



# **Moss Vale Plastics Recycling and Reprocessing Facility**

## **Technical Report 7 – Landscape and Visual**

Plasrefine Recycling Pty Ltd

2 November 2021

→ **The Power of Commitment**



*This report: has been prepared by GHD for Plasrefine Recycling Pty Ltd and may only be used and relied on by Plasrefine Recycling Pty Ltd for the purpose agreed between GHD and Plasrefine Recycling Pty Ltd as set out in section 1 of this report.*

*GHD otherwise disclaims responsibility to any person other than Plasrefine Recycling Pty Ltd arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.*

*The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.*

*The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.*

*The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 1.6 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.*

*GHD has prepared this report on the basis of information provided by Plasrefine Recycling Pty Ltd and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.*

*There is no national guidance on the assessment of landscape and visual impacts specific to Australia, however, the industry typically refers to the guidelines as outlined in section 2.1*

*The assessment aims to be objective and describe any changes factually. While potential changes resulting from the proposal are defined, the significance of these changes requires qualitative (subjective) judgements. This assessment's conclusion therefore combines objective measurement and professional interpretation. While this assessment aims to be objective, it is recognised that visual impact assessment can be subjective, and individuals are likely to associate different visual experiences to the study area.*

*The assessment is based on the information provided to GHD at the time of writing and existing conditions were assessed during the site inspections on 5 March and 20 April 2021.*

*This assessment does not include landscape and visual impacts from lighting and any possible visual impacts from lighting or light spill are excluded from this assessment, and with the exception of suggested mitigation measures outlined in section 8, external lighting has not been assessed.*

**GHD Pty Ltd | ABN 39 008 488 373**



180 Lonsdale Street, Level 9

Melbourne, Victoria 3000, Australia

**T** +61 3 8687 8000 | **F** +61 3 8732 7046 | **E** melmail@ghd.com | **ghd.com**

<b>File name</b>	<a href="https://projectsportal.ghd.com/sites/pp15_05/recyclingplantfeasib/ProjectDocs/12524108-REP_Landscape and Visual Impact Assessment.docx">https://projectsportal.ghd.com/sites/pp15_05/recyclingplantfeasib/ProjectDocs/12524108-REP_Landscape and Visual Impact Assessment.docx</a>
<b>Author</b>	S. Rae, C.Obrien, J.Collings
<b>Project manager</b>	Anna Montgomery
<b>Client name</b>	Plasrefine Recycling Pty Ltd
<b>Project name</b>	Moss Vale Plastics Recycling and Reprocessing Facility
<b>Document title</b>	Moss Vale Plastics Recycling and Reprocessing Facility   Landscape and Visual Impact Assessment
<b>Revision version</b>	Rev 0
<b>Project number</b>	12524108

**Document status**

Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S4	0	S.Rae, J.Collings	E Davis		D. Gamble		2/11/2021

© GHD 2021

This document is and shall remain the property of GHD. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

# Executive summary

## The proposal

Plasrefine Recycling Pty Ltd (Plasrefine Recycling) ('the proponent') is seeking approval to construct and operate a plastics recycling and reprocessing facility in Moss Vale, NSW ('the proposal').

The proposal involves constructing and operating a plastics recycling and reprocessing facility with capacity to receive up to 120,000 tonnes per year of mixed plastics. The proposal also includes ancillary infrastructure to support the proposal.

The proposal would sort the plastics into different types and convert the various plastics to flakes and pellets (in the first stage) and produce more advanced products (in the second stage). The combined outputs of both stages of the proposal would help fill the gap in local processing capacity for mixed plastics.

The proposal is State significant development and is subject to approval by the NSW Minister for Planning and Public Spaces under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act).

## This report

This landscape and visual impact assessment report has been prepared on behalf of Plasrefine Recycling for the proposal to support the environmental impact assessment (EIS) for the proposal and responds to the Secretary's Environmental Assessment Requirements (SEARs) for Landscape and Urban Design.

## Existing environment

The proposal would be located about 140 kilometres south-west of the Sydney central business district and approximately 2.8 kilometres north west of the Moss Vale town centre within Wingecarribee local government area. The visual and landscape character of the area is currently a largely rural landscape, used for pastoral purposes, within the areas along Collins and Lackey Road developed for large-scale industrial and commercial uses, which are typically well screened by perimeter planting.

The area surrounding the proposal also forms part of the Moss Vale Enterprise Corridor (MVEC) which is a large area of industrial-zoned land, between Moss Vale and New Berrima, set aside for employment generating development under the *Wingecarribee Shire Local Environmental Plan 2010*.

## Impacts from the proposal

The viewshed for the proposal is largely confined to land within two kilometres of the proposal site and a total of four landscape character zones and eight viewpoint locations were assessed. While the proposal design aims to minimise the impact on the surrounding landscape and sensitive receivers, the scale and nature of buildings would result in a discernible change to the visual characteristics, features, and values of the proposal site and immediate area. Mitigation measures are described to reduce the impacts, including proposed screening planting on the adjacent 'E4' land.

The surrounding landscape is in a state of transition, with rural land earmarked and under development for future industrial uses within the MVEC. It is anticipated that although there will be impacts, they can be partially mitigated through the measures described and the proposal would likely be in keeping with the planned future character of the 'General Industrial - IN1' zone.



# Contents

<b>Terminology</b>	<b>1</b>
<b>Abbreviations</b>	<b>2</b>
<b>1. Introduction</b>	<b>3</b>
1.1 Overview	3
1.1.1 Plasrefine Recycling and the proposal	3
1.1.2 Approval and assessment requirements	3
1.2 The proposal	3
1.2.1 Location	3
1.2.2 Key features	4
1.2.3 Construction overview	4
1.3 Secretary's Environmental Assessment Requirements	8
1.4 Purpose and scope of this report	8
1.5 Structure of this report	8
1.6 Assumptions	9
<b>2. Methodology</b>	<b>10</b>
2.1 Standards and guidance	10
2.1.1 Study Area	10
2.2 Landscape and visual existing environment	10
2.2.1 Desktop analysis	10
2.2.2 Review of legislation and policy	10
2.2.3 Zone of Theoretical Visibility assessment	10
2.2.4 Site inspection	11
2.2.5 Definition of existing landscape and visual environment	11
2.3 Impact assessment	11
2.3.1 Landscape character zones	11
2.3.2 Landscape impacts	12
2.3.3 Viewpoint selection	13
2.3.4 Visual impacts	13
2.3.5 Significance of impacts	15
2.3.6 Panorama and photomontage	15
2.3.7 Mitigation measures	15
<b>3. Proposal description</b>	<b>17</b>
3.1 Proposal site	17
3.2 Key features	17
3.3 Construction phase	17
<b>4. Legislation and policy</b>	<b>19</b>
4.1 State legislation and policy	20
4.1.1 Environmental Planning and Assessment Act 1979	20
4.1.2 Draft Design and Place SEPP	20
4.1.3 Local Character and Place Guideline 2019	20
4.1.4 Better Placed	20
4.2 Regional policy and strategies	21
4.2.1 South-East and Tablelands Regional Plan 2036	21

