

MidCoast Regional Organics Processing Solution Environmental Impact Statement v2

Submitted to the Department of Planning, Housing
and Infrastructure on behalf of NALG

19 June 2026





Environmental Impact Statement for MidCoast Regional Organics Processing Solution

Submitted to the Department of Planning, Housing and Infrastructure on behalf of NALG Envirotech Pty Ltd

Prepared by

MRA Consulting Group (MRA)
Registered as Mike Ritchie & Associates Pty Ltd
ABN 13 143 273 812

Suite 408 Henry Lawson Building
19 Roseby Street
Drummoyne NSW 2047

+61 2 8541 6169
info@mraconsulting.com.au
mraconsulting.com.au

Version History

Ver	Date	Status	Author	Approver
0.1	3/11/2025	Draft	Naomi Mynott	Beth Medway
1.0	29/01/2025	Final	Naomi Mynott, Esther Hughes	Beth Medway
2.0	19/06/2026	RtS version	Adele Khoshzaban, Esther Hughes	Esther Hughes

Disclaimer

This report has been prepared by MRA Consulting Group for NALG. MRA (ABN 13 143 273 812) does not accept responsibility for any use of, or reliance on, the contents of this document by any third party.

Acknowledgements

MRA would like to acknowledge the assistance with preparation of this report provided by: Anderson Environmental and Planning, Artefact, Colliers Engineering and Design, Headway Traffic and Transport, Hunter Geotechnical Services, Ground Ink, Judith Stubbs and Associates, Koikas Acoustics, McCardle Cultural Heritage, Mitchell Brandtmann, October Urban, Ratio, Restore, Riskcon Engineering and Todoroski Air Sciences.

EIS Declaration

Project Details

Project name MidCoast Regional Organics Processing Solution
Application number SSD-84090218
Address of the land in respect of which the development application is made 48 Midge Orchid Road, Darawank NSW 2428
Lot 5, Deposited Plan 1089990

Applicant Details

Applicant name NALG Envirotech Pty Ltd
Applicant address Level 3, Suite 303, 7-9 Irvine Place, Bella Vista NSW 2153

Details of persons by whom this EIS was prepared

Name Naomi Mynott
Address c/o Suite 408 Henry Lawson Building
19 Roseby Street, Drummoyne NSW 2047
Professional qualifications BSc (Hons) Mathematics, MSc Urban and Regional Planning

Name Esther Hughes
Address c/o Suite 408 Henry Lawson Building
19 Roseby Street, Drummoyne NSW 2047
Professional qualifications B Arts (Hons), M Arts, GD Urban and Regional Planning, M Environmental Science

Declaration by Registered Environmental Assessment Practitioner

Name Beth Medway
Registration number 138853
Organisation registered with Planning Institute of Australia
Declaration

The undersigned declares that this EIS:

- has been prepared in accordance with the Environmental Planning and Assessment Regulation 2021
- contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the EIS relates
- does not contain information that is false or misleading
- addresses the Planning Secretary's environmental assessment requirements (SEARs) for the Project



- identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments
- has been prepared having regard to the Department's State Significant Development Guidelines - Preparing an Environmental Impact Statement
- contains a simple and easy to understand summary of the Project as a whole, having regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development
- contains a consolidated description of the Project in a single chapter of the EIS
- contains an accurate summary of the findings of any community engagement
- contains an accurate summary of the detailed technical assessment of the impacts of the Project as a whole

A handwritten signature in black ink, appearing to be 'R. De'.

Signature

Date

29 January 2026

Glossary

Terminology	Definition
ACHA	Aboriginal Cultural Heritage Assessment
AD	Anaerobic Digestion (specifically Kompogas Dry Anaerobic Digestion technology under license from Kanadevia Inova)
AEP	Annual Exceedance Probability
AHD	Australian Height Datum
ANZECC	Australian and New Zealand Environment Conservation Council
APZ	Asset Protection Zone
AQIA	Air Quality Impact Assessment
AS	Australian Standards
BAL	Bushfire Attack Level
BAM	Biodiversity Assessment Method
BFAR	Bush Fire Assessment Report
BFEMEP	Bush Fire Emergency Management and Evacuation Plan
BMP	Biodiversity Management Plan
BV	Biodiversity Values
CEMP	Construction Environmental Management Plan
CHP	Combined Heat and Power
CTMP	Construction Traffic Management Plan
DAF	Dissolved Air Flotation
DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
DCP	Development Control Plan
DP	Deposited Plan
DPHI	NSW Department of Planning, Housing and Infrastructure

Terminology	Definition
EDC	Estimated Development Cost
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
FIA	Flood Impact Assessment
FO	Food Organics
FOGO	Food Organics and Garden Organics
FPL	Flood Planning Level
FRNSW	Fire and Rescue NSW
GHG	Greenhouse Gases
ha	Hectares
IVC	In-Vessel Composting
LEP	Local Environmental Plan
LGA	Local Government Area
MCC	MidCoast Council
MC ROPS	MidCoast Regional Organics Processing Solution
MRA	MRA Consulting Group
NALG	NALG Envirotech Pty Ltd
NCC	National Construction Code

Terminology	Definition
NorBE	Neutral or Beneficial Effect
NSW	New South Wales
OEMP	Operational Environmental Management Plan
PASS	Potential Acid Sulphate Soil
PBP (2019)	Planning for Bushfire Protection 2019
PCT	Plant Community Type
PMF	Probably Maximal Flood
PMP	Probably Maximum Precipitation
PoEO Act	NSW <i>Protection of the Environment Operations Act 1997</i>
RFS	Rural Fire Service (NSW)
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SSD	State Significant Development
SA2	Statistical Area 2
TEC	Threatened Ecological Community
TfNSW	Transport for NSW
Tpa	Tonnes per annum
Tpd	Tonnes per day
TSP	Total Suspended Particulates
WARR	Waste Avoidance and Resource Recovery (Strategy)
WCMP	Water Cycle Management Plan
WQualMS	Water Quality Management Strategy
WQuanMS	Water Quantity Management Strategy

Table of contents

EIS Declaration	iii
Glossary	v
Summary	xvi
Introduction	xvi
Need for the Project	xvi
The Site	xvi
Project Description	xvi
Impact Assessment and Mitigation Measures	xvii
Engagement	xviii
Project Justification	xviii
1 Introduction	1
1.1 Applicant Details	1
1.2 Project Overview	1
1.3 Site Plans	2
1.4 Project Objectives	2
1.5 Location	2
1.6 Restrictions or Covenants	5
1.7 Consents	6
1.8 Related Developments	7
1.9 Development Contributions	7
2 Strategic Context	8
2.1 Strategic Planning Alignment	8
2.2 Site History and Key Features	14
2.3 Analysis of Alternatives	18
2.4 Site Suitability	20
2.5 Cumulative Impacts	20
2.6 Operating Hours	20
2.7 Applicant Agreements	21
3 Project Description	22
3.1 Overview	22
3.2 Construction Environmental Management Plan	24
3.3 Site Preparation	24
3.4 Physical Layout and Design	25
3.5 Technology	35
3.6 Operational Uses and Activities	36
3.7 Capital Investment Value	45
3.8 Staffing and Onsite Amenities	46
3.9 Timing and Delivery	46
4 Statutory Context	47

4.1	Key Statutory Requirements	47
4.2	Pre-conditions to Exercising the Power to Grant Approval	48
4.3	Mandatory Matters for Consideration	50
4.4	Environmental Licensing	53
5	Engagement	55
5.1	Assessment Requirements	55
5.2	Engagement Overview	55
5.3	Consultation with the Community	56
5.4	Consultation with Authorities	58
5.5	Management of Issues	59
5.6	Future Stakeholder Engagement	59
6	Assessment and Mitigation of Impacts	61
6.1	Overview	61
6.2	Waste Management	61
6.3	Air Quality	68
6.4	Noise and Vibration	82
6.5	Biodiversity	95
6.6	Water and Flooding	107
6.7	Soils and Contamination	126
6.8	Bushfire	132
6.9	Traffic, Access, and Parking	139
6.10	Infrastructure Requirements	152
6.11	Hazards and Risks	157
6.12	Aboriginal Cultural Heritage	166
6.13	Non-Aboriginal Heritage	169
6.14	Built Form and Urban Design	170
6.15	Visual Amenity	173
6.16	Socio-Economic	177
6.17	Greenhouse Gas Emissions	181
6.18	Cumulative Impacts	184
7	Ecologically Sustainable Development	188
8	Project Justification	190
8.1	Design	190
8.2	Strategic Context	190
8.3	Statutory Requirements	190
8.4	Community Views	191
8.5	Economic, Social and Environmental	191
8.6	Compliance	191
8.7	Summary	191
9	References	192
10	List of Appendices	193

List of Tables

Table 1: Applicant Details.....	1
Table 2: Site Features	14
Table 3: Sensitive receivers.....	18
Table 4: Project Summary – Construction and Operation (updated)	22
Table 5: Site Preparation.....	24
Table 6: Facility	25
Table 7: Supporting Infrastructure	29
Table 8: Colour Schedule	30
Table 9: Source of inputs.....	36
Table 10: Produced outputs.....	37
Table 11: Waste classifications	38
Table 12: Summary of estimated maximum facility storage and throughputs (updated).....	42
Table 13: Key statutory requirements for the Project	47
Table 14: Pre-conditions.....	48
Table 15: Mandatory Matters for Consideration	50
Table 16: Assessment Requirements for Engagement	55
Table 17: Summary of feedback and responses.....	57
Table 18: Summary of feedback and responses.....	59
Table 19: SEARs - Waste Management	61
Table 20: Risks Associated with Waste During Construction Works	63
Table 21: Construction waste generation estimations and management methods	63
Table 22: Estimated Waste Generation - Operations.....	65
Table 23: SEARs - Air Quality and Odour.....	68
Table 24: Sensitive receptor locations used in Air Quality Impact Assessment.....	69
Table 25: Summary of air quality background levels.....	70
Table 26: Summary of estimated dust emissions for the Project (kg/year).....	73
Table 27: Modelled dust point source parameters	74
Table 28: Modelled pollutant concentrations.....	75
Table 29: 99 th percentile nose-response average ground level odour concentrations	77
Table 30: Predicted dust modelling results	78

Table 31: NSW EPA contemporaneous assessment - maximum number of additional days above 24-hour average criterion.....	79
Table 32: Other Pollutant Modelling Outcomes.....	79
Table 33: SEARs - Noise.....	82
Table 34: Summary of noise logger results.....	84
Table 35: Construction noise source inventory	85
Table 36: Estimated construction noise levels to surrounding receivers - LAeq 15 minutes.....	86
Table 37: Operational noise source inventory	87
Table 38: Operational noise trigger levels - NPfl planning levels (dB).....	88
Table 39: Receiver level - Day / Evening (updated).....	90
Table 40: Receiver levels – Night (updated).....	91
Table 41: Receiver levels - Sleep Disturbance (updated)	92
Table 42: Modelled Traffic Noise (updated).....	93
Table 43: SEARs – Biodiversity	95
Table 44: SEARs – Water and Flooding	107
Table 45: DRAINS peak discharge (updated).....	120
Table 46: Water Quality Modelling (updated).....	121
Table 47: Water Demands.....	124
Table 48: Water Supply	124
Table 49: SEARs – Soils and Contamination.....	126
Table 50: SEARs – Bushfire	132
Table 51: Asset Protection Zones (updated).....	134
Table 52: BAL rating for each building (updated).....	136
Table 53: SEARs – Traffic, Access and Parking.....	139
Table 54: Peak Hour Operational Vehicle Movements.....	143
Table 55: Accessible Parking Provision.....	148
Table 56: Intersection performance modelling results – The Lakes Way and Tuncurry Tip Road (updated)	150
Table 57: Intersection performance modelling results – The Lakes Way and Failford Road	151
Table 58: SEARs – Infrastructure Requirements	152
Table 59: Existing utilities	153
Table 60: Utility Requirements.....	154



Table 61: SEARs – Hazards and Risks	157
Table 62: Dangerous goods to be stored on site	158
Table 63: Level of Assessment PHA	159
Table 64: Offensive development assessment	160
Table 65: SEARs – Aboriginal Cultural Heritage.....	166
Table 66: SEARs – Non-Aboriginal Heritage	169
Table 67: SEARs – Built Form and Urban Design	170
Table 68: SEARs – Visual Amenity.....	173
Table 69: Viewpoint Visual Impact Summary.....	176
Table 70: SEARs – Socio-Economic	177
Table 71: Demographic Context	178
Table 72: Social Impact Category Assessment.....	180
Table 73: SEARs – Greenhouse Gas Emissions	181
Table 74: Estimated quantities of materials	183
Table 75: Summary of estimated CO ₂ -e emissions for the Project.....	183
Table 76: Cumulative impacts	186
Table 77: SEARs – Ecologically Sustainable Development	188
Table 78: Ecologically Sustainable Development Assessment	188

List of Figures

Figure 1: Regional Context Map	3
Figure 2: Local Context Map.....	4
Figure 3: Site Location.....	5
Figure 4: Existing Electricity Infrastructure Alignment	6
Figure 5: North Tuncurry Urban Release Area.....	13
Figure 6: Change in vegetation over time (1997 to 2025)	14
Figure 7: Site Zoning	16
Figure 8: Broader Area Zoning	16
Figure 9: Sensitive receivers	18
Figure 10: Site Plan.....	27
Figure 11: Artist Impression.....	28
Figure 12: Substation and underground power connection	30
Figure 13: Planting Strategy	31
Figure 14: Proposed Tree Plan (to be planted).....	32
Figure 15: Landscaping Master Plan	33
Figure 16: State and Local Road Network	34
Figure 17: Mass balance	37
Figure 18: Process flow	41
Figure 19: Consultation area	56
Figure 20: Storage Areas	66
Figure 21: Site and Nearby Receptor Locations	70
Figure 22: Modelled Air Emission Sources	73
Figure 23: Dust Source Locations for Model	75
Figure 24: 99 th percentile nose-response ground level hour concentrations	77
Figure 25: Noise logger locations	84
Figure 26: Location of key site noise sources	87
Figure 27: Residential receivers identified for operational noise assessment	89
Figure 28: Noise level contours for day and evening scenario	90
Figure 29: Noise level contour for night scenario	91
Figure 30: Noise level contour for sleep disturbance scenario	92

Figure 31: Biodiversity Values Map	97
Figure 32: Regulated Land	98
Figure 33: Habitat types	99
Figure 34: Plant Community Types.....	100
Figure 35: Tree Retention and Removal Assessment.....	102
Figure 36: Nearby Waterways and the Model Boundary.....	114
Figure 37: Current and 2100 Flood Planning Areas.....	115
Figure 38: Pre-Development Discharge Points.....	115
Figure 39: Upstream Catchments (red) Entering the Site (green)	116
Figure 40: Groundwater Dependent Ecosystems	117
Figure 41: Bunker depth	118
Figure 42: Water Management.....	120
Figure 43: Stormwater Strategy.....	123
Figure 44: ASS / PASS Mapping.....	128
Figure 45: Bush Fire Prone Land Mapping	133
Figure 46: Proposed Asset Protection Zone	135
Figure 47: Road Classifications	141
Figure 48: Access and Queuing Area	144
Figure 49: Swept Path Analysis	145
Figure 50: Swept Path Analysis	146
Figure 51: Swept Path Analysis	146
Figure 52: Swept Path Analysis – Liquid Waste Unloading.....	147
Figure 53: Swept Path Analysis – Simultaneous Loading and Unloading Operations	147
Figure 54: Parking Layout.....	149
Figure 55: Realignment of overhead power lines.....	156
Figure 56: Class 2.1 Flammable Gases Screening Graph	159
Figure 57: Flare location.....	162
Figure 58: Perimeter Access	164
Figure 59: Alignment with the Better Placed Objectives.....	173
Figure 60: Viewpoints Map (1000m Radius)	175
Figure 61: Viewpoints Map (5000m Radius)	175
Figure 62: North Tuncurry Urban Release Area.....	185



Summary

Introduction

A waste management facility for processing organic material is proposed by NALG Envirotech Pty Ltd (NALG) in the MidCoast local government area of NSW. The proposed development has a capital investment value of more than \$30 million and is permissible with consent. The proposed development needs to be assessed and determined as a State Significant Development (SSD-84090218) project under the *Environmental Planning and Assessment Act 1979*.

The Secretary's Environmental Assessment Requirements (SEARs) for the project were provided on 18 June 2025. MidCoast Council (MCC) provided their comments on the SEARs and additional matters for consideration on 11 July 2025. A SEARs summary table is provided as Appendix A. MCC comments are provided in Appendix B.

Need for the Project

MCC owns and operates a waste disposal, resource recovery and recycling facility at Darawank, near Tuncurry, that services the needs of the local community and commercial businesses. MCC intends to provide a collection service for food organics and garden organics (FOGO) and has sought an operator to establish a FOGO processing facility close to the existing Tuncurry Waste Management Centre.

At its meeting on 26 June 2024 (Resolution 215/2024), MCC resolved to proceed with the construction of a FOGO processing facility via a design, build, own, operate and transfer contract with NALG. The facility was identified as the most economically and environmentally sustainable solution to deliver a FOGO service in line with the NSW Government's mandate for all councils in NSW to provide a collection service for FOGO by 2030. MCC further noted that without a dedicated local processing facility, implementation of a viable FOGO service within the MidCoast region would not be feasible.

The Site

The proposed FOGO processing facility would be at 48 Midge Orchid Road, Darawank NSW 2428, which is formally described as Lot 5, Deposited Plan 1089990. The Site has an area of approximately 5.83ha and is owned by MCC. The Site of the proposed FOGO facility features native vegetation regrowth and an electricity infrastructure corridor.

The Site is adjacent to the existing Tuncurry Waste Management Centre, which is also owned by MCC. The surrounding area is characterised by local essential services, rural residences and environmental conservation zones.

Project Description

The proposed development would involve the establishment and operation of the MidCoast Regional Organics Processing Solution, a FOGO processing facility that would utilise In-Vessel Composting and Dry Anaerobic Digestion technology to process organic waste and produce high-quality compost. The proposed operational capacity is 146,000 tonnes per annum, providing the capacity to process MCC FOGO, other councils' FOGO, and additional organics from commercial and industrial sources.

The proposed development would involve:

- Clearing approximately 4.64ha of native vegetation.
- Levelling to establish hardstand, trafficable areas, weighbridge, buildings, structures, utilities and other site infrastructure.
- Works within the road reserve to establish access to the Site from the existing classified road network, including a new private road connection with Midge Orchid Road.



- Utility connections with the existing water, sewer and stormwater network to enable operation of the facility and provide services.
- An environment protection licence for the operation of the facility to administer the scheduled activities of 'composting', 'resource recovery' and 'waste storage'.

Impact Assessment and Mitigation Measures

Proposed operations including receipt, pre-treatment, processing and offtake would be undertaken inside the proposed buildings associated with the Project.

Operations and potential impacts would be managed through development of a Construction Environmental Management Plan and an Operational Environmental Management Plan.

A Waste Management Plan has been produced to cover construction and operation and would be updated as required to reflect activities.

An Air Quality and Odour Assessment was undertaken, which concluded that nearby premises would not be adversely affected by dust or odour with the implementation of mitigation measures, including use of odour control systems.

An Acoustic and Vibration Assessment was undertaken, which concluded that noise levels would not be expected to reach disturbance level, and vibration would not be a concern.

A Biodiversity Development Assessment Report was prepared in accordance with the required methodology, and found that potential impacts to important flora, fauna and habitat would be avoided due to a design that responded to areas of highest value.

A Water Cycle Management Plan was developed, which concluded that with the implementation of appropriate treatment, stormwater would be appropriately managed to avoid impacts to water quality and quantity. No impacts to groundwater would be expected.

A Bush Fire Management Plan was completed together with a draft Bush Fire Emergency Management and Evacuation Plan. With appropriate setbacks, design and management, the Project would not result in increased risk of bushfire or harm to occupants. In the event of a bushfire approaching Site, early evacuation would be the first option.

A Transport Impact Assessment was undertaken, which shows that vehicles would be able to access the site, manoeuvre, and leave the site in a forward-facing direction and impacts on the surrounding network would be limited. Car parking would be available to meet the parking demand.

A Geotechnical Assessment was completed, which has informed design of the Project. No contamination issues have been identified.

The Site would be capable of being serviced by all required infrastructure. The realignment of electricity cables would be achieved working with relevant authorities and provision of an easement.

A Preliminary Hazard Analysis has been completed and found that no scenarios required further analysis. Hazardous materials can be adequately managed by safe storage and handling procedures.

The Project would not be likely to impact places or items of Aboriginal Cultural Heritage significance.

The Project would not be likely to impact places or items of non-Aboriginal Heritage significance.

The Project would incorporate a variety of key design considerations to achieve an accessible, operationally efficient, visually appealing and safe facility, consistent with the principles of the *Better Placed* design policy.

The Project is assessed to have a minor to negligible level of visual impact, and the implementation of vegetation screening, earth-toned materials and low impact lighting would enhance the visual amenity of the Site.



A Greenhouse Gas Study has been completed and found that the Project would result in a net reduction in greenhouse gas generated with management of FOGO through diversion from landfill.

A Socio-Economic Assessment was completed and found that the Project would have net benefit for the area.

Engagement

Community and stakeholder engagement has been undertaken to inform local residents, community groups and government authorities about the Project, and to gather feedback to help shape the design and minimise environmental impacts.

Proponent-led engagement involved distributing flyers to residences within a 1 km radius, establishing a project webpage, and conducting a public meeting at the Tuncurry Waste Management Centre. Outreach also included social media posts, email contact with local environmental groups and direct engagement with Aboriginal stakeholders. Consultation with government and industry stakeholders was also undertaken, involving meetings with MCC, and email correspondence with other government authorities including DCCEEW (Conservation Programs, Heritage and Regulation; Water Group; Environment Protection Authority), Essential Energy, Transport for NSW, Fire & Rescue NSW, and NSW Rural Fire Service.

While there was a generally low level of community interest in the proposal, feedback received from the community covered concerns such as air quality, noise, traffic, visual amenity and ecological impacts, which led to design refinements and strengthened assessment of key issues. MCC engaged in discussions on key issues to address, while the remaining agencies indicated they would provide formal feedback following EIS submission. Ongoing communication with MCC and DPHI has continued throughout the EIS preparation phase, and further engagement with authorities is anticipated during the assessment process.

Engagement during the exhibition of the EIS will strengthen understanding of community views, which will be formally addressed at that time.

Project Justification

The proposed MidCoast Regional Organics Processing Solution would:

- Divert waste from landfill
- Support MCC in achieving NSW Government's mandates for FOGO collection and processing
- Generate green energy
- Provide local source of compost / soil conditioner
- Return materials to the circular economy
- Improve FOGO processing capacity in line with population growth and a need for improvements in the FOGO processing sector
- Provide employment opportunities for 12 full time positions and up to 26 temporary construction jobs

With due consideration of the environmental impact assessment:

- The proposed Site is suitable for the type of development and demonstrates consistency with the relevant planning instruments
- The Project would provide essential FOGO management infrastructure to achieve the objectives of national and state strategic plans
- Environmental impacts associated with construction and operation of the Project can be appropriately mitigated

- The Project would have an overall positive economic, environmental and social impact, including creating employment opportunities in the area
- The Project demonstrates consistency with the relevant planning instruments and addresses the issues identified in the SEARs and MCC's comments

The design has undergone multiple iterations, with key changes relating to:

- Modifying layout to avoid environmental impacts (in particular, an endangered ecological community)
- Appropriate stormwater management to achieve replication of the existing stormwater regime
- Modifying layout to retain existing trees and minimise clearing
- Incorporating right of carriageway for an adjoining landowner in response to community engagement feedback
- Building design modifications to respond to potential safety concerns including enclosure of the maturation building and positioning of the combined heat and power plant, biogas storage and gas flare
- Provision of parking to support a range of transport methods including visitor groups, cyclists and electric vehicles

An analysis of alternatives included the business-as-usual option (no action), reduced throughput and identification of a different site. Alternative options were unable to address the need for additional capacity and the difficulty in finding a suitable alternative location within MCC.

1 Introduction

This Environmental Impact Statement (EIS) is submitted to the Department of Planning, Housing and Infrastructure (DPHI) on behalf of NALG Envirotech Pty Ltd (NALG) in support of a State Significant Development (SSD) application (SSD-84090218) for proposed construction and operation of an organics processing facility ('the Project') at Darawank on the mid-north coast of New South Wales (NSW). The application is seeking development consent under Part 4, Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.1 Applicant Details

The applicant details for the Project are provided in Table 1.

Table 1: Applicant Details

Applicant	Applicant Details
Name	NALG Envirotech Pty Ltd, trading as NALG
Address	Level 3, Suite 303, 7-9 Irvine Place, Bella Vista NSW 2153
ABN	27 66 2479 549
Nominated Contact	Esther Hughes (MRA Consulting Group)

NALG specialises in environmental technology solutions, focused on water treatment, waste management, pollution control and sustainability services. NALG, in conjunction with technology partners Kanadevia INOVA and GICOM, have over 40 years' combined industry experience in designing, building and operating organic waste management sites utilising advanced technology. NALG focuses on using adaptable design to ensure their facilities are self-sustaining, meaning they produce their own energy and water, reducing the impact on external environmental resources. These solutions allow the conversion of organic waste into valuable resources including nutrient-rich compost, biogas, biochar, and liquid fertilisers, while simultaneously minimising greenhouse gas emissions and reducing landfill disposal.

1.2 Project Overview

MidCoast Council (MCC) identified the need for a food organics and garden organics (FOGO) processing facility in its local government area to address the NSW Government mandate for all councils to provide a collection service for FOGO by 2030. In 2024, NALG was awarded the design, build, own, operate and transfer contract with MCC for a processing facility on approximately 5.83ha of MCC-owned land near the existing, MCC-owned Tuncurry Waste Management Centre.

The Project is known as the MidCoast Regional Organics Processing Solution (MC ROPS). It would utilise In-Vessel Composting (IVC) and Dry Anaerobic Digestion (AD) technology to process organic waste and produce high-quality compost end products and biogas. The facility would comprise a weighbridge with office, receival and pre-treatment building, IVC tunnels and plant room, digestors, biogas storage, CHP plant and flare, biofilter, maturation hall, administration building and supporting infrastructure including sealed accesses, parking areas, drainage, sewerage, stormwater management, power and other water infrastructure.

The proposed operational capacity is 146,000 tonnes per annum (tpa), providing the capacity to process MCC FOGO, some other councils' FOGO, and additional organics from commercial and industrial sources. The Project would be carbon negative, abating nearly 150,000 tpa of CO₂-e, primarily through diverting food waste from landfill.

1.3 Site Plans

Detailed site plans are included in Appendix C. A Stormwater Plan is provided as Appendix D. A Landscape Plan is provided in Appendix E. A Survey Plan is provided in Appendix F. A Cut and Fill Plan is provided in Appendix G.

1.4 Project Objectives

The primary objectives of the Project are as follows:

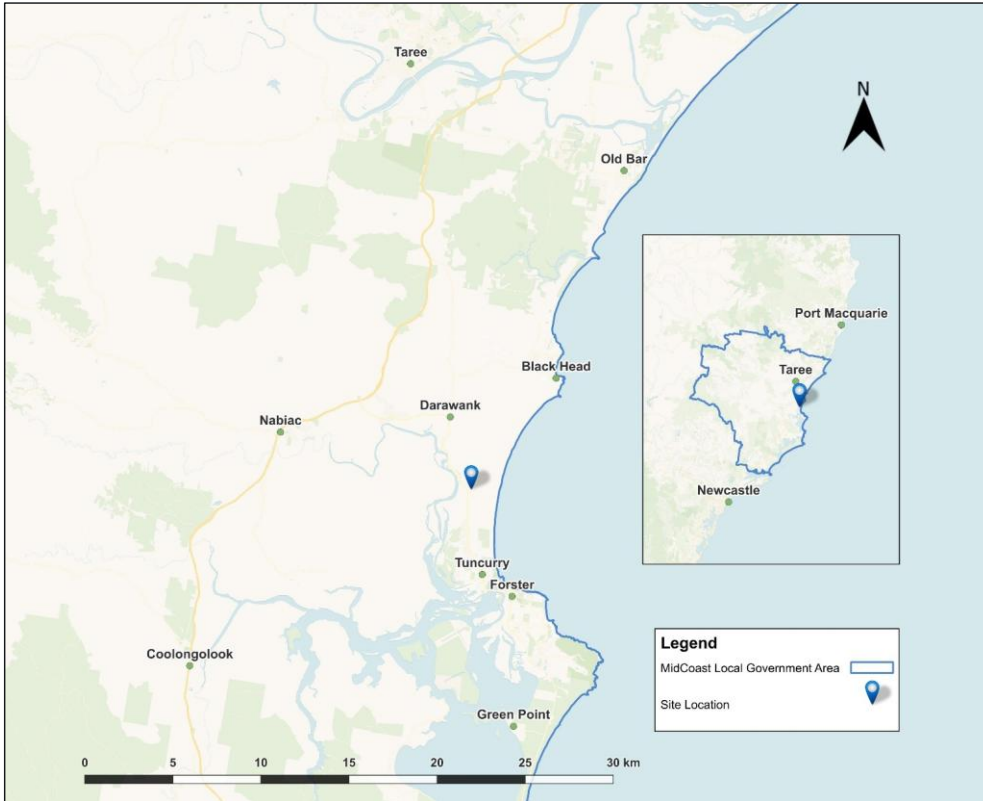
- To provide MCC with a FOGO processing solution by January 2028
- To provide additional capacity to process FOGO from other councils, commercially sourced organics, and liquid food waste
- To produce high-quality compost compliant with AS4454-2012
- To produce renewable 'green' power
- To have the flexibility to cater for feedstock variability and contamination whilst producing consistent high value compost
- To construct a facility with a minimum design life of 30+ years

1.5 Location

The address of the proposed FOGO processing facility is 48 Midge Orchid Road, Darawank NSW 2428, formally described as Lot 5, Deposited Plan 1089990 (the Site). The Site is approximately 4km north of the Tuncurry township. The primary use of the surrounding area is rural residences, waste management and nature reserves. The location provides adequate access to the region via the arterial roads.

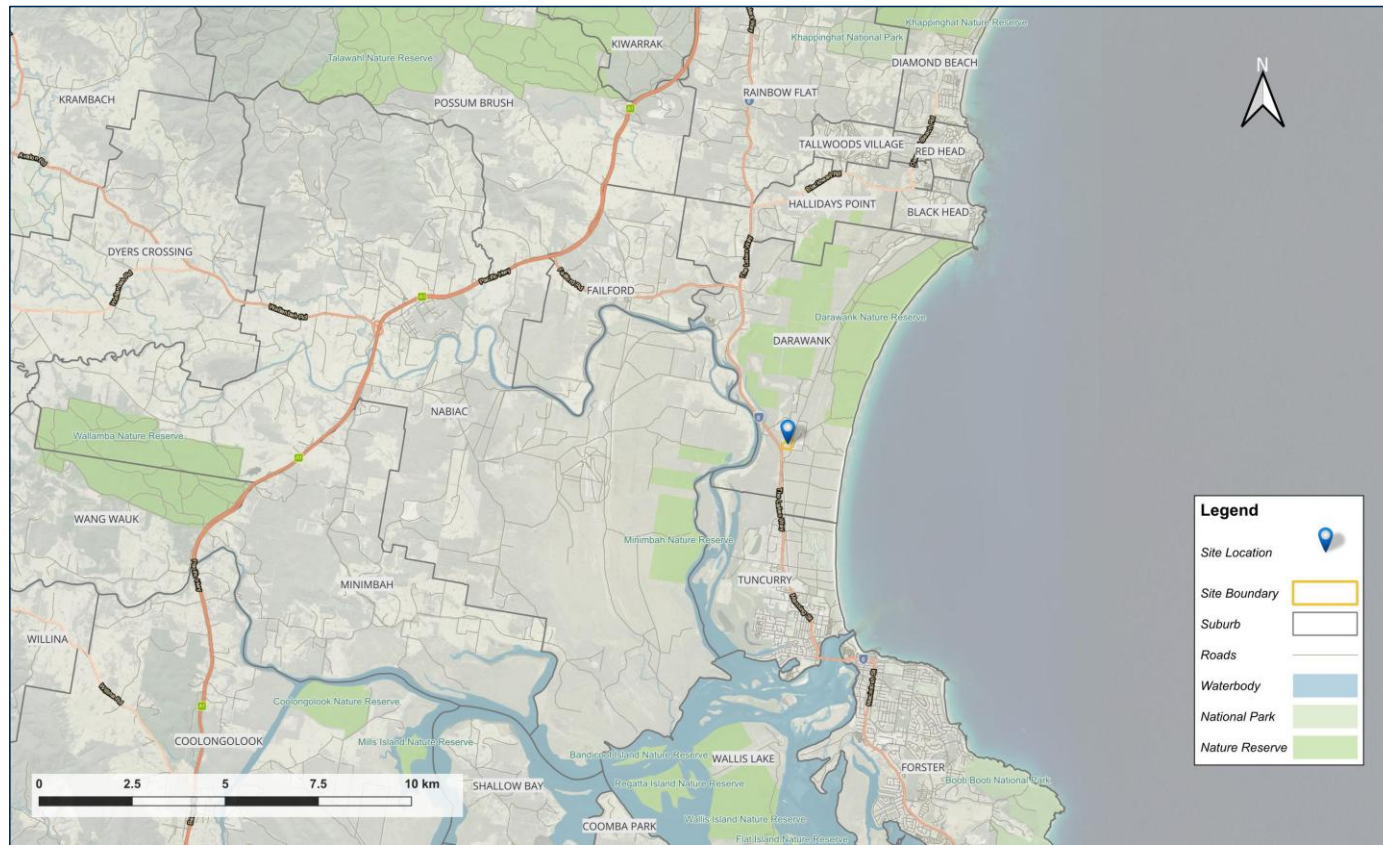
Figure 1 shows the location in its regional context. Figure 2 and Figure 3 show the Site in relation to surrounding land, including the existing Tuncurry Waste Management Centre to the east.

Figure 1: Regional Context Map



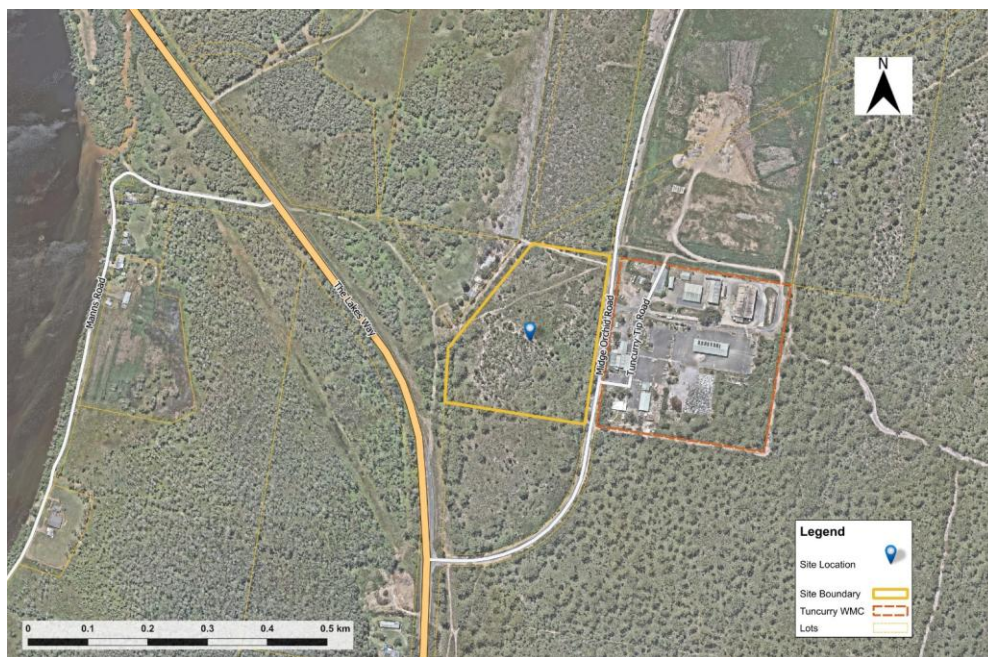
Source: OpenStreetMap (modified), 2025

Figure 2: Local Context Map



Source: OpenStreetMap, Six Maps (modified) 2025.

Figure 3: Site Location



Source: Nearmap, 2025.

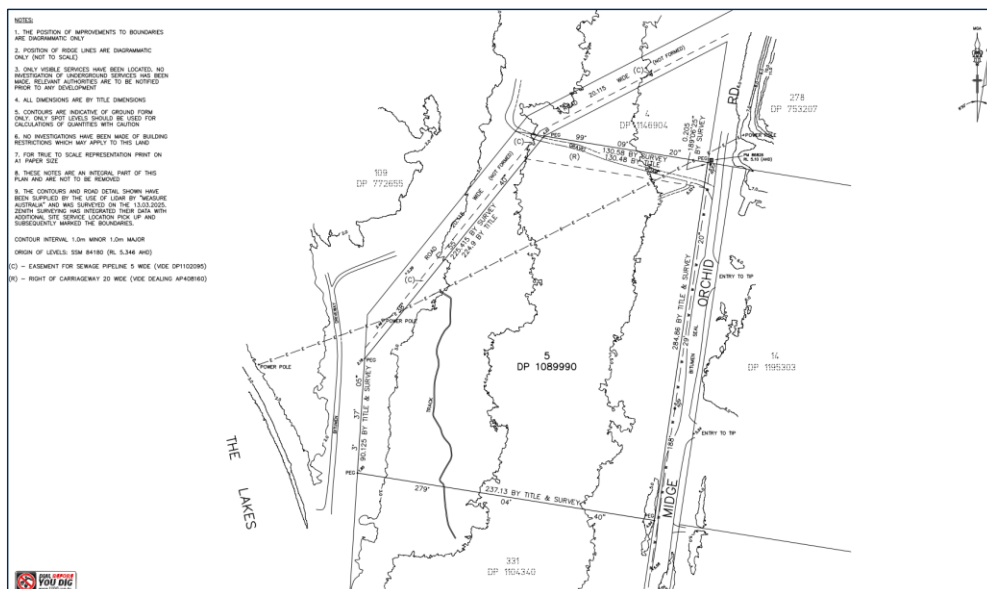
1.6 Restrictions or Covenants

The Site is currently vacant, other than the electricity transmission line that runs through the Site. While no formal easement is in place, the rights related to an easement (shown in Figure 4) apply to the Site and the electricity infrastructure alignment per Section 53 of the *Electricity Supply Act 1995*.

There are no known other restrictions or covenants.

The Survey Plan is provided in Appendix F, and an excerpt is provided below.

Figure 4: Existing Electricity Infrastructure Alignment



Source: Zenith Surveying Services

1.7 Consents

1.7.1 Owner's Consent

The Site is owned by MCC and has been leased to NALG through an agreement executed in February 2025 for 25 years with an optional 5-year extension. The terms provide for the land to be used as an organics processing facility along with associated administrative activities.

The owner's consent for this SSDA is provided in Appendix H.

1.7.2 Development Consent

A search of MCC records indicated that no previous development consents have been issued for the Site.

This development application to both build and operate the facility is defined as State Significant Development under Clause 3 and Clause 23, Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021*, being:

- Agricultural produce industries and food and beverage processing (a composting facility) with an estimated development cost of more than \$30 million; and
- Waste and resource management facility that handles more than 100,000 tpa.

The Secretary's Environmental Assessment Requirements (SEARs) for this project (SSD-84090218) were received on 18 June 2025. These consolidate requirements from the DPHI, NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) (Conservation Programs, Heritage & Regulation Group, Heritage NSW and Water Group), NSW Environment Protection Authority (EPA), Transport for



NSW (TfNSW), NSW Rural Fire Service (RFS), Fire and Rescue NSW (FRNSW), and WaterNSW for the Project. MCC provided comments in a letter dated 11 July 2025 (see Appendix B).

The SEARs include a requirement to prepare an EIS in accordance with the requirements of Section 192 of the *Environmental Planning and Assessment Regulation 2021*. Appendix A of this EIS outlines where the SEARs have been addressed. A statutory compliance table is included in Appendix I.

1.7.3 Licensing

MCC is in the Regional Levy Area and is therefore within the regulated area under the *Protection of the Environment Operations Act 1997* (PoEO Act). There are no existing licences relating to the Site or the Project.

The volume and type of material proposed to be processed by the facility triggers the requirement for a licence under Schedule 1 of the PoEO Act for:

- 12 – Composting
- 34 – Resource recovery
- 42 – Waste storage

1.8 Related Developments

Tuncurry Waste Management Centre

The existing Tuncurry Waste Management Centre is operated by MCC and located approximately 17m to the east (on the opposite side of Midge Orchid Road). The Project would be an extension of the services offered in the region for waste management; however, it would operate independently of the Tuncurry Waste Management Centre.

Electricity Cable Realignment

The Site presently has overhead power distribution lines running south-west to north-east. NALG is working with MCC to realign the power lines toward the perimeter of the Site.

A new easement would be required for the new electricity infrastructure alignment along with approval from the network operator (Essential Energy).

Future Odour Buffer (potential)

MCC may wish to include a vegetated buffer between the Site and future proposed residential development to the south. This would be for MCC to consider and is not part of the SSD proposal. Refer to section 2.1.15 for further detail.

1.9 Development Contributions

Development contributions are expected to be required in accordance with provisions of the *Forster District Development Contributions Plan 2014*. It is expected the scale of those contributions would be determined by MCC during assessment of the SSD.

A Housing and Productivity Contribution is also expected to be required in line with provisions of the *Environmental Planning and Assessment (Housing and Productivity Contributions) Order 2024*. This would be \$15 per square metre of new gross floor area and would be required prior to issue of a construction certificate.

2 Strategic Context

2.1 Strategic Planning Alignment

The Project is strongly aligned with numerous strategic plans and government policies aimed at addressing the evolving waste management demands in NSW and Australia. It would provide capacity for processing the FOGO waste stream in the MidCoast region that is forecast to exponentially grow in the coming years.

2.1.1 NSW Energy from Waste Policy Statement 2021

The *NSW Energy from Waste Policy Statement 2021* sets out the policy framework and overarching criteria that apply to facilities in NSW proposing to thermally treat waste or waste-derived materials for the recovery of energy. The scope of the statement covers facilities *undertaking the thermal treatment of any waste or waste-derived materials, where thermal treatment means the processing of wastes by combustion, thermal oxidation, thermal or plasma gasification, pyrolysis and torrefaction*. The scope of the statement does not include biological processes, such as anaerobic digestion and composting of waste. Hence, the *NSW Energy from Waste Policy Statement 2021* does not need to be considered.

2.1.2 NSW Waste Avoidance and Resource Recovery Strategy 2014–21

The *NSW Waste Avoidance and Resource Recovery Strategy 2014–21* was the former high-level framework for setting priorities and long-term directions for NSW. While this Strategy has been superseded by the *NSW Waste and Sustainable Materials Strategy 2041* (below), this Strategy is referenced within the SEARs and has been referenced here for context. It articulates six key result areas to assist in implementation:

- Key Result Area 1: Avoid and reduce waste generation
- Key Result Area 2: Increase recycling
- Key Result Area 3: Divert more waste from landfill
- Key Result Area 4: Manage problem wastes better
- Key Result Area 5: Reduce litter
- Key Result Area 6: Reduce illegal dumping

The Project would assist in meeting Key Result Areas 2, 3 and 4 and would not have detrimental impact in achieving outcomes associated with the other Key Result Areas. The facility would significantly increase capacity for processing FOGO waste for the MCC area and reduce the impact of FOGO management, including greenhouse gas emissions, by diverting material from landfill and providing a contemporary facility designed informed by best practice, with products including high quality compost products and biogas that all have valid uses within the area.

With the recent release of the *NSW FOGO Recycling Act 2025*, discussed at Section 2.1.5 below, this Project would provide critical infrastructure required to support MCC and the NSW Government in achieving diversion of organic material from landfill.

2.1.3 NSW Waste and Sustainable Materials Strategy 2041 – Stage 1: 2021-2027

In June 2021, the NSW Government released Stage 1 of its *NSW Waste and Sustainable Materials 2041 Strategy*. This strategy reinforces the *NSW Circular Economy Policy Statement* released in 2019.

The *NSW Waste and Sustainable Materials Strategy 2041* identifies the need for waste reduction and landfill diversion through waste management infrastructure to keep up with growing demand.

A key focus area under the strategy is to reduce carbon emissions by better waste and materials management. This is to be achieved in part by mandating the separate collection of FOGO from all NSW

households by 2030. Hence new and enlarged FOGO processing facilities are required as priority infrastructure.

The EPA has set the following targets over a 20-year period to transition NSW to a circular economy in accordance with the NSW Waste and Sustainable Materials Strategy 2041 (which supersedes the Waste Avoidance and Resource Recovery Strategy 2014–21):

- Reduce total waste generated by 10% per person by 2030
- Have an 80% average recovery rate from all waste streams by 2030
- Significantly increase the use of recycled content by governments and industry
- Phase out problematic and unnecessary plastics by 2025
- Halve the amount of organic waste sent to landfill by 2030

The Project would assist in achieving NSW targets to increase the recovery rate of all waste streams from landfill to 80% and halve the amount of organic waste to landfill by 2030. The facility would significantly increase capacity for processing FOGO waste for the MCC area and reduce the impact of FOGO management, including greenhouse gas emissions generation, by diverting material from landfill. It would provide a contemporary facility designed by best practice. Products would include compost, soil conditioner, mulch, power and biogas that all have valid uses within the area.

The Project supports the objective of removing organic waste from landfill and reducing carbon emissions by providing upgraded capacity for management of FOGO within the MCC area.

2.1.4 NSW Waste and Sustainable Materials Strategy: A guide to future infrastructure needs

The *NSW Waste and Sustainable Materials Strategy Guide to Future Infrastructure Needs* outlines the predicted infrastructure needs for NSW to 2040. The guide indicates that as of 2019, there is a capacity gap for FOGO/GO processing capacity to 2030. Additional IVC and AD infrastructure is required within the MidCoast and broader Hunter Region to address this capacity gap. The Project would contribute to closing this gap, including the increased FOGO waste stream to be generated from the *NSW FOGO Recycling Act 2025*, as addressed below.

2.1.5 NSW FOGO Recycling Act 2025

In 2024, the NSW EPA published a *Food and Garden Organics mandates proposal paper*, outlining a proposal to:

- Mandate food organics collections for certain businesses
- Mandate FOGO collections for households

Following this, the NSW Government introduced the *Protection of the Environment Legislation Amendment (FOGO Recycling) Bill 2024*. The Bill was passed and enacted in 2025 as the *Protection of the Environment Legislation Amendment (FOGO Recycling) Act 2025* (FOGO Recycling Act).

The enforcement of the FOGO Recycling Act commences on 1 July 2026 for businesses and scales up by 1 July 2030 to include households and additional businesses.

Under the FOGO Recycling Act, councils are obliged to:

- Provide households and businesses with collection bins for FOGO material
- Collect food organics bins at least once a week
- Collect garden organics bins at an appropriate interval

The Project would enable MCC to effectively manage FOGO recycling under the new legislation.

2.1.6 NSW Waste and Circular Infrastructure Plan

The NSW EPA released Chapter 1 of the *NSW Waste and Circular Infrastructure Plan* in September 2025. The chapter deals with 3 priorities for the NSW Government to improve waste infrastructure resilience:

1. Streamline planning processes for extending the lifespan of existing priority landfills or expanding them, where doing so is necessary to avoid immediate landfill shortages in Greater Sydney.
2. Consider energy-from-waste, where doing so will reduce reliance on landfill, to build resilience in waste management, and maintain protections for human health and the environment.
3. Strengthen how we strategically plan for waste and recycling infrastructure to meet the needs of Greater Sydney's growing population.

The Project would support the approach outlined in the plan by providing a destination for FOGO processing in the MCC area and beyond and assisting in landfill diversion.

2.1.7 EPA Strategic Plan 2024-29

On 1 August 2024, the NSW EPA released its *Strategic Plan 2024-29*. This plan aims to clarify the EPA's role and relationship with government, business and the community. The vision of the EPA is for a healthy environment, healthy community and healthy business.

The plan emphasises the transition of NSW toward a circular economy, including minimising waste and promoting the continual reuse of resources toward a sustainable future, both environmentally and economically. The outcomes of the plan for enabling a safe circular economy include:

- The necessary systems, infrastructure and regulatory settings are incentivising the transition to a circular economy.
- Potential harm associated with managing waste and recovered materials is minimised.
- Communities, industry and government are actively participating in the circular economy.

The Project would directly contribute to achieving the outcomes of the NSW EPA's Strategic Plan 2024-29. The MC ROPS would incentivise the transition to a circular economy through providing opportunities to recycle organic material into new products to reduce landfill and create value. It would provide more capacity to effectively handle the recycling of organic material safely and reflects the involvement of industry and government in contributing towards achieving a circular economy.

2.1.8 National Waste Policy (2018)

The *National Waste Policy* supports a coherent, efficient and environmentally responsible approach to waste management in Australia. The policy, which was endorsed by the NSW Environment Minister, sets Australia's waste management and resource recovery direction to 2030.

The five principles of the circular economy, embedded in the policy, are to:

1. Avoid waste:
 - Prioritise waste avoidance, encourage efficient use, reuse and repair
 - Design products so waste is minimised, they are made to last and we can more easily recover materials.
2. Improve resource recovery:
 - Improve material collection systems and processes for recycling
 - Improve the quality of recycled material we produce.
3. Increase use of recycled material and build demand and markets for recycled products.
4. Better manage material flows to benefit human health, the environment and the economy.
5. Improve information to support innovation, guide investment and enable informed consumer decisions.



The policy identifies 14 priority strategies that would benefit from a national and/or coordinated approach. These strategies provide focus to the work across individual jurisdictions, build on current directions and complement existing activity. They also provide clarity and direction for business and the community.

Strategy 12 identifies the reduction of organic waste as a priority:

Reduce organic waste, including garden and food waste, by avoiding their generation and supporting diversion away from landfill into soils and other uses, supported by appropriate infrastructure.

This objective is strongly supported by the Project. The Project would provide capacity to handle the diverted organics away from landfill through the composting and anaerobic digestion of FOGO waste streams.

2.1.9 National Waste Policy Action Plan 2024

The *National Waste Policy Action Plan 2024* supports the *National Waste Policy 2018*. The 2024 action plan establishes targets to address the emerging issues in waste management and achieve environmental benefits.

Target 6 of the action plan is to 'halve the amount of organic waste sent to landfill for disposal by 2030'. This target is in response to the management of FOGO, and specifically addresses the opportunity for food waste, food and beverage processing waste, garden waste and other organic materials to be processed into quality recycled organics products such as compost and potting mix.

The Project would directly address this target by providing additional capacity to manage FOGO waste through composting processes, generating quality recycled organics products. It would also support the action plan 2030 goal of diverting 2.6 million tonnes of organic waste from landfill across Australia.

2.1.10 Australia's Circular Economy Framework 2024

Australia's Circular Economy Framework 2024 sets the nation's 10-year commitment to embrace the circular economy, with an ambition to double the circularity of our economy by 2035. Australia currently has a circularity of 4.6%, with the global average being 7.2%. This highlights an important direction towards improving resource recovery efforts.

The framework includes four sectors as priorities to drive improvements in circularity, with one being the food and agriculture sector. Within this sector, the framework identifies priorities to reduce food waste and valorise agri-waste. This includes creating value from previously low-value products, such as garden organics.

The framework's priorities are addressed by the Project as it would be capable of receiving and processing garden organics, food waste and agri-waste, while producing a valuable output that would support the circularity of Australia's economy, and the targets set.

2.1.11 MidCoast Council Waste Strategy 2030

The *MidCoast Council Waste Management Strategy 2030* (MCC Strategy) focuses on the sustainable management of waste until 2030.

Focus 2 of the MCC Strategy identifies resource recovery and their re-use by:

- Achieving a 70% kerbside recycling rate by 2030
- Achieving a 50% diversion rate from all waste sources (MSW, C&I and C&D)
- Halving the amount of organic waste sent to landfill from kerbside collections
- Increasing the use of recycled materials in Council operations



The strategy identifies that the improvement of source separation can be achieved through the development of kerbside services. The Project would provide the necessary processing capacity to receive an expanded kerbside FOGO collection from the LGA.

2.1.12 Hunter Regional Plan 2041

The NSW Department of Planning and Environment (now DPHI) published the *Hunter Regional Plan 2041* in late 2022, focusing on the strategic planning principles to guide the growth and development of the Hunter Region, spanning 10 local government areas, including MCC. The plan includes objectives for the region. Objective 1 of the plan is to diversify the Hunter's mining, energy and industrial capacity. A circular economy is a specified performance outcome of this objective, promoting the transition through seven key principles:

1. Sustainable management of all resources
2. Valuing resource productivity
3. Design out waste and pollution
4. Maintain the value of products and materials
5. Innovate new solutions for resource efficiency
6. Create new circular economy jobs
7. Foster behaviour change through education and engagement

The Project would directly contribute to achieving this outcome for the Hunter region of transitioning to a circular economy. It would contribute to the sustainable and economic recovery of resources for composting and provide jobs, assist with the reduction of waste and create new valuable resources for the economy. It would also create new circular economy jobs and provide opportunities for educating the community about organics recovery.

2.1.13 MidCoast Local Strategic Planning Statement

The *MidCoast Local Strategic Planning Statement* (LSPS) outlines the vision for growth and planning across the MCC LGA in alignment with other strategic planning policies such as the Hunter Regional Plan 2041 and the MidCoast Community Strategic Plan. The LSPS highlights the importance of managing land and water assets, with agriculture being an important industry to the area. The Project would support the agricultural industry through the supply of composting products from the FOGO waste recovery process. It would also contribute to providing jobs and economic growth in the waste and resource recovery industry.

