sufficiently bunded.	Construction phase, Operations phase
	SL6	The storage, handling and use of chemicals would adhere to the provisions outlined in the relevant Materials Safety Data Sheet (MSDS).	Operations phase
	SL7	Monitoring of environmental practices would be undertaken across the Project Site through regular site inspections.	Operations phase
	SL8	Where applicable, site workers would be trained in visually identifying gross contamination.	Operation Phase
	SL9	Carry out progressive clearing, restricting clearing to areas of imminent development.	Construction phase
Erosion and Stability			

Impact	Ref #	Environmental management measure	Timing
	SL10	Minimise length of time bare ground is exposed should stockpiling of topsoil be undertaken.	Construction phase
	SL11	Undertake clearing outside the wet season, where possible.	Construction phase
	SL12	Prevent run-off from undisturbed areas flowing over cleared land.	Construction phase, Operations phase
	SL13	Direct run-off from cleared land to appropriate sediment-controlling structures or facilities.	Construction phase, Operations phase
	SL14	Follow suggested methods of land clearance and topsoil handling prior to and throughout construction, including temporary diversion and drainage construction.	Construction phase
Building / Plant Sites	SL15	Stabilise disturbed areas as quickly as practical to limit erosion, with progressive revegetation undertaken.	Construction phase
Landscape character and visual amenity			
Vegetation removal	LV1	Vegetation would remain in-situ for the greatest possible length of time prior to removal to provide screening effects of the Project Site from receptors.	Construction phase.
Stripping of topsoil from the Project Site and storage	LV2	Stripped topsoil would be removed immediately for landscape works where practicable to facilitate regeneration of the existing tussock pasture grass.	Construction phase
	LV3	Topsoil would be managed in a manner that mitigates deterioration of the topsoil quality during stockpiling (such as the provision of a <u>creep-cover covering which minimises weed contamination of the topsoil</u> , separate stockpiling of topsoil and subsoil).	Construction phase
	LV4	The height of topsoil stockpiles would be minimised as far as practical, should stockpiling be required	Construction phase
Lighting associated with construction activities and moving plant	LV5	The number of lights would be kept to the minimum required to perform the tasks in accordance with health and safety legislation/requirements.	Construction phase
	LV6	Light spill would be contained to the greatest extent possible (e.g. the use of directional lighting where possible, as per AS 4282 – Control of Obtrusive Effects of Outdoor Lighting (1997))	Construction phase
	LV7	Downlights would be used in preference to up-lighting or spill lights.	Construction phase
General Site Landscape	LV8	The Project Site would be maintained in good condition during construction, with sound housekeeping practices.	Construction phase
General Approach	LV9	Provide a landscape planting to the Deniliquin Barham road frontage that provides attractive stands of endemic <u>native trees</u> , potentially in conjunction with <u>other locally native species</u> , such as saltbush plantings, within a tufted, dry grassland setting as is currently in place on the Project Site. Allow for framed views through this vegetation to the Project.	Operation Phase

Impact	Ref #	Environmental management measure	Timing
General Approach	LV10	Consider during detailed design phase for the two workshops adjacent to Deniliquin Barham Road to be set further back (south) from the boundary to facilitate tree planting between the swale and the workshops, sufficient to meet solar access requirements for the proper functioning of the swale. Further consider moving the western workshop building east to facilitate screen planting between the western edge of the building and the western site boundary, to reduce the visual prominence of this element when seen driving east along Deniliquin Barham Road	Detailed design
General Approach	LV11	Consider in conjunction with Council providing informal endemic tree planting within the approximately 30m wide grassy verge between Deniliquin Barham Road and the site boundary	<u>Detailed Design Phase</u>
General Approach	LV12	Consider landscape planting as per LV09 along the western and southern boundaries of the Project Site, to provide a vegetated visual backdrop to the development when seen from Deniliquin Barham Road, and reduce potential visual impacts from property homesteads to the south.	<u>Detailed Design Phase</u>
Vegetation	LV13	Vegetation would be selected that is consistent with that found in the neighbouring area to the Project Site, with species selection of mid and over storey species suited to optimising screening qualities.	<u>Detailed Design Phase</u>
Boundary Fencing	LV14	Boundary fencing would be of a type that maximises visual permeability and facilitates views through into the Project Site.	<u>Detailed Design Phase</u>
Lighting associated with permanent facilities and moving plant	LV15	The number of lights would be kept to the minimum required to perform the tasks in accordance with health and safety legislation/requirements. Light spill would be contained to the greatest extent possible (e.g. the use of directional lighting where possible). Use of downlights preferential to the use of up-lighting or spill lights.	<u>Detailed Design Phase</u>
Signage	LV16	All signage with be displayed in accordance with -State Environmental Planning Policy No 64 - Advertising and Signage (2001).	Construction and Operation Phase
General Site Landscape	LV17	The Project Site would be maintained in good condition, with sound housekeeping practices to reduce the visual impact on adjacent neighbouring properties.	Operation Phase