4.3	Local legislation and policy	21
4.3.1	Wingecaribee Local Environmental Plan 2010	21
4.3.2	Development Control Plans	23
4.3.3	Moss Vale Enterprise Corridor Development Control Plan 2012	23
<b>5.</b>	<b>Existing environment</b>	<b>25</b>
5.1	Land use and built form	25
5.2	Topography and hydrology	25
5.3	Vegetation	26
5.4	Bioregions, Sub-regions and NSW Mitchell landscapes	26
5.5	Key visual elements	26
5.6	Zone of theoretical visibility	26
<b>6.</b>	<b>Landscape character assessment</b>	<b>31</b>
6.1	Landscape character zone 1 (LCZ1): Pastoral, open and undulating land	33
6.2	Landscape character zone 2 (LCZ2): Rural residential fringe	35
6.3	Landscape character zone 3 (LCZ3): Moss Vale town	37
6.4	Landscape character zone 4 (LCZ4): Industrial commercial	39
<b>7.</b>	<b>Visual impact assessment</b>	<b>41</b>
7.1	Viewpoint location 1 (VP01) – Beaconsfield Road	43
7.2	Viewpoint location 2 (VP02) – Bulwer Road	45
7.3	Viewpoint location 3 (VP03) – Napper Close	47
7.4	Viewpoint location 4 (VP04) – Moss Vale General Cemetery	48
7.5	Viewpoint location 5 (VP05) – Collins Road	49
7.6	Viewpoint location 6 (VP06) – Minnows Drive	50
7.7	Viewpoint location 7 (VP07) – Lackey Road	51
7.8	Viewpoint location 8 (VP08) – Residential receivers	52
7.9	Construction impacts	53
<b>8.</b>	<b>Mitigation measures</b>	<b>54</b>
8.1.1	Site layout	54
8.1.2	Road access	54
8.1.3	Buildings and structures	54
8.1.4	Landscaping and setbacks	55
8.1.5	Lighting	55
8.1.6	Construction	55
<b>9.</b>	<b>General response to key legislation and policy objectives</b>	<b>56</b>
<b>10.</b>	<b>Conclusion</b>	<b>57</b>
<b>11.</b>	<b>References</b>	<b>59</b>

## Table index

Table 1.1	SEARs relevant to this assessment	8
Table 2.1	Landscape value	12
Table 2.2	Landscape susceptibility to change	13
Table 2.3	Magnitude of change criteria (landscape)	13
Table 2.4	Sensitivity criteria (visual)	14

Table 2.5	Magnitude of change criteria (visual)	14
Table 2.6	Significance of impact matrix	15
Table 4.1	Relevant Legislation and Policy	19
Table 6.1	LCZ1 impact assessment	34
Table 7.1	Viewpoint locations	41
Table 7.2	Viewpoint 1 – visual impact assessment	44
Table 7.3	Viewpoint 2 – visual impact assessment	46
Table 7.5	Viewpoint 4 – visual impact assessment	48
Table 7.6	Viewpoint 5 – visual impact assessment	49
Table 9.1	Summary of Landscape Impacts	56
Table 10.1	Summary of Landscape Impacts	58
Table 10.2	Summary of Visual Impacts	58
Table C.1	Urban design assessment and recommendations	2

## Figure index

Figure 1.1	Proposal site location	6
Figure 1.2	Proposal site layout	7
Figure 2.1	Study Area	16
Figure 4.1	Land Use Zoning	24
Figure 5.1	Topography and Hydrology	28
Figure 5.2	Mitchell Landscapes	29
Figure 5.3	Zone of Theoretical Visibility	30
Figure 6.1	Landscape Character Zones	32
Figure 7.1	Viewpoint locations	42

## Photo index

Photo 6-1	View north from proposal site towards Southern Highlands ridgeline	33
Photo 6-2	View looking west from proposal site, towards hilly landscape of farmland	33
Photo 6-3	View looking south-west from proposal site of grassland landscape and scattered vegetation cover	33
Photo 6-4	View of Wingecarribee River, north of proposal site	33
Photo 6-5	View from proposal site looking south towards LCZ2 rural residential properties	35
Photo 6-6	View looking west from Lackey Road towards rural properties along Beaconsfield Road	35
Photo 6-7	View looking north along Beaconsfield Road, comprising rural residential properties	35
Photo 6-8	View of typical rural residential properties along Minnows Drive	35
Photo 6-9	View of historic retail frontages along Argyle Street	37
Photo 6-10	View of heritage listed Railway bridge structure near the main activity centre	37
Photo 6-11	View of typical residential properties along Napper Close, south-west of the proposal site	37
Photo 6-12	View of large-format commercial development along Berrima Road	37
Photo 6-13	View of Australian Bioresources facility, located directly east of the proposal site	39

Photo 6-14	View of industrial estate along Collins Road, north of the proposal site	39
Photo 6-15	View of industrial premises along Collins Road, north of the proposal site	39
Photo 6-16	View west along Collins Road near proposal site	39
Photo 6-17	View of landscaped entry from Lackey Road to Australian Bioresources facility	39
Photo 6-18	View north-east of railway line, running parallel to Collins Road / Douglas Road	39
Photo 7-1	View from VP01 from Beaconsfield Road looking north and west	43
Photo 7-2	Photomontage from Beaconsfield Road looking north-west	43
Photo 7-4	View from VP02 north of Bulwer Road looking north-east	45
Photo 7-5	Photomontage from north of Bulwer Road looking north-east	45
Photo 7-7	View from VP03 Napper Close looking north-east	47
Photo 7-8	View from VP04 Moss Vale General Cemetery looking north-east	48
Photo 7-9	View from VP05 Collins Road looking south	49
Photo 7-10	View from VP06 Minnows Drive Bowral looking south from the hill	50