2.1.14 Future Transport Strategy

The *Future Transport Strategy* outlines Transport for NSW's vision and sets the direction for the future of mobility in NSW, to connect regional areas and strengthen the NSW economy. One outcome of the strategy is to minimise environmental impacts by designing out waste and keeping materials in use (P4.5). This would be achieved through the development of a circular economy. Another outcome relevant to the Project is freight networks and supply chains are efficient and reliable, and a response to this includes the improvement of freight efficiency, access and reliability on roads (E1.1).

The Project embodies the objectives of a circular economy, as it would reduce the amount of FOGO going to landfill. While the Strategy focuses on the recovery of resources in road and rail construction projects, the Project would contribute to the overall strategy of reducing waste and keeping materials and resources in use. It also supports the economy through generating new products from organics that would otherwise be discarded at landfill.

Additionally, the focus of the Strategy on improving freight efficiency, access and reliability on roads is addressed by the Project through the positioning of the facility adjacent the existing Tuncurry Waste Management Centre, with existing heavy vehicle access from The Lakes Way. This supports the need to

provide first and last mile access for the facility and would maintain productivity. Outgoing product would be transported using backloading of incoming vehicles where possible, further reducing associated transport related emissions.

2.1.15 North Tuncurry Urban Release Area

In 2023, the NSW Government adopted an amendment to the *Great Lakes Local Environmental Plan 2014* supporting a proposal to rezone 615 ha of Crown Land to deliver new homes, jobs, services, conservation land and recreation land close to the growing Tuncurry-Forster urban area. This area, proposed as the North Tuncurry Urban Release Area (NTURA), will feature more than 2,100 dwellings and over 13ha of employment lands. The boundary of the NTURA is located just south of the Site and Tuncurry Waste Management Centre (see Figure 5). However, the northern section of the NTURA is proposed for conservation, with proposed development to be located further south towards the Tuncurry township.

The Project would support the growth of this new precinct as it would establish processing capacity for FOGO material produced by new residential, commercial and industrial land uses. It would also limit the amount of FOGO material produced in this area going to landfill.

The *State Environmental Planning Policy Amendment (Great Lakes) 2023* enables the development of land in the North Tuncurry Urban Release Area with land 1.1km south of the Site rezoned to R1 General Residential to facilitate future subdivision and development.

Figure 5: North Tuncurry Urban Release Area



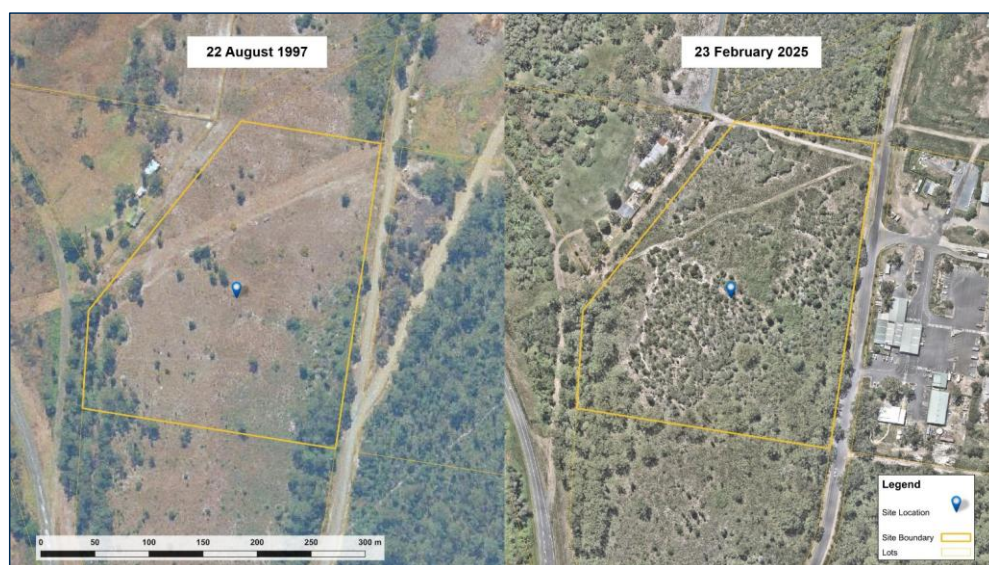
Source: Landcom Urban Design Report – North Tuncurry (modified), 2019.

2.2 Site History and Key Features

2.2.1 The Site

The Site is in a predominantly undeveloped, rural area, characterised by temperate grassland and native vegetation. Historical aerial imagery indicates that the Site has been cleared of vegetation (see Figure 6), and is now characterised by disturbed native vegetation regrowth, including various shrubland habitats, exotic grasses and eucalyptus trees. The Site features several existing tracks for vehicle access and a cleared alignment beneath the power lines across the property.

Figure 6: Change in vegetation over time (1997 to 2025)



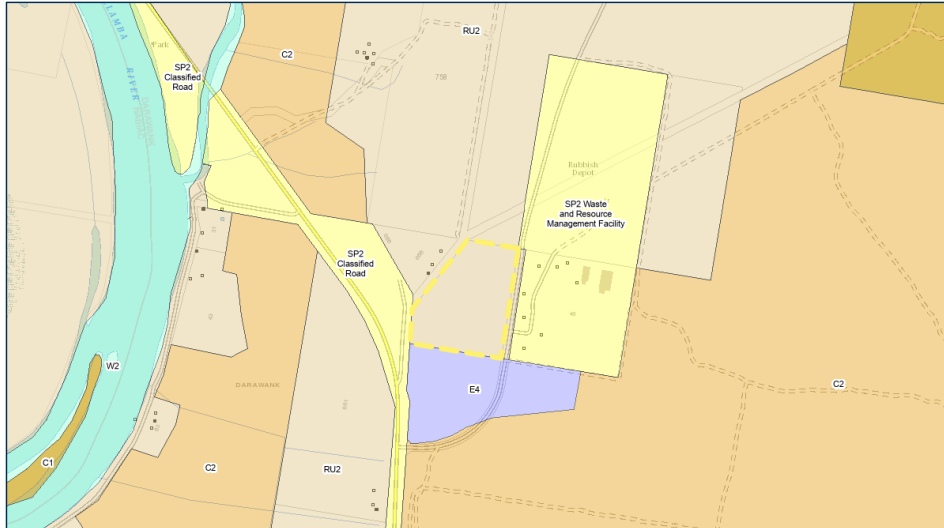
Source: NSW Spatial Services – Historical Imagery (left), NearMap, 2025 (right)

Table 2: Site Features

Element	Detail
Elevation	The Site elevation is approximately 2 - 6m Australian Height Datum (AHD) with the elevation level rising toward the southeastern corner of the property.
Access	Access to the property is via Midge Orchid Road, which is accessible by The Lakes Way. Midge Orchid Road is also used for access to the Tuncurry Waste Management Centre adjacent the Site, and Hallidays Point Sewage Treatment Works further north.
Infrastructure	Midge Orchid Road is accessible via Lakes Way, a State/Regional classified arterial road connecting the nearest townships of Tuncurry and Darawank, linking up with the Pacific Highway at the northern and southern ends of the road. The Lakes Way is an approved road on the NSW Oversize Overmass Load Carrying Vehicles Network.
Services	There are currently no services connected to the property. Several utilities are present within the Site and its vicinity. These are discussed in Table 59.

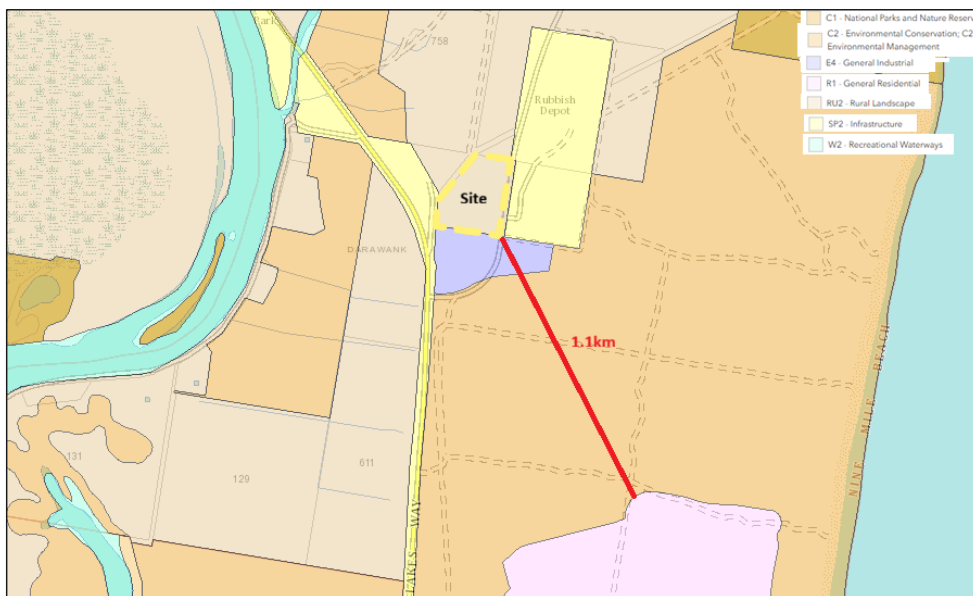
Element	Detail
Amenity	The visual amenity of the Site is affected by the adjacent Waste Management Facility; however, the area is generally surrounded by native vegetation, providing visual screening.
Zoning	The Site is zoned RU2 – Rural Landscape under the <i>Great Lakes Local Environmental Plan 2014</i> .
Nearby land uses	Land immediately north of the Site is also zoned RU2. Land used by the Tuncurry Waste Management Centre east of the Site is zoned SP2 – Infrastructure (Waste and Resource Management Centre). To the south of the Site, an area of land is zoned E4 – General Industrial, W2 – Recreational Waterways, and C2 – Environmental Conservation zones are also present in the nearby area. Zoning maps are provided in Figure 7 and Figure 8.
Aboriginal heritage	A search of the Aboriginal Heritage Information Management System (AHIMS) found that the Site is not identified as containing items of Aboriginal heritage significance. An Aboriginal Cultural Heritage Assessment (ACHA) has been carried out for the property, which did not identify any archaeological evidence.
Non-Aboriginal heritage	The Site is not mapped as a heritage item, nor is it within a heritage conservation area. Only one heritage listed item is present in the vicinity of the Site, related to the former Darawank Public School, approximately 500m west of the Site. A non-Aboriginal heritage statement was prepared, identifying that the study area is unlikely to contain archaeological relics.
Acid sulphate soils	The Site is mapped under the Acid Sulphate Soils overlay (Class 4). Acid sulfate soils in a class 4 area are likely to be found beyond 2m below the natural ground surface.
Biodiversity	The majority of the Site is mapped on the Biodiversity Values Map (BV Map), and the Native Vegetation Regulatory map as Sensitive Regulated Land.
Bushfire prone land	The Site is mapped as Bushfire Prone Land (Vegetation Category 1 and Vegetation Buffer).
Contamination	The EPA's Contaminated Land Record of Notices was searched on the 22 September 2025 and did not identify contamination at the Site.
Stormwater and flooding	A portion of the land is mapped as flood-prone land along the western boundary.

Figure 7: Site Zoning



Source: NSW Planning Portal Spatial Viewer, 2025.

Figure 8: Broader Area Zoning



Source: NSW Planning Portal Spatial Viewer, 2025

2.2.2 Surrounding Land Uses

The area surrounding the Site is characterised by nature reserves, scattered rural residential dwellings, various community and industry infrastructure, the Wallamba River, and Nine Mile Beach.

North

To the north, land is generally undeveloped, including various water basins, native vegetation and the Darawank Nature Reserve. Further north lies the Hallidays Point Sewage Treatment Plant, approximately 6km from the Site.

East

The Project is an extension of the services offered by the Tuncurry Waste Management Centre, located on the opposite side of Midge Orchid Road, to the east of the Site. Facilities at the Tuncurry Waste Management Centre include:

- A Community Recycling Centre for problem waste
- Return and Earn Automated Depot
- Reviva (tip shop)
- Materials Recovery Facility
- Men's Shed (community shed workshop)
- Green Bikes (bicycle repair workshop)
- The Green (community garden)
- Education centre

Land to the north of the current tip centre was formally a landfill. Further east of the Tuncurry Waste Management Centre is Nine Mile Beach on the coastline, approximately 1.4km from the Site.

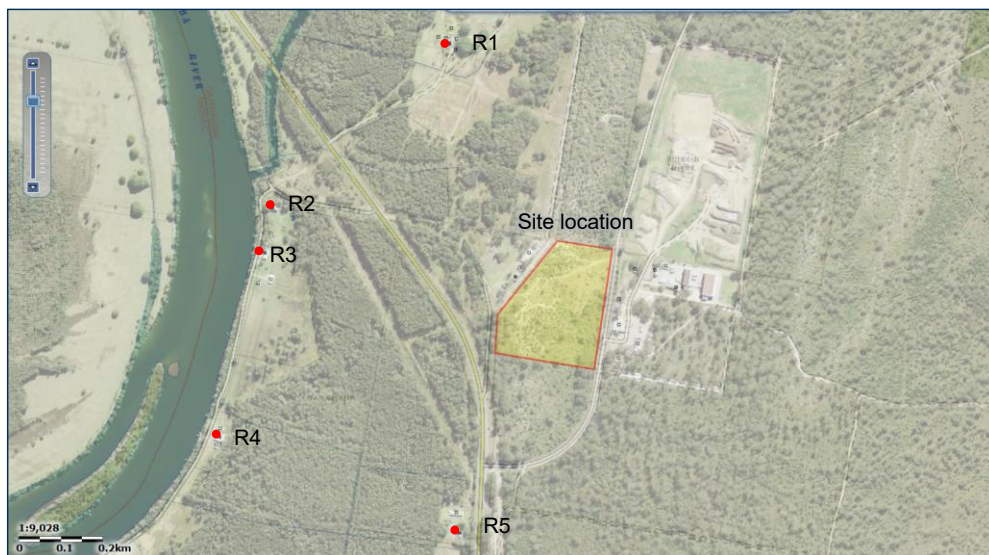
South

To the south of the Site, land use comprises mostly bushland and shrubland, with scattered rural residences and a roadway corridor for Lakes Way, providing access to the Tuncurry township further south. Additionally, the Tuncurry Forster Horse Racing Track and Tuncurry Golf Course are situated over 2km south of the Site.

West

Immediately west of the Site is a residence approximately 20m from the Site boundary. This residence is owned by Council and would be vacated prior to works commencing for the Project and accordingly is not considered during impact assessment. Further west of the Site are several rural dwellings. Distances to these dwellings and their location are provided in Table 3 and Figure 9. Also west of the Site is the Wallamba River, which runs from the northern slopes of Kyle Range near Gangat to the Darawank area, before heading south to converge with other waterbodies near Forster.

Figure 9: Sensitive receivers



Source: Sixmaps, 2025

Table 3: Sensitive receivers

Residence	Direction from Project	Distance to residence (m)	Distance to boundary (m)
R1	North-west	530	510
R2	West	591	500
R3	West	570	415
R4	West	680	610
R5	South	430	85

2.3 Analysis of Alternatives

Alternative proposals were assessed against the Project's objectives, as identified in Section 1.4 of this report. These alternatives are summarised below with a justification for the selected option.

2.3.1 Option 1: Do nothing

Under this option, the composting facility would not be developed, and the Site would remain in its current, undeveloped condition. No earthworks, construction or changes to land use would occur under this alternative.

The NSW Government's mandate to implement FOGO collection services for all households by 2030 requires councils to introduce FOGO processing facilities to divert the amount of organic material sent to landfill. Without the Project and expansion of composting operations, MCC would be required to collect



organics but would not host a processing facility. Under a 'do nothing' scenario, MCC's market and financial analysis demonstrates that the high cost of transporting organics to out-of-area facilities would make a FOGO service economically unsustainable. Consequently, MCC would be required to seek an exemption from the NSW FOGO mandate on the basis of prohibitive transport and processing costs.

Furthermore, the Site is currently vacant. Under the 'do nothing' option, there would be no utilisation of the Site for improvements to waste management from waste facility expansion and the Project's objectives would not be met.

2.3.2 Option 2: Process food and organics at 99,000 tpa at the Site

NALG initially proposed to have an operational capacity of 99,000 tpa, to avoid the proposal triggering a State Significant Development (SSD) classification. However, the Project's capital investment value (CIV) exceeds \$30 million, which triggers SSD classification regardless of the throughput volumes. The option to limit the capacity to 99,000 tpa therefore did not have any strategic reasoning.

2.3.3 Option 3: Process food and organics at 146,000 tpa at the Site

With the CIV of the Project exceeding \$30 million, there was a strategic decision to optimise the facility's financial viability. Increasing the proposed throughput capacity to 146,000 tpa not only addresses the region's need for organic waste diversion but also creates enhanced revenue-generating potential. Considering the development is already State Significant, NALG has chosen a throughput that would capture the estimated regional demand for food, FOGO, and agricultural residue processing.

This increase would not require significant additional investment or infrastructure to be established above the infrastructure required for the 99,000 tpa throughput proposal. Development at 146,000 tpa would meet all the objectives of the Project.

2.3.4 Option 4: Process food and organics at an alternative location

The identified location, adjacent to the existing Tuncurry Waste Management Centre, enables a parcel of land to be set aside exclusively for composting over a long period of time. It is suitably located away from sensitive receivers and close to the existing waste management facility.

The Site was acquired by the Council to facilitate the development of an organics processing facility and to advance the Circular Precinct initiative in conjunction with the Tuncurry Waste Management Centre. The Site is available under a lease agreement by MCC to NALG.

2.3.5 Option 5: Use of different technology for the processing of food and organics

NALG specialises in advanced technology solutions for organics composting. The proposed technology was selected in a competitive tender as the preferred method of processing. Hence, various options have already been explored and rejected during the tender process.

2.3.6 Preferred Option

Option 3: Processing of food and organics at 146,000 tpa at the Site is the preferred option as it would meet the objectives of the Project and provide capacity for a large quantity of regional organic material to be processed.

2.3.7 Layout Options

Several iterations of site layout were considered during design development in response to the environmental and social constraints and opportunities. The selected layout offers the best outcomes balancing earthworks, clearing and setbacks to minimise impacts on the natural environment and manage emissions while providing a safe and efficient operational environment.

Detailed design may cause minor changes from the concept design provided in the site plans. The design may be altered for the purpose of ensuring functionality or constructability. However, where critical details are given in this EIS or supporting documents to meet a standard or specification, they will not be altered without further justification. Detailed design would include, but is not limited to:

- Detailed plans for construction
- Construction details and specifications
- Structural engineering plans
- Lists of materials, finishes and building systems
- Fire safety measures
- Relocation of power poles

The design would retain recommended areas for preservation.

2.4 Site Suitability

The Site is assessed as suitable for the proposed development of the proposed MC ROPS facility to service FOGO waste received from across the LGA. Factors considered in this selection include:

- The proximity of the Site to the existing Tuncurry Waste Management Centre
- The existing access to the Site from major roads and highways
- The existing land use of the Site and surrounds
- The size of the Site to cater for the entire facility operations
- The separation of the Site from sensitive receivers

These factors reflect the suitability for the proposed facility to be strategically located to effectively manage the growth of the FOGO waste stream in the coming years, while utilising existing nearby infrastructure and minimising environmental impacts as far as practicable.

2.5 Cumulative Impacts

The development would not be of a scale to cause significant negative cumulative impacts. Impacts would be limited by the management of the process onsite and are not expected to cause detriment to the environment or to the surrounding neighbourhood.

The overall effect of the development would be of long-term benefit through the modernisation of waste management services, as detailed in Section 6.18.

2.6 Operating Hours

2.6.1 Construction Hours

Construction activities would be carried out in accordance with NSW EPA environmental controls and Council guidelines. The proposed construction hours are:

- Monday to Friday: 7:00 am to 6:00 pm
- Saturday: 8:00 am to 1:00 pm
- Sundays and Public Holidays: No work proposed

2.6.2 Operating Hours

The facility is designed for continuous operation, with the proposed NALG operational hours being:

- Facility operations (composting, digestion and processing): 24 hours, 7 days per week



- Delivery of input and collection of products: 24 hours, 7 days per week
- Staffed hours: Monday – Friday 07:00 – 17:00

Out of hours deliveries and offtake would be coordinated using appropriate technology to limit access, ensure security of site and that operational requirements continue to be followed during these times.

2.7 Applicant Agreements

NALG and MCC have executed a 25-year long lease with a 5-year extension for the development and use of the Site.

MCC is contracted to supply all their FOGO collections to the facility. The operators will also continue to review the local markets for sources of additional material.

3 Project Description

3.1 Overview

The proposed change of use of the Site would involve the establishment and operation of the MidCoast Regional Organics Processing Solution (MC ROPS), a FOGO processing facility that would utilise In-Vessel Composting (IVC) and Dry Anaerobic Digestion (AD) technology to process organic waste and produce high-quality compost end products and biogas.

The facility would comprise a receival building, pre-treatment and contamination management, IVC tunnels, maturation building, digesters, biogas equipment (including a combined heat and power plant) and an air treatment system including biofilter and scrubbers, to process contracted organics waste. The proposed operational capacity is 146,000 tonnes per annum (tpa), providing the capacity to process MCC FOGO, other councils' FOGO, and additional organics from commercial and industrial sources. An overview of the key elements of the Project is in Table 4.

Mitigation measures incorporated in the proposed design include:

- Enclosed buildings
- Air quality / odour mitigation including collection and treatment infrastructure (scrubbers and biofilters)
- Stormwater infrastructure including drainage, onsite detention, bioretention gardens and gross pollutant traps
- Erosion and sediment control during construction and operation
- Leachate collection and storage
- Bunding for buildings and storage tanks
- Fire water control

Table 4: Project Summary – Construction and Operation (updated)

Element	Project Summary
Site Description	Lot 5, DP 1089990
Project Site Area	Total site area: 5.83ha Built form: 12,788m ² Hardstand: 5,703m ² Road: 6,460m ² Administration building: 246.5m ² (over 2 floors) Gross Floor Area: 9,998m ² Weighbridge Office: 36m ²
Maximum Building Height	Pre-treatment receival awning – 16.65m above ground level
Construction	• Clearing of vegetation • Establishment of construction compound, access, buildings and fencing • Earthworks • Installation of foundations for buildings • Relocation of overhead power cables
Facility	• Administration building • Receival and pre-treatment building • Bunded liquid receival block • IVC tunnels with plant room • Maturation building

Element	Project Summary
	• Digesters • Biogas storage • Air treatment system including biofilter and scrubbers • Combined heat and power plant • Supporting stormwater and drainage infrastructure
Supporting infrastructure	• Sealed roads, hardstand, and parking areas including 21 parking spaces • Weighbridge and office • Leachate management • Installation of firewater and fire suppression systems, infrastructure and services • Drainage and sewerage infrastructure • Stormwater infrastructure • Potable water infrastructure • Fire suppression equipment • Installation of drinking water infrastructure and wastewater tanks • Installation of electrical substations and connection to electrical network • Solar panels (to be confirmed) • Landscaping • Relocation of power poles • Connection to utilities
Technical Data	• IVC Tunnels: 5 off 35m x 8m x 6m • Digesters: 2 x PF2100 • Compost production: ~62,000 tpa • Biogas production: 9,006,000 Nm³/a • Electricity production: 19,000,000 kWh/a
Processing Capacity	The composting facility would process up to 146,000 tpa. Sources would vary but an indicative breakdown could be: • Council FOGO: 95,000 tpa • Commercial and Industrial: 16,000 tpa • Agricultural: 15,000 tpa • Hospitality and Food Services: 12,000 tpa • Retail and Supermarkets: 8,000 tpa
Operating Hours	Construction (including ancillary structures / development): • 7:00 am to 6:00 pm Monday to Friday. • 8:00 am to 1:00 pm Saturday. • No work on Sunday or public holidays. Operation of the composting operations: • 24/7 Receivals and offtake: • 24/7
Staffed Hours (Operations)	Monday to Friday 7:00 am to 5:00pm* <i>*Anaerobic Digestion operations feature the ability to continue operating unmanned and/or remotely monitored. Deliveries and collections are also possible outside of manned hours utilising remote access and technology (e.g. Automatic Number Plate Registration)</i>
Employment	Number of construction workers: 22-26 Number of operational staff: 8 Number of office staff: 4

Element	Project Summary
Transport Rates	Construction Estimated daily vehicle movements: 20 heavy vehicles 25 light vehicles Operation Delivery vehicles would comprise 42 trucks per day, including: - Council trucks - Semi-trailers Trucks would be backloaded for offtake
Total Parking Spaces (Operations)	21 parking spaces including 2 accessible spaces, 2 electric vehicle charging points, 1 bus parking bay and a sheltered bike rack.

Commented [EH1]: Checking these are still included

3.2 Construction Environmental Management Plan

A detailed Construction Environmental Management Plan (CEMP) would be developed prior to construction commencing and reviewed throughout construction activities to minimise risk of impacts to the environment or amenity. The CEMP would incorporate construction phase environmental management measures described in the EIS and in accordance with NSW EPA environmental controls and MCC guidelines.

The CEMP would specify responsibility for implementation, monitoring and maintenance. A complaints' recording and management system would be established and maintained throughout construction. Regular review of activities would be undertaken to identify opportunities for lower impact approaches.

3.3 Site Preparation

Initial works to enable construction are provided in Table 5. Details of site preparation are found in the cut and fill plans in Appendix G.

Table 5: Site Preparation

Category	Works
Detailed surveys	Final surveys for levels, vegetation and as otherwise required by CEMP
Vegetation clearing	- Approximately 4.64ha would be cleared, avoiding areas of highest ecological value - Management plan to be in place informed by arborist survey identifying protection requirements and other requirements - Removed native vegetation to be mulched and used on site where appropriate, or used offsite - Non-native vegetation to be disposed of at a lawful facility
Establishment of construction compound, access, buildings and fencing	- Establish secure area for temporary office and plant – construction compound to be located to avoid the need for clearing beyond the final development footprint - Provide hardstand
Erosion and Sediment control	A sediment and erosion control plan has been produced to accompany the Stormwater Plans.
Earthworks	- Cut and fill would result in minor export of material (2783m³) - Level site - Compaction - Excavation, grading, compaction, engineered fill, trenching for services, and vapour barrier installation

Category	Works
Installation of foundations for buildings	• Would be designed and constructed in accordance with geotechnical recommendations
Relocation of overhead power cables	• Disconnection of power • Removal of cables, demolition and removal of pylons • Trench / directional drilling and installation of cables • Erection of power pylons – reuse where possible and new if needed.

3.4 Physical Layout and Design

3.4.1 Project Area

The Site would be used for operational infrastructure, vehicle access, stormwater systems, landscaping, and environmental buffers. Buffer areas have been included to assist in minimising impacts such as odour, noise, and visual intrusion, and comprise the following approximate distances between the lot boundaries and the nearest proposed structure:

- Southern boundary – 18m (gas flare and biogas storage)
- Northwestern boundary – 20m (maturation building)
- Eastern boundary – 45m ((admin building) – excluding fire water tanks and weighbridge office)

Additionally, a retaining wall is proposed around the perimeter of the internal road carriageway to minimise environmental impacts.

The facility has been designed to respond to the surrounding environment and to retain vegetation where possible. An area of biodiversity conservation value to the southwest has been avoided and an area to the north of the Site would remain largely undisturbed, as discussed in Section 6.5.

3.4.2 Facility Development

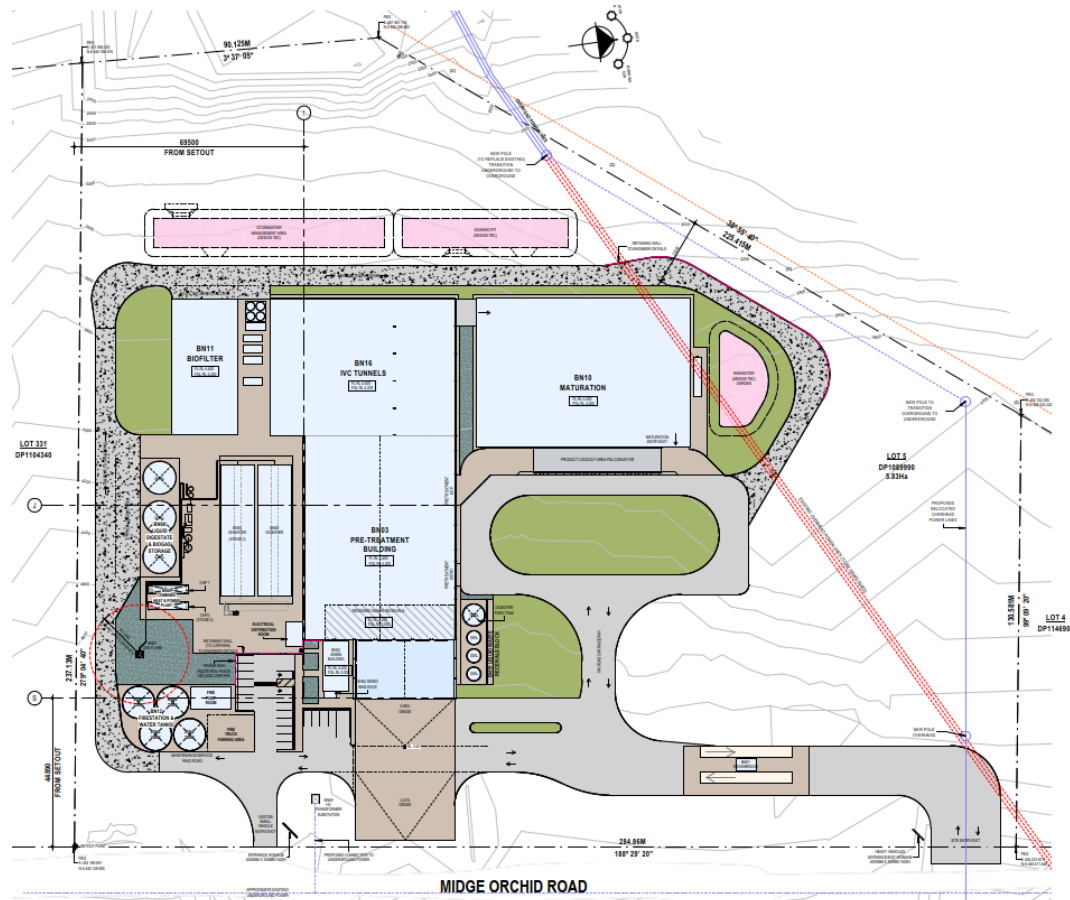
Development of MC ROPS would comprise the construction, fitout and commissioning of buildings and structures, as indicated in Table 6. The layout is shown in Figure 10, with further detail in Appendix C.

Table 6: Facility

Category	Works
Administration Building	• Construction of a two-storey administration building
Receival and Pre-treatment Building	• Construction of an enclosed receival building approximately 2,775m² in area, including a concrete floor, galvanized steel frame, air handling system, roller doors, roofing, cladding, concrete panels to form bunkers, and pre-treatment equipment
Bunded liquid receival block	• 3 x 30 kL self-bunded tanks • 1x 150 kL digester feed tank
IVC tunnels with plant room	• Construction of a building featuring 5 x IVC tunnels measuring 35m (L) x 8m (W) x 6m (H) for composting, including slab bases, aeration systems, reinforced concrete panels, hydraulic doors, probes, sensors, fans, and a technical room for equipment
Maturation Building	• Construction of a fully enclosed area for compost maturation, refining, screening, and storage, featuring aerated bays, sealed flooring, lightweight coverall structure, and roller doors. • This building would also contain a screw press for dewatering the digestate

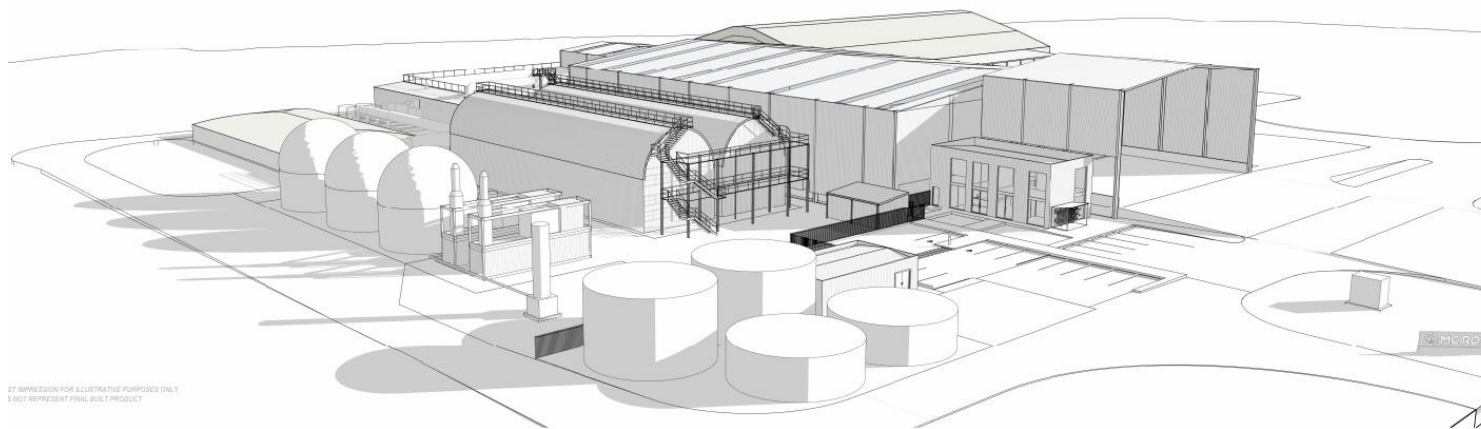
Category	Works
Digesters	Two dry aerobic digesters installed outside as separate modules, enclosed in a steel tank for heat insulation and weatherproof housing
Biogas storage	Construction of storage tanks for biogas
Air treatment system including biofilter and scrubbers	- Installation of pipes and collection infrastructure - Construction of biofilter structure with 2.4m high walls and a domed coverall structure - Installation of an air handling system distributed across the various buildings to treat odorous air, including ductwork, fans, scrubbers, and biofilter.
Combined heat and power (CHP) Plant & flare system	Installation of combined heat and power system along with safety infrastructure, monitoring equipment and flare system.
Water tanks / pump room	- Installation of 2 x 430kL tanks (for stormwater collection) - Installation of 2 x 215kL tanks (for fire water)

Figure 10: Site Plan



Source: a&n architects, 2025.

Figure 11: Artist Impression



Source: a&n architects, 2025

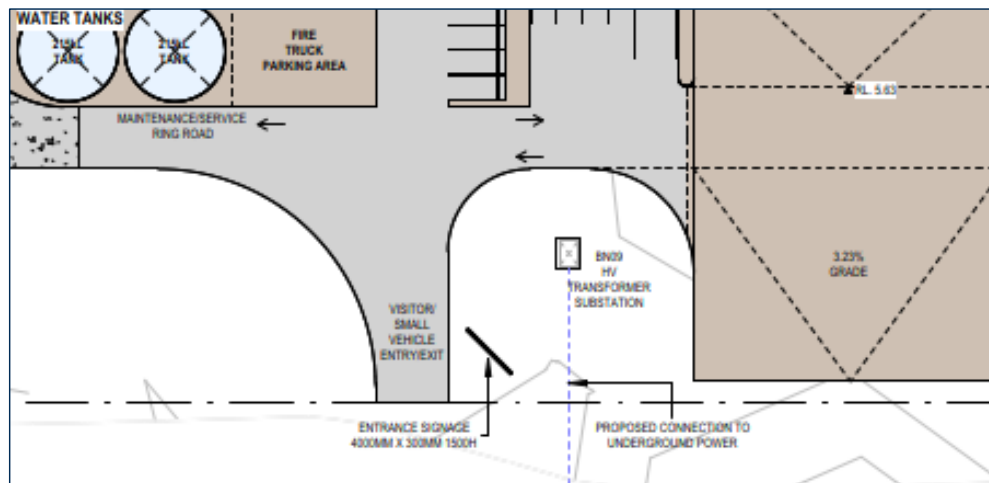
3.4.3 Infrastructure

Additional supporting infrastructure required is detailed in Table 7.

Table 7: Supporting Infrastructure

Category	Works
Access & parking	• Sealed road formation • Hardstands • Parking areas • Construction of subbase, base, asphalt, concrete pavements, sealings, line markings and signage, and connection to existing roads • 21 parking spaces including 2 accessible spaces, 2 electric vehicle charging points, 1 bus parking bay and a sheltered bike rack
Weighbridge and office	• 2 weighbridges • Office • Connection to power, water, systems • Supply, installation, and system integration of two weighbridges
Leachate management	• Installation of an automated system for leachate screening, collection in an underground pit, and recirculation with spraying systems integrated within the IVC tunnels
Fire water and suppression systems	• Installation of fire water tanks, fire hydrants, hose reels, extinguishers, blankets, pump system, sprinklers in admin building/office), smoke and heat detection systems including thermal imaging cameras (receival and maturation buildings) and alarm systems
Drainage & sewerage infrastructure	• Installation of sewer piping, pumps, and connection to existing sewer main at the Site boundary
Stormwater infrastructure	• Installation of pipework, pits, gutters and drainage channels, tanks, filtration systems, and pumps for stormwater management. • Provision of stormwater detention infrastructure (including bioretention ponds and tanks, swales to enhance natural flow paths in undeveloped area) and connection to existing stormwater infrastructure
Potable water infrastructure	• Installation of potable water piping, pumps, and connection to existing water main at the Site boundary
Wastewater	• Collection, tank storage, and recycling system for wastewater re-use
Electrical infrastructure	• Relocation and undergrounding of overhead cables, along with appropriate connections for site (shown in Figure 10) • Installation of high/low voltage cabling, main switchboard, conduits, cable trays, transformers, lighting, communications, security systems, emergency and exit lighting, and electrical cabinets – substation shown in Figure 12
Solar panels	Subject to commercial feasibility: • Installation of solar panels on the roof of the Receival Building • Installation of solar panels on the roof of the loading area of IVC tunnels
Landscaping	• Installation of appropriate landscaping • Installation of perimeter fencing and gates • Installation of safety signage throughout the facility and perimeter
Process control	• Integration of various control systems for the IVC tunnels, air handling system and leachate management system, including software and instruments for monitoring compost temperature, air quality, oxygen levels, and biofilter performance.

Figure 12: Substation and underground power connection



3.4.4 Materials and Finishes

Materials and colours on Site would be generally as shown in Table 8.

Table 8: Colour Schedule

Building Element	Details	Image
Pre treatment building Walls	Kingspan Ribbed Aquasafe 55 Pale Eucalypt	
Pre-treatment building Roof	Colorbond Sheeting Surfmist	
Pre-treatment building Roof	Polycarbonate Roof Sheeting Clear	
Digesters	Colorbond Sheeting Pale Eucalypt	
Maturation Building Walls	In-situ concrete walls Grey off-form	
Maturation Building Roof	Novashield FRU88X-6 Fabric White	
IVC Tunnel Walls	In-situ concrete walls Grey off-form	
IVC Tunnel Roof	In-situ concrete walls Grey off-form	
Biofilter Walls	In-situ concrete walls Grey off-form	

Building Element	Details	Image
Biofilter Roof	Fabric White	
Admin Building Walls	Colorbond Sheetting Pale Eucalypt	
Admin Building Roof	Colorbond Sheetting Surfmist	

3.4.5 Landscaping

A Landscape Plan has been produced by Ground Ink Pty Ltd to support the Project, informed by other technical studies including the Biodiversity Development Assessment Report, Arborist Report and Water Cycle Management Plan. The Landscape Plan is provided in Appendix E.

Key considerations and factors that have informed design and landscaping, shown in Figure 13 and Figure 14, include:

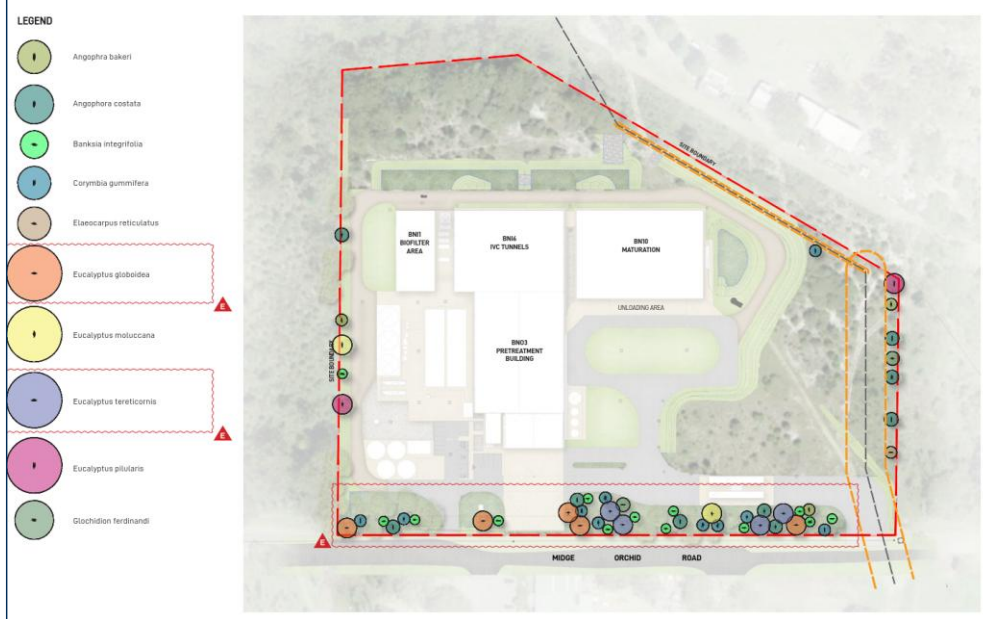
- Preservation of high quality vegetation and habitat, including plant community type (PCT) 4006
- Optimisation of access to natural light
- Balance of retention of vegetation and bushfire hazard, including application of appropriate standards for landscaping within the Site
- Retention of trees of value as identified by arborist
- Inclusion of Squirrel Glider corridor

Figure 13: Planting Strategy



Source: Ground Ink, 2026

Figure 14: Proposed Tree Plan (to be planted)



Source: Ground Ink, 2026

Figure 15: Landscaping Master Plan



Source: Ground Ink, 2025

The proposed landscaping responds to the principles of the NSW Government Architect's *Greener Places* policy by integrating native planting, functional open spaces and sustainable infrastructure to enhance ecological and social outcomes.

The use of low-maintenance native species, including hedges and vegetation buffers, would support biodiversity and reinforce local character. The inclusion of a raingarden and open turf areas would contribute to water-sensitive urban design and provides multifunctional spaces for biodiversity and stormwater management.

Native tree planting and retention would strengthen habitat connectivity and urban cooling, while the selection of durable, climate appropriate materials in hardscape areas would support long-term resilience and sensitivity to the existing landscape and ecology.

3.4.6 Access and Parking

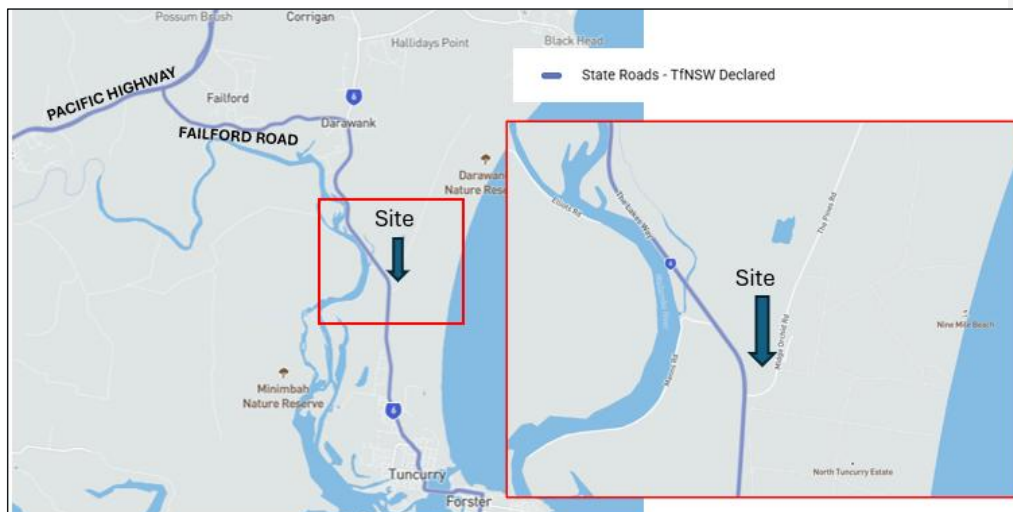
The facility would be accessed via two entrances from Midge Orchard Road, a local road that joins The Lakes Way approximately 660m from the Site entrance.

The Lakes Way connects to The Pacific Highway at both the north and south extremities. To the north, The Pacific Highway can be accessed more directly via Failford Road. The Lakes Way traverses through coastal tourist areas including Tuncurry and Forster. Both Failford Road and The Lakes Way are State Classified Roads.

Two separate access driveways would be provided:

- One for staff, deliveries and emergency vehicles
- One for heavy vehicles including Council trucks, B-Doubles and semi-trailers delivering waste, removing recycled material or undertaking other management activities

Figure 16: State and Local Road Network



Source: National Heavy Vehicle Regulator, 2025

Heavy Vehicles

Heavy vehicles would enter the Site by the northernmost access, pass over the weighbridge and proceed to the receipt / pre-treatment building for drop off. There would be sufficient space for vehicles to wait without causing congestion inside the Site. Vehicles collecting product would leave the receipt area and drive to the collection area at the eastern elevation of the maturation building. All heavy vehicles would leave the Site over the exit weighbridge.

Detailed analysis of heavy vehicle movements associated with the Project, including swept path analysis, is included in the Transport Impact Assessment prepared by Headway Traffic & Transport (Appendix T).

Light Vehicles

Light vehicles used by staff and visitors would not interact inside the Site with heavy vehicles. They would enter via the southern access and proceed to the parking area.

The parking area allows for 21 car parking spaces, including two accessible bays and two electric vehicle charging points. A bus parking bay would be available for groups who may visit the Site.

3.4.7 Future Design Considerations

Design components are preliminary and subject to finalisation. The nature and potential implications of these are listed below.

- Service connections – while broad location and nature of connections have been identified, final details are yet to be approved with relevant utility companies
- Specific breakdown of inputs are dependent on market conditions and would not be known until operational. There would be no change to design or operation
- Artwork detail – a general location has been identified, and final details would not alter size or location

3.5 Technology

A detailed tendering process was undertaken to determine the appropriate technology for use at the facility and the preferred operator. The proposed technology was selected on the basis of waste feedstock type, existing operating plants and proven successful processing and end product outputs within the project risk allocation.

MC ROPS would utilise NALG in-vessel composting (IVC) tunnels, Kanadevia Inova's Kompogas dry anaerobic digestion (AD) system, an enclosed maturation area, and an air handling system comprising of extraction, multi-staged scrubbing and biofiltration to manage odours. With this technology, the facility would process organic waste and produce high-quality compost end products and green energy. A summary of relevant specifications is provided below. This section should be read in conjunction with additional information provided in the appendices.

Receival Hall

- Concrete flooring
- Air handling system – negative pressure for odour control
- Fast acting roller doors
- Bunkers constructed of cast (in-situ) concrete
- Overhead gantry crane

IVC

- Five tunnels, measuring 35m long, 8m wide and 6m high (filling capacity of approximately 920m³ at a maximum feedstock density 650kg/m³)
- Concrete tilt-up panels
- Process time in each tunnel of 10 – 14 days inclusive of filling and emptying
- Tunnel floors would comprise of base slab and aeration slab and aeration pipes
- Dual purpose pipes with spigot openings to provide aeration and collect leachate – leachate to drain into pit
- Hydraulic motor door lifting mechanism
- Fans and air control systems & ductwork
- Plant room to house air handling and electrical equipment

Digesters

- 2 x Kompogas PF2100 plug flow Digester unit and ancillary equipment
- Kompress screw presses and associated pipework for digestate dewatering

Biogas Collection & Storage, CHP / flare system

- Low emissions biogas ground flare (THE 750)
 - Enclosed flare
 - Maximum flow 750m³/hr @ 65% methane
 - Combustion chamber lined with high temperature resistance ceramic fibre insulation
 - UV sensor for continuous flame detection. Pre-programmed re-starting sequence if accidental flame extinguishing occurs
 - Automatic air damper
 - Gas sampling ports for emissions monitoring
 - Automatic flame and pilot control

- Biotrickling System – desulphurisation (scrubber unit)
- Biogas dehumidification (cools biogas after desulphurisation) - removes moisture from biogas to assist in smooth operation and optimise power generation
- Dual gas blower to move gas through systems
- Hot water heater – (up to 300kW of heat energy) for heating the digester system, incorporating safety control systems for temperature, air flow, gas flow and pressure
- Biogas burner module – produce heat to dry out digestate

Maturation

- Aerated maturation area and/or drum dryer to be used for maturation, refining, screening and storage of end products
- Sealed floor (impermeable)
- Lightweight coverall structure
- Fast acting roller doors
- Concrete bunkers divide area into aerated bays

3.6 Operational Uses and Activities

The Project is characterised as a composting and waste management land use. The activities to be undertaken during operation of the facility involve the management and processing of organic waste, including receiving, handling, sorting, processing and storing material for distribution. The scale of these activities would be 146,000 tpa processing capacity proposed.

3.6.1 Inputs and Outputs

Inputs

The Project would require a licence to accept a range of organic material as feedstock from various sectors. These input streams are displayed in Table 9.

Table 9: Source of inputs

Category	Potential Sources	Estimated maximum feedstock (tpa)
Food Organic, Garden Organic and Other Organic Material	• Council Kerbside collected Food Organics and Garden Organics (FOGO) from residences. Typically comprising food scraps, green waste (leaves, grass clippings), and other compostable material. • Commercial & Industrial - paunch waste, comprising organic material removed from livestock during processing. • Commercial & Industrial - offal including animal organ remnants and parts. • Agricultural - Poultry manure and litter, sourced from broiler or layer hen sheds & Layer hen shed cleanout from layer hen facilities. • Retail & Supermarkets - Commercial food waste, including food with damaged packaging and expired food products (depackaged off site).	134,000
Liquid Organics	• Commercial & Industrial - dissolved air flotation (DAF) residue sourced from waste water treatment plans. • Hospitality and Food Services - Grease trap waste, including wastewater sludge captured from food preparation. • Hospitality and Food Services - Expired beverages, such as milk products.	12,000
TOTAL		146,000

While the exact proportions of material received on Site cannot be precisely calculated, it is estimated that Council collected FOGO would form around two thirds of the throughput.

It is expected that approximately 90,000 tpa would be processed via AD, with the remaining 56,000 processed through IVC.

Outputs

The facility, following the processing of the above inputs, would produce various output products from two categories displayed in Table 10.

Table 10: Produced outputs

Category	Products	Quantity	Distributed to
Compost Organic material produced through the in-vessel composting (IVC) system and maturation would be converted into various products.	Compost / Soil conditioner <15mm	~33,500 tpa	- Landscaping contractors and suppliers - Pinegro products (industry landscape product supplier)
	Compost / Soil conditioner 15-30mm	~22,250 tpa	
	Mulch material (>30mm)	~5,250 tpa	
Biogas The anaerobic digestion (AD) process would generate various valuable energy products and by-products.	Biogas, primarily methane, used as renewable energy	~9,000,000 Nm3 pa	Electricity grid network
	Heat and electricity, generated on site through combined heat and power (CHP) units	~19,000,000 kWh pa	

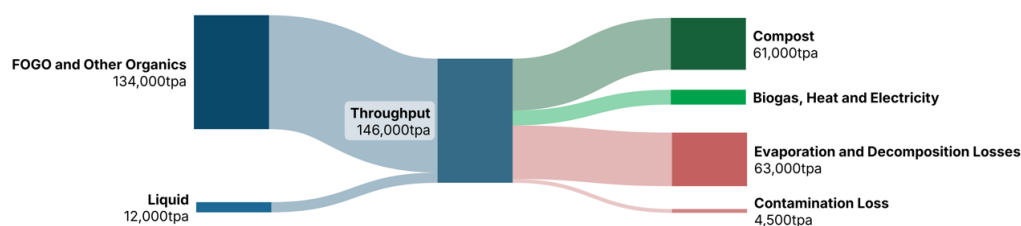
The losses are predominantly water and contamination (assumed to be 3%).

The facility would generate biomethane and biogenic CO₂. The proponent plans to track market developments and if markets for this product become viable, would explore opportunities for their supply. This is not contemplated as part of this Project.

3.6.2 Mass Balance

The composting process results in the loss of approximate 50% mass from evaporation of water and decomposition (CO₂). An indicative mass balance for inputs and outputs at 146,000 tpa is shown in Figure 17.

Figure 17: Mass balance



Source: MRA, 2025

3.6.3 Waste Classification

The NSW EPA *Waste Classification Guidelines Part 1: Classifying Waste* provides a means for defining waste types in accordance with Clause 49, Schedule 1 of the *Protection of the Environment Operations Act 1997* (PoEO Act).

Liquid waste means any waste (other than special waste) that:

- has an angle of repose of less than 5 degrees above horizontal;
- becomes free-flowing at or below 60 degrees Celsius or when it is transported;
- is generally not capable of being picked up by a spade or shovel;
- is classified as liquid waste under an EPA gazettal notice.

General solid waste (putrescible) means any waste (other than special waste, hazardous waste, restricted solid waste or liquid waste) that includes any of the following—

- household waste that contains putrescible organics
- waste from litter bins collected by or on behalf of local councils
- manure and night soil
- disposable nappies, incontinence pads or sanitary napkins
- food waste
- animal waste
- grit or screenings from sewage treatment systems that have been dewatered so that the grit or screenings do not contain free liquids
- any mixture of the wastes referred to above.

Garden waste is classified as general solid waste (non-putrescible), however, when collected with food organics, it is redefined as general solid waste (putrescible).