Impact	Ref #	Environmental management measure	Timing
Air Quality			
Dust	AQ1	Dust mitigation measures that would be implemented include the following: - Removing silt and other material would around erosion and sediment control structures. - Minimising the use of material stockpiles and ensuring sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process. - Minimising drop heights from loading shovels and other loading / unloading equipment and using fine water sprays on such equipment where appropriate. - Ensuring vehicles entering/exiting the Project Site are covered to prevent escape of materials during transport. - Reducing the heavy vehicle speeds on site to reduce wheel generated dust.	Construction phase Operations phase
Construction machinery	AQ2	Control measures relating to plant and machinery that would be implemented include the following: - Ensuring vehicles and machinery are maintained in accordance with manufacturer's specifications. - Minimising heavy vehicle queuing and unnecessary trips through logistical planning of materials delivery and work practices. - Ensure all vehicles switch off engines when stationary so that there are no idling vehicles for long periods of time. - Fixed plant would be located as far from local receptors as practicable.	Construction phase
General	AQ3	Air emissions associated with all construction activities would also be managed through compliance with a CEMP. A CEMP would be implemented so that: - The works are conducted in a manner that minimises the generation of air emissions. - The effectiveness of the controls being implemented is monitored. - Additional measures are implemented where required.	Construction phase
	AQ4	Construction contractors would undertake daily environmental inspections of their works and worksite. Inspections would include: - Visual inspection of dust generation - Ensuring roads leaving the site are free of soil, and prevention of soil tracking onto the road network - Inspection of the erosion and sediment controls - Inspection of any rehabilitated or landscaped areas (where relevant) - Ensuring spill kits are appropriately located and stocked. Any remedial or corrective actions should be reported to the Site Manager as soon as is practicable.	Construction phase

Impact	Ref #	Environmental management measure	Timing
Complaints handling	AQ5	Appropriate air quality monitoring would be undertaken in response to community complaints for dust and/or odour in accordance with procedures outlined in the NSW Industrial Noise Policy and Industrial Noise Policy Application Notes. An effective complaints logging system would be maintained to monitor complaints, to effectively manage any requests for information or respond to any public concerns in relation to the Project throughout the construction and operations phases, and to ensure identified incidents are dealt with through investigation and implementation of corrective treatments.	Construction phase Operations phase
Greenhouse gas	AQ6	Operational procedures to be implemented on the site to reduce GHG emissions would include: - Ensuring that there are no leakages from the ethanol plant site through appropriate and effective planning and management. - Undertaking regular inspections to identify compromised parts of the plant. - Investigating the use of renewable energy sources, such as wind, solar or biomass, for externally-sourced electricity. - Closely regulating the use of plant lighting. - Installation of solar-powered lighting around the site where practical.	Operations phase
Air Quality Management	AQ7	Carry out further assessment of odour emissions during the Project's detailed design once inputs and assumptions have been refined. The design should incorporate mitigation measures to reduce odour levels during operations phase to comply with the odour criteria. Treatments may be required to reduce noise levels to comply with the criteria.	Detailed design
Noise and vibration			
Noise management	NV1	A detailed construction noise management plan would be developed as part of detailed design.	Detailed design phase
Vehicle and plant generated noise	NV2	Maintain nominated speed limits for vehicles on internal roads.	Construction phase Operation phase
	NV3	Schedule noisy equipment movements, wherever possible, to avoid sensitive times.	Construction phase Operation phase
	NV4	Ensure all vehicle and plant operators are aware of the location of sensitive receptors and the measures required for limiting noise, where possible.	Construction phase Operation phase
	NV5	Enclose equipment to limit noise level including the construction of underground conveyors to transport raw materials, where possible.	Construction phase