## Appendices

Appendix A	Photomontages
Appendix B	Landscape Plan
Appendix C	Urban Design Assessment

# Terminology

Table A: Terms and definitions <sup>1</sup>

Terminology	Definition
Aesthetics	Relating to the sense of the beautiful or the science of aesthetics. Giving visual pleasure, adhering to scientific and artistic principles; or providing sensory, emotional, or intellectual contemplation.
Construction footprint	Defined as the area that would be directly affected by construction of the proposal.
Impact	The effect of a proposal, which can be adverse or beneficial, when measured against an existing condition.
Landscape	All aspects of a tract of land, including landform, vegetation, buildings, villages, towns, cities and infrastructure.
Landscape character	The combined quality of built, natural and cultural aspects which make up an area and provide its unique sense of place.
Landscape character zone	An area of landscape with similar properties or strongly defined spatial qualities, distinct from areas immediately nearby.
Magnitude	The measurement of the scale, form and character of a development proposal when compared to the existing condition. In the case of visual assessment this also relates to how far the proposal is from the viewer. Combines with sensitivity, magnitude provides a measurement of impact.
Proponent	Known as Plasrefine Recycling Pty Ltd (Plasrefine Recycling), who is the operating company for the recycling facility proposal.
Proposal	The subject of the State Significant Development application (SSD-9409987), including the construction and operation of a plastics recycling and reprocessing facility, at the proposal site.
Proposal site	The location of the proposed plastics recycling and reprocessing facility and associated infrastructure, located on Lot 11 DP 1084421 in Moss Vale.
Sensitivity	The sensitivity of a landscape character zone or view and its capacity to absorb change of the nature of the proposal. In the case of visual impact this also relates to the type of viewer and number of viewers. Combined with magnitude, sensitivity provides a measurement of impact.
Significant	In the context of EIA, after analysing the extent (type, size, scope, intensity and duration) and nature (predictability, resilience of the environment, reversibility, ability to manage/mitigate, level of public interest) of a proposal, an expected level of impact of a proposal which requires an EIS to be undertaken. The term should be avoided in landscape character and visual impact assessments if the expected level of impacts is below the threshold.
Study area	Consists of land in the vicinity of, and including, the proposal site. The study area is a wider area surrounding the proposal site as defined in this assessment, including land that has the potential to be indirectly impacted by the proposal.
View	The sight or prospect of a landscape or scene.
Viewpoint	A selected location of view representing a visual receiver.
Viewshed	The view of an area from a specific vantage point.
Visibility	The state or fact of being visible or seen.
Visual impact	The impact on the views from residences, workplaces and public places.
Zone of Theoretical Visibility	Also referred to as a 'visual catchment', is the area within which a project/proposal can potentially be seen at eye level above ground. Its extent will usually be defined by a combination of landform, vegetation and built elements.

<sup>1</sup> Adapted from: *Environmental impact assessment practice note EIA-N04 - Guideline for landscape character and visual impact assessment, Version 2.2* (Transport for New South Wales, 2020).



# Abbreviations

Table B: Abbreviations

Abbreviations	Definition
3D	Three dimensional
AHD	Australian Height Datum
DCP	Development Control Plan
DP	Deposited Plan
EP&A Act	Environmental Planning and Assessment Act
EIE	Explanation of intended effect
EIS	Environmental Impact Statement
GHD	GHD Pty Ltd
GIS	Geographic Information System
km	kilometre
LVIA	Landscape and visual impact assessment
LCZ	Landscape character zone
LEP	Local Environmental Plan
LGA	Local Government Authority
m	metre
MVEC	Moss Vale Enterprise Corridor
NSW	New South Wales
REF	Review of Environmental Factors
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SSD	State Significant Development
VP	Viewpoint
ZTV	Zone of Theoretical Visibility

# 1. Introduction

## 1.1 Overview

### 1.1.1 Plasrefine Recycling and the proposal

For many years, recyclable plastics have been recovered from kerbside collections and it has been profitable to export mixed plastics to China and other countries. With the advent of the China National Sword policy (a policy in China which banned the importation of certain types of waste and set strict contamination limits on recyclable materials), as well as issues with contaminated loads of recyclables being sent to China and other countries, opportunities to send mixed plastics overseas for processing have diminished. Recently, the Council of Australian Governments (COAG) decided to ban exports of recyclable waste from Australia from July 2021.

Despite these difficulties, export markets still exist for clean, separated, pelletised plastics and resins. However, there is very little local capacity in NSW and within Australia to sort recovered plastics into different types and convert them into valuable products.

To help address this issue, Plasrefine Recycling Pty Ltd (Plasrefine Recycling) ('the proponent') proposes to construct and operate a plastics recycling and reprocessing facility in Moss Vale ('the proposal').

The proposal would sort the plastics into different types, and convert the various plastics to plastic flakes and pellets (in the first stage) and produce more advanced products (in the second stage). The combined outputs of both stages of the proposal would help fill the gap in local processing capacity for mixed plastics.

The proposal would have an ultimate capacity to receive up to 120,000 tonnes per year of mixed waste plastics.

### 1.1.2 Approval and assessment requirements

The proposal is State significant development and is subject to approval by the NSW Minister for Planning and Public Spaces under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act).

This report has been prepared by GHD Pty Ltd (GHD) as part of the environmental impact statement (EIS) for the proposal. The EIS has been prepared to support the application for approval of the proposal and address the environmental assessment requirements of the Secretary of the NSW Department of Planning, Industry and Environment (SSD-9409987) dated 15 October 2020 (the SEARs).

## 1.2 The proposal

### 1.2.1 Location

The proposal would be located about 140 kilometres south west of the Sydney central business district and approximately 2.8 kilometres north west of the Moss Vale town centre within the Wingecarribee local government area.