The inputs to the facility therefore comprise the following waste classifications:

Table 11: Waste classifications

Stream	Classification
FOGO (food organics, garden organics)	General solid waste (putrescible)
Paunch	
Offal	
Poultry manure & shed cleanout	
Commercial food waste	
Dissolved air flotation (DAF) residue	Liquid waste
Grease trap waste	
Expired beverages	

3.6.4 Proposed Activities

The proposed activities to be undertaken during the operational process of the facility can be demonstrated across the various stages of processing material on site. These stages are detailed below. This process is further illustrated in the diagram presented in Figure 18.

1. Arrival

Incoming vehicles would utilise two weighbridges for entering and exiting to record incoming and outgoing loads in accordance with EPA record-keeping requirements. The use of two weighbridges would facilitate efficient operations during periods of high-volume truck movements to and from the Site. The majority of traffic movements would occur during the day when the weighbridge office would be managed, but technology to enable unmanned drop off and collection would also be incorporated.

2. Receival

Trucks would offload organic material into receival bunkers to be visually inspected and for the removal of large contaminants. The receival hall is covered with a mostly open elevation to the east for truck access. Depackaged food waste would be offloaded and transferred into the AD buffer pit (the southern part of the receival hall).

Liquid organics would be received in self-bunded storage tanks and pumped from these tanks to the AD processing equipment.

Sorting and shredding

A staffed semiautomatic stationary bulk material handler (gantry crane) to remove contamination would load the waste into a slow speed shredder. The materials handler would also separate any larger contaminants prior to feeding the hopper.

A camera monitors incoming loads. Inputs that are identified as containing excessive contamination, or not indicative of the target material, would be rejected and turned away (where identified before tipped) or stored in steel bins before being redirected to a lawful facility (where material has been accepted).

After the shredder, conveyors would then direct the material via an overhead belt magnet that removes additional metal contaminants to the screening equipment. The screen separates organics into two fractions: undersize ($\leq 50\text{mm}$) and oversize ($> 50\text{mm}$). The undersized fraction, primarily consisting of food and grass clippings, would feed into the AD system via an enclosed conveyor system. The oversized fraction, consisting of large woody organics, would then be loaded into the IVC tunnels.

Recovered metals would be stored in skip bins to be recycled. Contamination removed during this stage would be stored in 660L bins prior to consolidation and disposal at a lawful facility.

3. Processing

a. Anaerobic Digestion (AD) System

The undersize material and food organics would be processed through the AD system.

Pasteurised digestate from the AD system is to be dewatered, and the solid digestate would be sent to the mixing bunker.

Liquid digestate would be sent to a liquid digestate storage tank, and used for moistening the oversized garden organics in the IVC tunnel systems and recirculating within the AD process.

The AD process would generate biogas, which could be upgraded in future to separate biomethane and biogenic CO_2 . A Combined Heat and Power (CHP) unit would be used to generate green electricity from the biogas. The heat from the CHP can be used for the composting process and the maturation process.

Material would be fed into the AD system continuously and stay in there for 21-28 days. It is expected that around 90,000 tpa material would be processed by AD.

b. Composting – IVC Tunnels

Oversize materials would be transferred to the composting area. During pasteurisation, microbes progressively break down organic material, creating heat and releasing nutrients. Organic matter naturally heats to over 55°C for at least 3 days. Pasteurisation of material induces pathogen and weed seed destruction. Recycled water and liquid digestate may be used during pasteurisation via collection from the leachate system.

After pasteurisation and drying in the tunnels, the material would be transferred to a second screen, which separates the fine fraction from the overs. This type of screening process is effective due to the fact that the material is dry and separating organics is easier. The fine fraction (<30mm) would be sold as a soil conditioner product.

Pasteurised and dried material >30mm would pass through another shredder before being sent to the sorting cabin. Plastics and other contaminants would be removed using a wind sifter, with the remaining mulch material either sold as product or sent to the mixing bunker.

It is expected that around 56,000 tpa material would be processed by AD.

c. Mixing (Optional)

Pasteurised solid digestate from the AD can be mixed with pasteurised oversize from the IVC tunnels as required and then loaded on to the maturation floor for aerobisation and maturation. The mixing process allows the overs to absorb moisture from the digestate and provide structure to the digestate to allow proper aeration and screening.

d. Maturation

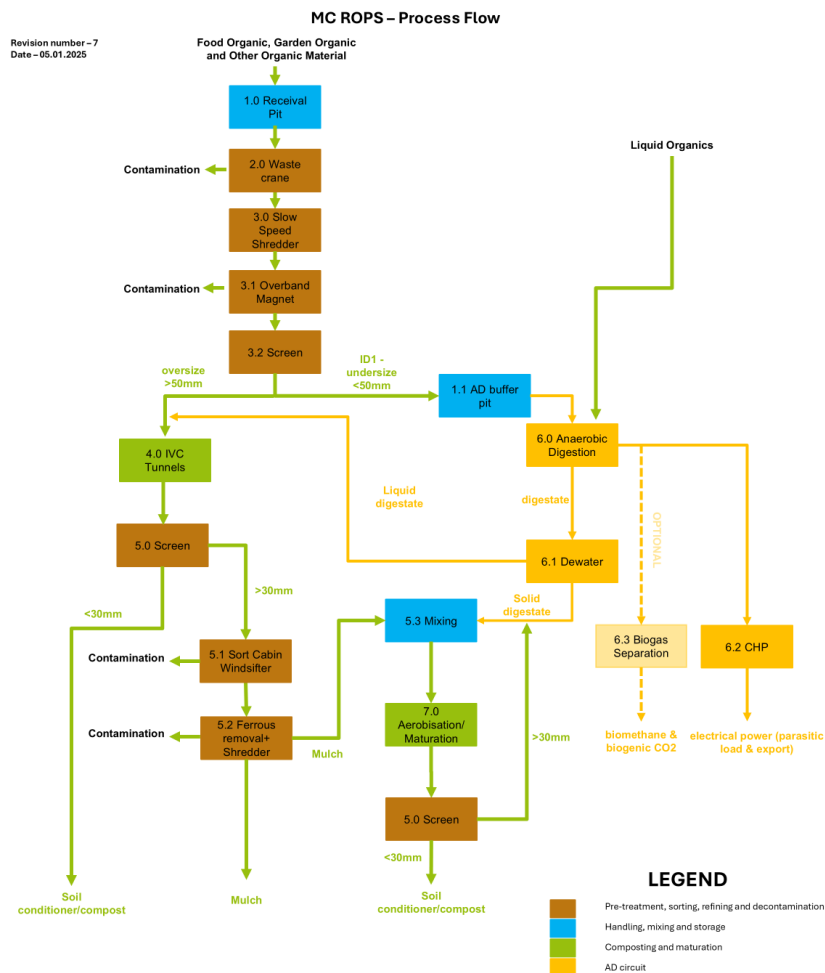
The mixture would then be piled into bays for further aeration and maturation in an enclosed building. After aerobisation and maturation, the material would be directed to a screen for final processing. Oversized material would be returned to the mixing process.

As the process progresses, the oxygen demand decreases and temperatures decline. Maturation requires clean water to avoid contaminating the product with pathogens and to keep dust under control.

4. Offtake

Compost would then be stockpiled within the building for bulk distribution.

Figure 18: Process flow



Source: NALG, 2026.

Note: Figure 18 references *separation* of the biogas. The feasibility of biogas separation is currently being investigated but it is not proposed in this application.

Table 12: Summary of estimated maximum facility storage and throughputs (updated)

Facility Area	Waste Classification	Source	Daily	Weekly	Maximum at one time	Estimated annual throughput
RECEIVAL HALL						
Bunker	General solid waste (putrescible)	Local Council Kerbside collected FOGO from residences. This would form the base feedstock for the facility, typically comprising food scraps, green waste (leaves, grass clippings), and other compostable material.	365 t	1827 t	642 t	95,000 t
	General solid waste (putrescible)	Commercial & Industrial - Paunch waste, comprising organic material removed from livestock during processing. - Offal, including animal organ remnants and parts.	119 t	596 t		16,000 t – I
		Agriculture - Poultry manure and litter, sourced from broiler or layer hen sheds. - Layer hen shed cleanout from layer hen facilities.				15,000 t
Food (AD Feed)	General solid waste (putrescible)	Retail & supermarkets Commercial food waste, including food with damaged packaging and expired food products.	31 t	154 t		8,000 t
Liquid	Liquid waste	Food (depackaged) - Grease trap waste, including wastewater sludge captured from food preparation. - Expired beverages, such as milk products. C&I - Dissolved air flotation (DAF) residue, sourced from wastewater treatment plants.	46 t	231 t	240 t	12,000
IVC Feed	General solid waste (putrescible)	Shredded FOGO >50mm	0	0	299 t	Included above

Facility Area	Waste Classification	Source	Daily	Weekly	Maximum at one time	Estimated annual throughput
FOGO & GO storage	General solid waste (putrescible)	Shredded FOGO >50mm	0	0	180 t	Included above
AD buffer	General solid waste (putrescible)	Solid waste < 50mm – mixed source	0	0	193 t	Included above
TOTAL RECEIVALS			561 t	2,808 t	1,554 t	146,000 tpa
PROCESS TECHNOLOGY AND FINISHED PRODUCT						
IVC						
Tunnels	N/A	Receival Hall	-	1,077t	2,800 t	Est 56,000 tpa
AD						
Digestors	N/A	Receival Hall	346 t	1731 t	2,940 t	Est 90,000 tpa
Liquid digestate storage	N/A	AD digestors	Varies	Varies	1,200 t	70,380 t
Biogas storage	N/A	AD digestors	Varies	Varies	750m ³	9,006,000 Nm ³
Maturation						
Maturation	N/A	IVC	0	0	896 t	60,924 t (output)
Digestate Press	N/A	IVC & digestate	0	0	160 t	
Mixing Pit	N/A	IVC & digestate	0	0	161	
TOTAL					8,157 t	
TOTAL at any one time storage					9,711 t	

3.6.5 Onsite Storage and Distribution

Input FOGO material would be stored in a bunker and liquid waste would be stored in self-bunded tanks, as summarised in Section 6.2, Figure 20 and Table 12. Material at various stages of processing would be stored in tanks in the receival hall, the IVC bunkers, maturation hall and the digestors, with liquid digestate and biogas stored in containers. Within the maturation hall, material would be stored in windrows prior to bunkers.

Onsite storage areas are shown in Figure 20. A summary of storage volumes is shown in Table 12, along with an indicative breakdown of throughputs.

Soil conditioning and compost materials would be sent to a single company for onward distribution.

Power would be generated from the biogas.

3.6.6 Leachate Collection and Treatment

All leachate produced would be collected and stored. It is expected that most would be used within the AD and IVC processes however volume of leachate is dependent on composition of material received and atmospheric conditions. During periods of high moisture content, there would be a need to store leachate and discharge to MCC sewer system under a tradewaste agreement. During periods of low moisture content, there may be a need to add water into the process. This would be taken from rainwater tanks as before using mains water connection.

The details of the tradewaste agreement would be finalised with MCC and relevant regulatory authorities.

The liquid organics received would be in self-bunded containers and pumped to relevant processing areas to minimise risk of spillage or leaks.

The Project would incorporate sufficient leachate collection capacity to allow flexibility in moisture content of material. Sufficient bunding and management would prevent risk of emissions causing harm to the environment in the event of spillages or leaks. It is expected that 12,500 tpa leachate would be produced from the IVC tunnels and would be stored in the four tanks south and adjacent to the IVC building.

3.6.7 Quality Control

The Project would operate in accordance with licence and reporting requirements.

The products of organics processing can be applied to land without further approvals where they comply with requirements of the *Compost Order 2016* and the *Compost Exemption 2016*. The standard for the production of compost is AS4454.

Quality control would be achieved through:

- Inspection process on arrival to ensure that only acceptable waste is received
- Maintaining the controlled composting process with temperature, moisture and oxygen monitoring
- Laboratory testing by NATA accredited labs for physical contaminants and pathogen
- The use of screens, magnets, and handpicking to remove plastics, metals and oversized material
- Record keeping of test results, supply logs and composting records for a minimum of 6 years

3.6.8 Recording & Reporting

Record Keeping

Part 2 of the *Protection of the Environment Operations (Waste) Regulation 2014* (PoEO Waste Regulation) prescribes the requirements for recording waste at scheduled waste facilities. Part 3, Division 1 of the PoEO (Waste) Regulation requires the occupier of a scheduled waste facility to record the following information for each delivery of waste material received at the facility:

- The amount and type of waste and other material delivered
- The date the delivery was made
- The registration number of the vehicle making the delivery
- The particulars of where on the Site the waste and other materials were placed at the facility
- The particulars of any waste received that is exempted under clause 10 from the calculation of the contribution payable by the facility

Waste Levy

The Site sits within the MCC LGA, which is within the Regional Levy Area (RLA) and could receive waste from other councils or operators within the Regional or Metropolitan Levy Areas. A weighbridge would be installed for monitoring purposes.

Reporting

Monthly reporting would be required under section 88 of the PoEO Act and the Project would need to submit a waste contribution monthly report (WCMR) to the EPA to report on all waste received and waste sent for recycling. Waste contribution monthly reports or the facility would be completed online via the EPA's Waste and Resource Reporting Portal (WARRP).

An annual return would be submitted, including statement of compliance with the licence conditions and a report of the pollution monitoring of the pollutant loads generated by the activity undertaken at the premises. The annual return may be submitted by eConnect EPA.

Weighbridge

Two weighbridges would be installed at the Site to register details of vehicles and deliveries. In compliance with Clause 36 of the PoEO Waste Regulation, NALG would:

- Submit to the EPA, within 30 days after installing the weighbridge, a plan of the waste facility indicating the proposed vehicle flow controls, and submit revisions with 30 days of changes
- Keep a copy of the latest vehicle flow control plan on the premises and make the plan available for inspection and copying by an authorised officer on request
- Ensure that each vehicle that enters or leaves the waste facility for a purpose relating to the operation of the facility is weighed by the weighbridge on entering and on leaving the facility, or use an alternative means
- Take all reasonable steps to ensure that the weighbridge is maintained in proper working order
- Ensure that the weighbridge is verified
- Ensure that the weighbridge has related software (e.g. Mandalay, Nuweigh, iweigh, Cority) that records quantities of waste in any form and manner specified in the Waste Levy Guidelines
- Notify the EPA of any incident that results in the weighbridge being out of operation for any period of more than 24 hours
- Comply with any other requirement relating to the installation or operation of the weighbridge that the EPA may specify

Waste Tracking

The waste entering or leaving the facility does not require tracking under Schedule 1 of the PoEO Waste Regulation. Waste would be tracked to the extent described above.

3.7 Capital Investment Value

An Estimated Development Cost (EDC) report has been produced in accordance with *Planning Circular PS 24-002: Changes to how development costs are calculated for planning purposes* and the *Standard form of Estimated Development Cost Report* (DPHI 2024).

3.8 Staffing and Onsite Amenities

The operation of the facility would generate employment for approximately 8 full time staff to operate equipment and machinery. Additionally, approximately 4 office staff would be employed to oversee general site management and administrative roles.

Onsite amenities would be provided for staff, including ablutions, kitchen and lunchroom facilities. Truck drivers associated with deliveries to and from the Site are not anticipated to spend much of their time onsite and would generally utilise external rest stops and service facilities elsewhere.

It should be noted that the facility would be able to operate without staffing.

3.9 Timing and Delivery

The delivery of the Project is required by MCC by January 2028, with the goal for approvals to be completed by mid-2026.

The Project is not proposed to be a staged development.

4 Statutory Context

4.1 Key Statutory Requirements

Table 13 outlines the key statutory requirements pertaining to the Project, including power to grant approval, permissibility and other relevant approvals.

Table 13: Key statutory requirements for the Project

Matter	Consideration
Power to grant approval	Section 4.36(2) of the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act) provides that a State Environmental Planning Policy may declare any development, or any class or description of development, to be SSD. The Project is deemed to be SSD in accordance with Section 3 and Section 23 of Schedule 1 to the <i>State Environmental Planning Policy (Planning Systems) 2021</i> (Planning Systems SEPP). The development is captured as: 3 Agricultural produce industries and food and beverage processing with an estimated development cost of more than \$30 million for the following purposes: (c) Organic fertiliser plants or composting facilities or works. 23 Waste and resource management facilities (3) Development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste. The consent authority is therefore the NSW Planning Minister, who may delegate authority to senior officers of DPHI. Per Section 2.7 of the EP&A Act, the consent authority may be the Independent Planning Commission if any of the following are triggered: - Development in respect of which the council of the area in which the development is to be carried out has duly made a submission by way of objection under the mandatory requirements for community participation in Schedule 1 to the Act - Development in respect of which at least 50 persons (other than a council) have duly made submissions by way of objection under the mandatory requirements for community participation in Schedule 1 to the Act; or - Development the subject of a development application made by a person who has disclosed a reportable political donation under section 10.4 to the Act in connection with the development application.
Permissibility	The Site is zoned RU2 Rural Landscape in accordance with the <i>Great Lakes Local Environmental Plan (LEP) 2014</i>. The development is <i>not</i> within the definition of an 'agricultural produce industry' under the Great Lakes LEP. It would therefore be considered a 'waste or resource management facility'. A waste or resource management facility is not permissible in a RU2 zone under the LEP. However, under Division 23 of the <i>State Environmental Planning Policy (Transport and Infrastructure) 2021</i>, being a 'waste or resource management facility', the Project is permissible with consent on land in a prescribed zone. A RU2 zone is a prescribed zone under the Division 23 of the SEPP. The Project is therefore considered permissible with development consent.
Other approvals	Licensing from the Environment Protection Authority, under the <i>Protection of the Environment Operations Act 1997</i>. The Project is classified as a 'scheduled activity', as listed in Schedule 1 of the <i>Protection of the Environment Operations Act 1997</i> (POEO Act). An environment protection licence (EPL) would be required for the operation of the Project to administer the scheduled activities of 'composting', 'resource recovery' and 'waste storage'. <i>This is an approval that must be applied consistently, as per s4.42 of the EP&A Act.</i>

Matter	Consideration
	Works within the road reserve from MidCoast Council, under the Roads Act 1993. The Project includes works within the road reserve to establish access to the Site from the existing classified road network. This includes establishment of a new private road connection with Midge Orchid Road. <i>This is an approval that must be applied consistently, as per s4.42 of the EP&A Act.</i>
	Water, sewer and stormwater drainage works from Mid-Coast Council under the Local Government Act 1993. The Project requires utility connections with the existing water, sewer and stormwater network to enable operation of the facility and provide services.
	Land Clearing under the Local Land Services Act 2013 (LLS Act). The Site contains native vegetation that would require the clearing and levelling of approximately 4.64ha for establishment of hardstand, trafficable areas, weighbridge, buildings, structures, utilities and other site infrastructure. The Site is mapped as Sensitive Regulated Land on the Native Vegetation Regulatory map. Under the Local Land Services Act 2013 (LLS Act) the clearing of sensitive regulated land is not allowable without authorisation. Authorisation is hence required for the Project.

4.2 Pre-conditions to Exercising the Power to Grant Approval

Table 14 outlines the pre-conditions to exercising the power to grant approval which are relevant to the Project, and the section where these matters are addressed within the EIS.

Table 14: Pre-conditions

Statutory Instrument	Pre-condition	Relevance	Section in EIS
State Environmental Planning Policy (Transport and Infrastructure) 2021	The Project is classified as a 'traffic generating activity' under Schedule 3 of the SEPP. Consequently, Section 2.122 of the SEPP requires the consent authority to notify Transport for NSW (TfNSW) of the application and to take into consideration any response from TfNSW, the accessibility of the site and any potential traffic safety, road congestion or parking implications of the Project. The consent authority must give TfNSW a copy of the determination within 7 days after the determination is made.	A Transport Impact Assessment has been undertaken for the Project. TfNSW has provided comments in the SEARs, and these are addressed within this EIS.	Section 6.9 Appendix T
State Environmental Planning Policy (Resilience and Hazards) 2021	Section 3.12 of the SEPP requires the consent authority, in making a determination on a potentially hazardous or potentially offensive development, to consider: - current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development, and - whether any public authority should be consulted concerning any environmental and land use safety requirements with which the development should comply, and	A Preliminary Hazard Analysis has been undertaken for the Project. The requirements of the SEPP are further addressed within this EIS.	Section 6.11 Appendix V

Statutory Instrument	Pre-condition	Relevance	Section in EIS
	- in the case of development for the purpose of a potentially hazardous industry—a preliminary hazard analysis prepared by or on behalf of the applicant, and - any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application (including any feasible alternatives for the location of the development and the reasons for choosing the location the subject of the application), and - any likely future use of the land surrounding the development		
	Section 4.6(1) of the SEPP requires that a consent authority must be satisfied that the land is suitable in its contaminated state - or will be suitable, after remediation - for the purpose for which the development is proposed to be carried out.	A Preliminary Site Investigation has been undertaken for the Project.	Section 6.7 Appendix Q
State Environmental Planning Policy (Biodiversity and Conservation) 2021	Chapter 3 Koala habitat protection 2020 Chapter 3 of the BC SEPP applies to land zoned RU1, RU2 and RU3. Part 3.2 relates to land in the affected LGAs with an area greater than 1 hectare. It prescribes the requirements of land that is potential Koala habitat and core Koala habitat. Land that is identified to be core Koala habitat cannot be granted development consent unless a plan of management is prepared.	Chapter 3 Koala habitat protection 2020 The Site is zoned RU2 Rural Landscape and covers an area of approximately 5.83ha. Per Schedule 1 of the SEPP, only 1 Koala feed tree species (<i>Eucalyptus robusta</i>) was identified within the Site and the area where this occurs is to be retained. Therefore, the Site does not satisfy the requirements for being core Koala habitat.	Section 6.5
	Chapter 4 Koala habitat protection 2021 Chapter 4 of the BC SEPP applies to land <u>not</u> zoned RU1, RU2 and RU3.	Chapter 4 Koala habitat protection 2021 Per Schedule 3 of the SEPP, several Koala use tree species are present on the Site (<i>Angophora costata</i> (Smooth-barked apple) and <i>Eucalyptus pilularis</i> (Blackbutt)). However, the Site is zoned RU2 Rural Landscape. As such, Chapter 4 does not apply.	Section 6.5
State Environmental Planning Policy (Industry and Employment) 2021	Section 3.6 of the SEPP requires that a consent authority must not grant development consent to an application to display signage unless the consent authority is satisfied –	An assessment against the objectives of Chapter 3 and the requirements of Schedule 5 has been undertaken.	Appendix I

Statutory Instrument	Pre-condition	Relevance	Section in EIS
	1. that the signage is consistent with the objectives of Chapter 3, set out in section 3.1 and 2. that the signage the subject of the application satisfies the assessment criteria specified in Schedule 5		
Crown Land Management Act 2016	Land to the north-west and south of the Site is Crown land. The EP&A Act requires any person seeking to carry out specified development to obtain the consent of the landowner prior to lodging a development application. The Minister for Water, Property and Housing is the owner of Crown land.	The development would not affect areas outside the lot boundary, therefore there is no requirement for permission under the Act. This is managed through: a) realignment of electricity cables to underground as discussed at Section 6.10; and b) Management of surface water to minimise risk of increasing discharge to the reserve as discussed at Section 6.6.	N/A
State Environmental Planning Policy (Industry and Employment) 2021 replaces SEPP 64 – Advertising and Signage and SEPP (Western Sydney Employment Area) 2009.	Chapter 3 of the SEPP pertains to Advertising and signage, and regulating signage to be compatible with objectives such as amenity, communication, quality and benefit, particularly in transport corridors.	MidCoast Council is the consent authority for any advertisements displayed. Signage is compatible with the local area and would not affect local transport corridors.	Section 6.14.3.9

4.3 Mandatory Matters for Consideration

Table 15 outlines the relevant mandatory considerations to exercising the power to grant approval and the section where these matters are addressed within the EIS.

Table 15: Mandatory Matters for Consideration

Statutory Reference	Mandatory Considerations	Section in EIS
Considerations under the EP&A Act and the EP&A Regulation		
Section 1.3 of the Act	Relevant objects of the EP&A Act	Appendix I
Section 4.15	Relevant matters for consideration by the consent authority in the evaluation process include:	-
	Environmental planning instruments	Section 4 Appendix I
	Draft environmental planning instruments	Appendix I
	Development control plans (do not apply to SSD)	Appendix I

Statutory Reference	Mandatory Considerations	Section in EIS
	Planning agreements or draft planning agreements	N/A
	The EP&A Regulations	Appendix I
	Likely environmental, social and economic impacts of the Project	Section 6
	Suitability of the Site for the development	Section 2.4
	Any submissions made	Section 5 Appendix I
	The public interest	Appendix I
Section 4.14	Bush Fire Prone Land Development consent for residential or special fire protection purposes cannot be carried out unless the consent authority is satisfied that the development meets the objectives of <i>Planning for Bush Fire Protection</i>. The section does not apply to State Significant Development, however an assessment with reference to <i>Planning for Bush Fire Protection</i> has been undertaken to achieve compliance with the Objectives of <i>Planning for Bush Fire Protection</i>.	Section 6.7 Appendix R
Considerations under other legislation		
Section 7.14 of the Biodiversity Conservation Act 2016 (BC Act)	Section 7.14: Biodiversity assessment and offsets – State significant development or infrastructure. The relevant authority, when determining in accordance with the <i>Environmental Planning and Assessment Act 1979</i> any such application, is to take into consideration under that Act the likely impact of the proposed development on biodiversity values as assessed in the biodiversity development assessment report. The relevant authority may (but is not required to) further consider under that Act the likely impact of the proposed development on biodiversity values.	Section 6.5 Appendix N
Fisheries Management Act 1994	A permit must be issued under the <i>Fisheries Management Act 1994</i> for any person to carry out dredging or reclamation work. <i>This is an approval that does not apply to State significant development, as per s4.41 of the EP&A Act.</i>	N/A
Water Management Act 2000	The <i>Water Management Act 2000</i> outlines key principles relating to several matters including: • water use • floodplain management • activity approvals <i>This is an approval that does not apply to State significant development, as per s4.41 of the EP&A Act.</i>	Section 6.6 Appendix I
Heritage Act 1977	Approval is required under the <i>Heritage Act 1977</i> for a development that could have moderate or greater impacts on heritage-listed items. <i>This is an approval that does not apply to State significant development, as per s4.41 of the EP&A Act.</i>	Section 6.13
National Parks and Wildlife Act 1974	A permit may be issued under the <i>National Parks and Wildlife Act 1974</i> for a development that could harm Aboriginal heritage items.	Section 6.12

Statutory Reference	Mandatory Considerations	Section in EIS
	<i>This is an approval that does not apply to State significant development, as per s4.41 of the EP&A Act.</i>	
Environmental Protection and Biodiversity Conservation Act 1999 (Cwth)	The EPBC Act identifies 9 matters of national environmental significance (MNES) related to heritage, ecology, nuclear actions and water resources. It also protects certain Commonwealth land and agencies. The Project does not affect any MNES and a referral for controlled action under the EPBC Act is not required.	Section 6.5 Appendix N
Considerations under Environmental Planning Instruments		
State Environmental Planning Policy (Transport and Infrastructure) 2021	Section 2.122: Traffic generating development. The consent authority must take into consideration: - any submission from TfNSW - the accessibility of the site concerned, including: - the efficiency of movement of people and freight to and from the site and the extent of multi-purpose trips, and - the potential to minimise the need for travel by car and to maximise movement of freight in containers or bulk freight by rail, and - any potential traffic safety, road congestion or parking implications of the development.	Section 6.9 Appendix T
State Environmental Planning Policy (Resilience and Hazards) 2021	Section 3.12: Potentially hazardous or potentially offensive development. The consent authority, in making a determination on a potentially hazardous or potentially offensive development, is to consider circulars or guidelines, public authority consultation, a preliminary hazard analysis, any feasible alternatives, the reasons for choosing the location, and any likely future use of the land surrounding the development.	Section 6.11 Appendix V
	Section 4.6(1): Contamination and remediation to be considered in determining development application. A consent authority must be satisfied that the land is suitable in its contaminated state - or will be suitable, after remediation - for the purpose for which the development is proposed to be carried out.	Section 6.7 Appendix Q
State Environmental Planning Policy (Sustainable Buildings) 2022	Chapter 3 of the Sustainable Buildings SEPP requires the consent authority to consider whether the design enables: a minimisation of waste, reduction in peak demand for electricity, reduction in reliance on artificial lighting, generation and storage of renewable energy, metering and monitoring of energy consumption, minimisation of consumption of potable water. The embodied emissions must also be quantified. The chapter does not apply to development wholly in the RU2 zone and is therefore not applicable to the Project. Although the Sustainable Buildings SEPP does not apply to the Project, the Project has been assessed against the principles of Ecologically Sustainable Development.	Section 7
Great Lakes Local Environmental Plan 2014	Objectives and land uses for RU2 zone Part 4 Principal development standards Clause 4.6 variation required (<i>Height of Buildings</i>) Part 5 Miscellaneous provisions – complies Part 7 Additional local provisions – complies	Appendix I

Statutory Reference	Mandatory Considerations	Section in EIS
Development Control Plans		
Great Lakes Development Control Plan	Section 2.10 of the Planning Systems SEPP states that DCPs do not apply to SSD. Notwithstanding this, the Project has been assessed against the Great Lakes DCP and generally complies with these controls.	Appendix I
Draft Environmental Planning Instruments		
Draft MidCoast Local Environmental Plan	The Project has been assessed against the draft MidCoast Local Environmental Plan, which is proposed to replace the Great Lakes LEP. Development permitted with consent in the RU2 Zone was amended to include 'Waste or resource management facilities'. There are no other notable changes that are relevant to the Project.	Appendix I

4.4 Environmental Licensing

4.4.1 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (PoEO Act) is the key piece of environmental protection legislation administered by the Environment Protection Authority (EPA). The NSW waste regulatory framework is established under the PoEO Act. The key objective is to ensure a healthy and clean environment by regulating pollution and other adverse environmental impacts that may result from waste activities. Waste regulation uses tools and programs to mitigate pollution from waste disposal, minimise resource use, improve resource recovery and ensure the appropriate disposal of harmful waste in NSW.

The NSW EPA maintains the integrity of the NSW waste regulatory framework by actively engaging in enforcement, education and compliance programs to promote resource recovery and combat illegal dumping and inappropriate disposal of waste. A fundamental feature of the regulatory framework is the licensing of waste activities to ensure that appropriate controls are in place to regulate waste disposal and other waste management activities.

Pursuant to Schedule 1 of the *PoEO Act* and the *Protection of the Environment Operations (Waste) Regulation 2014* (Waste Regulation), the facility is deemed a *scheduled activity* as it would receive and process more than 6,000 tonnes of waste per year and is within the regulated area.

The relevant licence thresholds under Schedule 1 of the PoEO Act are:

12 Composting

(2) (a) *where it takes place inside the regulated area...*

- (i) *it has on site at any time more than 200 tonnes of organics received from off site, or*
- (ii) *it receives from offsite more than 5,000 tonnes per year of non-putrescible organics or more than 200 tonnes per year of putrescible organics*

(3) *For the purposes of this clause, 1 cubic metre of organics is taken to weigh 0.5 tonnes.*

34 Resource recovery

Recovery of general waste

if the premises are in the regulated area—

- (a) *involves having on site at any time more than 1,000 tonnes or 1,000 cubic metres of waste, or*
- (b) *involves processing more than 6,000 tonnes of waste per year*

42 Waste storage

(3) (c) *more than the following amounts of waste (other than waste referred to in paragraph (a) or (b)) are stored on the premises at any time*

(i) *in the case of premises in the regulated area—more than 1,000 tonnes or 1,000 cubic metres*

(d) *more than the following amounts of waste (other than waste referred to in paragraph (a) or (b)) is received per year from off site*

(i) *in the case of premises in the regulated area—6,000 tonnes*

The Project exceeds the thresholds as set out in the PoEO Act and therefore is considered a scheduled activity under the PoEO Act requiring licencing for the activity.

Section 88 of the PoEO Act requires licensed waste facilities to pay a contribution to the EPA for each tonne of waste received for disposal at the facility, referred to as the 'waste and environment levy'. The purpose of the levy is to reduce the amount of waste being disposed of and to promote recycling and resource recovery. To achieve this aim, a rebate to the levy can be claimed for waste that is received at the facility but is then transported to another facility for lawful recycling, processing, recovery or disposal.

Environment Protection Offences

The PoEO Act establishes a range of pollution offences and penalties that are applicable to all activities undertaken on a Site. Specific pollution offences are created for actions associated with:

- Water pollution
- Air pollution
- Noise pollution
- Land pollution
- Littering and waste

Procedures to prevent pollution during construction and operation would be documented in an *Operational Environmental Management Plan* and *Pollution Incident Response Management Plan* (PIRMP). Pollution reduction measures have also been documented throughout this EIS.

4.4.2 Protection of the Environment Operations (Waste) Regulation 2014

The *Protection of the Environment Operations (Waste) Regulation 2014 (PoEO (Waste) Reg)* provides the implementation framework for the PoEO Act, as it relates to waste. The regulation contains provisions for contributions by scheduled waste facility operators. It outlines the requirements for reporting and record-keeping, transport of waste interstate, asbestos management and recycling of packaging. It provides for the EPA to issue exemptions to the PoEO Act, and it outlines offences relating to waste.

4.4.3 Resource Recovery Order & Exemptions

Supply of compost to market would be in accordance with licences and permits issued by the EPA, including as required by relevant Resource Recovery Order (RROs) / Resource Recovery Exemptions (RREs). RROs and RREs allow some wastes to be beneficially and safely used independent of usual state laws the control applying waste to land or using waste as a fuel.

RROs and RREs are only applicable where the re-use:

- Is genuine, rather than a means of waste disposal
- Is beneficial or fit for purpose
- Will not cause harm to human health or the environment

It is noted that all conditions of an order and exemption must be met for the supply and re-use to be lawful.

5 Engagement

5.1 Assessment Requirements

Table 16: Assessment Requirements for Engagement

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
A community and stakeholder engagement strategy consistent with the Department's <i>Undertaking Engagement Guidelines for State Significant Projects</i> for all stages of the development, including (but not limited to): • Details of how issues raised, and feedback provided during engagement activities have been considered and responded to in the development. • Details of the proposed approach to future community and stakeholder engagement based on the results of consultation.	Section 5.2 Section 5.5 Section 5.6 Appendix J
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with: • MidCoast Council • Department of Climate Change, Energy, the Environment and Water, specifically: ◦ Conservation Programs, Heritage and Regulation ◦ Water Group ◦ Environment Protection Authority • Essential Energy • Transport for NSW • Fire & Rescue NSW • NSW Rural Fire Service • Surrounding local landowners, businesses and stakeholders • Local and regional community and environmental groups • Traditional Owners • Local Aboriginal Land Council • Any other public transport, utilities or community service providers	Section 5.3 Section 5.4 Appendix J

5.2 Engagement Overview

Community and stakeholder engagement for the Project has been undertaken in accordance with *Undertaking Engagement Guidelines for State Significant Projects* (DPHI 2024) and the SEARs. Engagement included department-led and proponent-led activities, which aimed to inform the community and other stakeholders, gather and respond to feedback on the Project, and incorporate community input into the project design. Department-led engagement included the request for environmental assessment requirements and the SEARs requirement to consult with relevant authorities and local stakeholders. Proponent-led engagement included the distribution of information via email and letterbox, and conducting a public meeting.

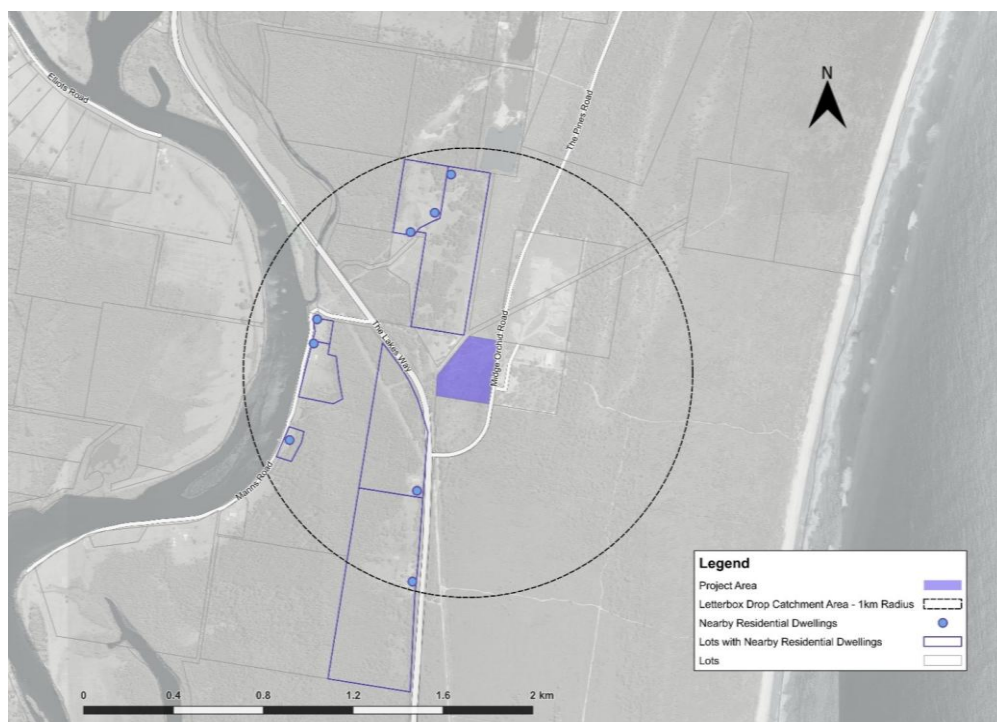
An engagement report detailing the consultation strategy, activities and feedback received from the community and other stakeholders is provided in Appendix J.

5.3 Consultation with the Community

The following engagement activities were undertaken to inform and consult with the local community:

- Letterbox flyer distribution to all occupancies within a 1km radius of the Site (see Figure 19) on 8 July 2025. The flyer included project information, contact details and an invitation to attend the community meeting. Two residents received the flyer via email.
- Project webpage established, providing project information and a contact form for feedback. The link was included in the flyer distributed to residences nearby.
- Facebook outreach via posts to two local community groups to promote the community meeting:
 - Forster / Tuncurry NSW Australia
 - Tuncurry Forster Community Noticeboard
- Community meeting held on 26 July 2025 at the Tuncurry Waste Management Centre Education Centre, featuring a presentation and open discussion. Four community attendees participated.
- Email outreach to the Forster Tuncurry Environmental Network, identified by MCC as a relevant local group.
- Engagement with the local Aboriginal community was undertaken as part of the Aboriginal Cultural Heritage Assessment. No issues were raised.

Figure 19: Consultation area



Source: OpenStreetMap, Sixmaps 2025

Feedback received from the community identified the following areas of interest and concern. All respondents were contacted via email or phone to clarify concerns and provide further opportunity for input.

Table 17: Summary of feedback and responses

Theme	Key concerns and response to feedback
General objection to the development	Issues raised General objections to the Project were raised, with no specific aspect of the Project that was opposed, but rather the development as a whole. Response to feedback This EIS provides a detailed overview of the Project, including its strategic merit in the context of new mandates for FOGO processing and the processing capacity required to achieve this. The facility has been strategically located to minimise impacts as far as practicable. Further justification is provided in the EIS.
Air pollution and odour	Issues raised Several stakeholders were concerned with potential impacts from the smell of the facility or otherwise concerned that there would be impacts to air quality in the area. Response to feedback The receivals and processing areas would be subject to odour controls. Air pollution and odour impacts have been assessed in Section 6.3 of the EIS, with a detailed Air Quality Impact Assessment provided in Appendix L. With appropriate mitigation, the impacts are assessed to be acceptable.
Noise from the facility	Issues raised A concern about potential noise impacts from the facility was raised, with suggestion that the noise producing elements should be in the southern area of the property if possible. Response to feedback The Project has considered potential noise impacts associated with the operation of the facility. While there would be some noise, this would be kept to a minimum, and the facility is predominately located to the south of the property. Noise has been assessed in Section 6.4 of the EIS, with a detailed Acoustic Report provided in Appendix M.
Traffic and transport impacts	Issues raised A query was raised as to where possible traffic management could be implemented by installing a roundabout at the intersection of The Lakes Way and Midge Orchid Road. Response to feedback A Transport Impact Assessment has analysed intersection at The Lakes Way and Midge Orchid Road in section 6.9 and Appendix T. Improving public roads is supported but is not the responsibility of the proponent.
Effect of the Project on neighbouring property, including biodiversity and landscaping	Issues raised Concern with the impact of the Project on neighbouring properties was raised, relating to various amenity impacts and ecological disturbance. This included comments that the locality is home to a variety of birds and other wildlife, with hopes that the Project wouldn't have a detrimental effect on them. Additionally, a suggestion for the Project to implement landscaping with hedges to minimise visibility was proposed. Response to feedback The clearing of vegetation would be kept to a minimum and preserve areas of ecological significance. The large expanses of vegetated areas surrounding the Site would continue to provide fauna habitat. Landscaping design considers bushfire setbacks, the need to maintain ecological values and minimise visual impacts. The Site is designed to screen the buildings and other site infrastructure. The landscape plan is attached in Appendix E.
Right of carriageway	Issues raised A local landowner indicated that the proposed design impeded access onto their right of carriageway.

Theme	Key concerns and response to feedback
	Response to feedback In response to this issue, the design has been amended to ensure the right of carriageway would be maintained for the landowner.
Project funding	Issues raised One comment around the funding of the Project was raised, concerning that they hope the ratepayer would not be paying for the Project.
	Response to feedback The use of Council funds cannot be commented on by the proponent.
Further consultation	Issues raised A request for opportunity to provide a detailed submission was asked during consultation, due to missing the community meeting session.
	Response to feedback The stakeholder was contacted and invited to give a detailed response.
Additional feedback	Issues raised Commentary was received that the Project is a good idea, and additional questions relating to the FOGO mandate and how it would be implemented were raised.
	Response to feedback The Project would support MCC's commitment to enabling FOGO waste generation in the area to be sustainably processed, through resource recovery processes and reducing greenhouse gas emissions from landfill. The FOGO mandates are addressed further in section 2.1 of the EIS.

5.4 Consultation with Authorities

The following engagement activities were undertaken to inform and consult relevant government authorities and industry stakeholders on the Project:

- Initial meeting with MCC held on 8 April 2025 to discuss the Project and identify key issues requiring assessment.
- Email correspondence sent on 1 July 2025 to stakeholders including MCC, DCCEEW (Conservation Programs, Heritage and Regulation; Water Group; Environment Protection Authority), Essential Energy, Transport for NSW, Fire & Rescue NSW, and NSW Rural Fire Service. The email included a summary of the Project, the Scoping Report and the SEARs, and invited feedback prior to EIS submission.
- Follow-up contact with NSW Rural Fire Service on 28 August 2025 to clarify bushfire assessment requirements.
- Phone and email engagement with MidCoast Water on 1 September 2025 to discuss stormwater discharge in the easement.
- Initial email and telephone contact with Crown Land teams regarding potential approval requirements. Design has been modified to minimise risk of impacts outside the Site boundaries to avoid need for approvals.
- Ongoing correspondence with MCC and the DPHI throughout the EIS preparation phase.

Feedback and responses received from government and industry stakeholders are presented in Table 18.

Table 18: Summary of feedback and responses

Stakeholder	Feedback
MidCoast Council	Provided early feedback on the Project in a meeting between Council and the proponent, identifying the following issues that would need further consideration and assessment. These matters have been considered and assessed in the EIS. • Traffic • Stormwater management • Biodiversity assessment • Acoustic assessment • Groundwater impacts • Visual impacts Provided independent input following the issue of the SEARs with various requirements including assessment of the Project against the Great Lakes LEP and DCP, air quality and odour impacts, and recommendation of matters concerning water quality. These requirements are listed in further detail in Appendix B and have been addressed in the EIS and supporting documents.
Fire & Rescue NSW	Provided guidelines and general information in the preparation of development applications, noting that FRNSW provides development advice directly to the consent authority. Considering these comments received were general, no further correspondence was entered into.
Essential Energy	Provided detail on steps associated with establishing connection to the electricity network. NALG has followed up on these recommendations.
Transport for NSW	Advised that they do not have any preliminary comments and will assess the Project following submission of the EIS.
NSW Rural Fire Service	Advised that they do not have any preliminary comments and will assess the Project following submission of the EIS.
DCCEEW – Water Group	Advised that they do not have any preliminary comments and will assess the Project following submission of the EIS.
DCCEEW – Conservation Programs, Heritage and Regulation	Advised that they do not have any preliminary comments and will assess the Project following submission of the EIS.
DCCEEW – Environment Protection Authority	Delivered an automated response confirming receipt of the email, however no further correspondence was provided.

5.5 Management of Issues

The feedback received from the community, government and industry stakeholders has enabled a better understanding of the various opinions and perspectives associated with the Project and has guided the identification of key issues requiring assessment as part of the development application. While no element of the Project has drastically changed following pre-application engagement activities, comments and requests have informed the design of the Project to better facilitate the needs of the local community, and manage the issues identified.

5.6 Future Stakeholder Engagement

Considering the lack of concern with the Project from a community perspective, no further outreach is planned. However, community members have been given avenues to communicate and any feedback received will be considered.



Potential impacts during both construction and operation have been assessed in the following sections and would be minimal, subject to proposed mitigation measures. Any complaints during construction or operation would be investigated, recorded and responded to as required.

The proponent is in regular contact with MCC regarding the progress of the application.

During the EIS process, further feedback from authorities is expected. Meetings, phone calls and emails may be used to gain clarification or discuss matters more fully. Information will be provided following formal requests and submissions.

6 Assessment and Mitigation of Impacts

6.1 Overview

This chapter addresses the requirements of the SEARs, including environmental objectives relating to the design and operating procedures of organics processing facilities identified by the EPA in the *Environmental Guidelines for Composting and Related Organics Processing Facilities 2004*.

Each section in this chapter is presented as follows:

- Requirements for the assessment
- A description of the existing environment
- The assessment of potential impacts associated with construction and operation
- Mitigation measures to be applied during construction and operation
- Concluding statement

Detailed specialist reports are appended.

6.2 Waste Management

6.2.1 Assessment Requirements

Table 19: SEARs - Waste Management

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
A description of each of the waste streams that would be accepted at the site, including maximum daily, weekly and annual throughputs and the maximum limits for stockpiles.	Section 3.6.1 Section 6.2.4.2
Details of the source, class and composition of the waste streams to justify the need for the proposed processing capacity.	Section 3.6.3 Section 6.2.4.2
A description of waste processing operations (including flow diagrams for each waste stream), including a description of the technology to be installed, resource recovery outputs and the quality control measures that would be implemented.	Section 3.5 Section 3.6.4 Section 3.6.7 Section 3.6.7
Details of how waste would be stored (including the maximum daily storage capacity of the site) and handled on site, and transported to and from the site, including details of how the receipt of non-conforming waste would be dealt with.	Section 6.2.4.2
Detail the development's waste tracking system for incoming and outgoing waste.	Section 3.6.8
Detail the quality of waste produced and final dispatch locations.	Section 3.6.5 Section 6.2.4.2.3
Details of the waste management strategy for construction and ongoing operational waste generated.	Section 6.2.4 Appendix K
Details of contingency measures to be implemented on-site in the event of equipment failure.	Section 6.2.4.2.5
Demonstration of consistency with the relevant provisions of the <i>NSW Energy from Waste Policy Statement</i> (EPA 2021).	Section 2.1.1

Assessment Requirements	EIS Reference
Details of the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the <i>NSW Waste and Sustainable Materials Strategy 2041</i> .	Section 2.1.3
NSW EPA	
Assess and describe all aspects of waste generation, management and disposal associated with the proposed development.	Section 6.2.4 Appendix K
Demonstrate compliance with all regulatory requirements outlined in the POEO Act and associated waste regulations.	Section 4.4
Identify the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the <i>NSW Waste Avoidance and Resource Recovery Strategy 2014-21</i> .	Section 2.1.2
This waste facility will be required to report on the amount of waste being handled. a) If it is located within or receives waste from the Metropolitan Levy Area (MLA) or Regional Levy Area (RLA), a weighbridge will need to be installed and it will need to report monthly. If it is located within the Non-Levied Area (NLA), and only receives waste from the NLA, then it will need to report annually. b) Document how you will comply with Clause 36 of the <i>Protection of the Environment (Waste) Regulation 2018</i>. This Clause includes requirements regarding the installation and calibration of a weighbridge, vehicle flow plans, weighbridge software and associated recording and reporting requirements. c) Document how you will comply with the EPA's waste levy benchmark requirements including the software to be used. d) Nominate the upper limit of the amount of waste that may be stockpiled at your facility at any one time. This nominated amount will be considered when determining the maximum authorised amount of waste that may be at your facility at any time. e) Ensure that the facility complies with the waste levy requirements for the levy area in which it is located.	Section 3.6.8 Table 12

6.2.2 Introduction

Waste would be generated during the construction and operational phases of the Project, and FOGO would be received and processed once the facility becomes operational. In this Section, waste types and quantities are estimated and appropriate management measures outlined, which would allow the Project to operate in accordance with relevant state policies and licence conditions.

A Waste Management Plan (WMP) has been developed for the Project, provided at Appendix K.

6.2.3 Existing environment

The Site is undeveloped and located adjacent to an established waste site and former landfill.

6.2.4 Impact Assessment

6.2.4.1 Construction

Construction works, described at Section 3.3 and Section 3.4, would involve site preparation, civil works, installation of utilities, and the construction of buildings and associated infrastructure. These activities have the potential to generate a range of construction material waste including inert materials (soil, rock), vegetation, concrete, steel and plastic offcuts, timber, pipework, and packaging.

Construction activities on Site would be managed to minimise the risk of achieving undesirable outcomes associated with construction activities, summarised in Table 20.

Table 20: Risks Associated with Waste During Construction Works

Undesirable Outcome	Cause	Management
Increased landfill disposal	Inadequate separation, reuse or recycling	Clear segregation and storage of waste
Human health risks	Improper classification or handling of waste	Waste would be classified in accordance with the NSW EPA's Waste Classification Guidelines (2014) and Waste would be transported to a lawful facility for onward use or management
Environmental harm	Mismanaged storage or disposal	A Waste Management Plan (WMP) has been produced which addresses management of waste during construction phase. This would be supported by a Construction Environmental Management Plan (CEMP). The WMP outlines procedures for the sorting, storage, tracking, transportation and lawful disposal or recycling of waste. A copy of the WMP is included in Appendix K. The WMP should be retained on Site and reviewed and updated if required during construction activities.
Increased traffic and amenity impacts associated with waste haulage	Poor management of material	Identify opportunities for reuse on site as a preference as discussed in the WMP. A CEMP would be developed for construction activities.

Construction and fit-out activities would be expected to generate waste materials in the estimated quantities shown in Table 21, with identified opportunities for on-site and off-site reuse or recycling.

Table 21: Construction waste generation estimations and management methods

Type of Material	Estimated Volumes (m ³)	Methods for re-use, recycling or disposal
Excavated material	20,000-30,000	Onsite: Reuse for fill and levelling. Offsite: Removed from site for reuse as recycled fill material or soil. Disposal: Removal of any contaminated material for appropriate treatment or disposal.
Concrete	40-50	Onsite: Separated wherever possible and reused or crushed for filling, levelling or road base. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Metals (ferrous and non-ferrous)	50-60	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse or removed to C&D facility for recovery and recycling.
Packaging materials (pallets, wrap, cardboard, etc)	45-50	Returned to supplier where possible or separated by material type for resource recovery.
Green waste	100-150	Onsite: Reused on site (e.g. mulch) Offsite: Reused or sent to recovery facility
Residual waste	20-25	Resource recovery dependant on facility destination capability.

6.2.4.2 Operation

Details of waste receipt, storage and processing are provided at Section 3.6.4 and 3.6.5.

The sources of organic material to be received at the premises, as listed in Table 12, would include kerbside collections of FOGO from residential properties, commercial and industrial premises, organic waste from food related industries such as hospitality and retail, and organics from agricultural sources.

Recycling would be implemented as feasible as described in Section 3.6.4 and the WMP. This would include, for example, recovery of metals from FOGO material.

Office generated material would be recycled as far as possible including recycling of cardboard and paper, processing of organic material and recycling of metal.

Residual waste materials would be collected and taken to a lawful facility. NALG would commit to seeking opportunities to maximise recovery of materials, for example identifying market opportunities to recycle collected contaminants.

6.2.4.2.1 Classification of Incoming Waste Material

The materials that would be received and processed are classified as 'general solid waste (putrescible)' and 'liquid waste', which is further defined by the NSW EPA *Waste Classification Guidelines Part 1: Classifying Waste*, as addressed in Section 3.6.3.

Incoming materials would be biologically active and include wet and dry organic material. The processes undertaken at the facility (sorting, AD, and IVC) would be mechanical and biological in nature and the facility would not result in any chemical transformation of the inputs materials beyond natural biodegradation.

6.2.4.2.2 Contamination and Non-Conforming Waste

Any non-conforming load that is not indicative of the permitted throughput material would be rejected, with the responsibility on the consignor to ensure the waste is directed to a facility that can lawfully receive it.

Based on operational experience, NALG estimates that FOGO received would contain around 3% contamination. Loads containing significant amounts of contamination (visibly more than 3%), would be rejected and treated as non-conforming.

Typical contaminants in received material would include plastics, metals, paper and cardboard. As described in Section 3.6.4, the Project design allows for identification and removal of contaminants, including:

- An initial visual inspection for large contaminants which would be removed by gantry crane and set aside for subsequent inspection and disposal in a lidded bin
- Hand picking during post treatment
- Ferrous metals removed by magnets
- Other plastic and metal contaminants removed after screening by wind sift screening

Reports would be provided monthly to MCC regarding contamination to promote management at collection point.