Impact	Ref #	Environmental management measure	Timing
	NV6	Noise emissions would be a factor considered when selecting equipment.	Detailed design phase
	NV7	Ensure all vehicles, plant and machinery are regularly maintained to avoid unnecessary engine, motor or muffler noise.	Construction phase Operation phase
	NV8	Notify key stakeholders when particularly noisy activities are scheduled.	Construction phase Operation phase
	NV9	Activities with high noise emissions should be limited to daytime hours where possible.	Construction phase Operation phase
High noise activity scheduling			
Community complaints Noise Monitoring and Complaints handling	NV10	A noise and/or vibration monitoring program would be undertaken post completion of commissioning, and during operation in response to complaints, for a period of seven days in accordance with NSW Industrial Noise Policy (2000) and Industrial Noise Policy Application Notes. Should the program indicate that the plant is non-compliant with approval requirements, further monitoring would be undertaken to ensure efforts are being made to reduce noise emissions at sensitive receptors down to nominated limits.	Construction phase Operation phase
		Complaints would be investigated and recorded in the site complaints/incidents register, along with any actions taken in response to the investigation.	
Noise management	NV11	Further assessment of noise emissions should be undertaken during the Project's detailed design once inputs and assumptions have been refined. The design should incorporate mitigation measures to reduce noise levels to comply with the noise criteria during operations phases to comply with the ICNG noise criteria. Mitigation such as a combination of acoustic lagging treatment of rotating equipment such as fans, pumps and blowers, construction of acoustic enclosures for equipment such as the steam turbine, fans and air compressors, installation of a silencer on the boiler and suction part of fans and/or noise walls in the direction of the sensitive receptors may be required to reduce noise levels to comply with the various criteria.	Detailed design phase
Cultural Heritage			
Heritage Management Plan (HMP)	CH1	Prepare a HMP Heritage Management Plan in consultation with Registered Aboriginal Parties and the OEH, to include the provisions below.	Detailed design phase Construction phase

Impact	Ref #	Environmental management measure	Timing
Impacts to unidentified sites	CH2	Archaeological salvage program including: - Surface collection - Test excavation - Salvage excavation (if warranted by results of test excavation)	Detailed design phase
Scarred trees	CH3	Scarred tree management, including - Reassessment of scarred trees by a qualified arborist - Recording and removal of trees (if warranted by reassessment)	Detailed design phase Construction phase
Protection of non-impacted sites	CH4	Management of non-impacted sites, including; - Protective fencing - Annual monitoring	Construction phase Operation phase
Management of staff and Contractor's activities	CH5	Aboriginal and historical heritage induction & cultural awareness training, including - Information on likely site types - Procedures for accidental discoveries	Construction phase Operation phase
	CH6	Upon discovery of potential artefacts (chance finds) work in the vicinity should cease and the NSW OEH should be contacted immediately for further advice. Contact should also be made with Yarkuwa and Land Council. Chance finds procedures to be developed for: - Aboriginal archaeological sites/materials - Human remains - Historical cultural heritage	Construction phase Operation phase
	CH7	Site reporting and registration requirements for: - Aboriginal heritage sites - Historical heritage sites	Construction phase Operation phase
Social and economic			
Economy and Business	SE1	Keep local business informed of goods and services required for the Project.	Pre-commencement
Community Cohesion	SE2	A community consultation program would be developed and implemented to ensure suitable information is available to local residents. Information may include but is not limited to, details of the construction program, any changes to access or traffic conditions, any potential environmental or health and safety impacts.	Pre-commencement Construction phase, Operation phase, Decommissioning