The proposed plastics recycling and reprocessing facility and ancillary infrastructure would be located on the northern parcel of land in Lot 11 DP 1084421, with a current street address of 74-76 Beaconsfield Road, Moss Vale. This parcel of land is referred to as 'the plastics recycling and reprocessing facility site' for the purpose of the EIS. It has a total site area of about 7.7 hectares. The proposal would occupy a portion of the plastics recycling and reprocessing facility site.

The new access road which would extend from the plastics recycling and reprocessing facility to Lackey Road via:

- the currently unformed Braddon Road
- Lot 1 DP 26490 and Lot 10 DP 1084421 (the 'Braddon Road east extension').

The area that would be occupied by the proposal's permanent operational infrastructure, and/or directly disturbed during construction, is referred to as 'the proposal site' for the purposes of the EIS. The proposal site therefore comprises:

- The plastics recycling and reprocessing facility site (7.7 hectares)
- The new access road corridor (about 1.8 hectares)

It is noted that the areas that would be disturbed for construction of buildings, roads and water management would comprise about six hectares of the total 7.7 hectare plastics recycling and reprocessing facility site. Disturbance of the remaining 1.7 hectares would be limited to plantings as part of riparian vegetation management and landscaping.

The proposal would be located within the Moss Vale Enterprise Corridor (MVEC) catchment. The MVEC is a significant area of land between Moss Vale and New Berrima set aside for employment generating development under the Wingecarribee Shire Local Environmental Plan 2010.

The proposal site location is shown on Figure 1.1.

## 1.2.2 Key features

The proposal is defined as the construction and operation of a plastics recycling and reprocessing facility with capacity to receive up to 120,000 tonnes per year of mixed plastics, comprising:

- Two main buildings for waste receipt, recycling and reprocessing and finished product storage
- Wastewater treatment plant
- Ancillary infrastructure including an office building, workshop, truck parking, staff and visitor parking, internal roadways, weighbridges, water management, fire management, landscaping, fencing, signage and utility connection
- A new access road from the plastics recycling and reprocessing facility to Lackey Road via part of Braddon Road (currently unformed) and Lot 1 DP 26490 and Lot 10 DP 1084421 (the Braddon Road east extension).

The proposal would sort the plastics into different types and convert the various plastics to flakes and pellets (in the first stage) and produce more advanced products (in the second stage). The combined outputs of both stages of the proposal would help fill the gap in local processing capacity for mixed plastics.

Further information on the proposal is provided in the EIS.

The proposed site layout is shown in Figure 1.2.

## 1.2.3 Construction overview

An indicative construction strategy has been developed, based on the current design, to be used as a basis for the environmental assessment process. Detailed construction planning, including programming, work methodologies and work sequencing would be undertaken once construction contractor(s) have been engaged and during detailed design.

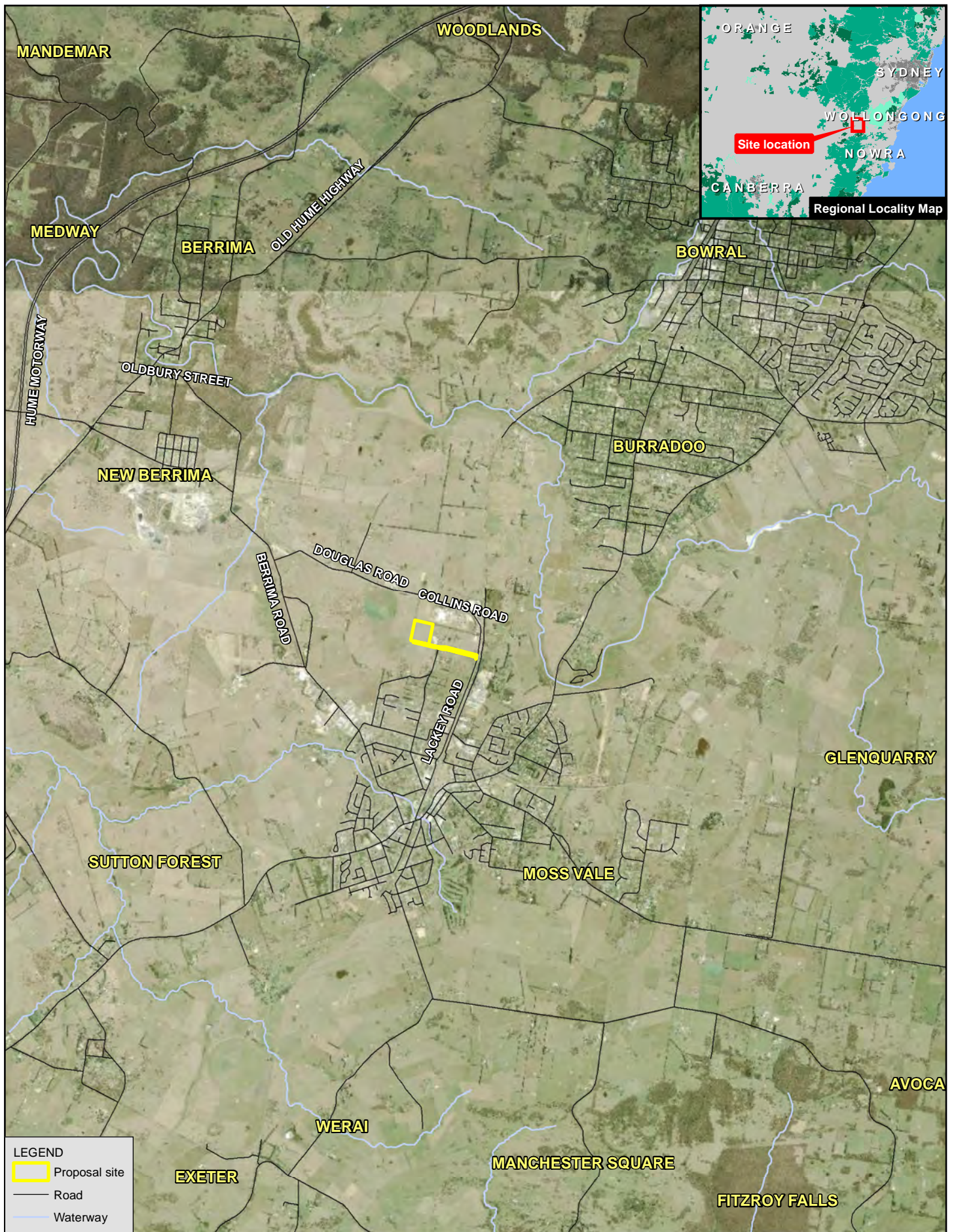
It is estimated that the proposal would take about 15 months to construct and commission and consist of three key stages:

- Early works and site establishment (1 month):
  - Construction of site access road
  - Utilities connection
  - Establishment of construction compound including construction staff amenities
  - Installation of temporary fencing
- Main site works (11 months):
  - Clearance of vegetation within the construction footprint, stripping and stockpiling of topsoil for reuse
  - Bulk earthworks for site shaping and surface water drainage and the bioretention pond
  - Pouring concrete foundation slab, footings, hardstand and slabs for the buildings
  - Construction of pavement areas for the truck and car park, internal roads and the site entrance/egress points
  - Installation of steel truss framework for structures

- Erection of pre-cast concrete panels for external and internal partition walls and metal roof sheets for site buildings
  - Installation of processing equipment
  - Building finishing works including fit out
  - Installation of firewater and other tanks
  - Installation of weighbridges
  - Installation of permanent fencing and signage
  - Restoration works including removal of temporary construction compound, general site clean up and landscaping following construction
- Testing and commissioning (3 months)

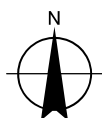
Further information on how the proposal would be constructed is provided in the EIS.





Paper Size ISO A4  
0 1 2  
Kilometres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



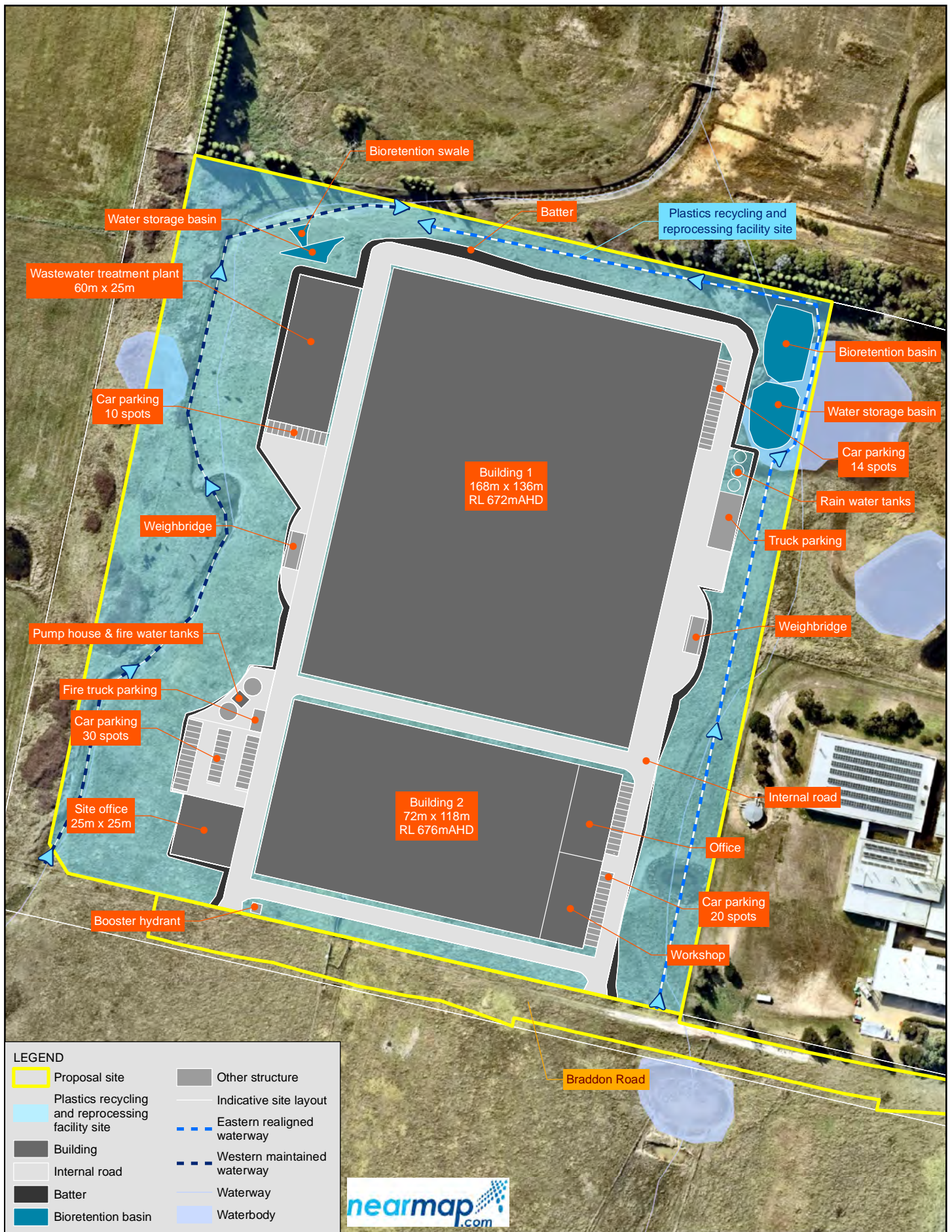
Plasrefine Recycling Pty Ltd  
Moss Vale Plastics Recycling and Reprocessing Facility

Project No. 12524108  
Revision No. A  
Date 22 Dec 2021

Proposal site location

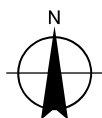
FIGURE 1.1





Paper Size ISO A4  
0 20 40  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



Plasrefine Recycling Pty Ltd  
Moss Vale Plastics Recycling and Reprocessing Facility

Project No. 12524108  
Revision No. A  
Date 06 Oct 2021

Proposed site layout

FIGURE 1.2

## 1.3 Secretary's Environmental Assessment Requirements

The specific SEARs addressed in this report are summarised in Table 1.1.