6.2.4.2.3 Residual and Other Waste

Any waste generated through operation and maintenance activities would be collected on site and either removed by contractors or sent to a lawful facility. Table 22 provides an estimate of waste generation.

Table 22: Estimated Waste Generation - Operations

Waste type	Estimate	Storage	Collection	Disposal
Non-conforming waste (residual)	4,380 tpa (assuming a 3% contamination rate)	Industrial steel bins	Weekly via licensed contractor	To an appropriately licensed landfill
Non-conforming waste (Ferrous metals)		Waste from steel bins would be consolidated into hook lift bins	Weekly via licensed contractor	To an appropriately licensed recovery facility
General waste – office / administration function e.g. paper, card and food scraps.	8.5L/week	1 x 140L MGB	Weekly via licensed contractor	To an appropriately licensed landfill
Commingled recycling - office / administration function	7L/week	1 x 140L MGB	Weekly via licensed contractor	To an appropriately licensed recovery facility
Paper and cardboard - office / administration function	7L/week	1 x 140L MGB	Weekly via licensed contractor	To an appropriately licensed recovery facility
Food organics - office / administration function	5.5L/week	1 x 140L MGB	Weekly via licensed contractor	To an appropriately licensed recovery facility
Waste generated through maintenance activities	Managed by contractor	Removed on generation	As required	To a lawful disposal facility
Green waste – site maintenance	Managed by contractor	Removed on generation	As required	To an appropriately licensed recovery facility
Leachate – organics processing	12,355 tpa	Leachate storage adjacent IVC building	Circulated within the processing facility as far as possible. Excess leachate would be discharged to sewer under a tradewaste agreement.	
Biofilter residue	Managed by contractor	Sulphur would be bound within filter	Managed by contractor	

6.2.4.2.4 Storage

Materials would be stored as described in Table 12 and shown in Figure 20. Storage of materials would be within the building in designated storage areas. Incoming materials would not be mixed with processed outputs. Storage areas would be clearly labelled.

[illegible]

NALG / Environmental Impact Statement for MidCoast Regional Organics Processing Solution

66

6.2.4.2.5 Contingency Plans

The facility would be maintained regularly to minimise the risk of unexpected breakdowns; however, plant or machinery failure could occur and in addition natural events e.g. floods or bushfire may result in delays to delivery and/or offtake, resulting in surges of material.

In the event of equipment failure or planned shutdowns, there is additional capacity built into the facility, with 24% surge capacity allowed for. In addition, regular product offtake would be achieved with a supply agreement in place for consistent removal of material.

6.2.5 Mitigation Measures

The Project would incorporate best-practice procedures and technologies for the management of the proposed waste streams and volumes. The operational environmental management plan (OEMP) would support operations and outline the specific environmental management procedures relating to waste management at the Site.

A waste management plan (WMP) has been prepared to manage waste generated during construction and operational phases. This would be reviewed and updated throughout all stages.

Construction Waste Management

- Materials generated during construction, installation and fit out would be managed in accordance with the management methods outlined in the CEMP and WMP prepared for the Project. In particular, materials would be reused on site where possible (e.g. landscaping, contouring) and recycled in other circumstances (e.g. cardboard, packing materials), with disposal the least desirable option.

Operational Waste Management

- The unloading of materials from trucks would be within the designated reception bunkers in the receival building, minimising the potential for litter and debris to migrate to external areas.
- Daily litter patrols would be implemented to ensure the Site is kept tidy.
- Waste generated from office/ancillary operations would be separated into residual, commingled recycling and FOGO to maximise diversion from operations.
- Non-conforming wastes would be separated from organic material and managed according to type, with a preference for resource recovery.
- The Site would be regularly maintained and green waste processed on-site.
- Record Keeping and Reporting would be in accordance with the PoEO (Waste) Regulation.
- The site would operate in accordance with an OEMP and an EPL.

NALG would prepare an OEMP to reflect operations of the facility at the proposed capacity of 146,000 tpa. The OEMP would be prepared in accordance with the *NSW Composting and Related Organics Processing Facility Guidelines 2004* and would address matters relating to the waste management aspects of operation and maintenance of the facility.

6.2.6 Conclusion

Potential impacts associated with waste generation during construction and commissioning would be managed through implementation of a WMP and a CEMP. Materials generated through clearing and earthworks would be recovered and reused on Site where possible or otherwise used on other construction projects carried out by the contractors, with disposal at a lawful facility as a last option.

Operations would generate small quantities of residual waste, which would be managed in accordance with the WMP. The operators would continue identifying additional recovery options for materials generated.

In general, operations would divert significant volumes of organic material from landfill and have a large and positive environmental and waste management impact.

6.3 Air Quality

6.3.1 Assessment Requirements

Table 23: SEARs - Air Quality and Odour

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
A quantitative assessment of the potential air quality, dust and odour impacts of the development (construction and operation) on surrounding landowners, businesses and sensitive receptors, in accordance with relevant Environment Protection Authority guidelines, including:	Appendix L
Details of how waste would be contained, transferred and processed to avoid or minimise air pollutants	Section 6.3.4.2.2
Details of buildings and air handling systems and strong justification for any material handling, processing or stockpiling external to buildings	Section 6.3.4.2.2
Details of proposed mitigation, management and monitoring measures	Section 6.3.5
Details of appropriate meteorological data for use in dispersion modelling, using real and local meteorological data where possible	Section 6.3.3 Appendix L
Inclusion of worst-case emission scenarios and sensitivity analysis	Section 6.3.4.2 Appendix L
Contingency plan to address unpredicted operational odour impacts	Section 6.3.4.3
NSW EPA	
The EIS must demonstrate the proposal's ability to comply with the relevant regulatory framework, specifically the POEO Act and the <i>Protection of the Environment Operations (Clean Air) Regulation 2022</i> . This consideration should include section 129 of the POEO Act concerning control of "offensive odour".	Section 6.3.4.2.2 and 6.3.4.2.3 Appendix L
The EIS must include an air quality impact assessment (AQIA). The AQIA must be carried out in accordance with the document, <i>Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2022)</i> .	Appendix L
The EIS must detail emission control techniques/practices that will be employed at the site and identify how the proposed control techniques/practices will meet the requirements of the POEO Act, <i>POEO (Clean Air) Regulation (2022)</i> and criteria within <i>Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2022)</i> .	Appendix L
MidCoast Council	
It is noted that the development is proposed to be adjacent to the existing waste transfer facility. As such, you are advised to ensure that the Air Quality Impact assessment and the Odour Impact assessment provide an analysis of the cumulative impacts for all surrounding developments in conjunction with the proposed development.	Section 6.3.4.4 Appendix L

6.3.2 Introduction

An Air Quality Impact Assessment (AQIA) has been prepared by Todoroski Air Sciences and is provided at Appendix L. The AQIA assesses the potential air quality impacts associated with the Project and identifies appropriate strategies for management and mitigation of potential impacts.

The POEO Act defines the term offensive odour to mean an odour—

(a) that, by reason of its strength, nature, duration, character or quality, or the time at which it is emitted, or any other circumstances—

(i) is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or

(ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or

(b) that is of a strength, nature, duration, character or quality prescribed by the regulations or that is emitted at a time, or in other circumstances, prescribed by the regulations."

6.3.3 Existing Environment

The Project would be in a predominantly regional location with low intensity development nearby and generally high air quality. The adjacent waste management facility may produce localised air quality impacts including particulates and odour.

Sensitive Receivers

The facility is in an area of very low/low population density. Higher population densities are observed to the south of the Site.

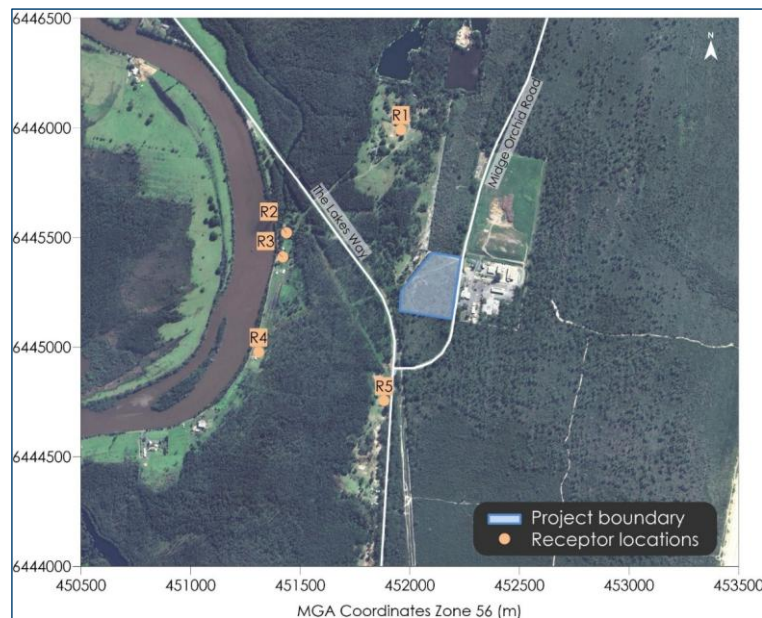
Relevant receptor locations were selected that may be susceptible to changes in air quality, comprising five residential properties as shown in Figure 21 and Table 24. The nearest sensitive receivers are these existing residential properties located approximately 510m away from the facility to the northwest, 500m, 415m and 610m west, and 430m south¹.

Table 24: Sensitive receptor locations used in Air Quality Impact Assessment

Receiver	Land Use	Address	Distance to residence (m)	Distance to boundary (m)
R1	Residential	758 The Lakes Way	530	510
R2	Residential	31 Manns Road	591	500
R3	Residential	43 Manns Road	570	415
R4	Residential	83 Manns Road	680	610
R5	Residential	661 The Lakes Way	430	85

¹ Immediately west of the Site is a residence approximately 20m from the Site boundary. This residence however is owned by Council and will be vacated prior to works commencing for the Project. Accordingly, it was not considered as a sensitive receiver.

Figure 21: Site and Nearby Receptor Locations



Source: Todoroski Air Sciences, 2025

Surrounding environment

The surrounding land use is predominantly bushland with isolated residences and the Tuncurry Waste Management Facility located directly to the east of the Site.

Meteorology

The meteorology of the Site has been characterised based on a nearby monitoring station based at the Taree Airport Automatic Weather Station (AWS) (Site No.060141). The Taree Airport AWS is located approximately 26.5km north of the Project.

Generally, the Site experiences predominantly westerly winds, with northeasterly summer winds

Air Quality Data

The background air quality levels applied in the assessment are set out in Table 25.

Table 25: Summary of air quality background levels

Pollutant	Background level	Units
Annual average TSP	40.3	$\mu\text{g}/\text{m}^3$
24-hour average PM_{10}	Daily varying	$\mu\text{g}/\text{m}^3$
Annual average PM_{10}	11.2	$\mu\text{g}/\text{m}^3$
24-hour average $\text{PM}_{2.5}$	Daily varying	$\mu\text{g}/\text{m}^3$
Annual average $\text{PM}_{2.5}$	4.6	$\mu\text{g}/\text{m}^3$

Pollutant	Background level	Units
Annual average deposited dust	1.7	g/m ² /month
24-hour average SO ₂	2.9	µg/m ³
1-hour average SO ₂	37.2	µg/m ³
Annual average NO ₂	10.3	µg/m ³
1-hour average NO ₂	43.1	µg/m ³
1-hour average CO	0.9	mg/m ³

6.3.4 Impact Assessment

6.3.4.1 Construction

Construction could result in air quality impacts in the form of dust, particulates and odour and could impact built environment (e.g. dust deposition on buildings or roads), human health (particulate inhalation or ingestion) or other environmental impacts due to earthworks, construction activities and vehicular movements.

The AQIA includes a high level risk assessment of likelihood and consequence of potential impacts due to construction of the Project. Through this, it is considered that appropriate mitigation measures would be sufficient to manage the potential impacts, and quantitative dispersion modelling of construction activities is not warranted.

6.3.4.2 Operational

Air quality modelling for the operational phase was undertaken as detailed in the AQIA.

6.3.4.2.1 Sources

Odour

Organic material received would have an odour. Decomposition processes, whether aerobic via IVC or anaerobic via AD, would generate different odour and particulate emissions. Potential sources of odour include:

- Vehicles used to carry material – organic material odour and engine emissions
- Receival and pre-treatment – organic material odour
- IVC tunnels – organic decomposition
- Biofilter – generally woody smell
- Maturation – lower intensity organic odour
- AD digestion – releases biogas (including methane)

Material would be deposited in the receival hall, which would be under negative pressure and doors would be closed when not in use.

Air would be collected from the receival hall (collection bunker, shredder, screen and storage areas) and routed to the IVC to provide air supply. The air would be collected from the IVC tunnel system and exhausted via the odour control system, which includes a two-stage scrubber and a biofilter, for treatment prior to release to the atmosphere. The biofilter is made of woodchips which allow air to pass through while providing a surface for microorganisms to remove odours from the ventilated air.



The IVC tunnels would be kept under negative pressure with air collected and diverted through the odour management system.

Biogas would be collected from the AD process within sealed systems and directed to the Combined Heat and Power (CHP) plant. The biogas would be extracted from the digester via stainless steel pipes and directed to the desulphurisation system (activated carbon filter), the biogas storage bladder or the emergency flare as needed.

The digestate from the AD process would be passed through a screw press, which would have an air collection point incorporated to collect odorous emissions at this stage.

Biofilter emissions are generally regarded as innocuous due to having a natural earthy or forest smell, and are thus not always modelled, in this case the biofilter has been modelled as a series of four identical large diameter, low velocity point sources distributed across the emitting surface area.

Specific point source emissions for odour would therefore be the biofilter and scrubber. Odour emissions from these sources are modelled as emitting continuously during the modelling period.

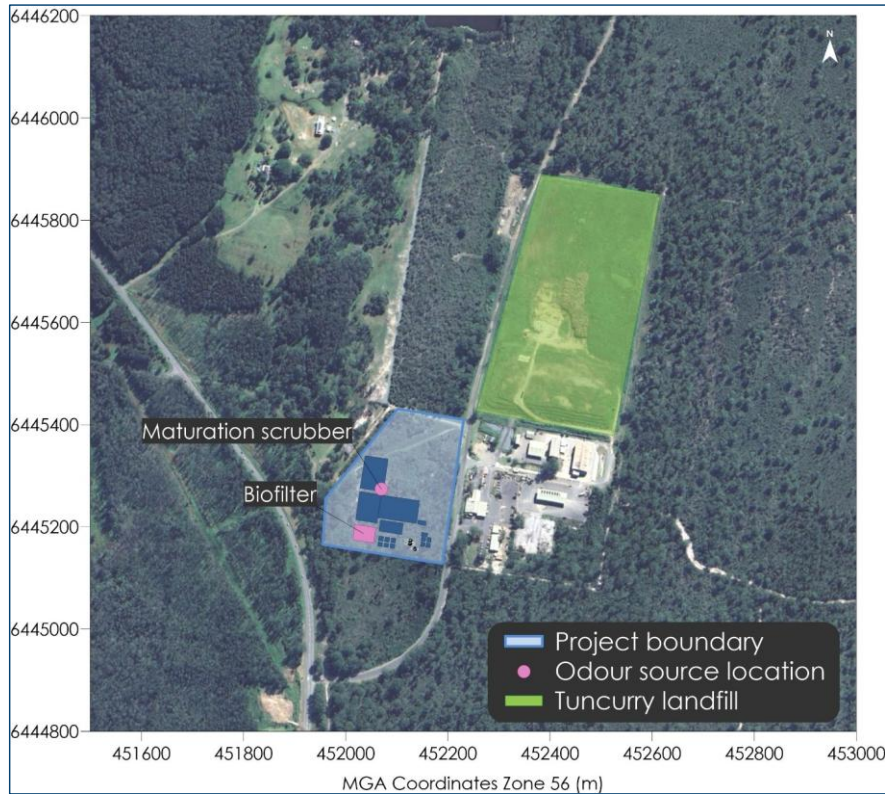
The Tuncurry Waste Management Centre, located adjacent to the Site, has the potential to create odour emissions and thus has been considered in the assessment of potential cumulative impacts. The facility receives a range of waste streams that are unsuitable for kerbside collection. The landfill, which formally ceased operations in 2022, is presently undergoing final capping in accordance with the approved Landfill Closure Plan, Capping Design, and Construction Quality Assurance Plan under EPL5951. As part of these works, a gas management system is being installed to control emissions and mitigate any potential odour impacts from the landfill.

The character of odours from the Tuncurry Waste Management Centre is expected to be relatively different to those emitted from the Project. It is expected that the receiver would distinguish whether an odour originally generates from the landfill related activities or from composting operations. For this assessment, the cumulative odour impacts have been analysed by considering combined odours from the proposed facilities operations and the landfill.

Site-specific odour measurements were not available for the landfill operations, so odour emissions were estimated based on odour measurements used in the *Air Quality Impact Assessment Albury Waste Management Centre* (Todoroski Air Sciences, 2018) for capped landfill areas. There are no known concerns in relation to odour under existing conditions.

Figure 22 presents the location of the modelled odour emission sources for the facility.

Figure 22: Modelled Air Emission Sources



Dust

Dust emissions have been estimated by evaluating dust generating activities and suitable emission factors as described in the AQIA. A summary of estimated annual total suspended particulates (TSP) and particulate matter (PM) emissions are represented in Table 26.

Table 26: Summary of estimated dust emissions for the Project (kg/year)

Activity	TSP emissions	PM ₁₀ emissions	PM _{2.5} emissions
Hauling material onsite	1,124	216	52
Unloading material at receival building	276	130	20
Loading material to shredder	276	130	20
Shredding material	88	39	7
Unloading material to tunnels	276	130	20
Loading material to screen	276	130	20
Screening material	161	54	4
Screening material	161	54	4

Activity	TSP emissions	PM ₁₀ emissions	PM _{2.5} emissions
Loading material to maturation area	85	40	6
Screening material	50	17	1
Loading material to screen	85	40	6
Hauling material offsite	353	68	16
Exhaust emissions	424	424	412
Total emissions (kg/yr)	3,633	1,474	587

Other sources of dust emissions that rise from the Project include the CHP, Flare and Maturation scrubber (see Table 27). The model considered potential wake effects on air dispersion that arise due to wind passing over the building at the Site. Expected emission rates for the CHP and Flare have been provided by the Proponent.

Table 27: Modelled dust point source parameters

Parameter	CHP	Flare	Maturation scrubber	Unit
Number of point sources	2	1	1	-
Release height	10	7.5	14	m
Diameter	0.36	1.5	1.5	m
Velocity	19.6	8.3	16.5	m/s
Temperature	423	1,123	298	K
Flow rate	2.0	14.7	29.2	m ³ /s
Concentration	10	10	0.26	mg/m ³
Emission rate	0.013	0.036	0.00696	g/s

Figure 23 shows sources of dust emissions for the purposes of modelling.

Figure 23: Dust Source Locations for Model



Other Air Pollutants

Other air pollutants could potentially arise from the combustion of biogas at the facility. The modelled pollutant concentrations assume the adoption of suitable controls to ensure compliance with the relevant standard concentrations under the POEO.

The modelled parameters are used in conjunction with pollutant concentrations in Table 28.

Table 28: Modelled pollutant concentrations

Pollutant concentration	CHP	Flare	Unit
NO ₂	438	50	mg/m ³ at 7% O ₂
CO	125	125	mg/m ³ at 7% O ₂
SO ₂	11	11	mg/m ³ at 7% O ₂
VOC	40	40	mg/m ³ at 7% O ₂

6.3.4.2.2 Controls

Waste Containment, Transfer and Processing

While outside of the control of the Proponent generally, material would be delivered to the Site in an enclosed or covered vehicle to limit risk of odour being released.

Receival

Incoming material would be received at the Site within a collection bunker located inside the fully enclosed receival building under negative pressure with point extraction at expected odour generating sources. The building is equipped with pressure sensors and centrifugal fans, which extract air via overhead ducts. Extracted air is routed to the IVC tunnel system as an air supply, which is exhausted and sent to the odour control system, described below and depicted in the appendices.

IVC

The NALG IVC tunnels would feature a forced aeration floor with nozzles that inject air into the organic material. Air would be collected and directed to the odour control system comprising a two stage scrubber and biofilter.

Leachate would be collected in a leachate management system and utilised to provide moisture to the tunnels. The leachate would be retained in a closed system and not left in open vessels or discharged in an uncontrolled manner. Excess leachate would be stored and discharged in accordance with a Tradewaste agreement.

AD

The digesters would be steel structures; organic material would be fed in directly via a plug screw conveyer.

The biogas generated through the AD process would be extracted from the digester via stainless steel pipes and directed to the desulphurisation system (activated carbon filter), the biogas storage bladder, or the emergency flare as needed.

Maturation Area

Pasteurised digestate from the AD system would be dewatered by a screw press with the solid digestate sent to the Mixing Bunker and combined with oversize material to improve feedstock structure. The screw press area has an air extraction point which collects odorous air and directs it through the odour control system.

The maturation area would be located within an enclosed building. Odour would be less likely during this stage due to the stage of the decomposition; however, air would be collected within this building for treatment.

Buildings and Air Handling Systems

The odour control system would include a two-stage scrubber and biofilter. The extraction system would deliver approximately three air exchanges per hour to achieve effective containment and treatment of odorous emissions

All process air and dust from the receival building and maturation area would be captured and treated before being vented. The air handling system includes a two stage chemical scrubber that removes particulates and pre-treats odorous air, which is then directed to a specially engineered biofilter. The biofilter is equipped with an inflatable roof to enhance treatment efficiency.

6.3.4.2.3 Modelling Outputs

Odour

Five receptor locations (shown in Figure 21) were selected to represent a selection of locations that may be susceptible to changes in air quality. All locations are residential. The spatial distribution of the

dispersion modelling for incremental and cumulative impact (is represented as isopleth diagrams by the 99th percentile nose-response ground level hour concentrations shown in Figure 24 and Table 29). The results show that the facility would comply with the relevant criteria at all 5 receptor locations.

Figure 24: 99th percentile nose-response ground level hour concentrations



Source: Todoroski Air Sciences, 2025

Table 29: 99th percentile nose-response average ground level odour concentrations

Receptor ID	Incremental impact	Cumulative impact	Criterion
R1	<1	<1	7
R2	<1	<1	7
R3	<1	<1	7
R4	<1	<1	7
R5	1	1	7

Dust

Airborne particulate matter consists of particles of varying size fractions. The NSW EPA *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (2017) identifies air quality limits for TSP and PM for assessing impacts from dust-generating activities and operations.

The potential air quality impacts for the Project are measured in two ways:

- Incremental impact – relates to the concentrations predicted as a result of the operation of the Project in isolation.
- Cumulative impact – relates to the concentrations predicted as a result of the operation of the Project PLUS the background air quality concentrations.

Table 30 presents the predicted incremental and cumulative particulate concentrations at each receptor location including the predicted incremental maximum 24-hour average PM_{2.5} and PM₁₀ concentrations, annual average PM_{2.5}, PM₁₀ and TSP concentrations and, annual average dust (insoluble solids) deposition rate. The results show that the facility would comply with the relevant criteria at all 5 receptor locations.

Table 30: Predicted dust modelling results

Receptor ID	PM _{2.5} (µg/m³)		PM ₁₀ (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	PM _{2.5} (µg/m³)	PM ₁₀ (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental						Cumulative			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	-	-	-	-	-	-	2	8	25	90
R1	0.2	<0.1	0.4	<0.1	<0.1	<0.1	4.6	11.6	40.3	1.7
R2	0.2	<0.1	0.4	<0.1	0.1	<0.1	4.6	11.6	40.3	1.8
R3	0.3	<0.1	0.5	<0.1	0.1	<0.1	4.6	11.7	40.3	1.8
R4	0.1	<0.1	0.2	<0.1	0.1	<0.1	4.6	11.4	40.3	1.8
R5	0.3	0.1	0.6	0.1	0.1	<0.1	4.7	11.8	40.4	1.8

DD = dust deposition

Complications arise with identification and quantification of emissions from non-modelled sources over the 365 individual 24-hour periods modelled in the year.

Due to these complications, the "Level 2 assessment - Contemporaneous impact and background approach" was applied to assess cumulative 24-hour average PM_{2.5} and PM₁₀ impacts. This assessment involved comparing one year of ambient air quality monitoring data with meteorological data representing the same time period.

Table 31 shows a summary of the finding from the Level 2 assessment at the 5 receptor locations. The results demonstrate that the facility would not increase the number of days above the 24-hour average criterion, and therefore meets the NSW EPA cumulative impact assessment criteria.

Table 31: NSW EPA contemporaneous assessment - maximum number of additional days above 24-hour average criterion

Receptor ID	PM _{2.5}	PM ₁₀
R1	0	0
R2	0	0
R3	0	0
R4	0	0
R5	0	0

Other Air Pollutants

The incremental maximum 1-hour average NO₂, annual average NO₂, 1-hour average CO and SO₂ and 99.9th percentile 1 hour average VOC (as benzene) at each receptor location are presented in Table 32. The facility would comply with the relevant criteria at all 5 receptor locations.

Table 32: Other Pollutant Modelling Outcomes

Receptor ID	NO ₂ (µg/m ³)		CO (µg/m ³)		SO ₂ (µg/m ³)		VOC (as benzene) (µg/m ³)		NO ₂ (µg/m ³)		CO (µg/m ³)		SO ₂ (µg/m ³)	
	Incremental								Cumulative					
	1-hr ave.	Ann. ave.	15-min ave.	1-hr ave.	8-hr ave.	1-hr ave.	24-hr ave	99.9 th percentile 1-hr ave.	1-hr ave.	Ann. ave.	1-hr ave.	1-hr ave.	24-hr ave.	
	Air quality impact criteria													
	-	-	-	-	-	-	-	29	164	31	30000	215	57	
R1	33.9	0.4	19.9	15.1	9.9	1.3	0.2	3.8	77.0	10.7	915.1	38.5	3.1	
R2	31.3	0.4	17.7	13.4	8.8	1.1	0.2	3.4	74.4	10.7	913.4	38.3	3.1	
R3	32.5	0.5	19.0	14.4	9.5	1.2	0.2	3.6	75.6	10.8	914.4	38.4	3.1	
R4	24.7	0.4	11.9	9.0	5.9	0.8	0.1	2.0	67.8	10.7	909.0	38.0	3.0	
R5	40.5	1.4	21.5	16.3	10.8	1.4	0.3	3.5	83.6	11.7	916.3	38.6	3.2	

6.3.4.3 Contingency Plans

An emergency gas flaring system would allow excess biogas to be safely released without odour. The CHP plant includes a combustion control system which would enable an optimal air/fuel ratio under all operating conditions, minimising exhaust emissions and ensuring stable operation.

In the event of a total power failure or emergency shut down, odour management systems would run on backup power, with stored biogas flared off. Process air would be contained within the buildings and roller doors would automatically shut.

6.3.4.4 Cumulative impacts

It is noted that the character of the odours from the Tuncurry Waste Management Centre would be relatively, if not distinctly, different to those emitted from the Project. It is therefore expected that a receiver would generally be able to distinguish whether an odour originates from existing waste operations or from composting operations. For the purposes of this assessment, however, cumulative odour impacts were evaluated by considering the combined effect of odours from both the proposed operations and the landfill

and are therefore incorporated into the above assessment. Compliance would be achieved for all modelling scenarios.

6.3.5 Mitigation Measures

Construction

Controls during construction would include the following:

Communications:

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary.
- Display the head or regional office contact information.

Dust Management

- As part of the CEMP, develop and implement a construction dust management plan (DMP) which would include, but not be limited to, measures to prevent dust from affecting the amenity of the surrounding area, all materials to be stored or stockpiles at suitable locations and stockpile size height managed, and regular cleaning of haul roads.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the logbook.

Monitoring

- Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, and make the log available to the local authority when asked.
- Weekly inspection of equipment and recording of inspection results.
- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

Site Layout

- Plan site layout so that machinery and dust-causing activities are located away from receptors, as far as possible.
- Fully enclose specific operations through solid screens, tarps or barriers where there is a high potential for dust production and the site is active for an extensive period.
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on-site. If they are being re-used on-site cover or otherwise minimise risk of dust emission.
- Cover, seed or fence stockpiles to prevent wind whipping.
- Use of dust suppressants, place stockpiles in sheltered areas away from wind.
- Use of concrete blocks to bunker stockpiled material.

Operating Vehicle / Machinery

- Ensure all vehicles switch off engines when stationary – no idling vehicles.
- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- Impose and signpost maximum speed limit on Site.
- Use water-assisted dust sweeper on the access and local roads, to remove, as necessary, any material tracked out of the Site.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.

Construction Activities

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction (e.g., suitable local exhaust ventilation systems).
- Ensure an adequate water supply on the Site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and conveyors and covered skips.
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

- Materials to be collected and stored appropriately.
- Waste material is not to be burnt.

Operation

Controls during operation would include the following:

- Regular odour monitoring would be undertaken.
- Visual inspections of dust plumes would be undertaken to identify strong or unpleasant odours or dust and take appropriate action to control these.
- An OEMP would be prepared for the Site which would include details on complaints management.
- Stack sampling would be undertaken as part of the commissioning phase to verify potential emissions from the CHP and Flare to ensure no excess and unexpected emissions.
- Stack tests would be conducted to confirm that operation is stable and operating correctly within 6 months of completion and at 6 monthly intervals thereafter.
- Regular inspection and maintenance of the control equipment and process monitoring would be undertaken.
- A complaint management procedure would be established.

6.3.6 Conclusion

Impacts would be managed through the containment of materials handling within the buildings and the use of an air handling system to treat odorous air.

The AQIA concludes that the Project would not give rise to unacceptable air quality and odour impacts and would operate in compliance with requirements of the PoEO Act and associated regulations, including the PoEO Regulation (Clean Air). All activities would be managed in accordance with this regulatory framework to minimise risk of exceedances.

6.4 Noise and Vibration

6.4.1 Assessment Requirements

Table 33: SEARs - Noise

Assessment Requirement	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
A quantitative noise and vibration impact assessment undertaken by a suitably qualified acoustic consultant in accordance with the relevant Environment Protection Authority guidelines and Australian Standards which includes: The identification of impacts associated with construction, site emission and traffic generation at noise-affected sensitive receivers, including the provision of operational noise contours and a detailed sleep disturbance assessment.	Appendix M
Details of noise monitoring survey, background noise levels, noise source inventory and 'worst case' noise emission scenarios.	Section 6.4.3 Section 6.4.4 Appendix M
Consideration of annoying characteristics of noise and prevailing meteorological conditions in the study area.	Section 6.4.4.5 Appendix M
A cumulative impact assessment inclusive of impacts from other developments.	Section 6.4.4.3 Appendix M
Details and analysis of the effectiveness of proposed management and mitigation measures to adequately manage identified impacts, including a clear identification of residual noise and vibration following application of these mitigation measures and details of any proposed compliance monitoring programs.	Section 6.4.5 Appendix M
NSW EPA	
Operational and construction activities on the premises that may be considered vibration intensive should be assessed using the guidelines contained in the <i>Assessing Vibration: a technical guideline</i> (DEC 2006).	N/A – no vibration intensive activities to occur
If blasting is required for any reasons during the construction or operational stage of the proposed development, blast impacts should be demonstrated to be capable of complying with the guidelines contained in Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC, 1990).	N/A – no blasting is required
Construction noise associated with the proposed development should be assessed using the Interim Construction Noise Guideline (DECC, 2009).	Section 6.4.4.1 Appendix M
Operational noise from noise intensive activities to be undertaken on the premises should be assessed using the guidelines contained in the NSW Noise Policy for Industry (EPA, 2017).	Section 6.4.4.2 Appendix M
If applicable, noise on public roads from increased road traffic generated by land use developments other than road projects should be assessed using the guidelines contained in the NSW Road Noise Policy (EPA, 2011) and associated application notes.	Section 6.4.4.4

Assessment Requirement	EIS Reference
If applicable, noise on rail lines from increased rail traffic generated by land-use developments other than rail projects should be assessed using the guidelines contained in the Rail Infrastructure Noise Guideline (EPA, 2013) and associated application notes.	N/A – no direct rail traffic generation

6.4.2 Introduction

Koikas Acoustics Pty Ltd (Koikas) was engaged to prepare a noise and vibration impact assessment to assess the potential acoustical impacts of this Project.

In accordance with State policies and relevant planning instruments, the following acoustical components were assessed:

- Noise associated with demolition and construction activities
- Operational and mechanical plant noise emissions and impacts on sensitive receivers
- Sleep disturbance assessment associated with the Project relating to neighbouring dwellings and sensitive receivers
- Increased road traffic noise in association with the Project

Construction noise has been assessed against the EPA's *Interim Construction Noise Guideline 2009* and operational noise and vibration have been assessed against criteria in the *NSW Noise Policy for Industry 2017* (NPfI), *NSW Road Noise Policy 2011* (NRNP), and relevant EPA Guidelines.

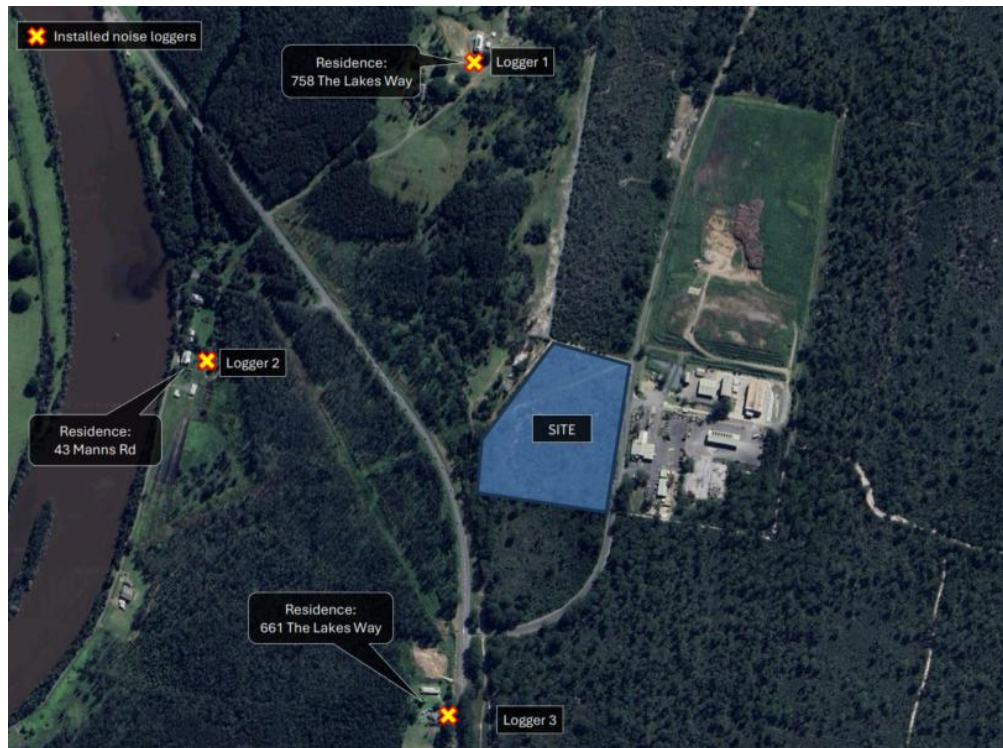
This section summarises the findings of Koikas' Acoustic report found at Appendix M.

6.4.3 Existing Environment

The Site is in a predominantly rural area characterised by nature reserves, scattered rural residential dwellings, the Lakes Way and industry infrastructure including Tuncurry Waste Management Centre to the east of the Site. Immediately west of the Site is a residence approximately 20m from the Site boundary. This residence however is owned by Council and would be vacated prior to works commencing for the Project. Accordingly, it was not considered as a sensitive receiver.

Prevailing ambient and background noise conditions were measured by installing noise loggers at the three nearest noise-sensitive properties to the Site (refer to Figure 25).

Figure 25: Noise logger locations



Source: Koikas, 2025.

A summary of the noise logger results for ambient, background, and traffic noise is presented in Table 34.

Table 34: Summary of noise logger results

Location	Period	Ambient Noise Level L_{Aeq}	Rating Background Level L_{A90}	Traffic Noise Level $L_{Aeq Period}$
758 The Lakes Way	Day	49	36 dB	N/A
	Evening	46	36 (39) dB*	
	Night	45	32 dB	
43 Manns Road	Day	50	41 dB	N/A
	Evening	44	36 dB	
	Night	44	30 dB	
661 The Lakes Way	Day	53	53 dB	69 dB
	Evening	44	44 dB	62 dB
	Night	38	38 dB	

Note: * Calculated RBL shown in brackets. The DAY RBL was adopted for assessment as per NPfl.

Traffic noise was identified as the dominant feature of the ambient noise environment at 661 The Lakes Way, while background noise at 758 The Lakes Way and 43 Manns Road was primarily influenced by natural sounds. Traffic noise was therefore not further modelled for these two properties.

6.4.4 Impact Assessment

Note that the impact assessment has been updated in accordance with The Acoustical Report 26 May 2026.

6.4.4.1 Construction Noise

Noise Sources

Construction traffic noise would be short term in nature and would be limited to standard construction hours.

A construction noise assessment has been conducted for equipment inventory listed in Table 35. Construction machinery and processes would rarely continue for 15 minutes without a respite period. Predicted construction noise level applies a duration correction factor appropriate for the activity to reflect expected "source on" durations.

Table 35: Construction noise source inventory

Project Stage	Equipment
Site clearing and excavation	Excavator, Handheld power tools, Truck (for removing spoil), Vibratory roller
Construction	Mobile crane, Excavator, Handheld power tools, Truck (deliveries), Concrete vibrator, Concrete truck with pump

Noise Criteria

The Interim Construction Noise Guidelines (ICNG) guide the assessment of noise generated during excavation and construction works.

The Noise Affected Level (NAL) is the threshold at which community reaction to construction works is anticipated. It is defined by noise levels that exceed the existing EPA daytime background level by 10dB (reference Table 34, above).

For this assessment, the residential NALs for each sensitive receiver are as follows:

- 758 The Lakes Way – $L_{Aeq\ 15\ minutes}$ 46 dB(A)
- 43 Manns Road – $L_{Aeq\ 15\ minutes}$ 51 dB(A)
- 661 The Lakes Way – $L_{Aeq\ 15\ minutes}$ 63 dB(A)

The Highly Noise Affected Level is the threshold at or beyond which additional mitigation noise strategies should be employed and is defined as $L_{Aeq\ 15\ minutes}$ 75 dB(A).

The only nearby non-residential receiver is Tuncurry Waste Management Centre and is classified as an "industrial" receiver. The NAL for industrial receivers is considered as $L_{Aeq\ 15\ minutes}$ 75 dB when measured at the most affected occupied point of the premises.

Modelled Results

Construction noise levels have been modelled at the boundaries of the three residential receivers and Tuncurry Waste Management Centre. Noise level estimates are presented in Table 36.

Table 36: Estimated construction noise levels to surrounding receivers - LAeq 15 minutes

Project Stage	Equipment	Noise Assessment Receiver Location			
		758 The Lakes Way (570m)	43 Manns Road (610m)	661 The Lakes Way (500m)	Tuncurry Waste Management Centre (70m)
Site clearing and excavation	Excavator	41	40	42	59
	Handheld power tools	50	49	51	68
	Truck (for removing spoil)	39	38	40	57
	Vibratory roller	42	41	43	60
Construction	Mobile crane	38	37	39	56
	Excavator	41	40	42	59
	Handheld power tools	50	49	51	68
	Truck (deliveries)	39	38	40	57
	Concrete vibrator	37	36	38	55
	Concrete truck with pump	45	44	46	63

Predicted levels are generally within the applicable noise management criteria. While there is a marginal exceedance due to handheld power tools at 758 The Lakes Way, these levels are about equivalent with the location's ambient day-time noise levels (49 dB(A)). At no receiver does the noise levels exceed the Highly Noise Affected Level (LAeq, 15 minutes 75 dB). Additionally, these levels do not account for foliage attenuation that could reduce noise levels by approximately 2–3 dB.

On this basis, construction noise levels are unlikely to result in detrimental noise impacts.

6.4.4.2 Operational Noise

Noise Sources

As the facility would be operational 24/7, noise emissions from key plant items and work processes during the busiest 15-minute period has been assessed for day, evening and night scenarios.

The location of key noise-generating sources of the development is indicated in Figure 26, and further detail summarised in Table 37.

Figure 26: Location of key site noise sources



Source: Koikas, 2026

Table 37: Operational noise source inventory

Building Source	Equipment
Pre-treatment building	Loader, Screener 1 and loading, Truck moving at 10kph, Truck unloading (high idle), Truck idling, Gantry crane, Shredder
Digester Building and CHP	Pumps, Loader, Conveyor, CHPs (located outside)
IVC Tunnels Building	Screener, Loader, Aero fans (x2)
Biofilter Building	Aero fans (x2) and Pumps
Maturation Building	Screener, Loader, Windsifter, Aero fans (x2), Truck loading

Noise Criteria

The NSW EPA Noise Policy for Industry 2017 (NPI) is commonly used as a reference tool for establishing suitable planning levels of noise generated by mechanical plant and equipment and noise emission from commercial operations.

1. Intrusive and Amenity Noise Levels

For residential receivers, the guideline applies limits on the short-term intrusive nature of a noise or noise-generating development (Project Intrusive Noise Level), as well as applying an upper limit on cumulative industrial noise emissions from all surrounding development/ industry (Project Amenity Noise Level). The most stringent of the two criteria is applied as the Project Noise Trigger Level (PNTL).

Industrial receivers are assessed to the Project Amenity Noise Level.

2. Maximum Noise Levels (Sleep disturbance)

NPfI describes the following screening levels to identify the potential for sleep disturbance:

$L_{Aeq,15min}$ 40dB or the prevailing RBL plus 5 dB, whichever is the greater

L_{Amax} 52dB or the prevailing RBL plus 15 dB, whichever is the greater

Hence, using the values in the table above, the Maximum Noise Trigger Level (MNTL) for sleep disturbance at each residential receiver was identified as:

- 758 The Lakes Way – L_{Amax} 47 dB
- 43 Manns Road – L_{Amax} 45 dB
- 661 The Lakes Way – L_{Amax} 53 dB

A summary of the site-specific operational noise trigger values is shown in Table 38.

Table 38: Operational noise trigger levels - NPfI planning levels (dB)

Period, T Note 1	Intrusive		Amenity				PNTL	MNTL
	RBL	RBL + 5	Area Category	Recom Amenity Noise Level	High Traffic Area	Project Amenity Noise Level	$L_{Aeq 15 mins}$	L_{Amax}
Residential 1 – 758 The Lakes Way								
Day	36	41	Rural	50	No	48 [50-5+3]	41	-
Evening	36	41	Rural	45	No	43 [45-5+3]	41	-
Night	32	37	Rural	40	No	38 [40-5+3]	37	47
Residential 2 – 43 Manns Road								
Day	41	46	Rural	50	No	48 [50-5+3]	46	-
Evening	36	41	Rural	45	No	43 [45-5+3]	41	-
Night	30	35	Rural	40	No	38 [40-5+3]	35	45
Residential 3 – 661 The Lakes Way								
Day	53	58	Rural	50	Yes ³	52 [69-15+3]	57	-
Evening	44	49	Rural	45	Yes ³	52 [64-15+3]	49	-
Night	38	43	Rural	40	Yes ³	49 [61-15+3]	43	53
Industrial – Tuncurry Waste Management Centre								
When in use	n/a	n/a	Industrial	70	No	68 [70-5+3]	68	n/a

Notes:

1. Assessment periods as defined in the EPA NPfI.
2. Project noise amenity level = recommended noise amenity level – 5 dB, except where specific circumstances are met, such as high traffic.
3. Traffic noise is a feature of the area, and measured traffic noise levels exceed the 'Recommended amenity noise level' by more than 10dB.

Modelled Results

Operational noise levels have been modelled on a worst-case scenario for the previously identified residential receivers with the addition of an extra residential receiver at 31 Manns Road and the Tuncurry Waste Management Centre as shown in Figure 27.

Figure 27: Residential receivers identified for operational noise assessment



Source: Koikas, 2026

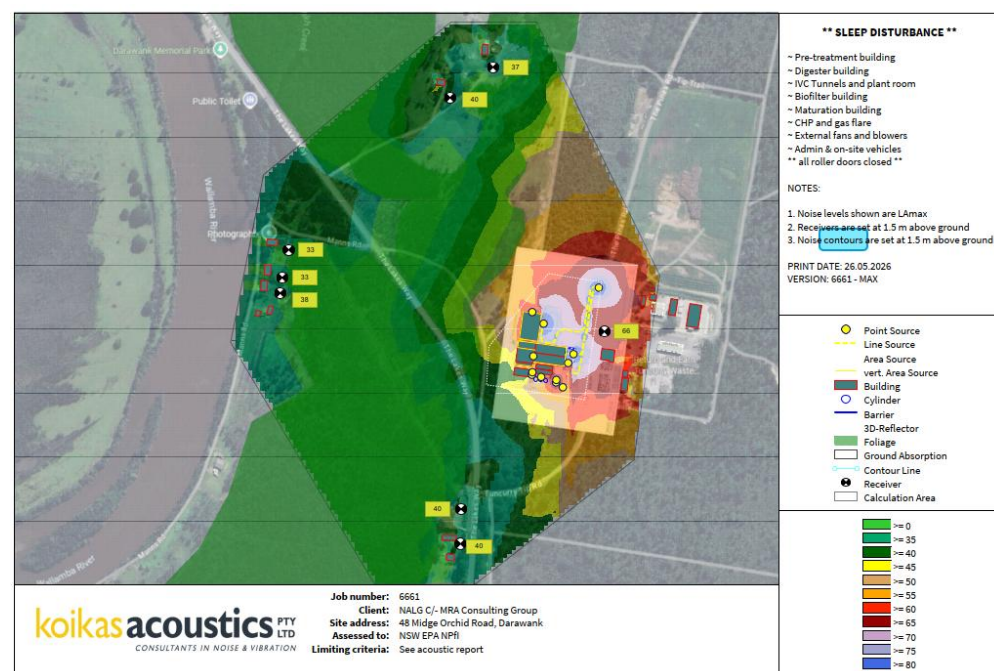
1. Receiver Levels Scenario: Day and Evening

Noise levels during the day and evening scenarios are calculated presuming all roller doors are open (Table 39 and Figure 28).

Table 39: Receiver level - Day / Evening (updated)

Receiver	Noise Objective (Day / Evening) [dB] <i>L_{Aeq} 15 mins</i>	Predicted Noise Level [dB] <i>L_{Aeq} 15 mins</i>	Assessment Result
R1: 758 The Lakes Way	41 / 41	31	Complies
R2: 758 The Lakes Way	41 / 41	35	Complies
R3: 31 Manns Road	46 / 41	30	Complies
R4: 31 Manns Road	46 / 41	30	Complies
R5: 43 Manns Road	46 / 41	31	Complies
R6: 661 The Lakes Way	57 / 49	39	Complies
R7: 661 The Lakes Way	57/49	40	Complies
IN1: Tuncurry Waste Management Centre	68	51	Complies

Figure 28: Noise level contours for day and evening scenario



Source: Koikas, 2026

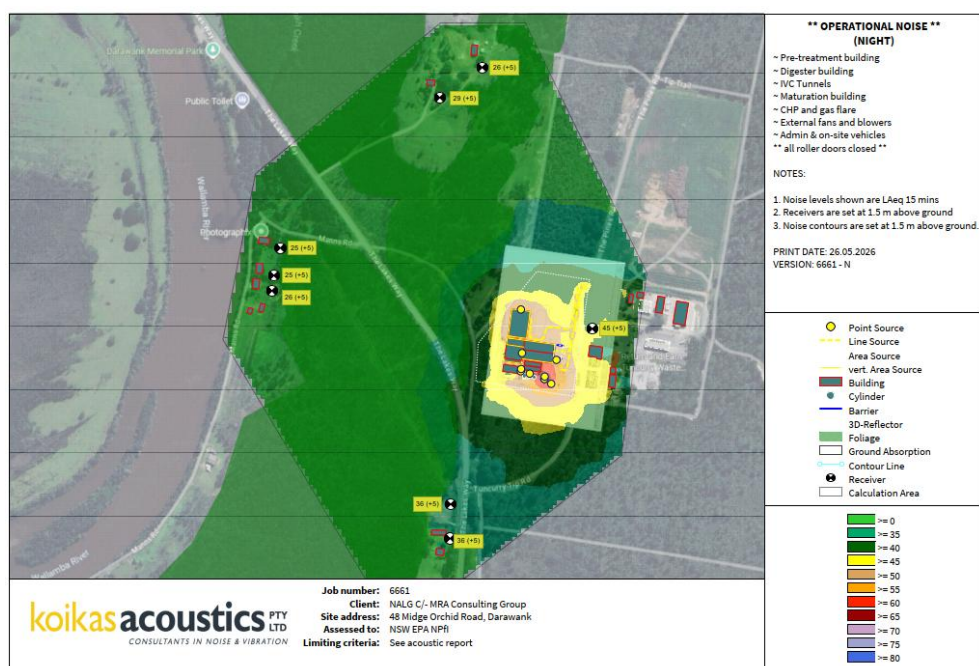
2. Receiver Levels Scenario: Night

Noise levels during the night scenarios are calculated presuming all roller doors are closed (Table 40 and Figure 29).

Table 40: Receiver levels – Night (updated)

Receiver	Noise Objective (Night) [dB] <i>L_{Aeq} 15 mins</i>	Predicted Noise Level [dB] <i>L_{Aeq} 15 mins</i>	Assessment Result
R1: 758 The Lakes Way	37	31	Complies
R2: 758 The Lakes Way	37	24	Complies
R3: 31 Manns Road	35	30	Complies
R4: 31 Manns Road	35	30	Complies
R5: 43 Manns Road	35	31	Complies
R6: 661 The Lakes Way	43	41	Complies
R7: 661 The Lakes Way	43	41	Complies
IN1: Tuncurry Waste Management Centre	68	46	Complies

Figure 29: Noise level contour for night scenario



Source: Koikas, 2025

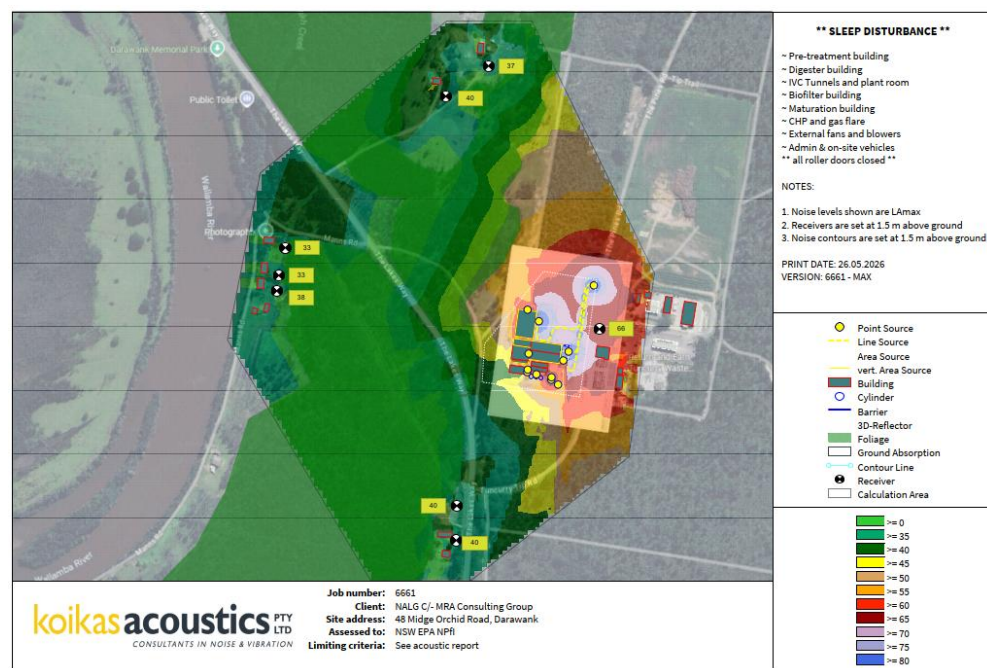
3. Receiver Levels Scenario: Sleep Disturbance

The maximum noise level assessment for sleep disturbance considers noise breakout through enclosed façades, including closed roller doors, and maximum external noise events primarily associated with truck movements. Building façades are expected to limit the potential impact of these maximum noise events. These are shown in Table 41 and Figure 30.

Table 41: Receiver levels - Sleep Disturbance (updated)

Receiver	Noise Objective (Night) [dB] L_{Amax}	Predicted Noise Level [dB] L_{Amax}	Assessment Result
R1: 758 The Lakes Way	52	37	Complies
R2: 758 The Lakes Way	52	40	Complies
R3: 31 Manns Road	52	33	Complies
R4: 31 Manns Road	52	33	Complies
R5: 43 Manns Road	52	38	Complies
R6: 661 The Lakes Way	53	40	Complies
R7: 661 The Lakes Way	53	40	Complies

Figure 30: Noise level contour for sleep disturbance scenario



Source: Koikas, 2026.

6.4.4.3 Cumulative Noise Levels

Cumulative noise levels have been calculated for the noise sources of the Project, assessed over any 15-minute period.

- The construction noise assessment considers source duration corrections appropriate to the equipment use.
- The operational noise assessment considers sources active at the same time with no corrections for source duration applied, which represents a worst-case scenario unlikely to occur during normal operations.

6.4.4.4 On-Road Traffic Noise

Noise Criteria

The EPA RNP recommends that traffic noise should not exceed 60dB during daytime hours and 55 dB at night, measured at 1m from the façade of a residential building.

Where existing noise traffic already exceeds these criteria, the increase in traffic noise levels due to the development would not exceed existing noise traffic levels by more than 2dB.

661 The Lakes Way is the only residence likely to experience a measurable increase in on-road noise from additional vehicle movements. As existing traffic noise levels at this location exceed the RNP base criteria, the applicable on-road traffic noise criteria are calculated as 64 dB during the day and 57 dB at night. The Project is classified as a traffic-generating development and the modelling considers heavy vehicle movements only.