Impact	Ref #	Environmental management measure	Timing
Employment	SE3	Employ local skilled and unskilled workers as relevant. Encourage where possible the use of local contractors/ subcontractors.	Pre-commencement, Construction phase, Operation Phase
Health and Safety			
Slips, trips or falls	HS1	<u>Standard management procedures such as:</u> - Application of safety in design principles - Adherence to the IMS - Implement a Health and Safety Policy - Implement Health and Safety Management Plans - Staff training and supervision - Use of Personal Protective Equipment (PPE) such as hard hats, safety glasses, vests, etc.	Construction phase Operation phase
Working in confined spaces	HS2	<u>Standard management procedures such as:</u> - Training for working in confined spaces - Adherence to the IMS and work procedures - Use of licenced operators - Emergency procedures and training.	Construction phase Operation phase
Vehicle accident or contact by moving vehicle or equipment	HS3	<u>Standard management procedures such as:</u> - Application of safety in design Principles - Adherence to the IMS and work procedures - Implement a Health and Safety Policy - Implement Health and Safety Management Plans - Implement Traffic Management Plans - Exclusion zones around areas of operation - Use of Personal Protective Equipment (PPE) such as hard hats, safety glasses, vests, etc. - Traffic control and signage - Speed restrictions.	Construction phase Operation phase
Spill and subsequent inhalation or contact with hazardous substances	HS4	<u>Standard management procedures such as:</u> - HAZOP studies - MSDS sheets at site - Health and Safety Management Plan - Staff and contractor training.	Construction phase Operation phase

Impact	Ref #	Environmental management measure	Timing
Fire originating from welding works, heat generating machinery, spark originating from welding and grinding, refuelling operations, pipeline/storage incident	HS5	<u>Standard management procedures such as:</u> - Application of safety in design principles - Adherence to the IMS and work procedures - Implement a Health and Safety Policy - Implement Health and Safety Management Plans - Implement an Emergency Management Plan - Obtain hot works permits. - Staff/crew training.	Construction phase Operation phase
Workers caught in moving machinery	HS6	<u>Standard management procedures such as:</u> - Application of safety in design principles - Adherence to the IMS and work procedures - Implement a Health and Safety Policy - Implement Health and Safety Management Plans - Staff training and supervision - Use of PPE and on-board safety equipment - Implement a Drug and Alcohol policy	Construction phase Operation phase
Exposure to natural hazards	HS7	<u>Standard management procedures such as adequate firefighting equipment and water supply, access to firefighting appliances and staff evacuation procedures would be implemented on the Project Site and include:</u> - Application of safety in design principles - Adherence to the IMS and work procedures - Implement a Health and Safety Policy - Implement Health and Safety Management Plans - Use of Personal Protective Equipment appropriate for the hazard - Implement an Emergency Management Plan, to address potential emergencies including bushfire outlining response and evacuation procedures - Implement monitoring and early warning of hazardous events.	Construction phase Operation phase
Introduction of disease, including human, other animal and plant disease	HS8	<u>Standard management procedures such as:</u> - Implement a Security Management Plan - Use of PPE - Minimise creation of stagnant or ponding water	Construction phase Operation phase

Impact	Ref #	Environmental management measure	Timing
Electrical hazards	HS9	<u>Standard management procedures such as:</u> - Contractor Site Safety Management Plan and Safe Work Method Statements - Tag and testing all equipment as part of Site Safety Management Plan and Safe Work Method statements - Use of dial before you dig for locating underground services - Safe Work Method statements. - Contractor Site Safety Management Plan.	Construction phase Operation phase
Refuelling of plant	HS10	<u>Standard management procedures such as:</u> - Implement Contractor Site Safety Management - Implement Plan and Safe Work Method Statements - Use of licenced operators.	Operation phase
Working at heights	HS11	Implement Contractor Site Safety Management Plan and Safe Work Method Statements	Construction phase Operation phase
Security	HS12	<u>Standard management procedures such as:</u> - Implement Site Security Management Plan - Implement Induction and training for staff, contractors and visitors - Erect site fencing and boom gate access points	Construction phase Operation phase

APPENDIX 2: SITE PLANS (Source: EIS)