**Table 1.1** SEARs relevant to this assessment

SEARS Requirement	Where addressed in this report
<b>Urban Design and Visual:</b> <ul style="list-style-type: none"> <li>– A visual impact assessment (including photomontages and perspectives) of the development layout and design (buildings and storage areas), including staging, site coverage, setbacks, open space, landscaping, height, colour, scale, building materials and finishes, façade design, signage and lighting, particularly in terms of potential impacts on: <ul style="list-style-type: none"> <li>• Nearby public and private receivers</li> <li>• Significant vantage points in the broader public domain</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>– An assessment of the visual impacts is found in Section 7 of this report.</li> <li>– Photomontages can be found in Appendix A.</li> <li>– A separate urban design assessment has been carried out for the proposal, and provided in Appendix C.</li> </ul>
<ul style="list-style-type: none"> <li>– Consideration of the layout and design of the development having regard to the surrounding vehicular, pedestrian and cycling networks</li> </ul>	<ul style="list-style-type: none"> <li>– Addressed as part of recommended mitigation measures (refer Section 8)</li> <li>– Further design recommendations, in terms of addressing surrounding vehicular networks, outlined in Urban Design Assessment (refer Appendix C).</li> </ul>
<ul style="list-style-type: none"> <li>– Detailed plans showing suitable landscaping which incorporates endemic species</li> </ul>	<ul style="list-style-type: none"> <li>– A Landscape Plan has been developed for the proposal and supplied in Appendix B.</li> </ul>
<ul style="list-style-type: none"> <li>– Refer to the following guidance: Control of Obtrusive Effects of Outdoor Lighting (AS 2482)</li> </ul>	<ul style="list-style-type: none"> <li>– Referred to as part of recommended mitigation measures (refer Section 8).</li> </ul>

## 1.4 Purpose and scope of this report

The purpose of this report is to assess the potential landscape and visual impacts from constructing and operating the proposal. The report:

- Includes an understanding of the landscape and visual attributes of the study area
- Identifies of sensitivities in relation to landscape and visual change associated with the proposal
- Describes the existing environment with respect to landscape and visual attributes of the study area
- Assesses the potential landscape and visual impacts associated with the proposal
- Addresses the SEARs requirements listed in Section 1.3
- Recommends measures to mitigate and manage the impacts identified

An urban design assessment has also been carried out to inform the mitigation measures, refer to Appendix C. It:

- Describes the existing surrounding environment, with respect to Urban Design
- Assesses the impacts of the proposal on Urban Design
- Addresses the SEARs requirements listed in 1.3
- Recommends measures to mitigate and manage the impacts identified

A Landscape Plan and two photomontages have also been produced as part of this report (refer Appendix A and Appendix B).

## 1.5 Structure of this report

The structure of the report is outlined below:

- **Section 1 - Introduction:** provides background information and an overview of the proposal and assessment.

- **Section 2 - Methodology:** describes the methodology used for the purposes of this assessment.
- **Section 3 - Proposal description:** provides a description of the proposal components.
- **Section 4 - Legislation and policy:** provides an overview of relevant legislation and policy.
- **Section 5 - Existing environment:** provides an overview and describes the landscape and visual environment within the study area.
- **Section 6 - Landscape character assessment:** defines landscape character zones and provides an assessment of impacts to landscape character from the proposal.
- **Section 7 - Visual impact assessment:** identifies viewpoint locations and provides an assessment of impacts to visual amenity from the proposal.
- **Section 8 - Mitigation measures:** recommends mitigation measures in response to issues arising in the assessment during construction and operation phases of the proposal.
- **Section 9 - General response to legislation and policy:** provides a response to relevant legislation and policy.
- **Section 10 - Conclusion:** presents a summary of LVIA findings

## 1.6 Assumptions

As advised by the client Plasrefine Recycling Pty Ltd, this assessment assumes that mitigation measures including the screening planting shown on the Landscape Plan (Appendix B) will be implemented. This screening planting is on land to the south of the proposed access road, on the northern boundary of the 'E4' portion of Lot 11 DP 1084421. This land is not part of this approval footprint, however, is zoned 'Environmental Living E4' and is also owned by the client, who has agreed to this design. Refer to Appendix B Landscape Plan for location. It should be noted that some driveways or roads may go through this area in future, to access the E4 site, but that they are not expected to significantly affect the screening.

## 2. Methodology

### 2.1 Standards and guidance

This LVIA has been prepared in accordance with the following:

- *Environmental impact assessment practice note EIA-N04 - Guideline for landscape character and visual impact assessment, Version 2.2* (Transport for New South Wales, 2020)
- *Guidelines for Landscape and Visual Impact Assessment, 3rd Edition* (Landscape Institute and Environmental Management Assessment, 2013).

#### 2.1.1 Study Area

Since the viewshed for the proposal is largely confined to land within two kilometres of the proposal site, the study area for this report has been defined as two kilometres from the proposal site.

The study area has been determined based on the following:

- An analysis of the ZTV mapping (refer Section 5.6)
- A desktop study examining aerial photographs and topographic maps considering both landform and land cover
- Previous studies of a similar nature
- The proximity of neighbouring townships, which include Sutton Forest, New Berrima, Berrima and Bowral. The nearest residences are to the south-east of the proposal site, on Beaconsfield Road, Moss Vale.
- A wider 6 km area has also been considered, due to a prominent ridgeline to the north called Oxley Hill, which affords long views over Moss Vale, Burradoo and Evandale (refer to front cover and section 7.6).

### 2.2 Landscape and visual existing environment

#### 2.2.1 Desktop analysis

Existing data was gathered and reviewed, including:

- Proposal design information and site photographs
- Topography, land use, and vegetation maps
- Google Earth and Google Street View

Using this data, a preliminary assessment of the landscape and visual environment was undertaken to inform the site inspection.

#### 2.2.2 Review of legislation and policy

A review of key planning designations, policies and guidance was undertaken in relation to landscape and visual amenity within the study area. The emphasis of the review was to identify elements outlined within legislation, policy and planning documents relevant to landscape and visual character and identity of the study area.

#### 2.2.3 Zone of Theoretical Visibility assessment

Zone of Theoretical Visibility (ZTV) mapping is a computer-generated analysis which identifies land from which it is theoretically possible to view the components of the Proposal. These have been used primarily to guide the area of site analysis and representative viewpoint selection.