Modelled Noise

Per the Acoustic Report, the limited staff numbers and traffic movements are unlikely to generate significant impact on residential receivers. Potential road noise impacts may occur as a result of the heavy vehicles comprising 35 heavy vehicles with approximately half of these expected to be laden on the way out as well.

The assessment methodology presumes that 52 total truck movements would occur on any given day between 7am and 10pm, and 20 movements between 10pm and 7am.

The modelled noise receiver levels are presented in Table 42.

Table 42: Modelled Traffic Noise (updated)

Parameter	Trucks along The Lakes Way	
	Day [7am to 10pm]	Night [10pm to 7am]
Measured Sound Exposure Level of one event, dB(A)	90	90
Reference measurement distance	15	15
Design distance to nearest dwelling	36	36
Calculate Sound Exposure Level of one event, dB(A)	78	78
Number of events in one hour	21 (25% of 84)	21 (25% of 84)
Calculate façade traffic level*	L _{Aeq,15-hour} 55 dB	L _{Aeq,9-hour} 41 dB
Total Traffic Level	L _{Aeq,15-hour} 55 dB	
Criteria	L _{Aeq,15-hour} 64 dB	

Parameter	Trucks along The Lakes Way	
	Day [7am to 10pm]	Night [10pm to 7am]
Assessment result	Complies	Complies

Note: * Includes +1.0dB for façade reflections

The assessment results demonstrate compliance with the RNP criteria. While the facility would increase heavy vehicle movements on The Lakes Way, the predicted increase in noise levels remains well within the 2 dB limit at the most affected residential property.

6.4.4.5 Annoying Noise

It is the opinion of the Acoustic Consultants that the operational noise levels at surrounding receivers would be low and there would be no annoying noise characteristics associated with the Project. Thus, corrections to modify annoying noise factors are not considered necessary.

6.4.4.6 Vibration

No activities considered vibration-intensive are proposed to occur during either the construction or operational phases. Accordingly, an assessment according to *Assessing Vibration: a technical guideline* is not warranted.

The distance between the Site and sensitive receivers are as follows:

- 570m to 758 The Lakes Way
- 610m to 43 Manns Road
- 500m to 661 The Lakes Way
- 400m to 661 The Lakes Way

Given the worksite would be several hundred metres away from residential receivers, any other vibration-generating sources are not expected to cause impacts.

6.4.5 Mitigation Measures

For the Project, the construction, operational and on-road traffic noise assessment concluded that predicted noise levels comply with applicable noise criteria. Nevertheless, the following mitigation measures would be implemented to maintain compliance:

Construction

- Breaks would be incorporated during equipment operation.
- Construction would be restricted to the ICNG recommended standard working hours of Monday to Friday 7am to 6pm and Saturday 8am to 1pm only.
- Potentially noise affected receivers would be contacted before site work begins and informed about the nature of the construction stages and the duration of noisier activities.
- A complaint register would be maintained and contact details would be provided on a board at the front of the site.
- Should complaints arise, noise generated on-site would be surveyed to determine actual working noise levels.

Operation

- All roller doors would remain closed during nighttime operations to limit noise within respective buildings

- Noise complaints would be logged in a complaints register.
- Onsite plant and equipment would be regularly maintained.
- Noisy activities would be subject to iterative review and improvement measures.
- The NALG fleet would be regularly maintained.

6.4.6 Conclusion

The Acoustical Report prepared for the Project concludes that noise emissions associated with construction, operation, and traffic are predicted to comply with the nominated noise criteria. No impacts from vibration-generating sources are anticipated at sensitive receivers. Generic noise mitigation measures are recommended to maintain suitable acoustic amenity for neighbouring land uses. Therefore, the Project would not be expected to result in significant acoustic impacts to surrounding sensitive receivers.

6.5 Biodiversity

6.5.1 Assessment Requirements

Table 43: SEARs – Biodiversity

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
An assessment of the proposal's biodiversity impacts in accordance with the <i>Biodiversity Conservation Act 2016</i> , including the preparation of a Biodiversity Development Assessment Report (BDAR) where required under the Act, except where a waiver for preparation of a BDAR has been granted.	Appendix N
Details of survey work that confirms the method and timing of the survey(s) completed for the critically endangered Tuncurry Midge Orchid complies with the NSW survey guide for the Biodiversity Assessment Method <i>Surveying threatened plants and their habitats</i> , in accordance with the Threatened Biodiversity Data Collection.	Appendix N
Conservation Programs, Heritage & Regulation Group (NSW DCCEW)	
Biodiversity impacts related to the proposed development are to be assessed in accordance with the <i>Biodiversity Assessment Method 2020</i> and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the <i>Biodiversity Conservation Act 2016</i> (s6.12), <i>Biodiversity Conservation Regulation 2017</i> (s6.8) and <i>Biodiversity Assessment Method 2020</i> .	Appendix N
The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the <i>Biodiversity Assessment Method 2020</i> .	Section 6.5.5 Appendix N
The BDAR must include details of the measures proposed to address the offset obligation as follows: • The total number and classes of biodiversity credits required to be retired for the development/project.	Section 6.5.5 Appendix N
• The number and classes of like-for-like biodiversity credits proposed to be retired.	n/a

Assessment Requirements	EIS Reference
The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules.	n/a
Any proposal to fund a biodiversity conservation action.	n/a
Any proposal to conduct ecological rehabilitation (if a mining project).	n/a
Any proposal to make a payment to the Biodiversity Conservation Fund.	n/a
The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the Biodiversity Conservation Act 2016.	Appendix N
The scoping report indicates that a preliminary biodiversity survey was done for the critically endangered <i>Genoplesium littorale</i> (Tuncurry Midge Orchid). Further information on the survey methodology is required in the EIS.	Section 6.5.4.3 Appendix N
To determine nil presence of the species, the method and timing of the survey must comply with the NSW survey guide for the Biodiversity Assessment Method (Surveying threatened plants and their habitats) and in accordance with the Threatened Biodiversity Data Collection (TBDC).	Appendix N

6.5.2 Introduction

A biodiversity development assessment report (BDAR) was prepared by Anderson Environment & Planning (AEP) to meet the Site's assessment requirements. The BDAR is provided as Appendix N.

AEP has provided a report to meet the requirements of the Biodiversity Assessment Method 2020 (BAM) under Section 6.7 of the *Biodiversity Conservation Act 2016* (NSW). The report identifies biodiversity values inherent within the Site, including known and potentially occurring threatened species and ecological communities, and quantifies impacts of the Project upon these values.

Noting the biodiversity value of the onsite vegetation, it was considered appropriate to expand the assessment to include an arboriculturist's report (Appendix O) to identify the value of individual tree specimens and inform the retention and protection of those trees. This has also informed the landscaping plan (Appendix H). The Arborist Impact Assessment was completed by AEP and included a visual tree assessment, characteristic feature analysis for each tree, root zone assessments, retention value and landscape significance.

6.5.3 Existing Environment

6.5.3.1 General

The Site has been previously cleared but is largely covered with native re-growth vegetation. There are areas of ongoing clearing at access areas and underneath the existing power lines. In addition, it is understood that the area has been subject of vegetation management for bushfire risk purposes per the MidCoast bushfire risk management plan.

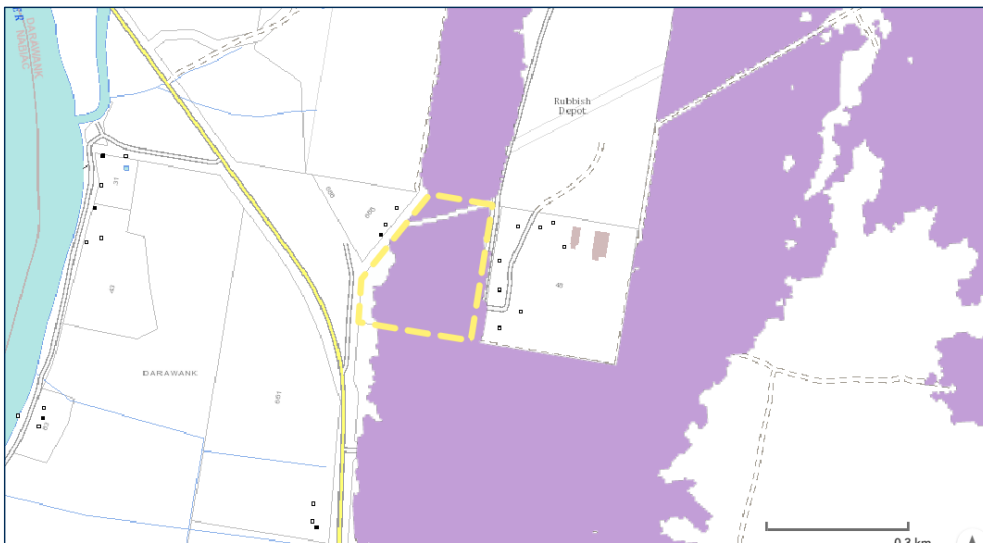
The Project would require the clearing and levelling of approximately 4.64ha for establishment of the Project.

The Site is mapped on the *Biodiversity Values Map* (BV Map) and as *Sensitive Regulated Land*, as shown in Figure 31 and Figure 32.

The BV Map identifies land with high biodiversity value that is particularly sensitive to impacts from development and clearing. The BV Map is one of the triggers for determining whether the Biodiversity Offset Scheme (BOS) applies to a clearing or development Project.

Under the *Local Land Services Act 2013* (LLS Act) the clearing of sensitive regulated land is not allowable without authorisation. Authorisation is hence required for the Project.

Figure 31: Biodiversity Values Map



Source: Biodiversity Values Map E-planning Spatial Viewer, 2025

Figure 32: Regulated Land



Source: Transitional native vegetation regulatory map viewer, 2025

Habitats have been mapped as the four types shown in Figure 33.

Figure 33: Habitat types



Source: Key Botany

Native vegetation within the Study Area includes 2 plant community types (PCTs); which are present in 4 vegetation zones:

- PCT 3544 - Coastal Sands Apple-Blackbutt Forest; approximately 1.42ha in good condition, approximately 2.81ha in moderate condition and approximately 1.40ha in poor condition. This community has no association with State or Federal listed Threatened Ecological Communities (TECs)
- PCT 4006 - Northern Paperbark-Swamp Mahogany Saw-sedge Forest; approximately 0.21ha in good condition. This community has an association with Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner

Bioregions, which is listed under the NSW *Biodiversity Conservation Act 2016*, and Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland, which is listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Figure 34: Plant Community Types



Source: AEP, 2006

6.5.4 Impact Assessment

6.5.4.1 Ecological Communities

PCT 3544 occurs within the development footprint in good, moderate and poor conditions. PCT 4006 in good condition occurs outside the development footprint and within the south western corner of the Site.

The development has been designed to avoid areas of higher biodiversity value. PCT 4006 within the Site would be retained in entirety. A total of 1.26ha of native vegetation would be retained along the western boundary to the northwestern portion of the Site and 0.21ha of this retained vegetation is PCT 4006.

Impacts to PCT 3544 - *Coastal Sands Apple-Blackbutt Forest* for clearing of vegetation would require offset of a total of 102 ecosystem credits.

6.5.4.2 Habitat and Trees

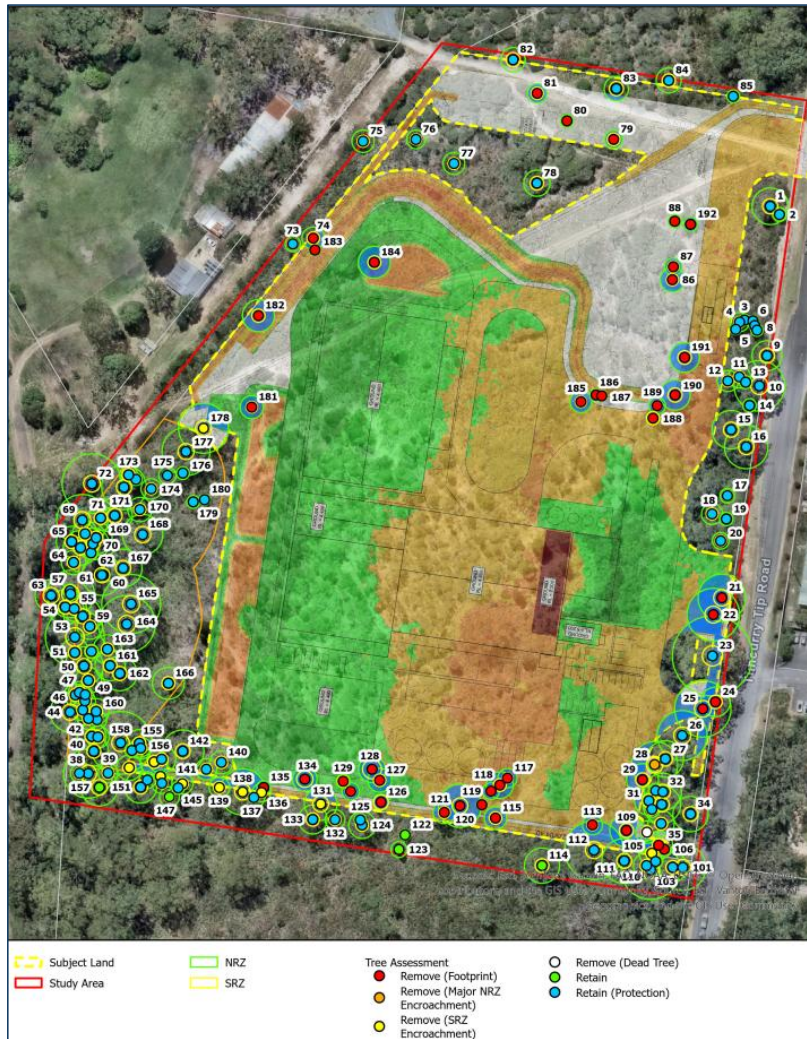
AEP conducted an arborist assessment (Appendix O), a summary of which is presented in Figure 35. The condition of the assessed trees includes 31 in poor or dead condition, 52 in fair condition and 97 in good condition.

Landscape significance ratings have also been applied to the assessed trees related to canopy size and how representative the trees are of the area.

Only one habitat tree containing an observed seven hollows was identified within the Site. The hollow-bearing tree would be retained.

The Project would require the direct removal of 55 of the assessed trees, while 125 assessed trees would be retained within the Site, with 120 requiring tree protection measures including temporary tree protection fencing.

Figure 35: Tree Retention and Removal Assessment



Source: AEP, 2026

6.5.4.3 Flora

A total of 19 flora species were returned by the BAM-C for assessment. In addition, *Genoplesium littorale* (Tuncurry Midge Orchid), which has been recorded within the 1500m assessment area through BioNet was also added. Specific surveys were conducted in accordance with biodiversity assessment method (BAM) as detailed in the BDAR and summarised below.

None of the targeted flora species were detected onsite and therefore no further assessment is required.

Tuncurry Midge Orchid

Eucalyptus pilularis - *Angophora costata* forest occurs on the eastern, southern and western boundary of the subject site. This habitat provides the highest probability of accommodating *Genoplesium littorale* (Tuncurry Midge Orchid). 946 BioNet records were identified within 10km of the Site, including 590 within 1.5km, with the reference population nearby.

Two separate rounds of targeted surveys were conducted across the entire Site during optimal flowering periods (early March and May), with flowering of nearby reference populations checked and confirmed with MidCoast Council's ecologist beforehand to confirm detectability.

The species was not recorded during these surveys.

Eastern Australian Underground Orchid

Rhizanthella slateri (Eastern Australian Underground Orchid) was originally identified as a candidate serious and irreversible impact (SAII) species, as PCT 3544 Coastal Sands Apple-Blackbutt Forest was previously listed as predicted habitat for *Rhizanthella slateri* in the BioNet Threatened Biodiversity Data Collection (TBDC), based on canopy species associations.

Recent discoveries of additional populations prompted a review of habitat associations and as of 11 August 2025, PCT 3544 has been removed from the TBDC for *Rhizanthella slateri*. Therefore, this species is no longer a candidate species for PCT 3544 under the BAM.

Given this change occurred at the time of writing, AEP utilised the precautionary principle and conducted a serious and irreversible impacts (SAII) assessment for this species, which is detailed in Section 9.1.2.1 of the BDAR. The section concludes: "Taking into account the limited area of potential impacts relative to the broader PCT 3544 extent in the local landscape, the absence of confirmed records and the proposed avoidance and mitigation measures, it is considered unlikely that the development will result in a Serious and Irreversible Impact (SAII) to *Rhizanthella slateri*."

6.5.4.4 Fauna

32 fauna species were returned by the BAM-C for assessment. AEP conducted targeted threatened species surveys from March 2025 to November 2025, which during this period the Squirrel Glider (*Petaurus norfolkensis*) was the only identified threatened fauna species observed within the Site.

Squirrel Glider

The removal of 4.64ha of habitat land would cause potential impact to the Squirrel Glider. The retention of the hollow bearing tree, being a key feature for shelter and breeding, assists in mitigating impacts. In addition, no barbed wire would be used as a construction material.

The loss of 4.64ha of habitat for Squirrel Glider requires an offset of 136 species credits.

Koala

Koalas were not detected during surveys and, as explained in Table 14, the Site does not satisfy the requirements for potential Koala habitat as outlined in Part 3.2 of the BC SEPP. However, AEP conducted a brief assessment and produced a Koala Plan of Management (Table 34 of the BDAR) under the precautionary principle.

The following measures would be implemented:

- Vegetation retention and protection: Retain and protect areas of PCT 4006 that contain Schedule 1 Koala feed tree species, with retained vegetation clearly marked before works begin.
- Koala exclusion fencing: Install Koala-proof fencing around the operational footprint to stop Koalas from entering active areas and reduce the risk of vehicle strike.
- Habitat-sensitive lighting: Use low-intensity, downward-facing lighting to reduce light spill into nearby habitat, with motion sensors used where practical.

- Vehicle speed control: Set reduced speed limits (20 km/h or less) on internal haul roads, supported by fauna warning signage.

6.5.4.5 Habitat Connectivity

Although the surrounding land has been fragmented by development, it still supports moderate levels of connectivity, with greater habitat connectivity to the south, southeast and north.

The proposal avoids adverse impacts to ecological connectivity by retaining vegetation along the western boundary of the Site, which mostly retains a north-south biodiversity corridor, connecting the site to higher-quality vegetation within the surrounding area and by incorporating a Squirrel Glider Corridor at the eastern boundary. As no hollow bearing trees are proposed to be removed or impacted by the development, the installation of nest boxes is not considered necessary however to further support habitat function, it is proposed to supplement existing denning resources within the corridor through the installation of Squirrel Glider nest boxes.

A pinch point would be created by the Proposal along the road reserve of the Lakes Way, however this is described in the BDAR as 'not of any significance.'

Habitat would be managed through a biodiversity management plan (BMP) designed to control weeds and improve habitat condition.

6.5.4.6 Waterbodies, Water Quality and Hydrology

The wetlands are included in the designation of waterfront land, with the relevant plant community being PCT 4006 – Northern Paperbark–Swamp Mahogany Saw-sedge Forest. The development will avoid impact to PCT 4006.

To avoid impacts to PCT 4006, the following measures would be implemented:

- Erosion and sediment control measures
- Incorporation of water sensitive urban design principles
- Vegetation enhancement under the BMP to support the stability and hydrological integrity of the site and surrounding areas
- A 20m buffer zone to PCT 4006

6.5.4.7 Matters of National Environmental Significance

This BDAR assesses impacts to matters of national environmental significance listed under the EPBC Act in Appendix D of the report.

The Site features potential foraging habitat for eight fauna species. Targeted surveys did not detect the presence of these species except Grey-headed Flying-fox, which may use the site for foraging but not for roosting.

Although PCT 4006 vegetation within the Site has been identified as commensurate with Coastal Swamp Sclerophyll Forest of NSW and South East Queensland EEC, the proposal is not expected to result in any direct impact to this vegetation and as such, a referral is considered unlikely to be required.

Hence, no matters of national environmental significance are considered to have potential to be significantly impacted by the proposal. As such, an EPBC Act referral has not been recommended.

6.5.4.8 Biodiversity Management Plan

A BMP would be prepared to assist in improving the overall quality of the vegetation by undertaking activities such as supplementary native planting and weed removal.

The BMP lands encompass the entirety of the EEC (approximately 0.21ha) and will be subject to restoration works including:

- Regeneration of native vegetation
- Weed management
- Planting of foraging flora species for locally recorded threatened species
- Relocation of fallen timber or logs into retained lands
- Clearance procedures
- Wildlife management
- Habitat restoration

The retention and management of vegetation in the BMP lands across the western portion of the site would improve habitat for local fauna.

6.5.4.9 Construction

The Site is largely undeveloped and would require clearing to enable development to occur. This clearing would cover approximately 4.64ha with 1.21ha of avoided lands within the Site, and includes the removal of 55 trees, with 125 trees being retained.

The iterative design process has reduced native vegetation removal from approximately 5.85ha, to 4.64ha, with an area of retained vegetation of 1.21ha, through a consultative process.

Approximately 0.21ha of the identified State and Federal listed EEC would be retained and managed under a BMP.

Clearing would be undertaken in accordance with a CEMP which would include the recommended measures for construction and clearing in the BDAR, including measures for:

- Erosion and sedimentation controls
- Protection of retained vegetation
- Fencing
- Weed control
- Weather dependencies
- Fauna dispersion and preservation
- Clearing management and protocols
- Planting
- Lighting
- Water sensitive urban design
- Bushfire protection
- Noise and vibration

6.5.4.10 Operation

Operational activities may affect native fauna (e.g. disturbance to feeding, breeding and movement), as summarised below.

Organics storage

The Project could attract native and non-native fauna due to presence of organics. The organic material would be stored inside the building to discourage this.

Dust

Dust generated could impact the surrounding biodiversity values through inhalation and impact on habitat and feeding. However, dust is not expected to cause concern.

Lighting

Unnatural light, e.g. during winter and overnight operations, could change fauna feeding and behaviour. While the area is generally rural, it is noted that there is existing development in the vicinity including the adjacent waste management centre, street lighting and residential properties, so Project lighting would not significantly alter the environment. Multiple controls for lighting are available. Mitigation measures may include: smart controlled LED lighting, lighting close to the ground and/or hooded, minimum lighting intensity, avoidance of highly reflective surfaces, consideration of longer wavelength lighting.

Wetlands

Operation of the Project would have minimal risk of water pollution or changes in streamflow due to controls that would be implemented to avoid wetlands and to control sediment and erosion.

Vehicle Strike

Vehicle strike could occur. The OEMP would include speed limits within the Site and illuminated road surfaces within operating hours to minimise risk of animal impact.

6.5.5 Mitigation Measures

The Project has been designed within the context of the “avoid, minimise and offset” framework in accordance with the BAM. The project would be undertaken in accordance with detailed mitigation measures outlined in Section 7.22, Section 7.3 and Section 8 of the BDAR (Appendix N) and Section 7 of the Arborist Impact Assessment (Appendix O).

Biodiversity credits would be obtained to offset impacts to PCT 3544 - Coastal Sands Apple Blackbutt Forest and *Petaurus norfolcensis* (Squirrel Glider).

Koala management would include:

- Vegetation retention and protection: Retain and protect areas of PCT 4006 that contain Schedule 1 Koala feed tree species, with retained vegetation clearly marked before works begin.
- Koala exclusion fencing: Install Koala-proof fencing around the operational footprint to stop Koalas from entering active areas and reduce the risk of vehicle strike.
- Habitat-sensitive lighting: Use low-intensity, downward-facing lighting to reduce light spill into nearby habitat, with motion sensors used where practical.
- Vehicle speed control: Set reduced speed limits (20 km/h or less) on internal haul roads, supported by fauna warning signage.

Additional measures post initial submission include:

- Provision of a 20m buffer area for protection of the Plant Community Type 4006
- Provision of a squirrel glider corridor on the eastern side of the development.
- Management of Plant Community Type (PCT) 4006 under a Biodiversity Management Plan
- The establishment of a Squirrel Glider Management Plan

6.5.6 Conclusion

The principles of avoidance and minimisation have been applied with respect to both threatened ecological communities and species habitat, as demonstrated by the complete retention of PCT 4006 vegetation within the Site, including the single hollow-bearing tree, and efforts have been made to position the development footprint across areas of previous higher disturbance.

The entirety of PCT 4006 (approximately 0.21ha) is proposed to be managed under a BMP. Further vegetation retention has been achieved in the northwestern portion of the Study Area. The BMP would support the active management and enhancement of retained native vegetation over time.

Water quality and quantity have been designed to replicate existing water management regime.

The Project would require the direct removal of 55 trees, while 125 trees could be retained within the Site, with 120 trees requiring tree protection during construction. Implementation of a detailed tree protection plan would be included in a vegetation management plan to avoid further loss or damage to trees in proximity to the construction footprint.

Residual impacts (clearing 4.64 ha of PCT 3544 and 4.64ha of Squirrel Glider habitat) would be offset. The proponent has options to purchase and retire credits from the open market or to discharge the credit liability via payment into the Biodiversity Conservation Fund.

6.6 Water and Flooding

6.6.1 Assessment Requirements

Table 44: SEARs – Water and Flooding

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
Water Management – An integrated water management strategy, including:	Appendix P
A detailed site water balance including a description of the water demands and breakdown of water supplies, measures to minimise water use and any water licensing requirements.	Section 6.6.4.2.4 Appendix P
A description of groundwater and surface water conditions and all works/activities that may intercept, extract, use, divert or receive surface water and/or groundwater (both temporary and permanent)	Section 6.6.4 Appendix P
An assessment of potential surface and groundwater impacts (both quality and quantity) associated with the development, including potential impacts on watercourses, riparian areas, groundwater, and groundwater-dependent communities nearby in accordance with relevant water quality guidelines and the Department Climate Change, Energy, the Environment and Water – Water Group (DCCEEW-Water) Groundwater Toolkit	Section 6.6.4 Appendix P
Details of the proposed stormwater/wastewater drainage design including the capacity of onsite detention system(s), onsite sewage management and measures to treat, reuse or dispose of water.	Section 6.6.4 Section 6.6.5 Appendix P Appendix D
Where water and drainage infrastructure works are required that would be handed over to the local council, or other drainage or water authority, provide full hydraulic details and detailed plans and specification of proposed works that have been prepared in consultation with, and comply with the relevant standards, the local council or other drainage or water authority.	n/a
A surface water discharge assessment in accordance with relevant EPA guidelines, including an assessment of potential impacts on watercourses and riparian areas, and characterisation of water quality at the point of discharge against the relevant water quality criteria using a MUSIC water quality model	Section 0 Appendix P

Assessment Requirements	EIS Reference
(including details of the contaminants of concern that may leach from the waste into the wastewater and proposed mitigation measures to manage any impacts to receiving waters and monitoring activities and methodologies).	
Details of any surface or groundwater mitigation, management and monitoring activities and methodologies.	Section 6.6.5 Appendix P
Flooding – A flood impact risk assessment (FIRA) in accordance with the Flood risk management guideline LU01 - Flood impact and risk assessment (2023). The FIRA must:	Section 6.6.4.2.1 Appendix P
Identify any flood risk on-site (mainstream and overland) having regard to adopted flood studies, the potential effects of climate change, and any relevant provisions of the NSW Flood Risk Management Manual (2023)	Section 6.6.4.2.1 Appendix P
Assess the impacts of the development, including any changes to flood risk on-site or off-site, and detail design solutions and operational procedures to mitigate flood risk where required	Section 6.6.4.2.1 Section 6.6.5 Appendix P
Identify flood behaviour, flood constraints and risks on the site and adjoining areas including the potential impacts of climate change for the full range of events up to and including the probable maximum flood (PMF) event.	Section 6.6.4.2.1 Appendix P
Include details of proposed management measures to minimise the impacts of flooding on the development and flood risk to the community	Section 6.6.5 Appendix P
Detail an emergency management and response strategy for local catchment (and/or overland) and mainstream flooding, which: - identifies potential options for emergency management and response, including safe evacuation from the site and/or shelter-in-place, based on adopted flood studies and flood warnings from the Bureau of Meteorology (where available) - evaluates the performance of safe evacuation from the site, including consideration of possible constraints of existing road networks, potential interruptions of traffic flows, and the lead time for evacuation from existing flood warning services - identifies the primary emergency management and response approach under significant events, up to and including the PMF event	Section 6.6.4.2.5 Appendix P
NSW EPA	
Surface Water Demonstrate that all practical measures to prevent, control, abate or mitigate water pollution have been implemented, including a description of options that were explored (such as reuse to avoid a discharge or treatment).	Section 0 Section 6.6.5 Appendix P
Provide details of the proposal that are essential for predicting and assessing potential impacts to receiving waters. This could include (but is not limited to): - Site layout, including details of the existing and proposed water management system. - Drainage map for the entire site identifying sub-catchments, flow paths, drainage infrastructure, design sizing of structures, water storages, discharge points, and any potential flow paths to receiving waters.	Section 0 Figure 42 Appendix P

Assessment Requirements	EIS Reference
c) How stormwater will be managed in all phases of the project. Information should include, where appropriate, measures to avoid or minimise erosion, leachate generation, and sediment mobilisation at the site. d) Any in-water activities (such as piling or dredging).	
Include water balance(s) for ground and surface water, including any intake and discharge locations, volumes, frequency and duration.	Section 6.6.4.2.4 Appendix P
Identify and estimate the quality and quantity of all pollutants that may be introduced into the water cycle by source and discharge point, including residual discharges after mitigation measures are implemented. This should be undertaken for construction and operational phases.	Section 0 Appendix P
Include a water pollution impact assessment consistent with online guidance. The level of assessment should be commensurate with the risk to the environment and human health.	Section 0 Appendix P
Describe any surface water quality monitoring programs, including proposed monitoring locations, frequency and indicators of surface water quality. Analytical limits of reporting should have regard to any identified guideline values. Water quality monitoring should be undertaken in accordance with the <i>Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (2004)</i> .	Section 6.6.5 Appendix P
The EIS must describe how stormwater will be managed in all phases of the project, including details of how stormwater and runoff will be managed to minimise pollution. Information should include measures to be implemented to minimise erosion, leachate and sediment mobilisation at the site. The EIS should consider the guidelines <i>Managing urban stormwater: soils and construction</i> , vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC, 2008).	Section 6.5.4 Appendix D
Groundwater Provide details of the project that are essential for predicting and assessing impacts to groundwater with a description of the existing environment, including: a) Geological, topographical, and hydrogeological resource descriptions, maps, and cross-sections. b) Assessment of groundwater quality, users of groundwater, existing bores including depths and construction, assessment of local land use. c) A hydrogeological interpretation of water-bearing geological units, depth to water table, groundwater gradient, Conceptual hydrogeological model, assessment of groundwater dependent ecosystems. d) Site map and cross-sections showing and characterising any proposed excavations and spoil emplacement (relative to water table) with topography. e) Proposed groundwater monitoring program. f) Assessment should be in accordance with Groundwater assessment toolbox for major projects in NSW - Overview document (DPE, 2022).	Section 6.6.3 Section 6.6.4.2.3 Appendix D Appendix G
Conservation Programs, Heritage & Regulation Group (NSW DCCEEW)	
Water The EIS must map the following features relevant to water including: a) Rivers, streams, wetlands, estuaries (as described in s4.2 of the Biodiversity Assessment Method). b) Wetlands as described in s4.2 of the Biodiversity Assessment Method. c) Groundwater. d) Groundwater dependent ecosystems.	Section 6.6.3 Appendix P Appendix N

Assessment Requirements	EIS Reference
e) Proposed intake and discharge locations.	
The EIS must describe background conditions for any water resource likely to be affected by the development, including: a) Existing surface and groundwater. b) Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations. c) Water Quality Objectives (as endorsed by the NSW Government) including groundwater as appropriate that represent the community's uses and values for the receiving waters. d) Indicators and trigger values/criteria for the environmental values identified in accordance with the <i>ANZECC (2000) Guidelines for Fresh and Marine Water Quality</i> and/or local objectives, criteria or targets endorsed by the NSW Government.	Section 6.6.3
The EIS must assess the impacts of the development on water quality, including: a) The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction. b) Identification of proposed monitoring of water quality.	Section 6.6.4.2
The EIS must assess the impact of the development on hydrology, including: a) Water balance including quantity, quality and source. b) Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas. c) Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems. d) Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge. e) Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water. f) Mitigating effects of proposed stormwater and wastewater management during and after construction, and how those strategies address issues like reuse, flow rates, management methods and re-use options. g) Identification of proposed monitoring of hydrological attributes.	Section 6.6.4.2.4 Section 6.6.4.2.1 Section 0 Section 6.6.4.2 Appendix N Appendix P
Flooding and Coastal Erosion The EIS must map the following features relevant to flooding as described in the NSW 2023 Flood Risk Management Manual including: a) Flood prone land. b) Flood planning area, the area below the flood planning level. c) Hydraulic categorisation (floodways and flood storage areas).	Section 6.6.4.2.1
The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 1 in 10 year, 1 in 100 year flood levels and the probable maximum flood, or an equivalent extreme event.	Section 6.6.4.2.1 Appendix N
The EIS must model the effect of the proposed development (including fill) on the flood behaviour under the following scenarios:	Section 6.6.4.2.1

Assessment Requirements	EIS Reference
a) Current flood behaviour for a range of design events as identified above. This includes the 1 in 200 and 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.	Appendix N
Modelling in the EIS must consider and document: a) The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood. b) Impacts of the development on flood behaviour resulting in detrimental changes in potential flood affectation of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories. c) Relevant provisions of the NSW 2023 Flood Risk Management Manual.	Section 6.6.4.2.1 Appendix N
The EIS must assess the impacts on the proposed development on flood behaviour, including: a) Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure. b) Consistency with Council floodplain risk management plans. c) Compatibility with the flood hazard of the land. d) Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land. e) Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site. f) Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses. g) Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the SES and Council. h) Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the SES and Council. i) Emergency management, evacuation and access, and contingency measures for the development considering the full range of flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the SES. j) Any impacts the development may have on the social and economic costs to the community as a consequence of flooding.	Section 6.6.4.2.1 Appendix N
The EIS must describe the potential effects of coastal processes and hazards (within the meaning of the Coastal Management Act 2016), including sea level rise and climate change: a) On the proposed development b) Arising from the proposed development	Section 6.6.4.2.1 Appendix N
The EIS must consider have regard to any certified Coastal Management Program (or Coastal Zone Management Plan) and be consistent with the management objectives described in the <i>Coastal Management Act 2016</i> and development controls for coastal management areas mapped under the <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> .	Section 6.6.4.2.1 Appendix N
Water Group (NSW DCCEEW)	
Water Take and Licensing A detailed and consolidated site water balance.	Section 6.6.4.2.4 Appendix N

Assessment Requirements	EIS Reference
Description of all works/activities that may intercept, extract, use, divert or receive surface water and/or groundwater. This includes the description of any development, activities or structures that will intercept, interfere with or remove groundwater, both temporary and permanent.	Section 0 Section 6.6.4.2.3
Details of all water take for the life of the project and post closure where applicable. This is to include water taken directly and indirectly, and the relevant water source where water entitlements are required to account for the water take. If the water is to be taken from an alternative source confirmation should be provided by the supplier that the appropriate volumes can be obtained.	Section 6.6.4.2.4
Details of Water Access Licences (WALs) held to account for any take of water where required, or demonstration that WALs can be obtained prior to take of water occurring. This should include an assessment of the current market depth where water entitlement is required to be purchased. Any exemptions or exclusions to requiring approvals or licenses under the <i>Water Management Act 2000</i> should be detailed by the proponent.	n/a
Water Impacts A description of groundwater conditions that provides an understanding of groundwater level across the site under a range of wet and dry conditions.	Section 6.6.4.2.3 Appendix P Appendix Q
Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, groundwater dependent ecosystems, and ground water levels; including measures proposed to reduce and mitigate these impacts.	Section 0 Section 6.6.4.2.3
Proposed surface and groundwater monitoring activities and methodologies.	Section 6.6.5
Dam Safety Identify the proposed construction and/or use of a declared dam under Dam Safety Regulations. This is to include existing declared dams with or without physical modifications, new declared dams, modifications to existing dam/s that would require the dam to be declared or the decommissioning of a declared dam.	n/a
Describe the consequence category of existing declared dam/s and provide an overview of compliance with the requirements of the Dam Safety Regulation, including (but not limited to) requirements for a dam safety management system, operations and maintenance plans, and emergency plans.	n/a
Include a consequence category assessment for new declared dams, proposed modifications to existing declared dam/s, modifications to existing dam/s that would require the dam to be declared or declared dams to be decommissioned.	n/a
Describe the decommissioning process of any existing declared dam.	n/a
Describe all mining and mining related activities proposed within a Mining Notification Area and assess the impacts of the proposed activities on any declared dam. This is to include proposed mitigating measures and monitoring programs.	n/a
Policies and Guidelines - Identification and impact assessment of all works/activities located on waterfront land including an assessment against <i>Guidelines for Controlled Activities on Waterfront Land</i> (DPE, 2022). - Assessment of project against relevant policies and guidelines.	n/a The development is not within a riparian corridor.

Assessment Requirements	EIS Reference
MidCoast Council	
Stormwater Quantity OSD with hydraulic engineering reports to comply with Council's 'Site Stormwater Drainage Guidelines Feb 2024' including pre and post modelling and detention of 1:100 ARI.	Section 0 Appendix P
With regards for Water Quality matters, whilst the majority of concerns are addressed, you are advised that the following should be incorporated into the Integrated Water Management Strategy: Demonstrate compliance with the Neutral or Beneficial Effect target through MUSIC modelling and the provision of bioretention systems including concept sections. MUSIC modelling and water quality treatment is to be prepared in accordance with Councils Guidelines for Water Sensitive Design Strategies 2019	Appendix P Section 0 Appendix P

6.6.2 Introduction

Colliers Engineering & Design was engaged to prepare a Water Cycle Management Plan (WCMP) for the Project, which incorporates:

- Flood Impact Assessment (FIA)
- Water Quantity Management Strategy (WQuanMS)
- Water Quality Management Strategy (WQualMS)
- Water Balance Assessment (WBA)

The WCMP is attached to this EIS as Appendix P. Stormwater plans and an erosion and sediment control plan are included as Appendix D.

6.6.3 Existing Environment

The Site is currently undeveloped, with levels ranging from 5.60m AHD at the northeast corner down to 1.80m AHD at the southwest corner, at an average grade of 1.2%.

Approximately 600m west of the Site lies Wallamba River, as well as its confluence with the smaller Darawakh Creek as shown in Figure 36. This river flows from north to south into the confluence with Coolongolook River and Wallis Lake, which then discharges into the Tasman Sea. Approximately 1.5km east of the Site lies Tuncurry Beach and the coastline with the Tasman Sea. There are no waterways or riparian land within the Site.

Figure 36: Nearby Waterways and the Model Boundary

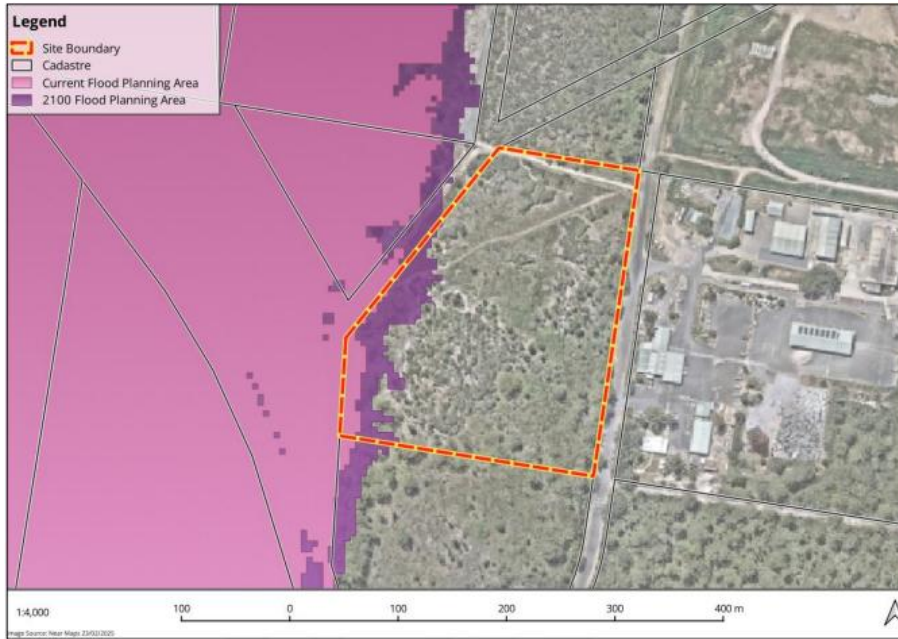


Source: Colliers, 2025

The Site is impacted by the MCC flood planning area as shown in Figure 37. As described in Section 6.5, PCT 4006 is present to the west of the Site.

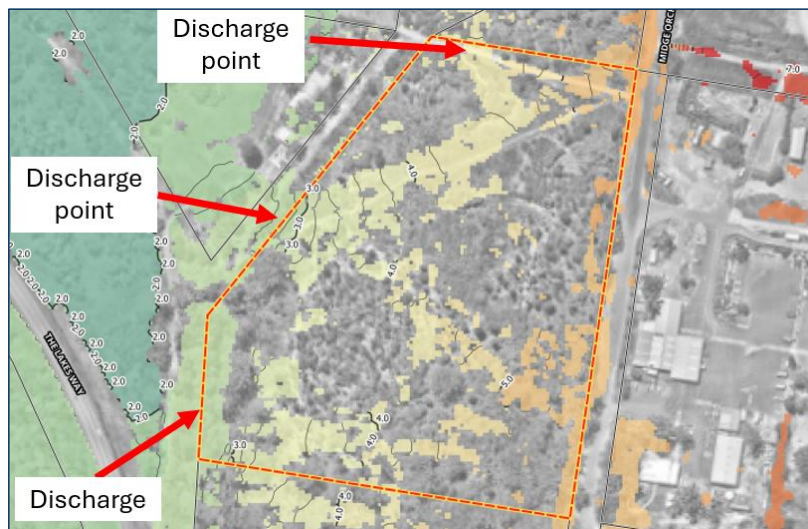
Generally, stormwater flows over the Site from the northeast, discharging at three points: one on the northern boundary, one on the northwestern boundary and a broader area to the southwest. Figure 38 shows the 1% annual exceedance probability (EAP) flood event, which demonstrates the pre-development flow patterns.

Figure 37: Current and 2100 Flood Planning Areas



Source: Colliers, 2025.

Figure 38: Pre-Development Discharge Points



Source: Colliers, 2025.

Figure 39: Upstream Catchments (red) Entering the Site (green)

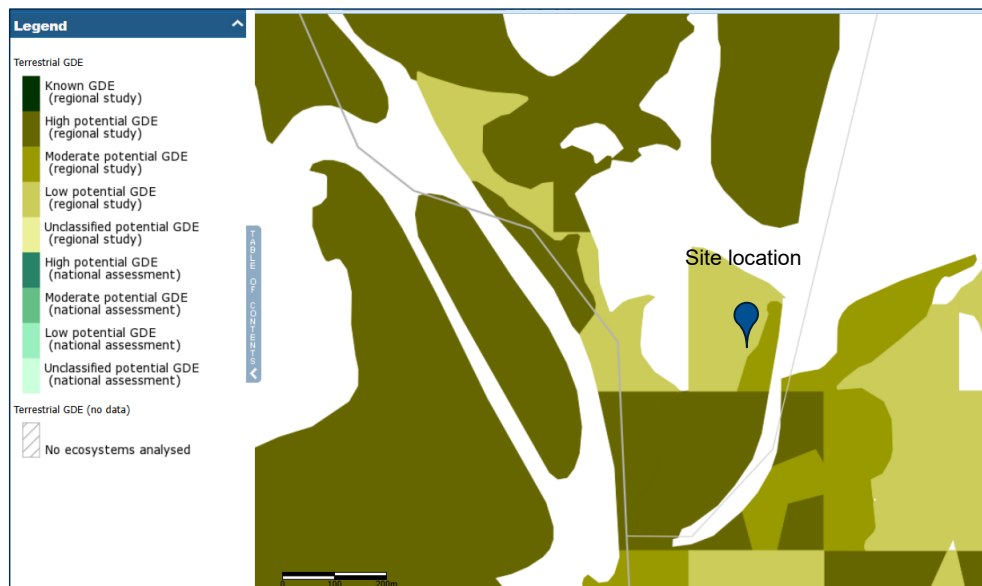


Source: Colliers, 2025

Under existing conditions, flooding on-site is mainly a result of overland flow paths through the Site. The origin of these overland flow paths come from external catchments shown in red in Figure 39 such as the neighbouring site to the south and Midge Orchard Road.

Groundwater at the Site has been identified at depths of 1.2-2.6m below ground level in the Geotechnical investigations (Appendix Q). The Site is mapped as low to moderate potential for Terrestrial Groundwater Dependent Ecosystems, which rely on the subsurface presence of groundwater. The Site is not mapped as Aquatic GDE, which is limited to rivers, wetlands and springs. The whole region is mapped as subterranean GDE, which includes caves and aquifers.

Figure 40: Groundwater Dependent Ecosystems



Source: GDE Atlas, BOM, 2026

6.6.4 Impact Assessment

6.6.4.1 Construction

Construction of the Project would include the following activities that could impact groundwater and/or stormwater:

- Earthworks and retaining walls
- Introduction of buildings and impermeable surfaces
- Installation of below surface foundations
- Clearing and revegetation / landscaping

Potential pollutants include:

- Leachate
- Liquid wastes
- Oils / fuels
- Gross litter pollutants

One of the first stages of construction would be installing infrastructure relating to stormwater management (drainage swales and culverts). It is therefore considered that flooding of areas outside the Site would be unlikely to be caused by the proposed construction activities.

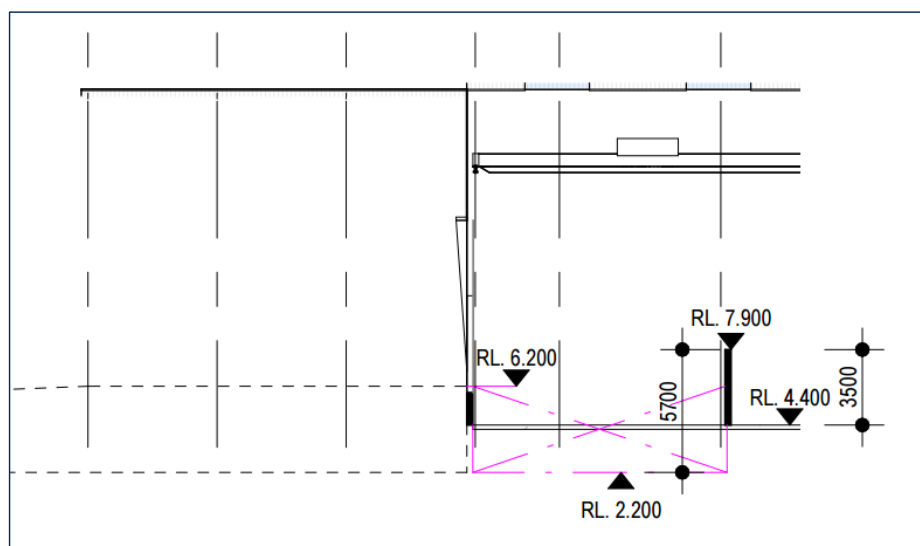
Sediment filters would be in place during construction. Tracks and the compound would be sealed to minimise the risk of erosion and sediment escape and dust controls would be implemented. The CEMP would detail a specific erosion and sediment control plan (ESCP), informed by the geotechnical and the stormwater analysis.

Activities associated with construction could be impacted by flooding events. The CEMP would schedule works to avoid potential impacts.

Groundwater levels on Site were measured during two separate site visits (Appendix Q). During winter, groundwater was identified much closer to the surface than during summer (around 2m lower). The bunker associated with the receival hall would be constructed at 2.2m AHD as shown in Figure 41, which would avoid intersection with groundwater and provide 1m freeboard above the highest level at which groundwater has been identified. The bunker and all structures would be constructed of impermeable material and not impact groundwater quality.

Attached is a cross section of the bottom of the bunker which is RL 2.2 and gives 1m freeboard between groundwater. If the design of the site stormwater basins are kept above the groundwater level the storage bunker would be further above this level.

Figure 41: Bunker depth



Source: a&n, 2025

6.6.4.2 Operation

6.6.4.2.1 Flooding

The FIA considers impacts of surface water from off Site, including TUFLOW hydrological and hydraulic modelling of the 5% annual exceedance probability (AEP), 1% AEP, 1% AEP plus climate change and the probable maximum precipitation (PMP) event.

The developed area would be constructed at a minimum of 4.4m AHD, more than the minimum required freeboard of 0.5m above the year 2100 flood planning level (FPL) of 3.3m AHD and is also above the probable maximum flood (PMF) level of 4.3m AHD.

The results of the post development modelling show that the developed area would not be impacted by a 1% AEP event. Furthermore, downstream discharge in a 1% AEP event would be reduced from the existing situation, resulting in a minor beneficial outcome.

The WCMP indicates that, with regards to discharge downstream to the north and west of the site:

- The total discharge to the west and northwest has decreased from 2.64 m³/s to 1.89 m³/s between existing and developed conditions, resulting in beneficial flood impacts there.
- Along the boundary to the west, peak flood levels have decreased by -0.01m for the sag pond downstream, resulting in beneficial impacts.
- Along the boundary to the northwest, peak flood levels have decreased by -0.02m for the neighbouring property at 688 The Lakes Way, resulting in beneficial impacts.
- Along the boundary to the north, peak flood levels have decreased by -0.02m, resulting in beneficial impacts.

6.6.4.2.2 Stormwater Management

The Project would result in an increase in impervious areas and a loss of flood water storage. The purpose of the stormwater management design is to attenuate and control the expected increase in stormwater runoff originating from the Site during storm events.

The FIA considers management of stormwater from off Site, as discussed above, which would divert all stormwater from off Site away from the developed area and would not increase discharge flows at any point off Site in an event up to 1% AEP.

Stormwater Quantity

A Stormwater Quantity Management Strategy (WQuanMS) has been developed in accordance with MCC requirements, modelled using DRAINS system, and is detailed in Section 7 of the WCMP (Appendix P).

The required on-site detention systems have been designed to achieve requirements of the *Site Stormwater Drainage Guidelines (2024)*, specifically:

- A raingarden and infiltration basin system to attenuate peak flows within the developable area and restrict discharge to below existing rates for up to the 1% AEP event
- A pit and pipe system and rainwater tanks to account for runoff generated within the road and roof areas of the developable area for up to the 10% AEP event
- Overland flow paths and swales to contain runoff within the developable area for the 1% AEP event
- No runoff is to occur from the raingardens for the 4EY (4 exceedances per year) event
- No runoff is to occur from the developable area for the 5% AEP event
- Peak runoff from the developable area is to be below the peak runoff from the same area in existing conditions for the 1% AEP event
- All runoff generated within the developable area is to be contained within the proposed measures listed in the WQuanMS for the 1% AEP event

The following on-site detention would be provided as shown in Figure 42:

- 2 x raingardens
- 1 x infiltration basin for stormwater quantity and quality management on-site
- Pit and pipe network and swales to drain runoff from the developable area (excluding buildings) into the raingardens and basins
- 2 x 430 kL tanks for collection of rainwater from buildings

Figure 42: Water Management



Source: Colliers, 2025

The proposed system has been iteratively designed to respond to on Site conditions post development to achieve the required outcomes.

The DRAINS model outcomes show that peak discharges in a 1% AEP event would be no greater than the undeveloped situation as summarised in Table 45, complying with requirements.

Table 45: DRAINS peak discharge (updated)

Description	Peak Discharge 5% AEP event (m ³ /s)	Peak Discharge 1% AEP event (m ³ /s)
Existing – developable area only (3.82 ha)	0.76	1.10
Existing – total Site (5.83ha)	1.18	1.71
Developed – no WQualMS – developable area	1.11	1.52
Developed – no WQualMS – total Site	1.58	2.17
Developed – with WQualMS – developable area	0.00	0.20
Developed – with WQualMS – total Site	0.50	0.87

Stormwater Quality Management Strategy

A stormwater quality management strategy (WQualMS) has been developed in accordance with MCC requirements to demonstrate that modelling shows the Site would achieve neutral or beneficial (NorBE) pollutant reduction targets, defined by MCC as:

- *No net increase in pollutant loads in the developed condition from loads in the existing condition for the following:*
 - *Total Suspended Solids (TSS)*
 - *Total Phosphorous (TP)*
 - *Total Nitrogen (TN)*
- *At least 90% reduction from untreated loads vs. treated loads in the developed condition for the following:*
 - *Gross Pollutants (GP)*

The adopted WQualMS includes provision of a treatment train to treat surface runoff, incorporated with the WQuanMS network for fully developed conditions comprising:

- Distributed rainwater tanks (2x430 kL) for collection of stormwater runoff from building rooftops and re-use of water for composting processes, office uses and firefighting purposes
- Grassed swales to provide preliminary treatment of surface runoff prior to entering the pit and pipe network
- Gross pollutant traps to provide treatment of GP and hydrocarbons within the pit and pipe system and prior to the end-of-line treatments
- End-of-line treatments such as raingardens and infiltration basins to account for TP and TN prior to infiltration into the surface and discharge from the site

This treatment is summarised in Figure 43.

Stormwater basins on Site would be constructed no lower than 1.70m AHD. The pit and pipe network would also be graded so that the outlet is no lower than 1.70m AHD.

With application of the WQualMS, the MUSIC modelling outputs indicate that the Project would achieve NorBE and therefore comply with requirements, summarised in Table 46.