ESRI ArcGIS software was used to model the ZTV of the proposal. A digital elevation model was produced using five metre contour intervals. The ZTV was mapped using the following parameters:

- A viewing height of 1.7 metres, which is the average within the typical viewing level range of an adult
- Topography of the area



The GIS software then digitally determines the likely extent over which the feature would be visible or not visible. In interpreting the ZTV, the following issues must be considered:

- it only takes into account the landform and does not include land cover factors such as the presence of buildings and trees, therefore it represents the worst-case scenario of potential visual impact
- it does not take into account the effect of distance. The greater the distance from the proposal, the lower the impact, as the development will take up a smaller portion of the view, and atmospheric conditions may reduce the visual prominence of the proposal
- the ZTV is only accurate to the resolution of the elevation model

## 2.2.4 Site inspection

Two site inspections were undertaken by a Landscape Architect and Urban Designer on 5 March and 20 April 2021. The purpose of the inspections were to:

- Inspect the site and appreciate views to / from sensitive visual receivers
- Inspect publicly accessible locations identified in the desktop study as likely to provide views of the proposal, including roads and footpaths
- Identify sensitive visual receiver locations
- Assess the landscape character of the study area and identify landscape sensitivities
- Undertake site photography suitable for photomontage preparation

The coordinates of each viewpoint were recorded during the site inspection.

## 2.2.5 Definition of existing landscape and visual environment

A landscape existing conditions assessment was undertaken to determine the existing natural and cultural features within the study area. This includes determination of key landscape and spatial elements, features and values. Aspects considered include:

- Land use and built form
- Landform, topography and hydrology
- Vegetation
- Historical features.

A visual existing conditions assessment was also undertaken to establish the key views, proposal viewshed, and other visual features within the study area.

## 2.3 Impact assessment

### 2.3.1 Landscape character zones

Landscape character considers common landscape zones defined by typical features and characteristics identified during the desktop assessment and site inspection. Defining landscape character zones identifies areas sharing the same homogenous environmental or cultural qualities or pattern such as topography, vegetation, hydrology, land use and settlement, built form scale and character, cultural and recreational characteristics.

This approach has been used to establish the existing landscape character around the proposal site and to provide a framework for measuring the impact of the proposal. This assists in:

- Defining landscape elements that contribute to defining character
- Defining landscape character attributes
- Identifying landscape value.

The assessment of the existing environment also considers factors which have influenced landscape change in the past and those that are likely to do so in the future. The landscape character zones are defined in Section 6.

#### **Landscape value**



As part of the existing conditions the value of the landscape is defined for each Landscape Character Zone (LCZ). The value of the landscape is described in Table 2.1.

When defining landscape character zones, the value attached to the landscape also forms the baseline for which the significance of the impact is measured. Landscape value looks at designated and undesignated landscapes and holistically at all the elements such as the environmental, cultural, historical and visual/sensory elements that form the landscape. The value of the landscape from an international, national, local and community level is considered when applying a landscape value. The following factors are taken into consideration when defining landscape value (Natural England, Scottish Natural Heritage and Countryside Council, 2011):

- Landscape quality (physical state of the landscape)
- Scenic quality (appeal of the landscape to the senses)
- Rarity (presence of rare elements)
- Representativeness (distinct character or features of landscape)
- Conservation value
- Recreation value
- Perceptual aspects/qualities
- Associations (with particular people, artists, events in history)

The landscape values for each LCZ are described in Section 6. Table 2.1 outlines the landscape value definitions for each rating.

**Table 2.1**      *Landscape value*

Landscape Value	Definition
High	Landscape character elements in good or above average condition and/or that make a strong positive contribution to landscape character. May include nationally important features.
Medium	Landscape character elements in reasonably good condition and/or that make an average contribution to the local character, which may include locally important landscape features.
Low	Landscape character elements in below average condition and/or that are not particularly distinctive local features.

## 2.3.2 Landscape impacts

Landscape character refers to a distinct and recognisable pattern of elements that occur consistently in a particular type of landscape. Particular combinations of geology, landform, soils, vegetation, land use and human settlement create character, which makes each part of the landscape distinct and gives each its particular sense of place.

Assessment of landscape impacts deals with the effect of change and development on landscape as a resource. The concern is with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character. The consideration of potential impacts on landscape character is determined based on the sensitivity of the existing landscape and the magnitude of change that is likely to occur.

The sensitivity of a landscape is judged on the landscape value (refer Table 2.1) and the landscapes susceptibility to change (refer Table 2.2) from a particular type of development. A judgement on the level of sensitivity is made and a rating of high, moderate or low applied.

The magnitude of change to landscape character depends on the nature, scale and duration of the change expected to occur. The magnitude of change also depends on the loss, change or addition of any feature to the existing landscape. It is based on that part of the landscape character zone which is likely to be impacted to the greatest extent by the proposal.

The sensitivity and magnitude of landscape effects address the following specific criteria:

- Sensitivity of landscape to proposed change, based on the susceptibility to change, and the value of landscape (refer Table 2.1 and Table 2.2 respectively)

- Magnitude of landscape effect, based on the size or scale of change, the geographical extent of effects, and the duration and reversibility of effects (refer Table 2.3)

A judgement is made on the overall level of significance of the landscape impact in relation to the existing conditions.

The assessment criteria have been derived from the (Landscape Institute and Environmental Management Assessment, 2013).

**Table 2.2** *Landscape susceptibility to change*

<b>Landscape susceptibility</b>	<b>Definition</b>
<b>High susceptibility to change</b>	The type of development proposed could have a detrimental effect on the landscape character, condition or value. Mitigation measures are unlikely to reduce the impacts of the change.
<b>Moderate susceptibility to change</b>	Any change caused by the type of development would be unlikely to have a significant adverse effect on the landscape character, condition or value that could not be mitigated.
<b>Low susceptibility to change</b>	Development of this type is unlikely to have an adverse effect on the landscape character, condition or value. Mitigation measures would be effective in neutralising adverse effects.

**Table 2.3** *Magnitude of change criteria (landscape)*

<b>Rating</b>	<b>Criteria</b>
<b>High</b>	A substantial/obvious change to the landscape character due to total loss of, or change to, elements, features or characteristics of the landscape. Would cause a landscape to be permanently changed and its quality diminished.
<b>Moderate</b>	Discernible changes in the landscape character due to partial loss of, or change to elements, features or characteristics of the landscape, however has potential to be partly mitigated. The change would be out of scale with the landscape character, and at odds with the local pattern and landform and would leave an adverse impact on the landscape character.
<b>Low</b>	Minor loss or alteration to one or more key landscape character elements, features or characteristics, or the introduction of components that may be new but may not be uncharacteristic within the existing landscape character.
<b>Negligible</b>	Almost imperceptible or no change in the landscape character as there is little or no loss of/or change to the elements, features or characteristics of the landscape.