Table 46: Water Quality Modelling (updated)

Pollutant	Source/Residual Annual Loads – existing (kg/year)	Source Annual Loads – developed (kg/year)	Residual Annual Loads – developed (kg/year)	% Reduction from Source to Residual – Developed	NorBE met?
Total Suspended Solids (TSS)	290	10400	117	98.9%	Yes
Total Phosphorus (TP)	1.29	12.62	1.09	91.3%	Yes
Total Nitrogen (TN)	12.1	73.8	11.4	84.6%	Yes
Gross Pollutants (GP)	0	739	0	100%	Yes

A regime would be developed for testing discharged water to comply with Australian and New Zealand Environment Conservation Council (ANZECC) *Australian and New Zealand guidelines for fresh and marine water quality* (2000).

Runoff from the site would thus be managed to protect downstream environments, habitats and communities.

6.6.4.2.3 Groundwater

Groundwater levels on Site were taken by Hunter Geotechnical Services dated 04/08/2025 with levels measuring up to 2.10 mAHD where the detention storage is proposed to be.

Additional data was obtained from Council. The monitoring results indicated that, at the time of measurements on Site on August 2025, the groundwater level was inferred to be significantly higher than baseline levels following multiple rainfall recharge events (including a 0.2% AEP rainfall event in May 2025). Thus, the groundwater measurement of 2.10 mAHD on Site is concluded to be representative of high groundwater conditions and as such, the invert levels of detention storage is proposed to be at least 0.5 m above this level as recommended by Council Drainage Guidelines (2024).

The design has been consequently modified to have invert levels of at least 2.60 mAHD in consideration of elevated groundwater conditions.

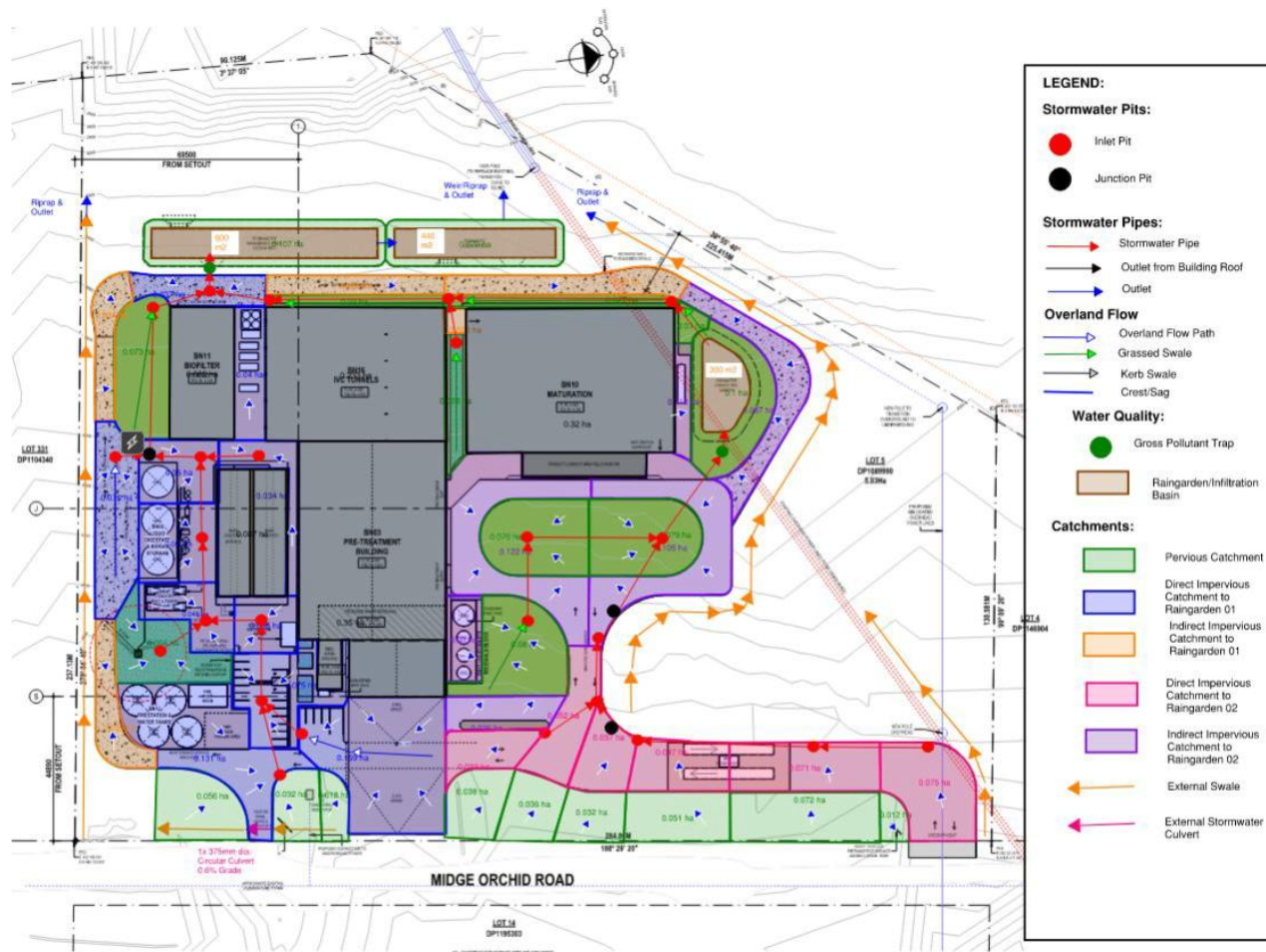
No groundwater monitoring is proposed.

While the proposed works on site would introduce a greater amount of impervious area, all surface runoff would be redirected to the raingardens and infiltration basin where they would be detained and infiltrated into the ground to mimic the existing conditions scenario. The site's stormwater management measures would contain all runoff from the site in storm events up to and including the 5% AEP event in accordance with Council's guidelines. Whilst there is an increased amount of runoff from the site due to the impervious areas, the water would be withheld on site and infiltrate into the ground over time.

The runoff from the site would also be treated for oils/hydrocarbons with the proposed OceanProtect gross pollutant trap and treated within the raingardens to a NorBE standard. Therefore, the filtrated runoff from the site would not adversely impact the groundwater systems.

Based on the above, it is anticipated that there would be no adverse impacts to groundwater or the water table.

Figure 43: Stormwater Strategy



Source: Colliers, 2025

6.6.4.2.4 Site Water Balance

The Project would treat organic material through AD and IVC processes under controlled conditions. The AD would be contained within sealed systems and IVC would be within buildings. All inputs and outputs would be monitored including moisture levels.

Depending on the nature of the input material and influenced by weather conditions, the processes would produce varying levels of liquid (leachate). The leachate would be collected and reused within the processes where possible. Under some conditions, there may be a need for additional water to be added, or there may be excess leachate that exceeds the Site's storage capacity.

It is estimated that a total amount of 94,735 tonnes per annum, or 285 kL/day, would be required for the industrial waste processes, summarised in Table 47. In addition to the industrial processes, there would be a 0.62 kL/day water demand for the office building amenities and irrigation of landscaped areas.

Table 47: Water Demands

Source	Description	Annual Tonnes	Daily Volume (kL/day)
Liquid Digestate Recirculation	Required water recirculation split between the anaerobic digesters and the mixing and filling in the IVC tunnels.	60,000	180.6
Liquid Input to IVC	Additional liquid input for the mixing and filling process in the IVC tunnels	34,375	104.6

It is estimated that 94,735 tonnes per annum, or 285 kL/day, would be introduced and recirculated in the industrial waste processes.

Table 48: Water Supply

Source	Description	Annual Tonnes	Daily Volume (kL/day)
Digestate dewatering	Byproduct of the dewatering step of the anaerobic digestion process	70,380	211.9
IVC tunnels	Byproduct of inputs to IVC tunnels	12,355	37.2
Liquid Inputs	Liquid waste from commercial restaurants	12,000	36.1

It is estimated that under ideal conditions, the demand and supply would balance. However, it is also understood that atmospheric conditions and variation in material received may result in imbalance.

To manage the potential imbalance, the following would be implemented:

- Close monitoring of moisture levels at all stages of processing
- Connection to mains water to provide additional water if required
- Discharge under a Tradewaste Agreement of excess leachate

As detailed above, rainwater would be collected from the building rooftops on site and stored in the proposed 2 x 430 kL rainwater storage tanks and then harvested for re-use on site including the industrial processes, office building amenities, and irrigation of landscape areas. The rainfall on the proposed development area that does not land on the rooftops would be collected by the stormwater drainage system and managed on-site to meet stormwater quality and quantity targets, however this would not be used for site processes.

The Project would include 3 x 400kL liquid digestate & biogas storage tanks. The liquid digestate and biogas storage tanks would be designed to accommodate liquid digestates going through the site, which would be the by-product of de-watered organic wastes from various sources.

6.6.4.2.5 Emergency Management and Response Strategy

In a PMF event, the Wallamba River Flood Level would be 4.30m AHD and the Darawakh Creek Flood Level would be 4.30m AHD. The development would have a minimum floor level of 4.4m AHD, which would avoid impacts in the event of a PMF. Nevertheless, the OEMP for the Site would include a section relating to flood emergencies, which would include the following:

- Emergency Warning Systems to be monitored
- In the event of a flood alert at or near the Site, the Site would be evacuated

If evacuation is not possible due to damage to roads or inaccessible roads, staff should remain on Site in buildings to avoid entering flood water and remain in contact with emergency services.

6.6.5 Mitigation Measures

Construction

- An ESCP would be implemented for construction works.
- A CEMP would be developed to include staging of works, prioritising stormwater infrastructure.

Operation

Operations will be conducted with the following controls in place:

- 2 raingardens and 1 infiltration basin for stormwater quantity and quality - minimum levels of stormwater basins no lower than 1.70m AHD
- Pit and pipe network and swales to drain runoff from the developable area (excluding buildings) – graded so that outlet no lower than 1.70m AHD
- 2 x 430 kL water tanks for stormwater quantity and quality management of runoff from the building rooftops
- Swales to divert off-site runoff from upstream around the developable area
- Culverts to convey off-site runoff between the swales and underneath the developable area
- Filter media for water quality management would be no thicker than 450mm
- Monitoring of moisture content of inputs, processing and outputs
- Connection to mains water
- Testing regime for surface water and groundwater to be established to address guidelines
- Tradewaste agreement for leachate discharge.

6.6.6 Conclusion

The Project would achieve compliance with requirements for flooding, stormwater and groundwater.

Stormwater from offsite associated with a 1% AEP event would be managed adequately by the proposed drainage infrastructure including drainage swales and culverts. Stormwater discharge from the Site in a 1% AEP event would be slightly lower than existing.

The onsite detention would provide for runoff generated within the road and roof areas of the developable area for the 10% AEP event. Within the raingardens and infiltration basins, stormwater runoff would leave the Site as infiltration through the surface with pollutant quality achieving NorBE.

6.7 Soils and Contamination

6.7.1 Assessment Requirements

Table 49: SEARs – Soils and Contamination

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
SOILS An assessment of potential impacts on soil resources and riparian land on and near the site, including:	Appendix Q
Impacts on soil erosion, salinity and acid sulfate soils.	Section 6.7.3 Section 6.7.4
Details of earthworks, including cut and fill volumes.	Section 6.7.4.1
Description of the proposed erosion and sediment controls during construction	Section 6.7.4.1 Appendix D
CONTAMINATION	6.7.3.2 Appendix Q
A site contamination assessment in accordance with the Managing Land Contamination Planning Guidelines: SEPP 55 – Remediation of Land (DUAP 1998), including:	
Characterisation of the nature and extent of any contamination on the site and surrounding area.	n/a – Appendix Q
A Detailed Site Investigation (DSI) and a Remedial Action Plan, if the Preliminary Site Investigation indicates contamination is present and a DSI is required.	n/a
NSW EPA	
SOILS	Appendix Q Appendix D
- The EIS should include an assessment of the potential impacts on soil and land resources. This should be undertaken, being guided by the <i>Soil and Landscape Issues in Environmental Impact Assessment</i> (DLWC 2000). The nature and extent of any significant impacts should be identified. Particular attention should be given to: - Soil erosion and sediment transport – in accordance with <i>Managing urban stormwater: Soils and construction</i>, vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; B. Waste landfills; C. Unsealed Roads; D. Main Roles) (DECC 2008). - Mass movement (landslides) – in accordance with <i>Landslide risk management guidelines</i> presented in the <i>Australian Geomechanics Society</i> (2007). - Urban and regional salinity – guidance given in the <i>Local Government Salinity Initiative</i> booklets which includes <i>Site Investigation for Urban Salinity</i> (DLWC, 2002).	Section 6.7.4.1 n/a Section 6.7.3.1
A description of the mitigation and management options that will be used to prevent, control, abate or minimise identified soil and land resource impacts associated with the project. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented. Where required, add any specific assessment requirements relevant to the project.	Section 6.7.5
CONTAMINATION	Appendix Q Section 6.7.3.2
Identify the likelihood of contamination at the site and surrounding land (on different media such as soils, groundwater, ground gas, surface water and sediments, where applicable) by considering the context of past, current, and proposed land uses. The EIS must document how the assessment of contaminated land has been undertaken with regard to the relevant guidelines for contaminated land made or approved by the NSW EPA.	
All reports on contamination must be prepared by a suitably qualified contaminated land consultant who is also certified.	Appendix Q Section 6.7.3.2

Assessment Requirements	EIS Reference
Where contamination is considered likely based on past or current land uses or other factors (such as offsite contamination migrating onto the site), undertake detailed site investigation/s to determine the nature and extent of the contamination.	n/a
Where contamination exists, assess if remediation of the land is required, having regard to current and future land uses; and the ecological and human health risks posed by the contamination to both onsite and offsite receptors.	n/a
Where a detailed site investigation is prepared and/or remediation is considered necessary, a NSW EPA accredited Site Auditor must be engaged to undertake an audit. The EIS must include copies of any Interim Audit Advice provided by the auditor and a Site Audit Statement and Site Audit Reports issued by the auditor which certifies the site can be made suitable for the proposed use.	n/a
- The following references should be included as relevant guidelines that must be followed when assessing contaminated land: <i>Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land (DUAP and EPA, 1998)</i> <i>Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (EPA, 2015)</i> <i>Contaminated land sampling design guidelines - Part 1 and 2 (EPA, 2022)</i> <i>Consultants reporting on contaminated land: contaminated land guidelines (EPA, 2020)</i> <i>Guidelines for the NSW Site Auditor scheme 3rd edition (EPA, 2017)</i> - Any other relevant guidelines made or approved by the EPA under s105 of the <i>Contaminated Land Management Act 1997</i>	Noted
Conservation Programs, Heritage & Regulation Group (NSW DCCEEW)	
The EIS must map the following features relevant to soils including: Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map)	Section 6.7.3 Appendix Q

6.7.2 Introduction

Hunter Geotechnical Services (HGS) was engaged to provide an initial geotechnical investigation to inform recommendations on design and construction (characterised subsurface conditions for structural foundations and pavement design purposes), provided at Appendix Q, including laboratory testing from soil samples collected on Site. A supplementary geotechnical investigation, available at Appendix Q, was also undertaken with the purpose of clarifying matters raised in the SEARs with the completion of additional borehole sampling and laboratory testing.

In addition, HGS undertook a Preliminary Site Investigation (PSI), available at Appendix Q, to understand potential contamination on Site.

Detailed design and ultimately construction would be guided by further geotechnical and civil engineering inputs to ensure that the Site is suitable for construction and operation.

6.7.3 Existing Environment

6.7.3.1 Soils

The Site is currently undeveloped and generally vegetated. It is situated in an area of gently undulating sand plain terrain and reference to Forster Coastal Quaternary Geological Mapping Sheet indicates that the Site is underlain by Holocene aged beach ridge and strandplain deposits comprising marine sand, shell and gravel.

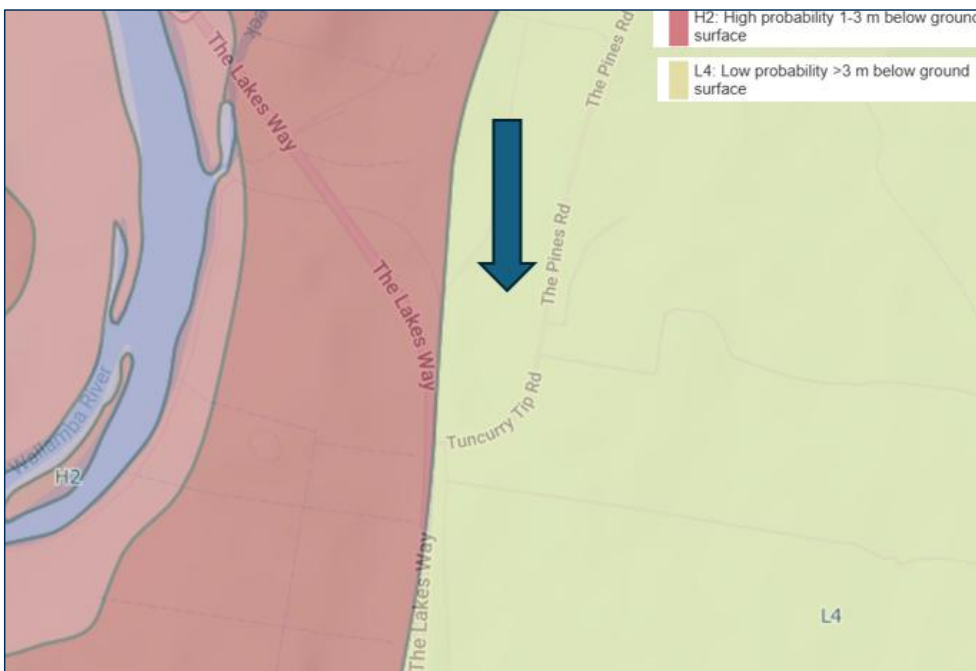
The borehole investigations revealed up to 0.7m of loose sand across most of the tested areas. The subsurface profile was generally non-reactive aeolian sands. Groundwater was encountered between

1.2m – 2.6m below ground level, consistent with a shallow barrier aquifer of high transmissivity, responsive to rainfall and tidal influence. The Site soils are uniformly sandy with minimal fines. Testing identified the soils as non-dispersive but lacking cohesion, which means the soils are highly erodible when exposed to rainfall or runoff.

Electrical conductivity testing confirmed all soil samples are non-saline.

The preliminary geotechnical report references the NSW Office of Environment and Heritage's online database 'ESPADE' indicates that the Site lies in an area of low probability of acid sulfate soils occurring at depths greater than 3m below ground surface. Further testing suggested possible sulfidic horizons within the sand profile, and confirmatory testing identified localised Potential Acid Sulphate Soil (PASS) at depth in two boreholes. No Actual ASS was detected, and all shallow horizons (<3 m below ground level) were nonsulfidic. The PASS occurrences are interpreted as patchy, buried back-barrier/tidal sand facies near the base of the Holocene barrier.

Figure 44: ASS / PASS Mapping



Source: espade mapping, 2025

6.7.3.2 Contamination

A detailed desktop review of available information and thorough Site inspection including soil and groundwater investigation informed the preparation of a PSI, including Conceptual Site Model and analysis of Source-Pathway Receptor linkages. Detailed analysis is laid out within the PSI, with key findings being:

- Potential contamination sources at the Site are limited based on historical land use
- No visible signs of gross contamination were observed during Site inspection and intrusive works
- No contamination was identified in shallow soils at any of the sampling locations

- No groundwater contamination in groundwater was identified within any of the monitoring well locations

In summary, based on the desktop study and intrusive sampling conducted, no indication of gross contamination has been identified which would restrict the Project at the Site. No further assessment is required.

6.7.4 Impact Assessment

6.7.4.1 Construction

Construction would involve removal of vegetation, soil disturbance and excavation, so there is potential for soil erosion and sedimentation impacts. There are no waterways in the Site, reducing sedimentation risk.

The Site would be levelled to create developable area. Cut and fill details would be developed through detailed design. Initial calculations indicate that the Site would require import of approximately 2,000m³ material. A cut and fill plan is included in Appendix G.

An ESCP has been developed as part of the WCMP and will be incorporated into the CEMP. This would include provisions that would limit areas of disturbance to the minimum required and would require appropriate surfacing to minimise the risk of erosion. This would include:

- Minimising open area of Site
- Use of erosion controls e.g. mesh
- Revegetate or seal areas as soon as possible
- Clean Site tracks and access
- Install filters over drains

There are no expected salinity constraints to construction, foundation performance, or vegetation establishment.

Shallow construction works present negligible ASS risk, but deep excavation or significant dewatering could activate PASS constraints. The bunker depth is RL 2.2 which gives 1m freeboard between groundwater.

Considering that excavation is beyond 2m, an acid sulfate soils management plan would be prepared in accordance with the *NSW Acid Sulfate Soils Manual* and submitted to the consent authority prior to commencement of such works.

6.7.4.2 Operation

Hardstand surfaces would be sealed during construction, and the condition of the surfaces would require regular review as part of the OEMP.

All materials would be stored within buildings and with bunding as required.

Overland flows from outside the Site would be diverted away from the developable area (Section 6.6), reducing the risk of erosion and deposition of sediment over the Site.

6.7.5 Mitigation Measures

The Geotechnical Report provides detailed recommendations on construction materials and techniques, summarised below.

Design

- The Site has been classified in accordance with AS2870-2011 "Residential Slabs & Footings". While not for residential purposes, this document is considered to contain appropriate guidance and recommendations.
- The footings should be designed in accordance with engineering principles based on specific site conditions, which may include incorporation of piers / piling.
- The design has been modified to limit the risk of impacting groundwater or PASS. If deeper foundations are identified as required during the detailed design process, potential impacts on groundwater and PASS to be further considered.

Footings

- Compaction would be required prior to placement of concrete foundations.
- The use of temporary liners could be required to support the soil.
- Use of piling may be suitable to address ground conditions.

Earthworks & Retaining Walls

- Clearing would be required, which would expose the underlying sandy soils. Where earthworks would be through sandy profiles, allowance should be made for use of a granular foundation replacement.
- Appropriate excavation support could be required, dependent on ground conditions, dewatering method and method of construction.
- Detailed design would be informed soil parameters identified in the Geotechnical Report.
- Retaining walls are proposed around the western and southern sides of the facility to minimise development footprint while providing a secure construction base.
- Where required, fill material should be compacted in near-horizontal uniform layers placed in such a way that provides adequate drainage and prevents ponding during construction.
- The geotechnical report provides guidance on specifications for materials, temporary batter slopes, permanent batter slopes and retaining walls.

Roads

- The geotechnical report provides specifications and standards to apply in road design, construction and drainage.

Construction

- Clearing - Topsoil, root affected material and existing sand fill should be removed to expose sandy soils using a sand or mud bucket to minimise disturbance of the sand profile.
- Detailed design and construction methodology to be informed by geotechnical studies to provide for Site stability and prevention of erosion but should apply these principles:
 - Progressive Clearing: Minimise the footprint of exposed sand at any one time.
 - Temporary Covering: Apply mulching, erosion control blankets, or geotextiles immediately following stripping.
 - Diversion Drains: Use shallow bunds and diversion banks to redirect clean water around disturbed areas.
 - Sediment Basins: Construct appropriately sized basins to capture runoff, noting that high infiltration soils may require lining or sump stabilisation
 - Wind Erosion: Install dust suppression measures (watering, hydro-mulching, wind fences) during dry periods.

- Revegetation: Establish groundcover rapidly using grass and shrub species suited to sandy soils.
- Surface Drainage: Direct flows away from exposed sandy batters and towards stabilised drains or lined channels.
- Long-Term Protection: Maintain vegetation cover, avoid uncontrolled vehicle trafficking, and apply geofabrics or riprap in high-flow zones.
- Footings – compaction of soils on site would be required.
- Retaining walls and batters are to be constructed in accordance with geotechnical advice.
- An unexpected finds protocol for contamination is to be developed and utilised during earthworks stages.
- An acid sulfate soils management plan would be prepared in accordance with the *NSW Acid Sulfate Soils Manual* and submitted to the consent authority prior to commencement of such works.
- Erosion and sediment controls are detailed in the ESCP including measures for:
 - Stockpiling
 - Sediment fence
 - Straw bales filters
 - Kerb inlet sediment filter
 - Stabilised site access
 - Drop inlet filter
 - Earthbank

Operation

- The site would be maintained in a tidy state.
- Stormwater quality improvement devices will be regularly maintained.

6.7.6 Conclusion

The Site is predominantly sandy soils, which would require management during clearing and earthworks and stabilisation for construction of the buildings and roads. With the implementation of a ESCP plus other mitigation measures outlined above, there would be negligible impacts to soil during construction and operation.

There is no indication of gross contamination that would restrict development of the Site and the Project would not introduce contamination to the Site.

6.8 Bushfire

6.8.1 Assessment Requirements

Table 50: SEARs – Bushfire

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
Bush Fire – A bush fire assessment report that addresses the aims and objectives of <i>Planning for Bushfire Protection 2019</i> , and includes: • Details of proposed operational access for emergency services personnel. • Details of emergency and evacuation arrangements for occupants/visitors. • A draft bush fire emergency management and evacuation plan that provides an outline of how the development will be managed / mitigated to address potential bush fire impacts.	Section 0 Appendix Q Appendix R
NSW Rural Fire Service	
A bush fire assessment report shall be prepared which identifies the extent to which the proposed development conforms with or deviates from the relevant provisions of <i>Planning for Bush Fire Protection 2019</i> .	Appendix R

6.8.2 Introduction

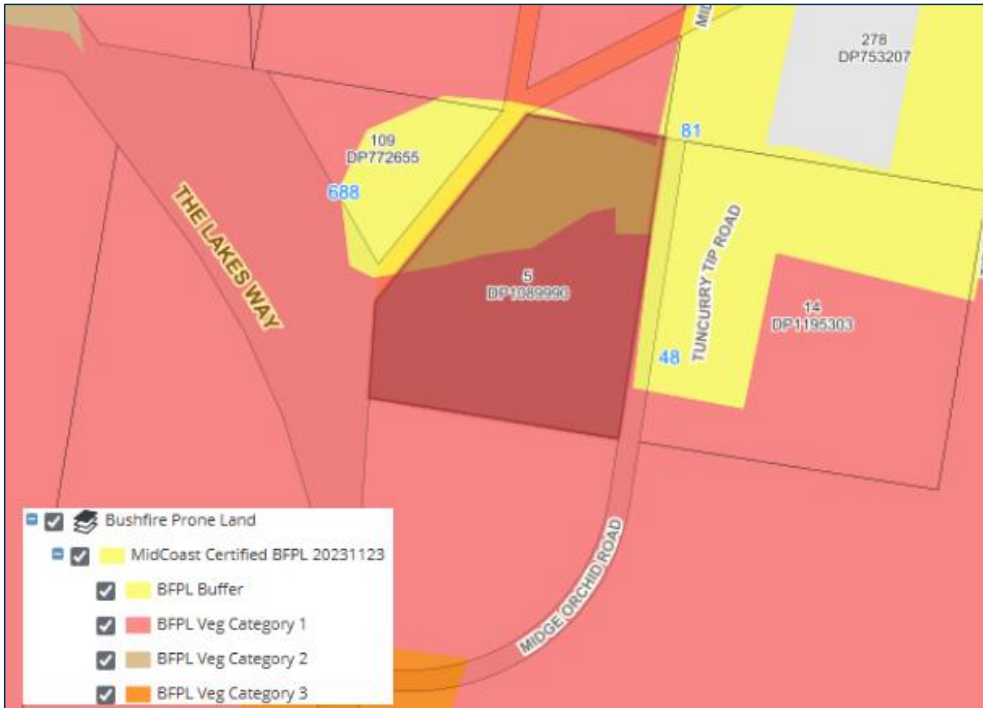
A bush fire assessment report (BFAR), included as Appendix R, was prepared by MRA Consulting Group that includes a hazard assessment, addresses compliance with PBP 2019, references a draft bush fire emergency management and evacuation plan (BFEMEP) and outlines required protection measures.

6.8.2.1 Existing environment

The area within 1km of the Site is characterised by mature vegetation to both the north and south. Vegetation to the south comprises a mix of forested wetlands and heathland, while the north is dominated by heathland communities. Cleared land within this area is limited to road corridors and residential and agricultural development.

The Site is mapped as bush fire prone land (BFPL), as shown in Figure 45. Affected areas within the Site vicinity include the Tuncurry Waste Management Centre (Lot 14 DP 1195303), access roads (adjacent Lakes Way and Midge Orchid Road) and surrounding vegetation. As the Site is BFPL, an assessment of compliance with the aims and objectives of *Planning for Bushfire Protection 2019* (PBP 2019) is required.

Figure 45: Bush Fire Prone Land Mapping



Source: MidCoast Council Public GIS Maps, 2025

6.8.3 Impact Assessment

6.8.3.1 Building Classification

The Project buildings would be classified as Class 8 under the National Construction Code (NCC). Construction on BFPL must comply with the NCC, however the Code does not prescribe bushfire-specific construction standards for Class 5–8 buildings.

Australian Standard 3959 Construction of Buildings in Bushfire-Prone Areas (AS3959) and the *National Association of Steel Framed Housing Steel Framed Construction in Bush Fire Areas Standard 2014 (NASH Standard)* are not deemed-to-satisfy provisions for these developments.

While the NCC does not provide for bush fire specific construction standards, PBP 2019 Clause 8.3.1 notes the following objectives to be applied for Class 5-8 buildings in relation to access, water supply and services, and emergency and evacuation planning:

- To provide safe access to/from the public road system for firefighters providing property protection during a bush fire and for occupant egress for evacuation
- To provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development
- To provide adequate services of water for the protection of buildings during and after the passage of bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building

- Provide for the storage of hazardous materials away from the hazard wherever possible

As discussed within the BFAR, the Project has been assessed against the aims and objectives of PBP 2019. Furthermore, noting that the Project would comprise Class 8 Buildings for the purpose of assessment against the NCC, relevant objectives have been assessed. Compliance with all elements would be achieved by either acceptable solutions or performance outcomes with the implementation of appropriate bush fire management measures.

6.8.3.2 Asset Protection Zones

Available asset protection zones (APZs) and their alignment with PBP 2019 are outlined in Table 51 and below.

Table 51: Asset Protection Zones (updated)

Plot No.	Post Development Vegetation	Effective Slope (degrees)	Recommended APZ	Available APZ	Complies Building/structure
1	Within development footprint	-	-	-	-
2	Tall heathland	Upslope	16m	51m for admin buildings 18m for gas flare	Y for buildings Y for structures
3	Forested wetland (excl. coastal swamp forest)	Flat	8m	60m to IVC tunnels 18m to biofilter	Y for buildings / Y for structures
4	Forest (incl. coastal swamp forest)	Downslope 0-5	25m	60m to IVC tunnels 20m to biofilter	Y for buildings N for structures
5	Tall heathland	Downslope 0-5	18m	8m to maturation building (generally 16.4m) 16.4m to IVC tunnels	N for buildings -
6	Tall heathland	Flat	16m	26m for maturation building -	Y for buildings Y for structures
7	Developed	-	-	>100m	Y for buildings Y for structures
Other Excluded areas	Developed / cleared	N/A	-	>100m	Y for buildings Y for structures

The proposed development provides APZs generally in compliance with PBP 2019.

Although the recommended APZ is not achievable to the west / north-west, there is a reduced fire run in this area. Further, the 8m APZ is not indicative of the general APZ of approximately 16.4m at this aspect. The general 16.4m APZ is 1.6m short of the recommended APZ.

The project would also not meet the recommended APZ to the south-west with regard to structures. The affected structure would be a digester. However, the distance to a building complies with the recommended APZ.

Considering the industrial nature of the development, the necessity of vegetation retention, the accessibility to the areas from other aspects, and the availability of APZ generally, these shortfalls are

Site lot boundary

Vegetation plot boundary

Proposed APZ (including managed vegetation areas)

Plot 6

Plot 5

Plot 8

Plot 9

Plot 7

Plot 4

Plot 3

Plot 2

WEIGHBRIDGE

IVC TANK

PRE-TREATMENT

ADMIN

DIGESTERS

DEWATERING BUILDING

GAS FLARE

WATER TANKS

THE LAKES WAY

THE PINE ROAD

ROAD

W

The distances between the closest aspect of the building to each plot was measured. Using these separations, the BAL ratings for each building in relation to each vegetation plot were determined in accordance with Table A.1.12.6 of PBP 2019. The BAL rating for each building is presented in Table 52. Note: Figure 18 references *separation* of the biogas. The feasibility of biogas separation is currently being investigated but it is not currently proposed.

Table 52: BAL rating for each building (updated)

Building	Plot 2 Tall heathland Upslope	Plot 3 Forested wetland Flat	Plot 4 Forest (incl. coastal swap forest) Downslope 0-5	Plot 5 Tall heathland Downslope 0-5	Plot 6 Tall heathland Flat	Plot 7 Rainforest Flat	Plot 8 Rainforest Flat	Max BAL
Buildings								
Maturation	Low	Low	Low	BAL-29	BAL-19	Low	BAL-12.5	BAL-29
Pretreatment building	BAL-12.5	BAL-12.5	BAL-12.5	BAL-12.5	BAL-12.5	BAL-12.5	BAL-12.5	BAL-12.5
Administration building	BAL-12.5	BAL-12.5	Low	Low	BAL-12.5	BAL-12.5	BAL-12.5	BAL-12.5
IVC tunnels	BAL-12.5	BAL-12.5	BAL-12.5	BAL-19	BAL-12.5	Low	Low	BAL-19
Structures								
Digesters	BAL-12.5	BAL-12.5	BAL-12.5	BAL-12.5	Low	BAL-12.5	BAL-12.5	BAL-12.5
Biofilter area	BAL-12.5	BAL-12.5	BAL-29	BAL-19	Low	Low	Low	BAL-29
Gas flare	BAL-29	BAL-12.5	Low	Low	Low	BAL-12.5	Low	BAL-29
Biogas storage and liquid digestate	BAL-29	BAL-12.5	BAL-12.5	BAL-12.5	Low	BAL-12.5	Low	BAL-29
Fire pump room	BAL-29	BAL-12.5	Low	Low	Low	BAL-12.5	BAL-12.5	BAL-29
Water tanks	BAL-FZ	BAL-12.5	Low	Low	Low	BAL-12.5	BAL-12.5	BAL-FZ

Commented [EH2]: Double check

BAL-29 was adopted as the aim for buildings to avoid direct flame contact and reduce radiant heat experienced at the building. A number of buildings do not achieve BAL-29, for which further explanation and justification is provided below. It should be noted that both the operational buildings and the non-habitable structures require high levels of functionality, and therefore must be construction to industry specifications.

Buildings

- **Maturation Building:** The maturation building has been assessed as being located within BAL-29 on the western aspect and BAL-19 on the northern aspect. Detailed design will consider the recommended fire ratings for these building elements. Fire ratings are not applicable to the eastern and southern aspects due to the existing and proposed developments.
- **Pre-treatment Building:** The pre-treatment building is within BAL-12.5 on the northern and southern aspects. It is shielded from bushfire attack on the western aspect, where it adjoins the IVC tunnels. It is recommended to build the pre-treatment building to BAL-12.5 standard on the north and south.
- **Administration Building:** The administration building would be within BAL-12.5 on the northern and southern aspects. It is recommended to build the administration building to BAL-12.5 Standard.
- **IVC Tunnels:** The IVC building is assessed as being within BAL-12.5 on the northern and southern aspects, and BAL-19 on the western aspect. The eastern aspect does not require a building standard as it faces developed land. IVC tunnels are sealed concrete construction and contain moisture application equipment which would be used to soak the internal compartments of the building in the event of a fire. IVC tunnels only require habitation during loading and unloading and maintenance of the compost. The IVC tunnels must be built to an industry specification for the purpose of composting equipment. The western aspect of the IVC tunnels would consider the specifications of BAL-19. The northern and southern aspects would consider BAL-12.5.

Non-habitable Structures

- Weighbridge office: A weighbridge office is a Class 10a building and is located more than 6m from a habitable building. Hence it is a minor development and is not required to be assessed. Nevertheless, the weighbridge will be built from non-combustible materials.
- Digestors: The digestors would be located in BAL-12.5. Digestors are uninhabitable. The standards of BAL-12.5 would be considered in their construction.
- Biofilter: The biofilter is within BAL-19 on the south and BAL-29 on the south-western aspects. The other aspects are shielded from bushfire attack. The construction of the biofilter will take into account standards for BAL-29, however, as the biofilter is an uninhabitable piece of equipment, the fire rating would need to be to an achievable standard while remaining functional.
- Gas flare: The gas flare is within BAL-29 for Plot 2; however, the construction of the gas flare already takes into account fire resistance.
- Biogas storage and liquid digestate: Biogas storage is within BAL-29 for Plot-2. Biogas Storage is within a double membrane biogas holder. The standards for BAL-29 will be taken into account in detailed design.
- Fire pump room: The fire pump room is within BAL-29 to the south and east. Standards for BAL-29 will be taken into account in the construction of these aspects.
- Water tanks: The water tanks are within BAL-FZ for Plot 2. Defendable space in the form of a 6m wide access road will be provided to the east of this infrastructure. Given the purpose of these tanks, they will be constructed of fire-resistant materials, such as steel, to achievable fire rating standard, or may be replaced post fire.

6.8.3.4 Emergency Access & Egress

A bush fire emergency management evacuation plan (BFEMEP, Appendix S) has been drafted for completion prior to construction commencing.

Crucially, the facility could operate unmanned and in the event of bushfire approaching or near the Site, the first option would be early evacuation. The Site would have two sealed access points and in the event of an emergency all deliveries and collections would cease and therefore both access points would be available for emergency services if required.

All staff would be briefed to understand the bushfire risks. The Site would be kept clear of leaf litter and organic debris, particularly during bushfire season.

6.8.4 Mitigation Measures

The following measures would be implemented on Site to achieve appropriate separation and reduce risk of bushfire impacts for the Site, its occupants, buildings and infrastructure.

Asset Protection Zones

- APZs would be established and would be maintained in perpetuity.

Access

- Internal roads would achieve:
 - Minimum 4m vertical clearance
 - Curves have an inner clearance of minimum 6m
 - Minimum distance between inner and outer curves in 6m
 - Crossfall is no more than 10 degrees
 - Maximum grade does not exceed 15 degrees
 - Suitable for minimum 23T load
 - Constructed with spray seal coating or asphalt

- Suitable appliance parking to be provided adjacent to water tanks on site.

Water

- 2x 215kL tanks are to be provided on Site and kept full at all times. An additional 2 stormwater retention tanks (2 x 430 kL) would be provided on Site for management of stormwater and water would be available for use. Fittings to be as required for Rural Fire Service/brigade specifications.
- Pump room is to be provided and fire truck area adjacent to be kept clear and unobstructed at all times.
- All above ground water service pipes external to buildings would be metal, including and up to taps.

Electricity & Gas

- Where practicable, electrical transmission lines are to be installed underground.
- Where overhead, electrical transmission lines are proposed as follows:
 - lines are installed per agreement with utility provider, which may exceed 30m spacing to avoid environmental impact; and
- No part of a tree would be closer to a power line than the distance set out in accordance with the specifications in *ISSC3 Guideline for Managing Vegetation Near Power Lines*.
- Relevant recommendations of Preliminary Hazard Assessment are to be complied with.
- Hot work on site shall be performed under a safe work permit only.
- Firefighting equipment would be provided and staff trained in its use.
- Gas leak detection systems would be implemented.

Construction

- Buildings, structures, gates, fences and external utility infrastructure are to be constructed of non-combustible materials.
- The building design should incorporate measures to avoid risk of ember attack including sealing of gaps and openings, use of gutter and downpipe leaf guards.
- BAL levels would be considered for the construction of buildings.
- BAL levels would be considered for non-habitable structures.

Landscaping

- Removal of vegetation in areas of highest ecological value would be avoided.
- Tree canopy cover would be less than 15% at maturity.
- Trees at maturity would not touch or overhang any part of any building.
- Vegetation would be managed to remove limbs up to a height of 2m above the ground.
- Tree canopies would be separated by 2 to 5m.
- Planting preference has been given to smooth barked and evergreen trees.
- Vegetation would be spread out and would not present continuous fuel.
- Shrubs should not be located under trees.
- Shrubs should not form more than 10% ground cover.
- Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.
- Grass would be kept mown (as a guide grass should be kept to no more than 100mm in height).
- Leaves and vegetation debris should be removed.

Emergency Management

- A bush fire emergency management and evacuation plan would be implemented.
- An emergency planning committee would be established for Site.

Operational

- All material would be received, stored and processed inside buildings.
- The site would be maintained in a tidy condition with vegetation debris collected daily during fire season.
- Gutters and vents would be cleared of vegetation regularly, in particular during fire season.
- Vegetation maintenance would occur regularly to comply with required standards.
- An operational environmental management plan would be developed including hazard and risk management on Site.
- All staff would be appropriately trained in Site management and operations.
- Maintenance of plant, fleet etc would ensure efficient running and avoid sparks.

Fire Suppression

NALG would provide fire services including but not limited to:

- Supply and installation of fire hydrants and firehose reel.
- Supply and installation of fire extinguishers and fire blankets.
- Supply and installation of fire pump system.
- Supply and installation of fire sprinkler system in the admin building.
- Supply and installation of fire detection and alarm system.

6.8.5 Conclusion

The Project would be constructed and operated with appropriate management procedures to minimise risk of ignition of a bushfire. All flammable organic material would be stored within buildings, which would prevent it contributing fuel to a bushfire in the area. The biogas would be stored in containers in accordance with best practice and flaring would be managed by high standard technology with fail-safes in place.

In the event of a bushfire occurring at or near the Site, appropriate procedures would be in place to ensure evacuation of all occupants from Site while simultaneously allowing emergency services to attend in response to a fire.

Accordingly, it is considered that the Project does not represent an unacceptable bushfire risk and complies with requirements of PBP 2019.

6.9 Traffic, Access, and Parking

6.9.1 Assessment Requirements

Table 53: SEARs – Traffic, Access and Parking

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
A quantitative transport impact assessment prepared in accordance with the Transport for NSW <i>Guide to Transport Impact Assessment (GTIA)</i> and Austroads guidelines, that includes:	Appendix T

Assessment Requirements	EIS Reference
Consideration of all deliverables and actions for construction and operation of the development in Appendix E – Scoping checklist of the GTIA.	Appendix T
An estimate of trip generation, mode split, arrival/departure profiles and trip distribution using the first principles method.	Section 6.9.4.1.1 Appendix T
An assessment of cumulative traffic impact on road performance and safety implications at key intersections using an appropriate modelling framework (including the consideration of existing base case, future base case and project case scenarios).	Section 6.9.4.2.7
Plans demonstrating how all vehicles likely to be generated during construction and operation and awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network.	Section 0
Details and plans of any proposed internal road network, access points, loading dock provision and servicing, on-site parking provisions, and sufficient pedestrian and cyclist facilities, in accordance with the relevant Australian Standards and Austroads/TfNSW technical guidelines.	Section 0 Section 6.9.4.2.3 Section 6.9.4.2.5 Section 6.9.4.2.6
Swept path diagrams for the largest vehicles manoeuvring through site access points, internal roads, hardstand areas and nearby intersections (where necessary).	Section 0
Details of road upgrades, traffic control measures, new roads or access points required for the development if necessary (including approval-in-principle from the relevant road authority, where relevant).	Section 6.9.2 Section 6.9.5
Details of likely trip generation during construction, construction vehicle routes, access and parking arrangements and measures to mitigate any construction traffic and parking impacts, including a Draft Construction Traffic Management Plan.	Section 6.9.4.1 Appendix T
Transport for NSW	
A Transport Impact Assessment (TIA) be prepared by suitably qualified person/s in accordance with the TfNSW Guide to Transport Impact Assessment, 2024, Austroads Guide to Traffic Management Part 12 and the complementary TfNSW Supplement.	Appendix T
MidCoast Council	
- A Traffic Impact Assessment will be required to ascertain traffic generation and Heavy Vehicle movement to and from as well as within the facility. - Parking facilities – there appears to be a mix of 'Compacted clay' and sealed / asphalt pavements proposed. Council's preference would be to provide sealed pavements to mitigate sediment runoff into OSD / Treatment basins, as well as dust suppression & suppression of tracking of mud and silt onto the public road network.	Section 6.9.4.1.2 Section 6.9.4.2 Appendix T

6.9.2 Introduction

Headway Traffic and Transport Solutions was engaged to undertake a transport impact assessment (TIA), provided at Appendix T, to determine the traffic and transport impacts associated with the Project. This includes vehicle movements and manoeuvring, car parking requirements and an assessment of traffic generation anticipated by the Project at the Site and on the surrounding road network.

6.9.3 Existing conditions

6.9.3.1 Road Network

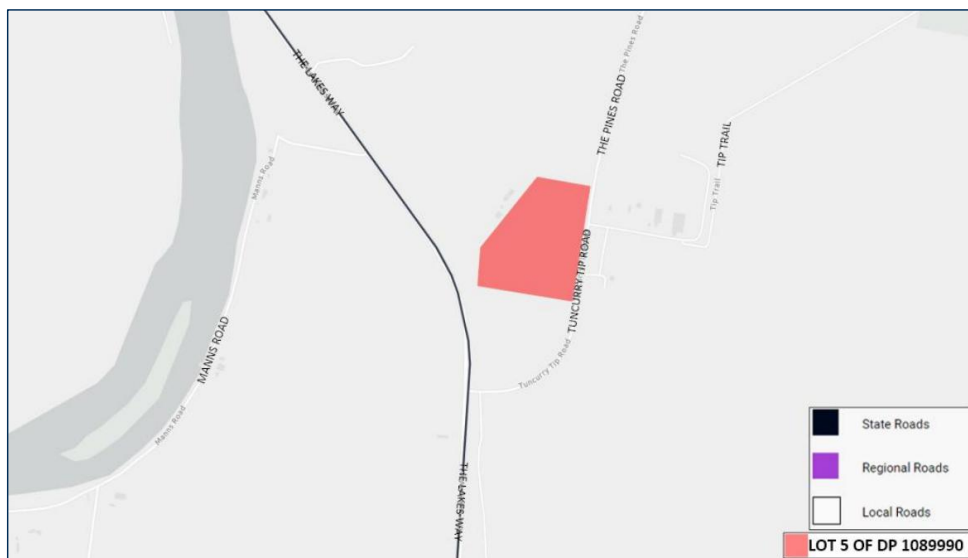
The Site is located west of Midge Orchid Road, which runs in a north-south orientation, curving at the southern end to connect with The Lakes Way. The existing Tuncurry Waste Management Centre is located to the east.

The closest state managed road to the Site is The Lakes Way, which connects the Site to Tuncurry's town centre and the rest of the state road network.

A midblock traffic survey was carried out along The Lakes Way from 25 June to 1 July 2025. Detailed results are provided in the TIA but in summary, peak traffic periods on The Lakes Way occur at 8:00am to 9:00am and 3:00pm to 4:00pm with up to 1,516 vehicles recorded. Midge Orchid Road experiences low traffic volumes, primarily heavy vehicles servicing the adjacent Tuncurry Waste Management Centre.

There are no footpaths or bicycle facilities in the surrounding area. There is limited public transport in the vicinity, and it is highly unlikely that the facility would be accessed by walking. Additionally, there is extremely limited use of The Lakes Way by cyclists, but when observed they are generally experienced cyclists travelling alone or in small groups.

Figure 47: Road Classifications



Source: Headway Traffic and Transport Solutions TIA, 2025

6.9.3.2 Key intersections

Two key intersections have been identified and assessed:

- The Lakes Way, Failford Road and Ton O Fun Road
- The Lakes Way and Tuncurry Tip Road

Due to the minimal number of vehicles recorded at Ton O Fun Road and for simplification of traffic modelling, Ton O Fun Road was disregarded in modelling The Lakes Way and Failford Road intersection.

At both intersections, traffic turning movement surveys reflected that traffic volumes peaked at 08:00 to 09:00 and 15:15 to 16:15. The Lakes Way/Failford Road intersection currently operates at a poor level of service due to existing traffic conditions, particularly right-turn movements from Failford Road. Performance metrics for both intersections, including the impact of the Project on the performance, is further detailed in Section 6.9.4.2.7

Note: Further explanation post submission is provided below:

Traffic surveys undertaken at the intersection of The Lakes Way, Failford Road and Ton O' Fun Road identified relatively low traffic volumes associated with Ton O' Fun Road, with up to 7 and 9 vehicles exiting and 7 and 16 vehicles entering during the AM and PM peak hours respectively.

While Ton O' Fun Road was not modelled as a separate leg within the SIDRA analysis, the recorded turning movements were conservatively reassigned to corresponding movements on The Lakes Way and Failford Road. This approach ensured that the potential traffic contribution from Ton O' Fun Road was accounted for within the modelling assessment and therefore did not affect the reliability of the modelling outcome.

6.9.4 Impact Assessment

6.9.4.1 Construction Impacts

6.9.4.1.1 Vehicle Generation

Construction traffic is estimated to comprise approximately 20 heavy vehicle movements per day, with up to 6 movements occurring during peak hours.

Construction staff are typically expected to arrive and depart prior to network peak hours. There are expected to be up to 25 light vehicles per day (50 movements) during peak construction activities with up to 12 light vehicle movements during peak hours.

Construction would be undertaken during standard working hours which are assumed to be Mondays to Fridays 7am-5pm and Saturdays 8am-1pm excluding public holidays.

Results from the SIDRA traffic modelling, presented in Section 6.9.4.2.7, indicate construction traffic (incl. 1-year background traffic growth) would have a minor impact on the existing intersection performance.

- The Lakes Way and Tuncurry Tip Road would drop from a LOS B to C in the AM peak and remain at LOS B in the PM peak.
- The Lakes Way and Failford Road would remain at a LOS of F and C in the AM and PM peak, respectively.

While the LOS for The Lakes Way and Tuncurry Tip Road intersection drops in the AM peak between existing and construction scenarios, the delay and queueing distance only increase by approximately 14 seconds and 2m, respectively. This is a relatively minor and acceptable outcome.

6.9.4.1.2 Parking

All construction parking would be within the Site to minimise the impact on vehicle flow along Midge Orchid Road. Exact locations would vary dependent on phase of construction and therefore the Construction Traffic Management Plan (CTMP) would be updated as construction progresses to identify appropriate parking areas. These areas would be surfaced appropriately to provide a suitable surface as well as limit erosion and dust generation.

6.9.4.1.3 Haul Routes

Construction vehicles would be required to use the following route to minimise disruption and noise on the local road network. No oversized or special loads would be required for construction activities. All specialised equipment would be delivered by containers on articulated vehicles.

Ingress:



Egress:



6.9.4.2 Operational Impacts

6.9.4.2.1 Numbers and types of vehicles

During operation of the facility, a total of 12 staff would be expected to arrive and depart the Site per day, with 4 administrative staff arriving and departing during peak hours. The remaining 8 operational staff would be likely to arrive and depart before the respective peak times. However, for the purposes of traffic modelling, all 12 daily staff are assumed to arrive during the morning peak hour and depart during the afternoon peak hour, resulting in 12 incoming trips and 12 outgoing trips, respectively to provide a worst-case scenario.

Organic waste feedstock would be delivered to the facility by heavy vehicles including semi-trailers and Council waste collection vehicles. B-double vehicles are no longer proposed to access the Site. The facility is expected to accommodate up to 6 heavy vehicles in any given hour resulting in 6 incoming trips and 6 outgoing trips. Offtake would be via backloading of delivery vehicles to limit impacts and optimise efficiency therefore would not contribute to additional movements.

Table 54: Peak Hour Operational Vehicle Movements

Vehicle	AM		PM	
	In	Out	In	Out
Light Vehicles	12	0	0	12
Heavy Vehicles	5	5	5	5
Total	17	5	5	17

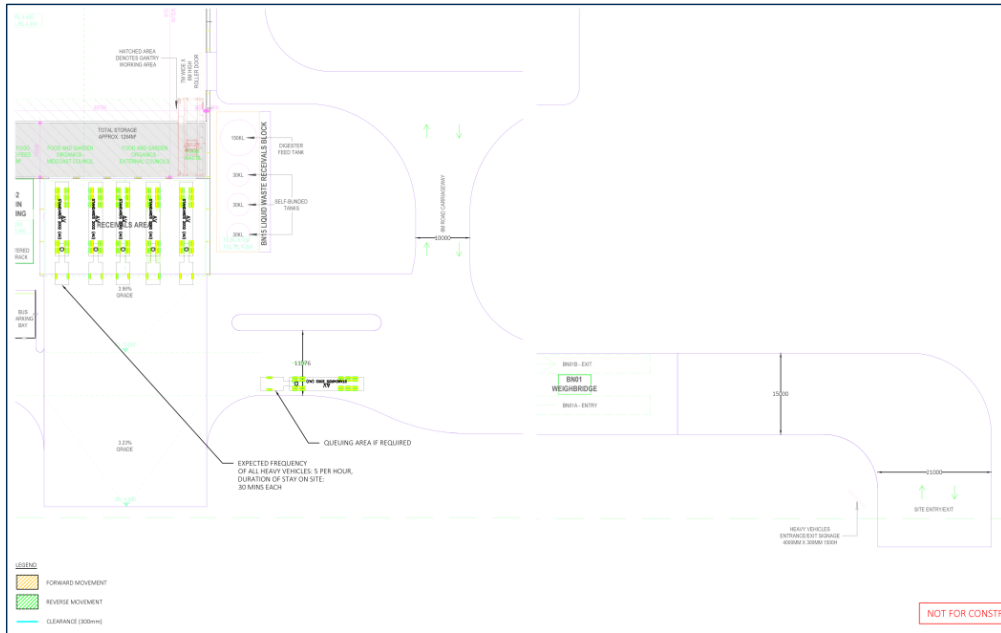
Following refinement of the operational transport assumptions, the Project is expected to generate up to 42 heavy vehicle movements per day, with typical hourly movements of up to 5 heavy vehicles per hour and a maximum of 7 heavy vehicle movements during a single off-peak hour.

The revised heavy vehicle volumes remain generally consistent with the assumptions adopted in the TIA and do not materially alter the traffic modelling outcomes. The peak heavy vehicle generation period occurs outside the identified peak periods on the surrounding road network.

6.9.4.2.2 Site Access and Manoeuvring

Access to the Site would be via two access driveways on Midge Orchid Road. The southern access would be utilised by staff, deliveries, visitors and emergency vehicles. The second access would be utilised by heavy vehicles trucks delivering waste, removing recycled product or conducting other site operational activities. All vehicles would be able to enter and exit in a forward-facing direction.

Figure 48: Access and Queuing Area



Source: Headway Traffic and Transport, 2026

The weighbridge would be set back more than 50m from the entrance to the Site, allowing space for heavy vehicles to queue off road without stacking and impacting the public network. There would be sufficient space within the Site to allow vehicles to enter the Site, drop off / collect material and leave the Site in a safe and efficient manner.

Updated swept path assessments were undertaken for heavy vehicles unloading liquid waste and for simultaneous loading and unloading scenarios within the Site. The assessments confirmed that heavy vehicles are capable of safely manoeuvring within the Site while maintaining appropriate separation between operational activities.

Vehicles delivering solid and liquid waste materials would access designated unloading areas within the receivals and pre-treatment areas of the facility.

Vehicles delivering solid and liquid waste materials would access designated unloading areas within the receivals and pre-treatment areas of the facility.

If they are also collecting compost product, they would turn left before passing over the weighbridge to access the compost area.

Visibility is good and unobscured in the area to minimise the risk of vehicle interactions. Pedestrians would also be provided with clearly marked pathways to avoid interaction with vehicles.

The separation of heavy vehicles from light vehicles by the provision of separate accesses further provides for safe manoeuvring around the Site.

On-site traffic movements would be managed through:

- designated loading and unloading areas;

- separation of heavy and light vehicle access points;
- scheduling of deliveries where practicable;
- controlled site access arrangements;
- implementation of driver management procedures; and
- preparation of detailed signage and line marking plans during detailed design.

These measures would minimise potential conflicts between vehicles and support safe and efficient circulation throughout the Site.

Figure 49 to Figure 53 show swept path assessments for heavy vehicles accessing and manoeuvring throughout the Site, including unloading of liquid waste and simultaneous loading and unloading scenarios.

Figure 49: Swept Path Analysis



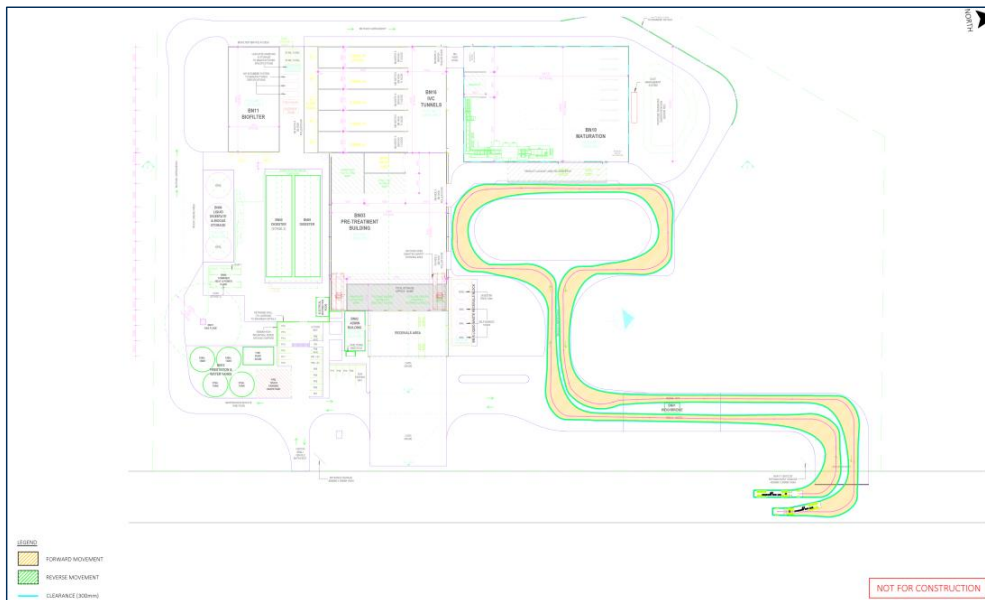
Source: Headway, 2026

Figure 50: Swept Path Analysis



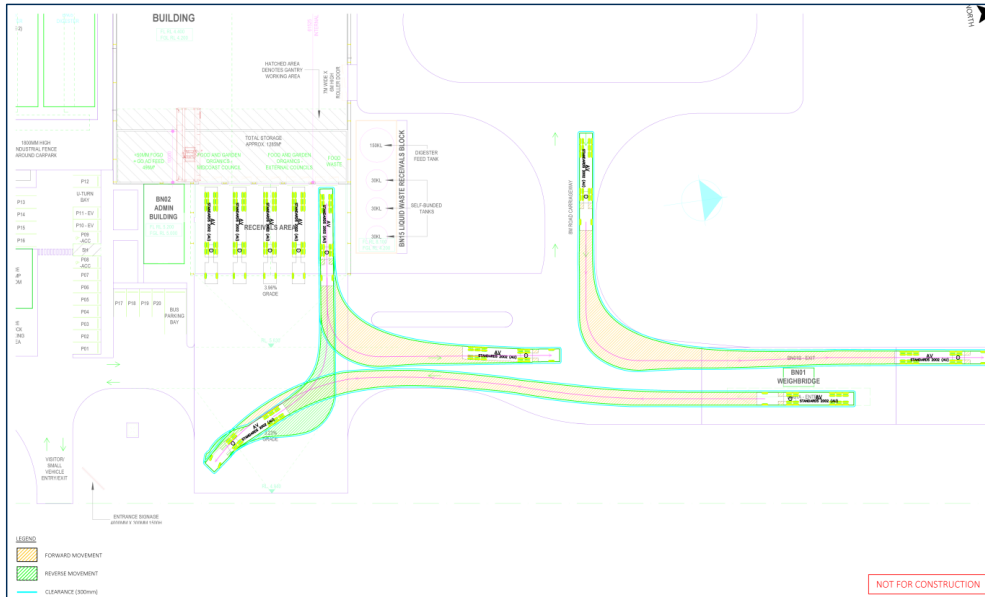
Source: Headway, 2026

Figure 51: Swept Path Analysis



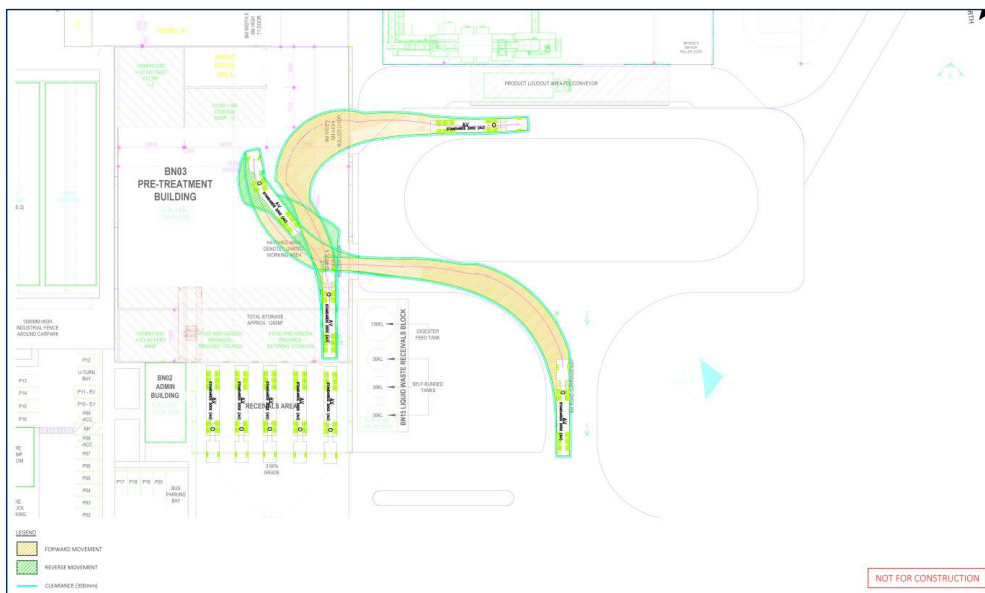
Source: Headway, 2026

Figure 52: Swept Path Analysis – Liquid Waste Unloading



Source: Headway, 2026

Figure 53: Swept Path Analysis – Simultaneous Loading and Unloading Operations



Source: Headway, 2026

Right of Carriageway

NALG would maintain a right of carriageway through the northern side of the Site to ensure ongoing access for local residents, allowing them to continue utilising the existing road connection without interruption.

Specifics around the right of carriageway would be refined in conjunction with the benefitting landowner during details design.

6.9.4.2.3 Parking

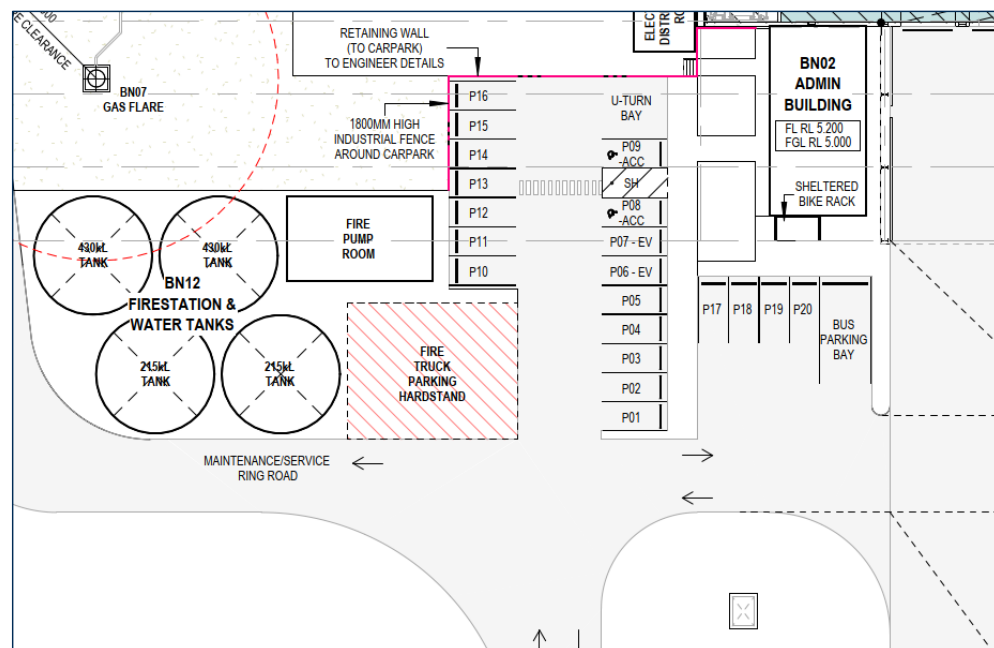
The Great Lakes Development Control Plan does not provide car parking rates or accessible parking space requirements for waste facilities. It is expected that there would be 12 staff on site at any one time and an allowance has been incorporated for visitors and potential future increases in either of these groups. A total of 21 parking spaces has been provided including two accessible spaces in line with requirements (see Table 55) and two electric vehicle charging spaces. A bus parking bay has been provided to allow for groups of visitors to attend. It is therefore considered that the parking provision would easily cater for all users of the facility. It is further noted that parking is accessed directly from the light vehicle access point, removing the need for any interaction between heavy and light vehicles.

Table 55: Accessible Parking Provision

Parking Rate	Required Spaces	Provided Spaces	NCC Satisfied
1 space per 100 spaces	1	2	Yes

The parking layout is shown in Figure 54. All road and parking areas would be sealed and drained.

Figure 54: Parking Layout



Source: NALG, 2025

6.9.4.2.4 Public Transport

There are no bus stops or bus routes on Midge Orchid Road and there are no expected impacts on public transport. The nearest bus stops are located more than 2km away from the Site.

6.9.4.2.5 Cycling & Bicycle Parking

There are no dedicated bicycle lanes along the roads connecting to the Site. However, the MCC Towns and Villages Pedestrian Access and Mobility Plan and Bike Plan include a proposed shared path that would enable future bicycle access to the Site. Therefore, the provision of covered bicycle parking would be provided adjacent to the administration building as shown in Figure 54.

6.9.4.2.6 Pedestrian Facilities

There are no footpaths or cycle paths in proximity to the facility therefore it is unlikely that pedestrians and cyclists would be impacted by any construction vehicles. The (CTMP) would require contractors to give priority to pedestrians walking near the Site by construction vehicles when entering and existing the Site.

6.9.4.2.7 Traffic network

The Site's proximity to The Lakes Way would allow good access to the state road network, minimising demands on the local road system. Worker traffic is expected to be evenly distributed north and south towards Tuncurry/Forster and Taree.

The TIA includes a modelled assessment of current and expected impacts from the Project, summarised below.

The Lakes Way and Tuncurry Tip Road

Over 10 year forecast, performance would drop from LOS B in both AM and PM peak hours LOS D in the AM peak and LOS C in the PM peak, with queuing to remain at less than one vehicle and a delay increase of approximately 25 seconds. The Project is therefore likely to not result in any notable impact at this intersection.

The Lakes Way and Failford Road

Currently operates poorly at a LOS F in the AM peak and a LOS C in the PM peak, largely due to right-turn movements from Failford Road onto The Lakes Way, indicating that the intersection is operating above capacity.

Over the 10-year forecast, performance would continue as LOS F in the AM peak and drop to LOS E in the PM peak. These results indicate the intersection would remain poor and would worsen over time; however, intersection performance results also worsen over time in scenarios excluding the cumulative impact of the Project. It is considered the congestion issues at this intersection are pre-existing and go far beyond impacts that would relate to the scope of the Project to address. Accordingly, no upgrades are proposed to address changes introduced by the Project.

Modelling Outputs

Modelling of the expected traffic at the intersections of The Lakes Way and Tuncurry Tip Road and The Lakes Way and Failford Road was undertaken, accounting for the cumulative volumes during operation of the facility. The modelling considered the AM and PM peak hours to determine the maximum impact. SIDRA modelling was conducted for scenarios including existing performance, construction, future, ultimate and 10-year forecasts to determine the performance of the intersection.

Results from the SIDRA modelling are detailed in Table 56 and Table 57 for the intersections of The Lakes Way and Tuncurry Tip Road, and The Lakes Way and Failford Road, respectively.

A review of the existing acceleration, deceleration and storage lane provisions at the intersection of The Lakes Way and Midge Orchid Road was undertaken with reference to Austroads guidance. The assessment concluded that the existing lane arrangements are adequate and practical for the forecast operational traffic volumes associated with the Project.

Existing sight distances, low forecast heavy vehicle turning volumes, acceptable SIDRA performance outcomes and the historical operation of the intersection accommodating comparable heavy vehicle activity indicate that the intersection would continue to operate safely and efficiently without modification.

Table 56: Intersection performance modelling results – The Lakes Way and Tuncurry Tip Road (updated)

Scenario	Degree of Saturation	Delay (seconds)	Level of Service	95% Back of Queue (vehicles)	95% Back of Queue (metres)
AM Peak					
Existing	0.520	21.2	B	0.2	1.9
Construction	0.522	34.7	C	0.4	3.8
Future Base	0.524	23.3	B	0.3	2.1
Ultimate	0.542	39.2	C	0.5	4.3
10-Year Forecast	0.559	46.0	D	0.5	4.8
PM Peak					
Existing	0.426	21.2	B	0.3	2.0
Construction	0.427	25.1	B	0.5	3.9
Future Base	0.451	23.6	B	0.3	2.2
Ultimate	0.451	28.3	B	0.5	4.3

Scenario	Degree of Saturation	Delay (seconds)	Level of Service	95% Back of Queue (vehicles)	95% Back of Queue (metres)
10-Year Forecast	0.464	30.6	C	0.6	4.7

Table 57: Intersection performance modelling results – The Lakes Way and Failford Road

Scenario	Degree of Saturation	Delay (seconds)	Level of Service	95% Back of Queue (vehicles)	95% Back of Queue (metres)
AM Peak					
Existing	1.269	290.4	F	38.2	290.4
Construction	1.363	372.2	F	47.2	360.2
Future Base	1.506	499.4	F	58.9	450.3
Ultimate	1.601	564.4	F	66.3	509.4
10-Year Forecast	1.792	756.7	F	79.1	608.0
PM Peak					
Existing	0.689	33.1	C	3.6	26.1
Construction	0.736	36.5	C	4.0	29.4
Future Base	0.784	40.9	C	4.5	33.0
Ultimate	0.829	46.3	D	5.1	37.9
10-Year Forecast	0.904	59.9	E	6.8	50.2

A crash review was conducted for the intersection of The Lakes Way and Tuncurry Tip Road which recorded no known incidents at the intersection.

An assessment of turn lane warrants and acceleration/deceleration lane provisions at the intersection of The Lakes Way and Midge Orchid Road was undertaken in accordance with Austroads guidance.

The existing intersection currently includes acceleration and deceleration lane treatments suitable for the level of traffic associated with the Project. SIDRA modelling demonstrated that queue lengths remain less than one vehicle under all assessment scenarios, indicating adequate storage capacity within the existing lane arrangements.

Austroads guidance acknowledges that heavy vehicles often require acceleration distances that are impractical to fully accommodate and that safe merging can instead be achieved through adequate sight distance and suitable traffic gaps.

The assessment identified:

- no recorded crashes at the intersection during the most recent five-year review period;
- sight distances in excess of 250 m;
- acceptable intersection operating conditions; and
- relatively low heavy vehicle turning volumes associated with the Project.

On this basis, the existing intersection arrangements are considered appropriate for the proposed development and no additional lane upgrades or storage length extensions are warranted.

6.9.5 Road Upgrade

B-double vehicle access is no longer proposed as part of the Project. Accordingly, upgrades associated with accommodating B-double access or designation of Midge Orchid Road as an approved B-double route are not required.

The intersection at The Lakes Way – Failford Road is beyond its functional capacity with or without the Project. As above, it is not considered the responsibility of the Proponent to resolve existing issues given the relatively small increase. Notwithstanding, at the request of MCC, the TIA has undertaken an assessment of upgrading the intersection to a roundabout. This shows significant improvement in network operations to a LoS A would be achieved however is not contemplated as part of this Project due to the lack of relationship between the performance of this intersection with the Project impacts.

6.9.6 Mitigation Measures

A draft CTMP has been provided in the TIA in Appendix T. The draft CTMP provides initial details on construction traffic management, while a detailed CTMP would be developed at the pre-commencement phase of construction and updated as required.

Other mitigation measures include:

- All accesses and internal roads would be sealed and constructed to standards per designs.
- 21 parking spaces are to be provided.

6.9.7 Conclusion

The development would generate a modest level of heavy and light vehicle movements during both construction and operation phases, with most intersections in the vicinity expected to continue operating within acceptable limits. While The Lakes Way and Failford Road intersection currently experiences poor performance, forecast to worsen over time regardless of the Project, it is considered that the additional traffic represents a minor contribution to existing conditions, in particular during peak hours.

The Project incorporates provisions for active transport consistent with Council's future PAMP and satisfies the requirements of the MCC Development Control Plan and the Australian Standard 2890 series.

Sufficient space is proposed to be provided within the Site for safe manoeuvring of vehicles and adequate parking.

6.10 Infrastructure Requirements

6.10.1 Assessment Requirements

Table 58: SEARs – Infrastructure Requirements

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
An infrastructure delivery, management and staging plan that includes: • an assessment of impacts of the development on existing utility infrastructure and service provider assets surrounding the site	Section 6.10.2
• details of any additional infrastructure and approvals required to enable the electricity generation works	Table 60

Assessment Requirements	EIS Reference
a detailed written and/or graphical description of infrastructure required on the site, including any electrical substation/s and on-site switch yard/s details of the existing capacity of the site to service the proposed development and any extension or augmentation, property tenure or staging requirements for the provision of utilities, including arrangements for electrical network requirements, drinking water, wastewater and recycled water	Section 6.10.3 Figure 12
a description of how any upgrades will be co-ordinated, funded and delivered on time and be maintained to facilitate the development	Section 6.10.3
identification of any existing infrastructure or easements on or off the site which may be impacted by construction or operation of the development and details of measures to be implemented to address any impacts	Section 6.10.3

6.10.2 Existing Environment

The Site is currently undeveloped and therefore new connections would be required for all utilities.

Overhead power cables run along the western boundary of the Site and then cut northeast towards the former landfill site on the other side of Midge Orchid Road.

A *Before You Dig Australia* search was undertaken, details of which are provided in Table 59, below and is provided in Appendix U.

Table 59: Existing utilities

Utility	Description	Impact
Essential Energy	A power pole is identified within the Site with overhead power cables. While the plan doesn't indicate underground cables connecting to the pole, earth cables may be present. Other electrical assets located just beyond the Site's boundary include: - Underground earth cables or wires near the western boundary - High-voltage (HV) underground cables along the eastern boundary	The power lines that run across the northwestern portion of the Site would be relocated utilising a mix of underground and overhead within the Site, which would impact the power pole identified. Design and delivery of this would be undertaken in conjunction with Essential Energy, MCC and other stakeholders as required. Precaution would be taken regarding any earthing connections. The distance and configuration of potential earthing cables would be determined. Safe excavation and other appropriate measures would be taken to protect assets and workers. No earthworks are expected to affect the HV assets as it is beyond the area of interest.
MidCoast Water	A potable water lateral line runs adjacent to the eastern boundary, with connections to two hydrants close to the lot. A sewerage lateral line runs adjacent the western boundary, with a scour value at the southern end.	The hardstand area for the Site's entry and exit (situated at the north-eastern corner) has a small extension over the potable water line. When working in the vicinity of MCC's assets legal Duty of Care would be observed.
NBN	Underground NBN communication assets have been identified. Two separate direct-buried cables and a 20mm PVC conduit converge at the buried elevated joint, located within the Site, near the middle corner of the lot's western boundary. From this joint, a 10mm PVC conduit extends for 46	Proponent to undertake any works with due care and in accordance with all reasonable precaution when working in the vicinity of NBN assets. NBN requires that the following minimum clearances from assets are maintained:

Utility	Description	Impact
	metres into the centre of the Site towards Tuncurry Tip Road.	300mm when laying assets inline, horizontally or vertically. 500mm when operating vibrating equipment, for example: jackhammers or vibrating plates. 1000mm when operating mechanical excavators. - Adherence to clearances as directed by other asset owner's instructions and take into account any uncertainty for power cables.
Optus and Uecomm	The plan does not show intersection between the Site and any Optus or Uecomm infrastructure. The letter however highlights that underground fibre optic telecommunication assets are in the Site's vicinity.	Proponent to undertake any works with due care, having regard to the potential for Optus or Uecomm assets and referring to guidance provided for working in the vicinity of assets.
Telstra	Telstra's cable plan indicates the cable layout for NBN's assets, except the elevated joint is depicted outside the Site boundary. The mains cable plan shows a cable running adjacent the eastern side with a marker post and transponder at the verge in the boundary.	Any construction works near Telstra assets would observe required Duty of Care. Telstra recommends the following separation is maintained: 1.0m from Mechanical Excavators, Farm Ploughing, Tree Removal 500mm from Vibrating Plate or Wacker Packer Compactor 600mm from Heavy Vehicle Traffic (over 3 tonnes) not to be driven across Telstra ducts or plant. 1.0m from Jackhammers/ Pneumatic Breakers 2.0m from Boring Equipment (in-line, horizontal and vertical)

6.10.3 Impact Assessment

Operation of the facility would require multiple items of plant and equipment. The facility would require connection to infrastructure and utilities as described in Table 60.

Table 60: Utility Requirements

Utility Infrastructure	Requirements
Power (electricity) for buildings / site	- Total power consumption modelled as ~ 7,500,000 kWh/a – 859 kW - Realignment of high voltage overhead cables and poles along west / northwest boundary - Connection to the existing High Voltage line at site boundary (east) - Installation of transformer and Low Voltage cabling internal to Site - Installation of necessary electrical components including main switchboard, distribution boards, motor control panels, VSDs, isolators and general-purpose outlets. - Cabling, conduits, cable trays, and fixing equipment. - Installation of internal and external lighting, emergency lighting, and exit lighting.
Grid connection – CHP	Infrastructure requirements to feed back to the grid would be defined in conjunction with the relevant authorities.
Solar	Installation of solar panels would be an optional component of the Project, dependent on the outcome of the commercial feasibility study.

Utility Infrastructure	Requirements
	If installed, solar generation would be estimated 552,850kWh/a (793 panels rated at 440W each,)
Telecommunications	• Installation of communications, access, and security system.
Potable water	• Installation of potable water piping with all necessary joints, fittings, and maintenance access. • Installation of pumps and valves, if required. • Connection to existing main at site boundary. • Connection to potable water points in facility.
Wastewater / sewage	• Installation of sewer piping with all necessary joints, collection chambers, pits, fittings, and maintenance access. • Installation of required pumps and valves, if required. • Connection to existing main at site boundary. • Connection to sewer points in facility.
Rainwater / on-site detention	• Installation of tanks – 2 x 215kL & 2 x 430 kL • Bioretention areas • Swale drains to north • Sediment control • GPTs
Leachate management	• Will be collected in a closed system • waste process water, a waste water tank for storage, and a recycling system to re-use the waste water • Excess would be discharged under a Tradewaste Agreement

All required certifications to be issued by appropriately qualified professionals.

Easements & Reserves

A right of way carriageway is located to the north of the Site, however design had been modified to avoid impacting the carriageway.

An undeveloped Crown Road Reserve runs to the west of the Site. Design has been modified to avoid any direct impacts (e.g. through development) or indirect (e.g. through stormwater discharge) to this area.

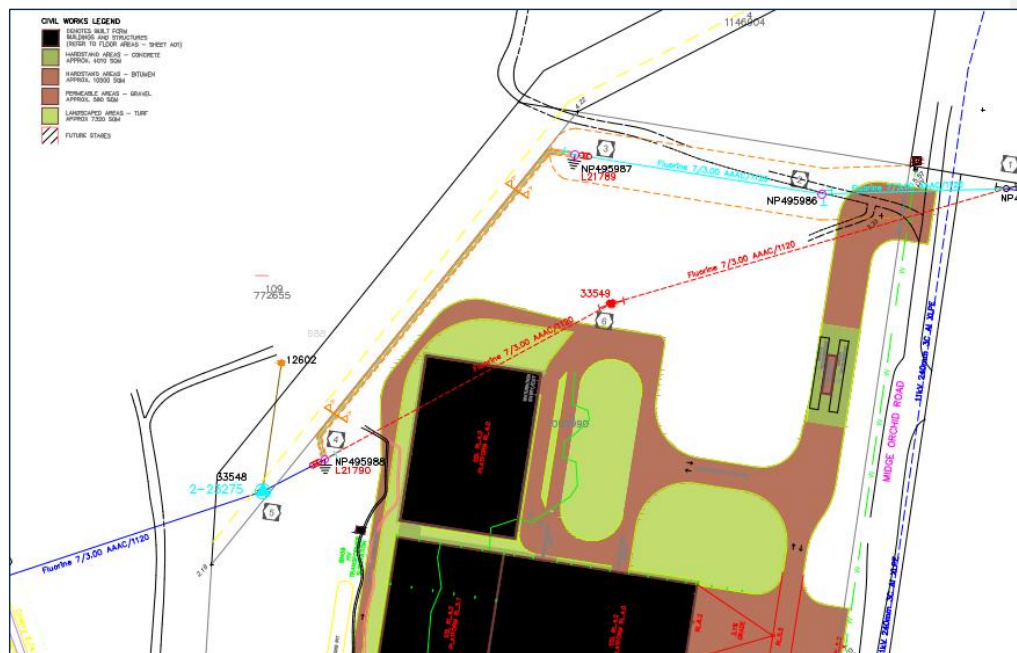
Electricity Realignment

The overhead electric cables would be realigned to a mix of underground (along the western boundary) and new overhead alignment along the northern boundary, as shown in Figure 10 and in more detail in Figure 55. Details of this design, along with definition of an easement over the land, would be developed in conjunction with the regulator and Essential Energy.

Funding

NALG will coordinate investment and funding required for the connections and upgrades.

Figure 55: Realignment of overhead power lines



Source: Zenith Surveying Services, 2026.

6.10.4 Mitigation

All works and connections would be undertaken in consultation with relevant authorities and in line with approvals issued.

Works would minimise environmental impacts and installation/fitout would be subject to provisions of CEMP.

6.10.5 Conclusion

Delivery of the facility would require connection to existing infrastructure. It is expected that this connection would be achieved with no detrimental impact to nearby occupants.

Design and implementation of all connections would be defined during detailed design stage prior to construction.

6.11 Hazards and Risks

6.11.1 Assessment Requirements

Table 61: SEARs – Hazards and Risks

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
A preliminary risk screening completed in accordance with <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> and <i>Applying SEPP 33</i> (DoP 2011), that includes a clear indication of class, storage and handling quantities and location of all dangerous goods and hazardous materials associated with the development.	Section 6.11.3.1
A Preliminary Hazard Analysis (PHA) prepared in accordance with <i>Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis</i> (DoP 2011) and <i>Multi-Level Risk Assessment</i> (DoP, 2011), should the preliminary risk screening indicate that the project is "potentially hazardous".	Appendix V
FIRE AND INCIDENT MANAGEMENT	Section 6.11.3.2 Appendix V
Consideration of fire risk from site operations, including waste materials and gases generated and collected from site processes.	Section 6.11.3.2 Appendix V
Technical information on the environmental protection equipment to be installed on the premises such as air, water and noise controls, spill clean-up equipment and fire (including location of fire hydrants and water flow rates at the hydrant), management and containment measures.	Section 6.11.3.4
Details regarding the fire hydrant system and its minimum water supply capabilities appropriate to the site's largest stockpile fire load.	Section 6.11.3.4
Details of size and volume of stockpiles and their management and separation to facilitate emergency vehicle access.	Section 6.2 Figure 20 Table 12 Section 6.11.3.6
Consideration of consistency with NSW Fire & Rescue Fire Safety Guideline – Fire Safety in Waste Facilities (February 2020).	Section 6.11.3.4.1 Section 6.11.3.3
Detailed information relating to the proposed structures addressing relevant levels of compliance with Volume One of the National Construction Code (NCC).	Section 6.11.3.4.2
NSW EPA	
Outline contingency plans for any event that may result in environmental harm, such as excessive stockpiling of material, or dirty water volumes exceeding the storage capacity available on-site.	Section 6.11.3
Demonstrate that appropriate spill containment will be provided for storage, filling and loading of all fuels and other chemicals to be used on site, in accordance with all relevant Australian Standards, and/or NSW EPA's <i>Storing and Handling of Liquids: Environment Protection Participants Manual</i> (DECC, 2007).	Section 6.11.3.4

Assessment Requirements	EIS Reference
Demonstrate compliance with Part 9.3E of the POEO Act for the use of any industrial chemicals, including details of activities involving Schedule 6 or Schedule 7 chemicals listed on the IChEMS register. Additionally, demonstrate a system for periodic review to ensure that any new IChEMS Register requirements are incorporated.	Section 6.11.3.4
Assess and describe any potential risks relating to all known and potential contaminants of concern (CoC) including per- and polyfluoroalkyl substances (PFAS) that may be associated with the proposed development and if applicable, how they will be mitigated. Consideration should be given to potential health and environment related impacts caused by the CoC. The assessment should consider various sources, receptors and exposure pathways including but not limited to ingestion (drinking water and food consumption), inhalation, and dermal contact.	Section 6.11.3.4

6.11.2 Introduction

A hazard and risk assessment screening test determined that a preliminary hazard analysis (PHA) is required for the Project. A PHA was conducted by Riskcon Engineering in accordance with the HIPAP No.6 and the Multi-Level Risk Assessment published by the NSW Department of Planning. The PHA report is provided in Appendix V.

6.11.3 Impact Assessment

6.11.3.1 Type of Assessment Needed

A development is classified as potentially hazardous development if it exceeds the thresholds outlined in *State Environmental Planning Policy (Resilience and Hazards) 2021* and the associated guideline *Applying SEPP 33*.

The screening test considered the types and quantities of dangerous goods proposed to be stored or used on-site, including biogas, sodium hypochlorite, sodium hydroxide and sulfuric acid. These are corrosive substances and flammable gasses, as detailed in Table 62.

The results of the screening test indicate that the Project exceeds the screening test thresholds due to the location and amount of biogas (methane) and therefore meets the definition of potentially hazardous development under SEPP 33. This is illustrated in the graph in Figure 56, with the biogas (grouped) being stored a minimum of 24m from the property boundary, and the grouped quantity being 1.85 tonnes. As a result, a PHA was required to further assess the risk of hazards associated with the Project and is further described below.

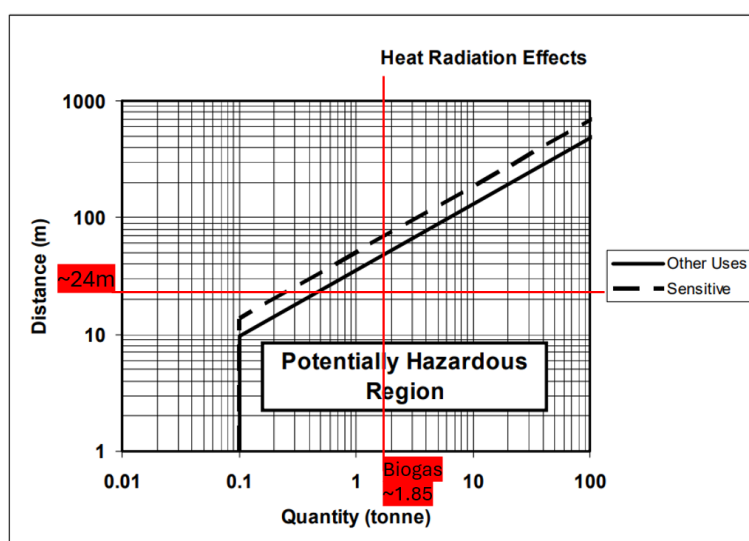
Table 62: Dangerous goods to be stored on site

Product Name	UN Number	Classification	Packing Group	Total Size	Estimated converted weight (tonne)	Thresholds
Sodium hypochlorite (10%-30%)	1791	8 Corrosive substances	III	13,500L	14.35	50 tonnes NOT EXCEEDED
Sodium hydroxide (5%-51.5%)	1824	8 Corrosive substances	II	13,500L	21.35	25 tonnes NOT EXCEEDED
Sulfuric acid (15%-51%)	2796	8 Corrosive substances	III	13,500L	19.22	50 tonnes NOT EXCEEDED

Product Name	UN Number	Classification	Packing Group	Total Size	Estimated converted weight (tonne)	Thresholds
Biogas (storage tanks)	1971	2.1 Flammable gases	-	750m ³	0.95	1.85 Ref graph [Grouped] EXCEEDED
Biogas (digester freeboard)				800m ³	0.9	

Figure 56: Class 2.1 Flammable Gases Screening Graph

Figure 6: Class 2.1 Flammable Gases Pressurised (Excluding LPG)



Source: Department of Planning, 2011, MRA modified

Due to the type of dangerous goods to be used and handled at the Site, a Level 2 PHA was determined to be the appropriate assessment level and was undertaken. This approach provides a qualitative assessment of those dangerous goods of lesser quantities and hazard, and a quantitative approach for the more hazardous materials to be used on-site.

Table 63: Level of Assessment PHA

Level	Type of Analysis	Appropriate if:
1	Qualitative	No major off-site consequences and societal risk is negligible
2	Partially Quantitative	Off-site consequences but with low frequency of occurrence
3	Quantitative	Where 1 and 2 are exceeded

Source: Riskcon, 2025 (Table 2-1 of the PHA).

6.11.3.2 Identified Hazards

A hazard identification table was completed for the PHA, providing a summary of potential hazards, consequences and safeguards at the Site. These potential hazards considered fire impacts, explosion, toxicity, property damage and accident propagation, and societal risk.

Based on the hazard identification table presented in the PHA, the following hazardous scenarios have been developed:

- Bio-gas Release, Ignition and Jet Fire
- Bio-gas Release, Delayed Ignition and Flash Fire
- Bio-gas Release, Air Influx, Ignition and Explosion or Flash Fire in Vessels or Pipework
- Incomplete H₂S Conversion and Bio-gas Release
- Bushfire Impact on Digesters, Bio-gas Release, Ignition and Fire
- Receiving Hall
- Compost Ignition and Fire Propagation
- Class 8 Release in Presence of Incompatible Substances
- Class 8 Release and Environmental Incident
- Firewater Run Off and Environmental Incident

Each scenario was assessed qualitatively. Where potential offsite impacts were identified, further analysis would be conducted. All scenarios were found to pose no significant offsite risk due to the nature of the materials, containment systems and mitigation measures in place, and therefore were not carried forward for further analysis.

6.11.3.3 Potentially Offensive Development

An assessment of potentially offensive development was undertaken in accordance with *Applying SEPP 33*. A potentially offensive industry is defined as:

a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would emit a polluting discharge (including for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land, and includes an offensive industry and an offensive storage establishment.

In assessing offence, Section 5.1 of the *Applying SEPP 33* Guidelines indicates that information should be provided regarding the:

...quantity and nature of any discharges, and the significance of the offence likely to be caused by the development, having regard to the nature of the surrounding land use and the proposed controls. The need for any licences from the DECCW or other public authority should also be ascertained.

Table 64: Offensive development assessment

Potential Discharge	Surrounding land use	Controls	Impact on locality
Noise	The distance from sensitive receivers would mitigate impacts due to noise.	None required. Noise quality modelling indicates that impacts would be minimal.	Nil

Potential Discharge	Surrounding land use	Controls	Impact on locality
Odour	The facility could result in the emission of odour due to the nature of material processed. There is good separation between sensitive receivers and the facility.	Odour control systems would be implemented as described in the above section.	Minimal
Stormwater	A threatened ecological community is located at the lower side of the Site and a waterway (Wallamba River) located approximately 600m to the west	All receipt and processing would occur within buildings, and all leachate is collected without coming into contact with stormwater. Appropriate management of materials would mitigate potential impacts to the environment.	Minimal
Licensing	N/A	The activity would be subject to an Environment Protection Licence and would be required to conform to the licence conditions.	Nil

Based on this assessment, the facility may have offensive characteristics however appropriate controls have been incorporated into the design and it would not be classified as an offensive industry.

6.11.3.4 Fire and Incident Management

Combustible Materials

The organics material deposited at the Site would have a high moisture content and little dust, limiting likelihood and consequence of ignition.

Some contamination material would be present, including combustible goods such as plastic, paper and card. In addition, despite intended removal of contaminants, there would be a risk of sparks caused by metals in the shredder, or malfunctioning equipment. Contaminants would be removed and stored in steel bins prior to removal to a lawful facility to prevent accumulation and loose flammable items being present.

Hazardous Industry Planning Advisory Paper (HIPAP) No. 4 provides a criterion for the maximum permissible heat radiation at the Site boundary of 4.7 kW/m², above which the risk of injury may occur and therefore the risk must be assessed.

No incidents considered would result in this being experienced.

Processing

IVC would be undertaken in an enclosed, purpose-built structure under controlled conditions. Temperatures typically get up to 55 degrees, not enough to trigger combustion. Each of the IVC tunnels would be separated by concrete walls, so in the unlikely event of a fire breaking out in one tunnel, it would be controlled and would not spread to other areas. Staff would be trained in monitoring, identifying and responding to such events.

Organic material would be at its driest and therefore most at risk in the maturation stage, noting that moisture content even at this stage would still be high and unlikely to result in dust or easy ignition. This area would be controlled by concrete bunkers separating storage areas, monitoring systems and protocols, and good air flow would be maintained.

While the AD process is highly controlled, biogas is a flammable material and the PHA considers potential scenarios under which fire could occur. Under normal circumstances, all biogas would be used in the cogeneration plant. In the event that this does not occur, a gas flare would burn off excess biogas, located as shown in Figure 57.

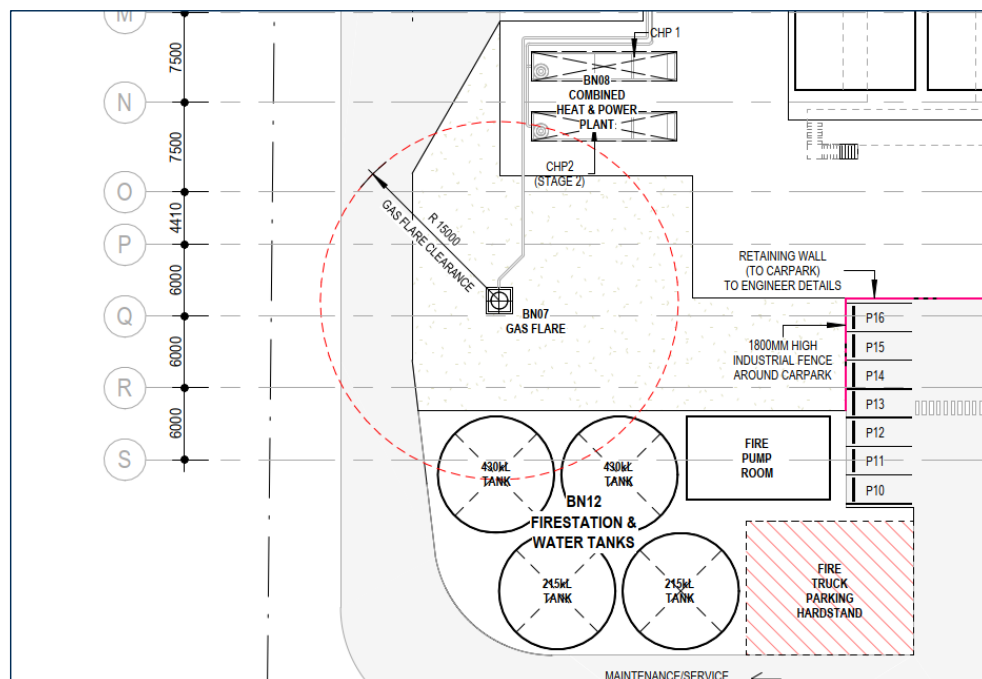
Vehicles on Site would be unlikely to cause sparks or ignition, however appropriate response (fire extinguishers and fire hose reels) would be available on Site for responders in the event of an incident.

All hot works on Site would require a prior approval.

Biogas

A bushfire hazard assessment identified that the digesters would be in an area of Bushfire Attack Level BAL-12.5 (radiant heat exposure up to 12.5 kW/m²) and biogas tanks in BAL-19 (radiant heat exposure up to 19 kW/m²). The vessel walls would be constructed of stainless steel, however, should embers land on the digester domes, there is potential for holes to be burned through the dome releasing flammable gas. The dome material would be non-combustible, which together with distance from hazardous vegetation, would prevent this type of failure from occurring.

Figure 57: Flare location



Source: a&n, 2026

The flare is located around 18m from the boundary. The flare is designed to operate at a high temperature internally and is enclosed in the combustion chamber, fully insulated with a thick layer of ceramic fibre. The flame is not visible from the outside. Accordingly, it would not present an ignition risk for bushfire or other fire.

The design of the flare stack would satisfy structural wind loading codes of practice to minimise risk of damage and the fixing of the flare stack to the concrete base would comply with relevant Australian Standards, resulting in radiation levels at ground level being within acceptable levels.

There are multiple safety components designed into the CHP and flare plant, including:

- Overpressure valve (also protects from underpressure)
- Constant monitoring and feedback
- Remote operations capability
- Manual option for pressure release

Fire Suppression

Fire suppression equipment would be provided in accordance with BCA requirements, to be completed during detailed design, and would be expected to consist of fire hydrants, fire hose reels and fire extinguishers. Smoke and heat detection system including thermal imaging cameras would be placed within the receival building and maturation building. The processing areas would also be monitored, with in-built alarms relating to changes in pressure and temperature.

Water

Where fire occurs in the presence of hazardous materials or dangerous goods there is the potential for the water to become contaminated which may result in an environmental incident if released into the water ways.

The PHA includes a risk assessment which indicates that FRNSW would combat such an incident using three hydrant hoses for 60 minutes, i.e. total water discharge over the fire combat period would be 432 m³. The Project would have 2 x 215kL stormwater tanks (i.e. total 430m³) kept full at all times to allow for sufficient water for combat purposes. These tanks would be filled either by rainwater or from the mains.

The Site's firewater containment would be driven by the collection through the stormwater collection system (into the 2 x 430 kL tanks on Site), which would be 860m³. As the volume of water would not exceed the capacity, which does not consider the volume of any bunds nor surface ponding available, it is considered that the risk of an offsite release from firewater runoff is low.

Chemicals

There are no known chemicals listed on Schedule 6 or Schedule 7 of the IChems register.

Other Contaminants

No contaminants were identified on the Site through the Preliminary Site Investigation (Appendix V). The Project would not introduce contaminants in a way that could harm the environment. All processing would occur in sealed buildings, with leachate collected and managed appropriately. In the event leachate is to be discharged, it would be subject a Tradewaste agreement, which would define required standards for the leachate would have to meet.

The OEMP would provide clear advice on processes and protocols in the event of spills or accidents on Site involving potentially harmful or contaminated material, including training, protective equipment and use of spill kits.

Controls

Controls include:

- Construction and fit out of air handling system, including odour control
- Provision of a leachate management system
- Provision of compost process control system
- Biogas production and storage controls

Safeguards are listed in Table A1 – Hazard Identification Table of the PHA in Appendix V.

6.11.3.4.1 Fire Safety in Waste Facilities Guideline

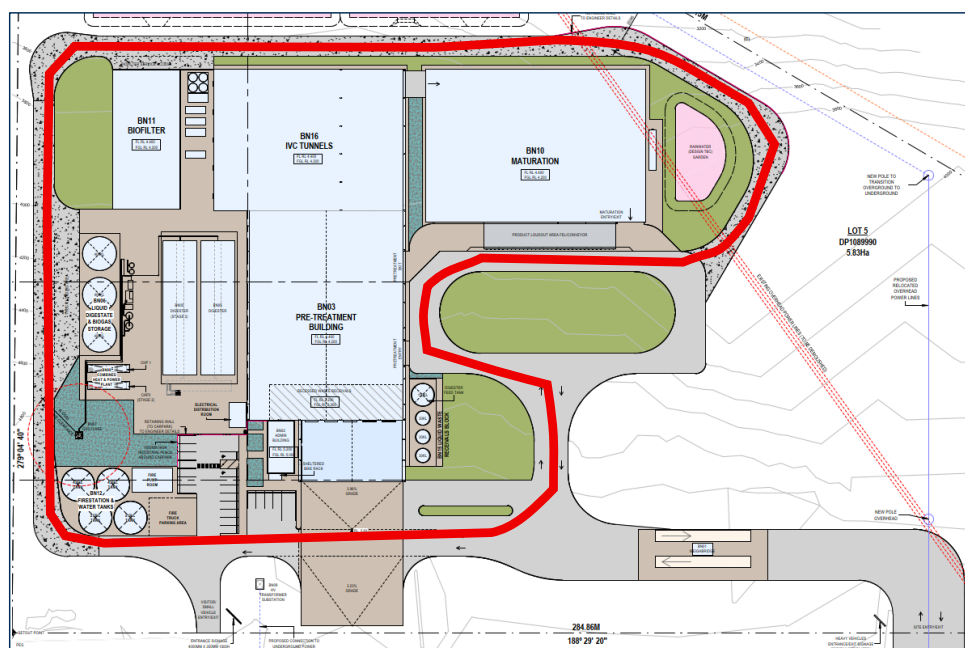
Fire and Rescue NSW published the fire safety guideline: *Fire Safety in Waste Facilities* to provide guidance on fire safety in waste facilities that receive combustible waste material. However, the guideline does not apply to 'composting, including in-vessel, green waste and anaerobic digestion', as listed in section 3 of the guideline. Therefore, an assessment against this guideline is not required. Nevertheless, the assessment in this report is considered to demonstrate alignment with the guideline's purpose "to provide guidance on fire safety in waste facilities that receive combustible waste material, including adequate provision for fire safety and facilitate safe fire brigade intervention to protect life, property and the environment".

Furthermore, the Project would adequately allow for access by emergency services, sufficient fire water and provision of suppression and response infrastructure.

6.11.3.4.2 Perimeter Access

Fire service access would be available around the perimeter of the Site via the access route as shown on Figure 58. Access to the fire water tanks would be available and unobstructed due to the layout design choices and easy access to external elevation of all buildings and structures would also be available via sealed access tracks.

Figure 58: Perimeter Access



Source: Adapted from a&n, 2026

6.11.3.5 National Construction Code

The National Construction Code (NCC) provides design requirements for fire safety in the construction of new buildings. The development would be designed to comply with relevant NCC requirements. A BCA report would be prepared to inform detailed design and would be submitted as part of the construction certificate application.

6.11.3.6 Storage and Stockpiles

Storage of materials is described in Section 6.2, Figure 20 and Table 12. The input material would have a high moisture content and the solid organics would be stored in a concrete bunker within the receival hall.

The material would retain a high moisture content throughout the entire process. The driest stage would be in the maturation building. The design of this area was modified to respond to the drier nature of the material and the building would be fully enclosed with bunkers for storage of the driest material (reference

Figure 20 and Table 12). The specific dimensions of the bunkers will be resolved through detailed design and as informed by the NCC assessment.

6.11.3.7 Climate and Coastal Hazards

The Site of the Project is located on land that is not included in the Coastal Zone, being any coastal management area defined in section 5 of the *Coastal Management Act 2016*. As such, the provision of the *Coastal Management Act 2016* and Chapter 2 of the *State Environmental Planning Policy (Resilience and Hazards) 2021* are not relevant. While the Great Lakes area features a Coastal Zone Management Plan, this is not relevant to the Site as it is not located within the Coastal Zone.

6.11.4 Mitigation Measures

While there were no scenarios found to pose a significant risk, numerous recommendations were made to enhance the safety of the facility, including:

- Bio-gas operations shall be subject to hazardous area classification in accordance with AS/NZS 60079.10.1:2022 and electrical equipment would be installed in accordance with AS/NZS 60079.14:2022.
- Any hot work on site would be performed under a safe work permit.
- Appropriate first attack firefighting equipment and staff training would be implemented to minimise the likelihood of poisonous gas evolution in the event of a fire.
- Gas leak detection systems would be implemented and regularly maintained.
- Hydrogen sulfide detectors would be either installed at potential release points or be worn on personnel conducting maintenance.
- Staff training would be implemented to limit exposure to hydrogen sulfide below standards set by Safe Work Australia.
- Regular inspections and maintenance of all plant and equipment would be undertaken and recorded.
- Procedures to prevent pollution and manage hazards and risks would be documented in an OEMP.
- A pollution incident response management plan would be developed in accordance with AS 3745 - 2010 *Planning for emergencies in facilities*.
- A register of hazardous chemicals would be compiled, including safety data sheets. Chemical use and storage would be undertaken in accordance with waste product safety data sheets.
- Hazardous chemicals would be managed in accordance with the placard and manifest requirements in Schedules 11-13 of the Work Health and Safety Regulation.
- Accidental spills on site would be managed through implementation of the Proponent's OEMP. A spill kit would be available and staff would be trained in the use thereof.
- Personnel would be trained in response to toxic or hazardous materials emergencies and management of hazardous substances.
- Personnel would be required to wear and use appropriate PPE.
- Stockpiles of materials would be in designated areas and the Site would be kept clear of trip hazards.
- Regular inspections of materials and storage locations would be undertaken to ensure adequacy of storage provisions.
- Vehicle movements would be restricted to designated areas. Pedestrian walkways would be clearly marked where necessary.
- A staff member trained in first aid would be in attendance during operations.

A number of controls would be implemented on Site to control hazards and risks:

- High moisture content would be retained to minimise dust¹.
- Air control systems – would provide for air flow and odour control.
- Incident response water would be available in tanks.
- Operations would be undertaken inside buildings with appropriate bunding and emission control.
- Spill clean up equipment would be available and staff would be trained in its use.
- Training would be delivered to staff and visitors (as relevant) on specific site hazards and responses.
- Fire extinguishers and blankets would be available in admin building.
- Fire hydrants and fire hose reels would be provided as required by NCC assessment.

6.11.5 Conclusion

The Project input material would present a low risk from a fire perspective as it would retain a high moisture content throughout the processing.

Biogas would be generated as part of the AD process. This would be stored in highly controlled and monitoring containers, designed to be ember resistant to minimise the risk of ember attack resulting in failure of the vessels.

In the event of a fire on Site, there would be sufficient storage for the fire water to avoid accidental discharge to the broader environment.

Appropriate training and equipment, including fire response and spill kits, would be provided for use on Site.

An assessment of requirements for the buildings and structures under the NCC would be conducted to inform detailed design.

With the application of relevant controls, the potential risks would be appropriately managed.

6.12 Aboriginal Cultural Heritage

6.12.1 Assessment Requirements

Table 65: SEARs – Aboriginal Cultural Heritage

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
An Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with the <i>Code of Practice for Archaeological Investigation in NSW</i> (DECCW 2010), and guided by the <i>Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales</i> (OEH 2011). The ACHAR must: • Identify, describe and assess impacts on the Aboriginal cultural heritage values that exist across the development site. • Provide evidence and details of consultation with Aboriginal people in accordance with the <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i> (DECCW 2010). • Include results of a surface survey and any test excavations and an unexpected finds protocol.	Section 6.12.2 Section 6.12.3 Appendix W
Heritage NSW (NSW DCCEW)	

Assessment Requirements	EIS Reference
The EIS should be informed by an Aboriginal Cultural Heritage Assessment Report, prepared in accordance with relevant policy and guidelines to identify, describe and assess any impacts to Aboriginal cultural heritage sites or values associated with the project. The Aboriginal Cultural Heritage Assessment Report must be prepared in accordance with the <i>Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW</i> and the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i> , including results of archaeological survey and test excavations (where required) undertaken in accordance with the relevant standards and requirements.	Section 6.12.3 Appendix W
Include evidence of adequate and continuous consultation with Aboriginal parties in relation to determining and assessing impacts, identifying and selecting options for avoidance of Aboriginal cultural heritage and identifying appropriate mitigation measures (including the final proposed measures) in substantial compliance with the consultation process outlined in the <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i> .	Section 6.12.2 Section 6.12.4 Appendix W

6.12.2 Introduction

An Aboriginal cultural heritage assessment report (ACHAR) was prepared by McCardle Cultural Heritage in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* to assess the potential impact of the Project on Aboriginal cultural heritage. The ACHAR is provided at Appendix W.

McCardle Heritage Pty Ltd consulted with sources identified by Heritage NSW who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or place. In addition, an advertisement was placed in the Great Lakes Advocate.

One person expressed interest and was provided with information. In accordance with the ACHAR process, no traditional or cultural knowledge was shared, nor was any information provided about sites or places connected to spiritual, mythological, ceremonial, or belief systems from the pre-contact, historic, or contemporary periods within the Site or its surroundings.

Consultation with Aboriginal stakeholders was undertaken (14 May 2026) in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010). Following submission of the ACHAR, additional information was requested by Heritage NSW and supplementary clarification was provided regarding consultation records, regional archaeological context and site formation processes. The outcomes of the assessment and recommendations of the ACHAR remain as presented in the final ACHA.

6.12.3 Impact Assessment

The Project is a greenfield development and incorporates earthworks and site disturbance.

The NSW State Heritage Register, National Heritage List, Aboriginal Heritage Information Management System (AHIMS), the National Trust Heritage Register, and the LEP were reviewed.

The Site is located between two major traditional resource zones, approximately 600m east of the Wallamba River and 1.4km west of the Pacific Ocean. The Site would have provided access to both freshwater and marine resources, though the considerable distance from reliable freshwater sources would have limited its capacity to support intensive Aboriginal occupation. The Project area's intermediate position between these resource zones suggests that the location would have functioned primarily as a travel corridor for transient hunting and gathering activities rather than camping and therefore any artefacts would be more likely to be scattered and impacted by previous general activity in the area.

During the Holocene highstand, sea levels along the NSW coast were higher than present levels, resulting in estuarine conditions extending further inland along the Wallamba River and associated drainage systems. While this may have temporarily increased the proximity of estuarine resources to the Site, the low-lying and poorly drained nature of the landscape would still have limited its suitability for sustained

occupation. Aboriginal use of the area is therefore considered more likely to have comprised transient hunting, gathering, and resource procurement activities rather than permanent or semi-permanent occupation.

A search of the AHIMS register identified four known Aboriginal sites within 2km of the Site, all comprising shell middens with artefacts. There were no recorded AHIMS sites within the Site itself. Three previous archaeological assessments covering the majority of the Site (Bonhomme 1988, Dean-Jones 1988, Doowakee 2011) failed to identify any Aboriginal sites or potential archaeological deposits, reinforcing the area's low archaeological potential.

Historical land use activities within the Site, including vegetation clearing, ground levelling, ploughing, pine plantation establishment, and subsequent stump extraction, are considered to have substantially disturbed the natural soil profile across the Site. The removal of mature pine plantations would have involved deep mechanical disturbance associated with the extraction of root systems and backfilling of stump voids, resulting in extensive mixing and redistribution of soils. These disturbances are considered sufficient to have compromised the integrity of any potential subsurface archaeological deposits.

The survey identified no Aboriginal archaeological sites, shell middens, artefact scatters, isolated finds, or culturally modified trees within the Site, nor were any areas of potential archaeological sensitivity identified. This result aligns with the predictive model's expectations, given the Site's marginal environmental context.

The absence of Aboriginal objects, shell material or potential archaeological deposits during the current assessment, in combination with the findings of previous archaeological investigations, supports the conclusion that the Site retains low archaeological potential despite its broader coastal setting.

6.12.4 Mitigation measures

As no sites or potential archaeological deposits were identified in the Site, there are no expected impacts on the archaeological record. Nevertheless, the following measures should be applied:

- The persons responsible for the management of onsite works would ensure that all staff, contractors and others involved in construction and maintenance related activities are made aware of the statutory legislation protecting sites and places of significance. Of particular importance is the National Parks and Wildlife Regulation 2019, under the *National Parks and Wildlife Act 1974*.
- An unexpected finds procedure would be developed and implemented during all works.
- Should any Aboriginal objects be uncovered during works, all work would cease in that location immediately, the unexpected finds procedure would be followed, and the NSW DCCEE Environment Line would be contacted.
- Should unexpected Aboriginal objects or skeletal remains be identified during construction, works would cease in the immediate area and management actions would be implemented in accordance with the Unexpected Finds Procedure and relevant legislative requirements.

6.12.5 Conclusion

No archaeological sites or potential archaeological deposits were identified within the Site. There are no expected impacts to Aboriginal cultural heritage within or outside the Site.

Based on the assessment findings, previous archaeological investigations and the extent of historical disturbance across the Site, the Project is not expected to result in impacts to Aboriginal cultural heritage values.

6.13 Non-Aboriginal Heritage

6.13.1 Assessment Requirements

Table 66: SEARs – Non-Aboriginal Heritage

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
A non-Aboriginal cultural heritage assessment (including both cultural and archaeological significance) which must detail potential impacts on heritage assets and any proposed management and mitigation measures.	Section 6.13.3 Appendix X

6.13.2 Introduction

A statement of heritage impact in Appendix X was prepared by Artefact Heritage to assess the potential impact of non-Aboriginal (historical) and cultural values for the Project.

6.13.3 Impact Assessment

A search of the NSW State Heritage Inventory was conducted 12 April for Tuncurry Tip Road, Darawank 2428.

An inspection of the subject site was conducted on 21 July 2025 on foot. No potential heritage or archaeological items were identified.

There are no items listed on the National Heritage List within the study area.

There are no items listed on the State Heritage Register in the study area.

There are no items listed on a Section 170 Register pursuant to the Heritage Act in the study area.

The nearest heritage item listed is approximately 550m to the west (Former Darawank Public School) which does not impact the Site. The Project would not cause impact to this heritage item as the facility is not expected to cause disturbance beyond the boundaries of the Site. In addition, there is no visual connection between this item and the Site.

The Site is a previously cleared, disturbed regrowth parcel with no identified historic built fabric, minimal aesthetic value, no demonstrated associative or social values, and low research potential. On current evidence, it does not meet the threshold for listing or recognition at local or State level against NSW heritage criteria.

6.13.4 Mitigation Measures

In the unlikely event of an unexpected find of historical heritage objects, archaeological relicts or sites during excavation operations, appropriate management procedures would be applied as follows:

- Work would cease immediately in the vicinity of the find and site management would be notified immediately.
- A qualified archaeologist would be engaged to assess the find.
- NSW DCCEEW would be advised as considered necessary and any necessary approvals would be obtained prior to continuing work.
- Where known objects or sites would be impacted, all recovery or management of impacts would be in accordance with a statement of heritage impact.

6.13.5 Conclusion

The likelihood of disturbing or damaging any items of non-Aboriginal heritage from the Project is very low. With the implementation of the above noted measures, the Project is not expected to impact on matters of non-Aboriginal cultural heritage.

6.14 Built Form and Urban Design

6.14.1 Assessment Requirements

Table 67: SEARs – Built Form and Urban Design

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
A design report that:	Appendix Y
Identifies design options considered during the iterative design process and demonstrates the proposed development has been optimised to provide an integrated landscape design and minimises amenity impacts by having regard to the relevant evaluation criteria in <i>Better Placed</i> (Government Architect NSW, 2017).	6.14.3 Appendix Y
Demonstrates how the development will achieve good design in accordance with the seven objectives for good design in <i>Better Placed</i> .	6.14.4 Appendix Y
Demonstrates that Aboriginal culture and heritage is considered and incorporated holistically in the design proposal consistent with the NSW Government's <i>Connecting with Country Framework</i> .	6.14.3.2 Appendix Y
Explains and illustrates the proposed built form, including a detailed site and context analysis to justify the proposed site planning and design approach and demonstrates how the building design will deliver a high-quality development, including consideration of façade design, articulation, materials, finishes, colours, any signage and integration of services.	Appendix Y
Assesses how the development complies with relevant accessibility requirements.	6.14.3.8

6.14.2 Background

The design of the facility has been developed through a collaborative and iterative process, balancing functional requirements with in-depth consideration of environmental protection, community expectations and local constraints.

Detailed consideration of the built form and urban design and its alignment with the NSW Government Architect's *Better Placed* Design Policy have been described in the built form and urban design report by Ratio Consultants, provided in Appendix Y.

6.14.3 Design Considerations

6.14.3.1 Access

Access to the Site has considered the need for safe vehicle and pedestrian movements. As such, the design has incorporated two driveways, including one for heavy vehicles such as trucks, and one for light vehicles such as staff and visitor cars.

6.14.3.2 Sense of Arrival

The Project has incorporated design elements that contribute to a positive experience upon arrival, including the provision of a sleek metal facility identification sign, landscaping, high quality materials and finishes on buildings. Additionally, a large Aboriginal artwork undertaken by a local Aboriginal artist would be displayed on the receival building and would be visible from Midge Orchid Road to contribute to the amenity of the area. These elements would mark the key focus of the facility upon which visitors and staff would arrive to, framing important elements such as the administration building and car parking area.

6.14.3.3 Safety

Biogas being stored on site would be located away from regularly accessed areas, such as the administration building and parking area, and is surrounded by hard surfaces to enhance the safety and minimise fire risks. No landscaping has been proposed directly adjacent the biogas storage tanks.

6.14.3.4 Circulation and Parking

Internal roads have been designed with operational efficiency as the focus, to enable vehicle mobility and access between key parts of the facility, while ensuring conflicting users are not in contact with each other through the separation of heavy vehicles and light vehicles. Swept path analysis has enabled the design to maintain adequate space for truck movements, emergency service vehicles to access and manoeuvre throughout the facility. Parking has been designed to enable ease of access to the administration building, including a dedicated bus parking bay, which would allow access for educational tours and school visits. Additionally, a sheltered bicycle rack has been incorporated into the design to allow alternative commuting opportunities for staff.

6.14.3.5 Ecology

The Project has considered ecology as a key driver for the design of the facility. The layout of the facility was changed in direct response to prioritising areas of high ecological value, to minimise and avoid disturbance. This includes relocating the maturation building from the west to the north of the Site to not conflict with the PCT 4006, a threatened ecological community. The relocation of the building required the need to relocate the power lines, which was selected as the appropriate design option to avoid ecological impacts. Additionally, vehicle entries have been located to preserve as many existing trees as practical.

6.14.3.6 Landscaping

A key element of the Project involves landscaping internally and around the perimeter of the Site. This includes planting larger trees that would grow over time, the retention of existing large trees to contribute to natural screening, and establishing additional hedge screening, a turf area and a rain garden to add amenity value. The Landscape Plan is provided in Appendix E.

6.14.3.7 Weather

Further design considerations have accounted for weather, including prioritising daylight access in key visitor areas and staff workspaces, undercover walkways between buildings, and designing the building orientation to all trucks to reverse undercover, reducing exposure to potential impacts associated with adverse weather conditions.

6.14.3.8 Accessibility

Dedicated accessible parking spaces are provided near the administration building, with step-free and ramped access facilitating accessible entry for staff and visitors. Pedestrian pathways across the site are designed with appropriate gradients and surface treatments to support mobility.

6.14.3.9 Signage

Signage under this proposal will include:

- Business identification signage
- Wayfinding signage
- Speed limit and traffic flow directions within the site yard
- Safety signage, including:
 - Identification of potentially hazardous chemicals and their location
 - Identification of emergency assembly points
 - Identification of fire-fighting equipment such as fire hose reels and fire extinguishers
 - Identification of pedestrian walkways
- Parking and traffic movement signs
- Community hotline number

Signage would be consistent with the character of the area, would not obscure any views or vistas, would be of suitable scale and design and would not reduce public safety. No additional illumination of signage is necessary. An entrance sign would be placed at the entrance to the site to assist in wayfinding. Signage would also be placed on the IVC tunnel building as identification. The identifying sign would be approximately 12.5 x 5m in size and would recognise Aboriginal culture.

6.14.3.10 Future Opportunities

The design of the Project has also considered expansion opportunities that may arise in the future, enabling flexibility to allow MCC to process FOGO material received from the MidCoast and surrounding areas, and provide further circular economy opportunities as populations grow and the demand for organics processing evolves.

6.14.4 Alignment with *Better Placed*

The Project aligns with the seven objectives for good design outlined in *Better Placed* (Government Architect NSW, 2017), as highlights in Figure 59. Further consideration of the Project's alignment with these objectives are detailed in the built form and urban design report in Appendix Y.

6.14.5 Mitigation Measures

No specific mitigation measures are proposed.

6.14.6 Conclusion

The built form and urban design of the Project reflect considered and responsive approaches to enabling the facility to be operationally efficient while maintaining a high degree of amenity and inclusion. Through iterative design, the facility has been shaped to minimise ecological impacts and enhance user experiences, aligning with the NSW Government Architect's *Better Placed* design principles. The incorporation of accessibility, safety, cultural recognition and future adaptability ensures the Project would deliver long term value to the community and results in a quality sustainable outcome.

Figure 59: Alignment with the Better Placed Objectives

Objective 01 Better Fit	The facility is sited to retain existing vegetation and respond to the natural topography. A muted colour palette and low-profile built form ensure visual integration with the rural landscape.
Objective 02 Better Performance	Sustainable design features include permeable surfaces, rainwater harvesting and sustainable materials. The facility is designed for long-term resilience and operational efficiency.
Objective 03 Better Community	Public access and educational opportunities are provided through the administration building, supporting community engagement and environmental awareness.
Objective 04 Better for People	The design prioritises safety and comfort through natural lighting, ventilation and clear separation of pedestrian and vehicle movement channels.
Objective 05 Better Working	The layout supports efficient workflows, with logical designation of operational areas and durable materials to reduce maintenance requirements and enhance their lifespan.
Objective 06 Better Value	Investment in sustainable infrastructure ensures long-term economic and environmental benefits. The facility supports employment, education and responsible resource use.
Objective 07 Better Look and Feel	The architectural expression is simple and respectful of the bushland context, with signage and wayfinding that reflect local identity.

6.15 Visual Amenity

6.15.1 Assessment Requirements

Table 68: SEARs – Visual Amenity

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
A visual impact assessment, including:	Appendix ZA
An assessment of the potential visual impacts of the development on the amenity of the surrounding area	Section 6.15.4 Appendix ZA
Detailed plans showing suitable landscaping which incorporates endemic species as well as how it maximises opportunities for green infrastructure, consistent with <i>Greener Places</i> (Government Architect NSW, 2020).	Section 3.4.5 Appendix E

6.15.2 Introduction

A visual impact assessment (VIA) for the Project was undertaken by October Urban, provided in Appendix Z, in accordance with the following guidelines:

- Guideline for Landscape Character and Visual Impact Assessment: Environmental Impact Assessment Practice Note E1A-N04 (TfNSW, Version 2.3, 2023)
- Guidelines for Landscape and Visual Impact Assessment (GLVIA) – Third Edition (LI/IEMA, 2013)

- Landscape Institute Advice Note 01/2011 – Photography and Photomontage in Landscape and Visual Assessment

VIA is concerned with changes to the physical landscape in terms of features/elements that may give rise to changes in character. The assessment involved a desktop analysis of the Site and its characteristics, site inspections to verify visual catchment and receptor locations, identification of 18 representative viewpoints, use of digital modelling, photomontages and overlays to simulate visual change, and an evaluation of the impacts utilising a visual analysis methodology.

The methodology for analysing and evaluating visual impact involved a matrix of viewer position, access, sensitivity and magnitude of change, in addition to a subjective assessment of the visual quality at each viewpoint assessed.

6.15.3 Existing Environment

The Site is a 5.83ha parcel of land adjacent to the Tuncurry Waste Management Centre that is currently undeveloped, with native regrowth vegetation, exotic grasses and scattered mature eucalypts.

The surrounding landscape is characterised by the Darawank Nature Reserve and bushland to the north (high scenic value), the Tuncurry Waste Management Centre to the east (utility/infrastructure character), bushland and scattered rural dwellings to the south (filtered views), and rural residential properties and the Wallamba River to the west (natural/rural character).

Within this context, the Site reads as a transitional space between the service/infrastructure character of the Waste Management Centre and the natural and rural character of the broader locality.

The topography of the Site is characterised by flat to gently undulating landforms, ranging from approximately 2m to 6m AHD. The visual catchment of the Site is strongly influenced by the low-lying topography of the land and the vegetated ridgelines and dune systems that surround it. While the Site itself is relatively open and flat, its broader context provides effective visual containment.

6.15.4 Impact Assessment

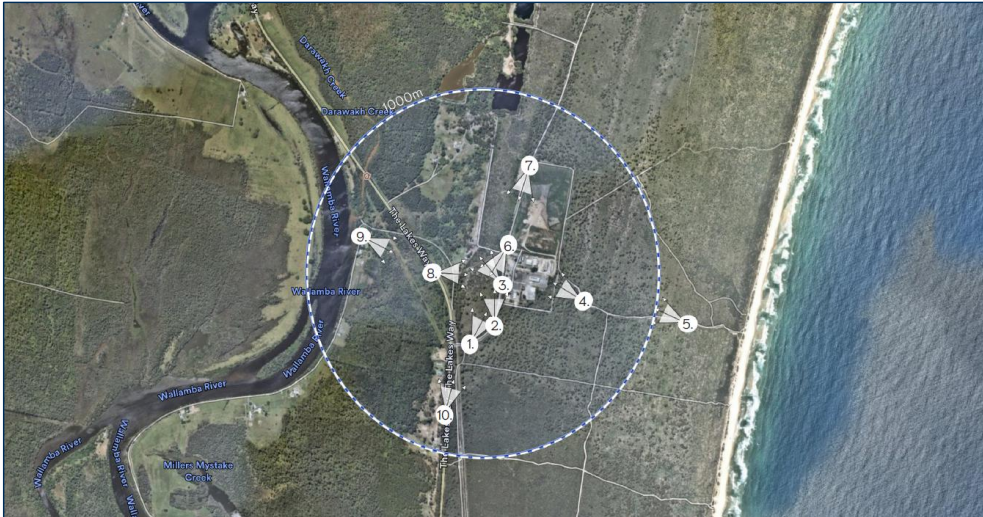
The visual impact of the Project was assessed from a range of viewpoints/perspectives in the immediate and adjoining areas of the Site. This includes a total of 18 viewpoints, 10 of which are within or close to a 1000m distance from the Site (Figure 60), and 8 of which are further afield, assessing more distant perspectives (Figure 61).

Visual impact from these viewpoints was assessed against a matrix of criteria, including viewer access, sensitivity, magnitude of change and quality. The results are detailed in

Table 69. A detailed assessment of each viewpoint can be accessed in the full VIA in Appendix Z.

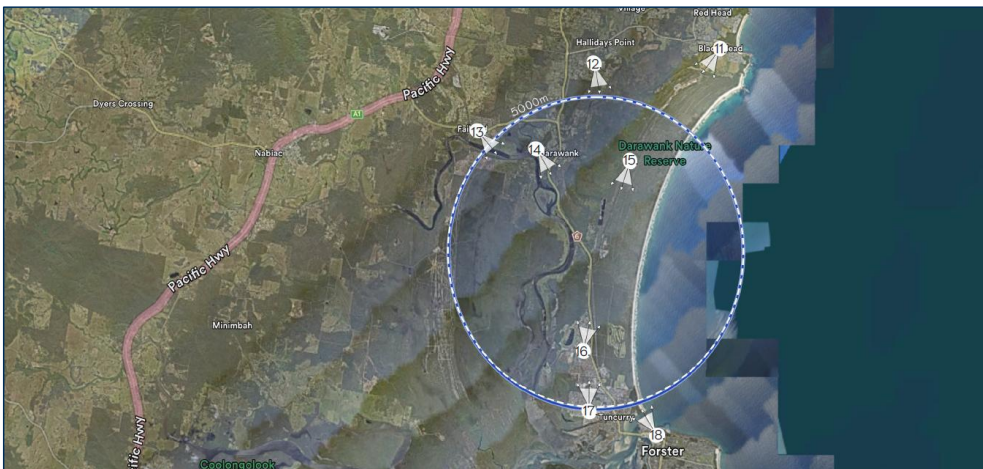
From the 18 viewpoints, visual impact was determined to be minimal. Five viewpoints were rated as minor, 3 were rated as minor / negligible and 10 were rated as having a negligible level of visual impact.

Figure 60: Viewpoints Map (1000m Radius)



Source: October Urban VIA, 2025

Figure 61: Viewpoints Map (5000m Radius)



Source: October Urban VIA, 2025

Table 69: Viewpoint Visual Impact Summary

Viewpoint	Visual Quality	Viewer Access	Visual Sensitivity	Magnitude of Change	Visual Impact
1	Low	Minor	Minor	Negligible	Negligible
2	Low	Minor	Minor	Negligible	Negligible
3	Low	Minor	Minor	Moderate	Minor
4	High	Minor	Moderate	Minor / Negligible	Minor
5	High	Minor	Moderate	Negligible	Minor / Negligible
6	Medium	Minor	Minor	Minor	Minor / Negligible
7	Low	Minor	Minor / Negligible	Negligible	Negligible
8	Medium	Major / Moderate	Moderate	Minor	Minor
9	Medium	Minor	Minor	Negligible	Negligible
10	Medium	Major / Moderate	Moderate	Negligible	Minor / Negligible
11	Medium	Minor	Minor	Negligible	Negligible
12	Medium	Minor	Minor	Negligible	Negligible
13	Low	Minor	Minor	Negligible	Negligible
14	Low	Minor	Minor	Negligible	Negligible
15	Medium	Minor	Major / Moderate	Negligible	Minor
16	Low	Minor	Minor	Negligible	Negligible
17	Medium	Minor	Minor	Negligible	Negligible
18	Medium	Minor	Major / Moderate	Negligible	Minor

*Note – **Viewer position** was *neutral* for all viewpoints

6.15.5 Mitigation Measures

To reduce visual impacts and support integration of the Project into the rural setting, the following measures are recommended for detailed design and implementation:

- **Native Vegetation Screening:** Establish targeted planting of locally indigenous trees and shrubs along key sightlines. This would provide long-term screening, soften built edges and reinforce the natural character of the rural setting.
- **Earth-Toned Materials and Finishes:** Apply non-reflective, muted colours and materials that reflect the tones of the surrounding rural environment (e.g., greens, browns, and greys) to minimise contrast.

- **Low-Impact Lighting:** Incorporate downward-facing, shielded, and low-glare lighting to reduce spill and preserve the character of the rural night-time environment.
- **Landscape Integration:** Where possible, use landform shaping, bunds, or contouring to integrate the built form into the surrounding topography and reduce overall visual exposure.
- **Progressive Planting and Maintenance:** Stage planting early in the construction process to ensure screening establishes as the development progresses, with ongoing maintenance to retain visual effectiveness over time.
- **Signage:** All signs on site would be professionally painted and maintained in a clean and legible condition. Signs would be washed at least once per month or as necessary; and
- **Equipment:** No obsolete or useless machinery / equipment would be kept on site.

6.15.6 Conclusion

Visual impacts have been assessed to be limited due to effective screening by vegetation, topography and distance separating sensitive receptors. Where visible, the proposed facility would be generally perceived in the context of existing infrastructure and would not obstruct valued scenic views. For each of the 18 viewpoints assessed, the overall visual impact was rated as negligible or minor. With the implementation of mitigation measures such as native vegetation screening (see Landscape Plan Appendix E), earth-toned materials (see schedules in Appendix C), low impact lighting and professional signage, the Project is considered to have an acceptable level of visual impact.

6.16 Socio-Economic

6.16.1 Assessment Requirements

Table 70: SEARs – Socio-Economic

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
Social – including a social impact assessment in accordance with the Department's <i>Social Impact Assessment Guidelines</i> .	Section 6.16.5 Appendix ZA
Economic – including an analysis of any potential economic impacts of the development, including a discussion of any potential economic benefits to the local and broader community.	6.16.5.5

6.16.2 Overview

Social impact resulting from the Project has been assessed in depth through a social impact assessment (SIA) undertaken by Judith Stubbs & Associates, provided at Appendix ZA. The SIA is in accordance with the DPHI's *Social Impact Assessment Guidelines*. The assessment evaluates the likely social impacts of the Project and proposes mitigation measures to ensure the proposed development is socially sustainable and responsive to community needs.

6.16.3 Methodology

The methodology used for the SIA follows the framework provided in the guidelines and associated technical supplement documents. This included the following activities in the undertaking of the SIA:

- Establishing a detailed social baseline using ABS Census data and strategic planning documents

- Identifying key social impact categories (way of life, community, accessibility, culture, health and wellbeing, surroundings, livelihoods and decision-making systems)
- Evaluating impacts using likelihood and magnitude matrixes
- Reviewing specialist technical assessments (traffic, noise, air quality, visual impact)
- Incorporating outcomes from community engagement

6.16.4 Social Baseline

The social baseline describes the existing social context of the Project, including policy and strategic planning context, and the demographic context of the area.

Demographic context of the Project is largely defined by the area's population statistics, age distribution, socioeconomic status, home ownership and vacancy levels and household composition, described in Table 71. Neighbouring areas including both Tuncurry and Forster show similar ageing and low-income profiles.

Table 71: Demographic Context

Theme	Detail
Older Population	The Darawank suburb and surrounding Statistical Area 2s (SA2)s have a significantly older population compared to the NSW average, with median ages in the 50s and 60s and a high proportion of residents aged 70+. The NSW median age is 43.
Lower Income Levels	The area is relatively disadvantaged, with a high proportion of households earning very low or low incomes and low SEIFA scores for education and occupation.
High Home Ownership	Most dwellings are separate houses, with high rates of outright ownership and low levels of rental or social housing.
Vacancy Levels	Darawank itself has a low rate of unoccupied dwellings (5.4%), suggesting fewer holiday homes and a more permanent residential population. Surrounding Tuncurry and Forster SA2s are much higher at approximately 19%.
Household Composition	Darawank has more couple-with-children households than surrounding areas, which are dominated by lone person and couple-only households.

6.16.5 Social Impact Assessment

6.16.5.1 Amenity Considerations

Issues that were raised by the community, government stakeholders and other relevant industry groups during consultation have been detailed in Section 5 and in Appendix J, and are summarised below:

- Air pollution and odour
- Noise from the facility
- Traffic and transport impacts
- Clearing of vegetation
- Right of carriageway
- Project funding

These concerns were addressed through technical assessments of this EIS and resolved through design responses. Issues relating to air quality and odour, noise, and traffic were found to be within acceptable limits, and issues relating to vegetation clearing and right of carriageway was addressed through revisions

to the Site layout and architectural plans. The issue of project funding is not relevant to the scope of the Project.

Traffic and Road Safety

Impact assessment undertaken in relation to the traffic and transport aspects of the Project did not identify any major concerns, noting that the existing intersection of The Lakes Way and Failford Road was already performing poorly, and should be further investigated by Council to resolve pre-existing traffic impacts.

Acoustics and Noise

The findings of the acoustical assessment predict that noise levels from construction are expected to be minimal due to large distances to the nearest receivers, and operational activities would comply with all noise objectives, including for sleep disturbance in the worst-case scenario.

Air Quality and Odour

The air quality impact assessment found that, during construction and operation of the facility, air pollutant and odour levels would be below the applicable criteria at all assessed receptor locations, and the Project is not expected to result in any unacceptable air quality impacts on the surrounding environment. Odour control and building design have accounted for and mitigated potential odorous air impacts.

Visual Impact

The findings of the visual impact assessment undertaken reflected a minor to negligible visual impact overall associated with the Project. This assessment considered the sensitivity and magnitude for change, amongst other factors, identifying that the surrounding area is generally well screened by existing vegetation and is well separated from sensitive viewpoints and receivers. Additionally, it is expected the facility would be perceived by the community as an extension of the existing Tuncurry Waste Management Centre.

6.16.5.2 Positive Social Impacts

The likely positive social impacts associated with the establishment of the Project have been assessed, and comprise the following:

- The Project would generate additional employment during both the construction period and operation period of the facility. This includes a total of 12 ongoing full-time staff, and other indirect employment associated with truck transport of FOGO waste and processed resources.
- The legislative requirement for councils to process FOGO material towards 2030 would be met by the establishment of the facility, allowing MCC to comply with these requirements, and FOGO material is able to be collected once the mandates are in force.
- Diversion of FOGO waste from going to landfill because of a lack of processing capacity would be avoided, as the implementation of the facility would allow landfills to reduce the speed at which they are approaching capacity. This would enable landfill longevity to support the effective management of waste materials that cannot be recycled or recovered. As a result of residences sorting organic material from waste, residual waste streams could reduce by 69.9% in weight (MCC Waste Management Strategy 2030).
- The establishment of the facility would also enable the LGA and wider area to reduce greenhouse gas emissions associated with organic waste going to landfill. This directly addresses federal, state and local policies addressing the need to achieve Net Zero targets and reduce impacts on climate change.
- Processing FOGO material at the facility would enable high quality compost products to be produced for landscaping and agricultural markets. This would have flow on benefits, providing positive impacts to the local economy and championing the region's transformation towards a circular economy.

6.16.5.3 Negative Social Impacts

The likely negative social impacts arising from the Project relate to those amenity issues of concern that have been addressed above. These amenity considerations include traffic, noise, air quality and odour, and visual impacts.

The Site is approximately 450m – 700m from the nearest residences and 1.5km from the future North Tuncurry Urban Release Area. The Project is not expected to have any major adverse social impacts, given the amenity issues have been assessed as nil to negligible, largely due to the distance of the Project to nearby sensitive receives.

Mitigation measures that may be implemented to ensure no future social impacts are unaccounted for include a procedure to document and address any public complaints being implemented. This would assist in addressing any issues that are raised during operation and ongoing use of the facility.

6.16.5.4 Social Impact Category Assessment

An assessment of various categories relating to social impact themes has been undertaken to further detail potential impact from the Project and their likely residual significance following the implementation of mitigation measures. This assessment is presented in Table 72, and further detailed in the SIA in Appendix ZA.

Table 72: Social Impact Category Assessment

Category	Potential Impact	Evaluated Significance	Mitigations	Residual Significance
Way of life	Adverse amenity impacts (odour, noise, air quality) to nearby residences	Low	(Refer to Appendix L, M)	Nil
Community	Visual impact and change to local character	Low	(Refer to section 6.15.5)	Nil
Accessibility	Increased traffic and reduced vehicular safety due to heavy vehicles to/from the facility.	Low	(Refer to section 6.9.6)	Low to Nil (negative)
Culture	Local Aboriginal community may have cultural values and needs associated with the Project	Medium	(Refer to section 6.12.4)	Neutral
Health and wellbeing	Risk to health and wellbeing of workers from a bushfire event due to site being bushfire prone land	Low	(Refer to section 0)	Low to Nil (negative)
Surroundings	Contribution to objectives relating to reducing greenhouse gas emissions and provide FOGO processing services.	High	Not applicable	High (positive)
	Provision of an opportunity for end-products to be produced and used to improve open spaces and management of public green areas.	High	Not applicable	High (positive)
	Increased longevity of existing landfills from which waste would be diverted.	High	Not applicable	High (positive)
Livelihoods	Direct and indirect employment being generated from the facility during construction and operational phases.	Medium	Not applicable	Medium (positive)

Category	Potential Impact	Evaluated Significance	Mitigations	Residual Significance
Decision-making systems	Lack of response to community concerns raised during operation	Medium	Procedure for documenting and addressing complains and issues raised by the community. NALG would implement a site-specific policy for MC ROPS, accounting for operating conditions and requirements.	Neutral

6.16.5.5 Economic Impact Assessment

The Project would generate 22-26 construction jobs and 12 ongoing full time equivalent jobs, which would result in a positive impact.

It would also support the circular economy by providing recovered materials for reuse.

6.16.6 Mitigation Measures

No specific mitigation measures are proposed.

6.16.7 Conclusion

The expected positive social impacts of the Project would far outweigh the potential for adverse social impacts. The potential adverse social impacts of the Project are of nil to low magnitude. The likely positive social impacts of the Project relate to employment, production of socially and environmentally beneficial commodities (compost products and green energy), waste reduction resulting in increased longevity of existing landfills and reduced CO₂/greenhouse gas emissions from landfills.

The Project would result in a positive economic benefit with creation of jobs for construction and operation and contribution to circular economy.

6.17 Greenhouse Gas Emissions

6.17.1 Assessment Requirements

Table 73: SEARs – Greenhouse Gas Emissions

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
A Greenhouse Gas Assessment in accordance with the most recent version of the EPA's <i>Greenhouse Gas Assessment Guide for Large Emitters</i> , including supporting evidence of input data and assumptions used to estimate greenhouse gas emissions	Section 6.17.3 Appendix ZB
NSW EPA	
Provide estimate of greenhouse gas (GHG) emissions for the project by carrying out a Greenhouse Gas Assessment consistent with the most recent version of the EPA's Greenhouse Gas Assessment Guide for Large Emitters (GHG guide) that is available on the EPA's website. The GHG estimate is to confirm if the project is likely to result in 25,000 tonnes or more of scope 1 and 2 emissions (CO ₂ -e), in any financial year during the operational life of the project. Input data and assumptions used to estimate GHG should be accompanied by supporting evidence.	Section 6.17.3 Appendix ZB

Assessment Requirements

EIS Reference

Note: Where the proponent believes that certain requirements from the GHG guide are not applicable, the proponent may indicate that in the EIS but must provide sufficient justification.

6.17.2 Introduction

Todoroski Air Sciences prepared a greenhouse gas (GHG) assessment report in accordance with the NSW EPA's *Guide for Large Emitters* (2025) to provide an estimate of the GHG emissions associated with the Project. The GHG assessment is provided at Appendix ZB.

6.17.3 Impact Assessment

Three different GHG emission categories are defined based on whether emissions are from "direct" or "indirect" sources.

- Scope 1 emissions are direct GHG emissions that occur from sources controlled by or owned by the proponent – for this EIS that includes processing emissions.
- Scope 2 emissions are indirect GHG emissions associated with the consumption of electricity, steam, heat, or cooling generated outside of the development.
- Scope 3 emissions are other indirect emissions that occur due to project activities from sources not owned or controlled by the proponent.

Input Data and Assumptions

The following activities in the operational phase are identified to have material emissions:

- Scope 1 emissions are identified to arise from the on-site composting activities, biogas generation, and combustion of the methane component of the biogas in the CHP for electricity production.
- Scope 2 emissions would result from the facility's electricity demands. This would be offset by the electricity generation from the CHP and supplemented by rooftop solar power generation.
- Scope 3 emissions are primarily associated with the transport of composted products to customers.

Modelled Outputs

The Project would contribute GHG primarily arising from the following activities:

- **Anaerobic Digestion (AD) System:** The undersized FOGO material fraction, separated during sorting, and food organics would be processed through the AD system. Microorganisms, operating under anaerobic conditions, would decompose organic matter to produce digestate and biogas.
- **Composting – IVC Tunnels:** Oversized FOGO fraction would be shredded and loaded into the IVC tunnels. Pasteurisation within the tunnels would progressively break down organic material through microbial activity.
- **Electricity generation – Combined Heat and Power (CHP) unit:** Biogas generated from the AD process would be collected and used to generate renewable energy in a CHP unit.

Estimated quantities of materials used to calculate the potential GHG emissions are based on the planned operations and peak production.

Scope 1 estimated quantities:

- The Project has a proposed operational capacity of 146,000tpa, of which 56,000tpa is processed via IVC and the remaining 90,000tpa processed using AD with biogas product utilised to power the CHP. The associated CO₂ emissions from the CHP have been estimated at 807 kilograms per hour (kg/hr), based on the engine emission specification sheet.

Scope 2 estimated quantities:

- Electricity requirements for the facility are estimated at 7,500,000kWh per year.
- The CHP is expected to generate approximately 19,000,000kWh, with the surplus of electricity exported to the grid.

Scope 3 estimated quantities of materials:

- Compost product transport is expected primarily to customers in the Hunter Valley (157km), Tamworth (250km), and Greater Sydney (294km).
- Travel distances are estimated as follows:
 - Total daily travel distance: 8,450km based on 5 trips to Hunter Valley, 2 trips to Tamworth, and 10 trips to Greater Sydney regions per day.
- This presents an annual diesel demand of approximately 1,593kL/year, based on average truck fuel of 53.1L/year.

Table 74: Estimated quantities of materials

Material	Quantity	Unit
Composting	51,980	tpa
CHP – CO₂ emissions	807	kg/hr
Electricity - required	7,500,000	kWh
Electricity - generated	19,000,000	kWh
Diesel - transport	1,593	kL

Estimated GHG emissions

Table 75: Summary of estimated CO₂-e emissions for the Project

Activity	Scope	GHG Emissions (t CO ₂ -e)
Composting	1	2,605
Biogas captured for combustion	1	2,141
<i>Subtotal</i>	<i>1</i>	<i>4,746</i>
Electricity - required	2	4,950
Electricity - generated	2	-12,540
<i>Subtotal</i>	<i>2</i>	<i>-7,590</i>
Electricity – required	3	300
Transport of compost	3	21
<i>Subtotal</i>	<i>3</i>	<i>321</i>
Total	1 + 2	-2,844
Total	3	321



Emission factors obtained from the latest *National Greenhouse Accounts Factors* document were used to quantify the amount of CO₂-e generated.

The estimated annual average GHG emission for the Project are -2,844 t CO₂-e (Scope 1 + 2), which is below the reporting threshold of 25,000 t CO₂-e in *NSW Guide for Large Emitters* (NSW EPA, 2025). Taking into account both the avoided emissions and the Project's operational footprint, the net GHG benefit equates to approximately -149,844 t CO₂-e avoided annually for the MCC and wider region. This demonstrates that the Project would not only achieve a carbon-neutral outcome but would provide a substantial net reduction in regional GHG emissions, contributing meaningfully to MCC's and the NSW Government's broader climate objectives.

Overall, the Project's GHG contribution is considered small relative to national and state totals. The emissions for the Project equate to approximately 0.0005% of Australia's total GHG emissions for the 12-month period up to June 2024 and approximately 0.002% of NSW GHG emissions for the July 2021 to June 2022 period.

6.17.4 Mitigation Measures

GHG emissions would be minimised where possible using the following measures:

- Double handling of materials would be avoided by optimising conditions for fleet operations.
- Energy awareness programs for staff would be conducted.
- Energy efficient plants would be investigated and utilised where appropriate.
- Maintenance of plant and equipment would be scheduled to maintain operational efficiency.

6.17.5 Conclusion

The Project would provide a substantial net reduction in regional GHG emissions, contributing meaningfully to MCC's and the NSW Government's broader climate objectives.

6.18 Cumulative Impacts

Cumulative impacts occur when impacts (e.g. dust or odour emissions) from multiple sources cause stress to the environment such that there is a significant overall impact, affecting the availability of resources or causing environmental harm or nuisance.

6.18.1 North Tuncurry Urban Release Area

The North Tuncurry Urban Release Area (NTURA) is located on the eastern side of The Lakes Way, north of the Tuncurry Campus of the Great Lakes College, as shown in Figure 62.

The NTURA contains 615ha of Crown Land that has now been rezoned to deliver new homes, jobs, services, conservation and recreation land. The Minister for Planning approved the rezoning of the land in March 2023 by amending the Great Lakes Local Environmental Plan 2014.

Figure 62: North Tuncurry Urban Release Area



Source: Landcom, North Tuncurry website

The planning for the site is ongoing. Development will be staged over the next three decades to ensure housing is available to meet growth in the area. An indicative timeline indicates:

- 2026 – Anticipated outcome of Federal Environmental Protection and Biodiversity Conservation Act
- 2027 – Commence bulk earthworks and subdivision works (subject to approvals), and lodge development application for the final stage.

The development of the NTURA would be approximately 1km to the south-east at the closest proximity, hence there are no closer sensitive receivers than the existing residences that would require assessment for noise, air quality or odour.

Site works for the Project would potentially overlap with the development of the NTURA in 2027. It is expected that the approval for NTURA site works will take into account impacts including dust and noise such that there would be minimal to nil impact beyond the site boundary.

There would be no sharing of access roads either for construction or use. However, the NTURA requires construction of new access roads from The Lakes Way which may result in delays to inbound and outbound traffic for the MCROPS. Road construction works would be short term and would not result in a loss of access to MRCOPS via The Lakes Way and Midge Orchid Road. With the construction of new

roads and intersection upgrades proposed for the NTURA, ongoing traffic and access is not expected to be delayed.

A 1km vegetation buffer between MCROPS and NTURA would ensure long term mitigation of visual and social impacts.

It is feasible to liaise with Landcom regarding matters that may arise.

Therefore, although the NTURA is a significant development in the vicinity of the Project, there is sufficient separation between the two projects such that there would be minimal cumulative impact.

6.18.2 Cumulative Impact Summary

Table 76 identifies the cumulative impact of the environmental aspects of the proposed development. Overall, adverse impacts would be negligible to minor and there would be long-term positive benefits associated with improvements to waste management and reduction in greenhouse gas emissions.

Table 76: Cumulative impacts

Environmental aspect	Potential impact	Cumulative effect
Waste management	Recovery of materials results in job creation, conservation of resources, reduction in landfilling and increased supply of materials.	Long term net benefit
Air quality - particulates	With appropriate management, there is minimal expected increase in particulates due to the Project. The potential releases would be materially different from those potentially released from the adjoining waste site, and therefore no cumulative impacts are expected.	Nil
Odour	With appropriate management, there is a limited emission of odour due to the Project. The potential releases would be materially different from those potentially released from the adjoining waste site, and therefore no cumulative impacts are expected.	Nil
Noise	The operation of plant and equipment for increased hours would not result in exceedance of noise criteria.	Nil
Water quality and soil	The Project would achieve Neutral or beneficial effect for water quality The Project would not result in soil contamination.	Nil
Traffic	The additional truck movements would not result in a significant loss of road service. Traffic delays due to the construction of the NTURA may occur to vehicles accessing the Site.	Minor
Amenity	Management of the Site would adequately control amenity issues.	Nil
Biodiversity	The design has been modified to respond to retain trees and areas of highest value from landscape and habitat perspectives. Emissions would be controlled to minimise risk of harm to ecosystems.	Minor adverse impact
Aboriginal heritage	No disturbance to Aboriginal heritage would occur.	Nil
Non-Aboriginal heritage	No disturbance to non-Aboriginal heritage would occur.	Nil
Hazards and risks	The Site would employ standard measures to adequately contain risk.	Nil
Socio-economic	The employment of 12 staff members creates economic opportunity locally and supports additional	Medium term benefit

Environmental aspect	Potential impact	Cumulative effect
Greenhouse Gases	The diversion of FOGO from landfill and recovery of material and biogas from decomposition and conversion to energy has a net benefit effect on GHG emission	Long-term benefit
Construction	A search of the TfNSW Project Finder website indicates that there are no significant projects in the vicinity that would cause traffic delays or other cumulative impacts. A search of MidCoast Council Application Tracker did not result in any projects in the vicinity that would cause traffic delays or other cumulative impacts. The NTURA is sufficiently distant to avoid significant cumulative impacts, however, may cause delays in traffic during construction.	Minor

7 Ecologically Sustainable Development

Table 77: SEARs – Ecologically Sustainable Development

Assessment Requirements	EIS Reference
NSW Department of Planning, Housing and Infrastructure	
Identification of how ESD principles (as defined in section 193 of the EP&A Regulation) are incorporated in the design and ongoing operation of the development.	Section 7
Demonstration of how the development will meet or exceed the relevant industry-recognised building sustainability and environmental performance standards.	Section 7
Demonstration of how the development minimises consumption of energy, water (including water sensitive urban design), and material resources.	Section 7
If Chapter 3 of <i>State Environmental Planning Policy (Sustainable Buildings) 2022</i> applies: - Demonstrate how the development has been designed to address the provisions set out in Chapter 3.2(1). - Provide a NABERS Embodied Emissions Material Form to disclose the amount of embodied emissions attributable to the development in accordance with section 35BA of the EP&A Regulation.	Section 4.3 Appendix ZB

The principles of ecologically sustainable development as applied to NALG's proposed operations are summarised in Table 78 below. The Project results in a net gain in long-term ecological sustainability through the implementation of advanced resource recovery and energy generation.

Table 78: Ecologically Sustainable Development Assessment

Principle	Definition in the EP&A Regulation	Comment
Precautionary Principle	<i>If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.</i>	The environmental assessment in Section 6 indicates that risks of environmental harm as a result of the Project, after mitigation measures have been employed, is minimal. There is no threat of serious or irreversible environmental damage.
Inter-generational equity	<i>The present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.</i>	The Project would not consume water or energy resources in quantities that affect the benefit of future generations. The environmental assessment in Section 6 indicates that the health, diversity and productivity of the environment would be maintained and enhanced by the proposed resource recovery operations. Recovery of materials, as opposed to disposal, provides greater inter-generational equity by contributing to the circular economy, decreasing greenhouse gas emissions, and increasing the availability of resources.

Principle	Definition in the EP&A Regulation	Comment
Conservation of biological diversity and ecological integrity	<i>Conservation of biological diversity and ecological integrity should be a fundamental consideration</i>	The environmental assessment in Section 6 indicates that ecological integrity would be maintained due to the design responding to identified constraints and opportunities. Biodiversity conservation has been a fundamental consideration in the design of the site layout.
Improved valuation, pricing and incentive mechanisms	<i>Environmental factors should be included in the valuation of assets and services, such as:</i> <i>(i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,</i> <i>(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,</i> <i>(iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.</i>	Penalties under the PoEO Act, including for the breach of licence conditions, apply to the proposed operations and would impose the 'polluter pays' principle. The life-cycle cost of goods and services is passed to the consumer through Council collection fees and industry drop off fees, thus causing the users-of-goods to pay for the consumption of natural resources and disposal of waste. Policy mechanisms, such as FOGO Act 2025, encourage and ultimately mandate the diversion of FOGO from landfill. The Project enables the success of such initiatives mechanisms to maximise environmental benefits and minimise costs.

The Project would result in a diversion of material from landfill and a net reduction in greenhouse gas emissions associated with management of FOGO.

The Project would be constructed to a high standard and would adopt energy efficiency approaches with passive natural lighting, water and energy efficient fittings where possible.

A feasibility assessment will be produced for solar panels to be attached to the roof.

8 Project Justification

8.1 Design

The Project presents an opportunity for MCC and NALG to deliver the first facility in NSW that would use FOGO to generate biogas for conversion to energy through anaerobic digestion. It would also create a local supply of soil conditioner and compost. Through its operation, the Project would divert 146,000 tpa of FOGO from landfill and would avoid the generation of nearly 150,000 t CO₂-e.

The design has undergone multiple iterations, with key changes relating to:

- Modifying the layout to avoid environmental impacts (in particular, avoiding the threatened ecological community PCT 4006)
- Appropriate stormwater management to achieve replication of existing stormwater regime
- Modifying the layout to retain existing trees and minimise clearing
- Retaining the right of carriageway for adjoining landowner in response to engagement feedback
- Building design modifications to respond to potential safety concerns including enclosure of the maturation building and positioning of the combined heat and power plant, biogas storage and gas flare
- Provision of parking to support a range of transport methods including visitor groups, cyclists and electric vehicles

An analysis of alternatives included the business-as-usual option (no action), reduced throughput and identification of a different site.

Alternative options were unable to address the need for additional capacity and the difficulty in finding a suitable alternative location within MCC.

8.2 Strategic Context

The Project would:

- Contribute to meeting national and state waste and recycling strategic objectives, which are embodied in the *NSW Waste and Sustainable Materials Strategy 2041*
- Support MCC in achieving the NSW Government's mandates for FOGO collection and processing
- Improve FOGO processing capacity in line with population growth and a need for improvements in the FOGO processing sector

8.3 Statutory Requirements

The proposed Site is suitable for the type of development and demonstrates consistency with the relevant planning instruments.

Environmental impacts associated with construction and operation of the Project can be appropriately mitigated and the Project would be operated in accordance with planning and licensing approvals and requirements.

The Site is suitable for the proposed use, being in an appropriately zoned area, adjacent to an existing waste facility, being large enough for the proposed throughput and having adequate separation distances to the closest sensitive receivers.

The EIS identifies appropriate mitigation measures within Section 6 and summarised in Appendix ZD of this report. Implementation of these measures will reduce the environmental risk of the Proposal to the degree that no significant impacts are expected or likely.

8.4 Community Views

Community engagement has been undertaken, with limited concerns raised. Appropriate strategies would be implemented to manage potential impacts associated with odour and dust.

8.5 Economic, Social and Environmental

The Project would have an overall positive economic and social impact, including creating employment opportunities in the area. The Project would provide the following benefits:

- Employment opportunities for 12 full time positions
- Generation of 22-26 short-term construction and installation jobs
- An increase in locally available compost and soil conditioner
- Provision of material to circular economy
- Landfill levy savings for Council and businesses, which would release capital for business development and employment

8.6 Compliance

The design has sought to achieve an effective balance of operational efficiency, safety and managing environmental impacts.

NALG commits to working with regulatory authorities in securing approvals as articulated in this EIS including:

- Planning (SSDA)
- Environment protection licence
- Electrical cable realignment
- Utility connections

8.7 Summary

With due consideration of the environmental impact assessment, it is considered that:

- The Project would be located on a Site that would be suitable for the type of development and demonstrated consistency with the relevant planning instruments
- The Project would provide essential FOGO management infrastructure to support MCC and NSW in achieving national and state strategic plans, in particular achieving the mandated FOGO collection and processing requirements
- The Project's environmental impacts can be appropriately managed and mitigated, and there would be long-term environmental benefits through reduced greenhouse gas emissions
- The Project would have overall positive economic and social impact providing employment opportunities in the area

Accordingly, it is respectfully requested that the development be approved.

9 References

- Applying SEPP 33 (DoP, 2011) <https://www.planning.nsw.gov.au/sites/default/files/2023-03/hazardous-and-offensive-development-application-guidelines-applying-sepp-33.pdf>
- EPA Strategic Plan <https://www.epa.nsw.gov.au/About-us/Strategy-and-reporting/Strategic-Plan>
- Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) <https://www.planning.nsw.gov.au/sites/default/files/2023-03/hazardous-industry-planning-advisory-paper-no-6-hazard-analysis.pdf>
- Landcom, North Tuncurry, <https://www.landcom.com.au/projects/north-tuncurry/>
- Multi-Level Risk Assessment (DoP, 2011) <https://www.planning.nsw.gov.au/sites/default/files/2023-03/assessment-guideline-multi-level-risk-assessment.pdf>
- National Waste Policy 2020 <https://www.dcceew.gov.au/environment/protection/waste/how-we-manage-waste/national-waste-policy>
- North Tuncurry Urban Release Area, <https://www.planningportal.nsw.gov.au/North-Tuncurry-PP>
- NSW Fire and Rescue: Fire Safety in Waste Facilities (27 February 2020) https://www.fire.nsw.gov.au/gallery/files/pdf/guidelines/guidelines_fire_safety_in_waste_facilities.pdf
- NSW Waste and Resource Recovery Strategy 2007 <https://www.epa.nsw.gov.au/Your-environment/Recycling-and-reuse/warr-strategy>
- Planning for Bushfire Protection 2019, NSW RFS https://www.rfs.nsw.gov.au/__data/assets/pdf_file/0005/174272/Planning-for-Bush-Fire-Protection-2019.pdf
- State significant development guidelines – preparing an environmental impact statement DPIE, July 2022, <https://www.planning.nsw.gov.au/sites/default/files/2023-03/ssd-guidelines-preparing-an-environmental-impact-statement.pdf>
- Undertaking Engagement Guidelines for State Significant Projects, DPHI March 2024, <https://www.planning.nsw.gov.au/sites/default/files/2023-03/undertaking-engagement-guidelines-for-ssp.pdf>
- Environmental Planning and Assessment (Housing and Productivity Contributions) Order 2024 <https://www.planningportal.nsw.gov.au/sites/default/files/documents/2024/Housing%20and%20Productivity%20Contribution%20Ministerial%20Planning%20Order%202024%20%282%29.pdf>

10 List of Appendices

Appendix A	SEARs Table
Appendix B	MidCoast Council Environmental Assessment Requirements
Appendix C	Architectural Plans
Appendix D	Stormwater Plans
Appendix E	Landscape Plan
Appendix F	Survey Plan
Appendix G	Cut and Fill Plan
Appendix H	Owner's Consent
Appendix I	Statutory Compliance Table
Appendix J	Engagement Report
Appendix K	Waste Management Plan
Appendix L	Air Quality Impact Assessment
Appendix M	Acoustical Report final
Appendix N	Biodiversity Development Assessment Report
Appendix O	Arborist Report
Appendix P	Water Cycle Management Plan
Appendix Q	Geotechnical Investigations
Appendix R	Bushfire Assessment Report
Appendix S	BFEMEP
Appendix T	Transport Impact Assessment
Appendix U	Asset search BYDA
Appendix V	Preliminary Hazard Analysis
Appendix W	Aboriginal Cultural Heritage Assessment Report
Appendix X	Non-Aboriginal Statement of Heritage Impact
Appendix Y	Built Form and Urban Design Report
Appendix Z	Visual Impact Assessment
Appendix ZA	Social Impact Assessment
Appendix ZB	GHG Assessment
Appendix ZC	Clause 4.6 Variation Request
Appendix ZD	Mitigation Measures - update
Appendix ZE	CONFIDENTIAL EDC Cost Report & NABERS Form
Appendix ZF	CONFIDENTIAL Plans
Appendix ZG	CONFIDENTIAL Process Description

MRA Consulting Group

Suite 408 Henry Lawson Building
19 Roseby Street
Drummoyne NSW 2047

+61 2 8541 6169
info@mraconsulting.com.au
mraconsulting.com.au