## 2.3.3 Viewpoint selection

Assessment of visual impacts deals with the effects of change and development on the views available to people and their visual amenity. It assesses how the surroundings of individuals or groups of people may be specifically affected by changes in the context and character of views as a result of the change or loss of existing elements of the landscape and/or the introduction of new elements.

Visual receivers have been considered in terms of the views they are likely to obtain from within the study area including consideration of any key vantage points, such as lookouts, where there is particular interest in the view. Visual receivers are identified based on:

- Proximity of the receivers to the proposal, as the most affected visual receivers are anticipated to be located closest to the proposal, unless located at an elevated vantage point
- Type of receiver, as different viewer types would have different perceptions of the change.

Based on the analysis of the existing landscape and visual environment, sensitive visual receivers were identified and viewpoint locations selected as representative locations for assessment.

## 2.3.4 Visual impacts

The evaluation of potential impacts on visual amenity is based on the sensitivity of the viewpoint (and the visual receiver it represents) to change, and the magnitude of change that is likely to occur.

The sensitivity of each viewpoint is considered to be dependent on the:

- Importance of the view, its existing scenic qualities and the presence of other existing human-made elements in the view
- Type of visual receiver and their likely interest in the view.

The magnitude of change to views and visual amenity depends on the nature, scale and duration of the change that is expected to occur. The magnitude of a change also depends on the loss, change or addition of any feature in the field of view of the receiver including an assessment of the level to which the change contrasts with the existing view or expected view of the landscape. This includes the degree of any change to the backdrop to, or outlook from a viewpoint.

The assessment considers the likely impacts of the proposal. The level of effects on a view depends on factors such as the extent of visibility, degree of obstruction of existing features, degree of contrast with the existing view, angle of view, duration of view and distance from the proposal.

Steps undertaken to assess visual effects include:

- Identify and map viewpoint locations
- Undertake assessment of visual effects, comprising:
  - Sensitivity of visual receivers to proposed change, based on: susceptibility of visual receivers to change, and value attached to views (refer Table 2.4)
  - Magnitude of visual effect, based on: size or scale of change; geographical extent of effects, and duration and reversibility of effects (refer Table 2.5)

An assessment is undertaken of the overall level of significance of the visual impacts in relation to the existing view (refer Section 2.3.5).

**Table 2.4**      *Sensitivity criteria (visual)*

Rating	Criteria
<b>High</b>	Occupiers of residential properties, at home or going to or from, with long viewing periods, within close proximity to the proposed development; Communities that place value upon the landscape and enjoyment of views of their setting.
<b>Moderate</b>	Outdoor workers who have a key focus on their work who may also have intermittent views of the study area; Viewers at schools, or similar, when outdoor play and recreation areas are located within close proximity but viewing periods are limited; Occupiers of residential properties with long viewing periods, at a distance from or screened from the study area.
<b>Low</b>	Road users in motor vehicles, trains or on transport routes that are passing through or adjacent to the study area and therefore have short term views; Viewers indoor at their place of work, schools or similar.
<b>Negligible</b>	Viewers from locations where there is screening by vegetation or structures where only occasional screened views are available and viewing times are short; Road users in motor vehicles, trains or on transport routes that are passing through/adjacent to the study area and have partially screened views and short viewing times.

**Table 2.5**      *Magnitude of change criteria (visual)*

Rating	Criteria
<b>High</b>	A substantial/obvious change to the existing view due to total loss of, or change to, elements, features or characteristics of the view. Would cause a view to be permanently changed and its quality diminished.
<b>Moderate</b>	Discernible changes in the existing view due to partial loss of, or change to elements, features or characteristics of the view, however has potential to be partly mitigated. The change would be out of scale with the existing view, and would leave an adverse impact on the view.
<b>Low</b>	Minor loss or alteration to one or more key view elements, features or characteristics, or the introduction of components that may be visible but may not be uncharacteristic within the existing view.
<b>Negligible</b>	Almost imperceptible or no change in the view as there is little or no loss of/or change to the elements, features or characteristics of the view.

## 2.3.5 Significance of impacts

The combination of sensitivity and magnitude determines the significance of the impact on the landscape character or representative viewpoint. Refer Table 2.6 for the matrix used to determine the significance of impact.

**Table 2.6**      *Significance of impact matrix*

Sensitivity	Magnitude of impact				
		High	Moderate	Low	Negligible
	High	High	High-Moderate	Moderate	Negligible
	Moderate	High-Moderate	Moderate	Moderate-Low	Negligible
	Low	Moderate	Moderate-Low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

## 2.3.6 Panorama and photomontage

All photographic images were captured using a 50 millimetre fixed focal length lens on a 35 millimetre full frame format camera at a camera height of 1.7 metres. All photograph locations were recorded and mapped.

A series of six viewpoint locations were chosen and existing views represented using a panorama technique. This technique involves the stitching together of a number of adjoining images using the Adobe Photoshop software program. Of the six viewpoint locations, two viewpoints were selected for the production of photomontage images to represent proposed views following the completion of the proposal. The software used to model and render the photomontages was Autodesk 3D Studio Max. In order to achieve an accurate photomontage of the proposal and surrounding landscape, five metre contours and a Digital Terrain Model were used to model the surrounding landform.

Once the 3D model incorporating both the landscape and new proposal elements were created, a virtual camera was placed in the software at the same location the photographs were taken. The film, focal lens and height of the virtual camera matches the real camera utilised to take the photographs. The photographs of the site were used in 3D Studio Max as a background to accurately match the 3D model with the proposal elements to the perspective of the photographs.

From the camera view, rendered images of the proposal were produced to match the daylight exposure of the photographs. The rendered images were imported into Adobe Photoshop for post-production editing and collation of the photomontages. The final result is the 3D model of the proposal shown in the correct 3D location in the photographs (refer Appendix A). The final images were produced to a high resolution, suitable for printing.

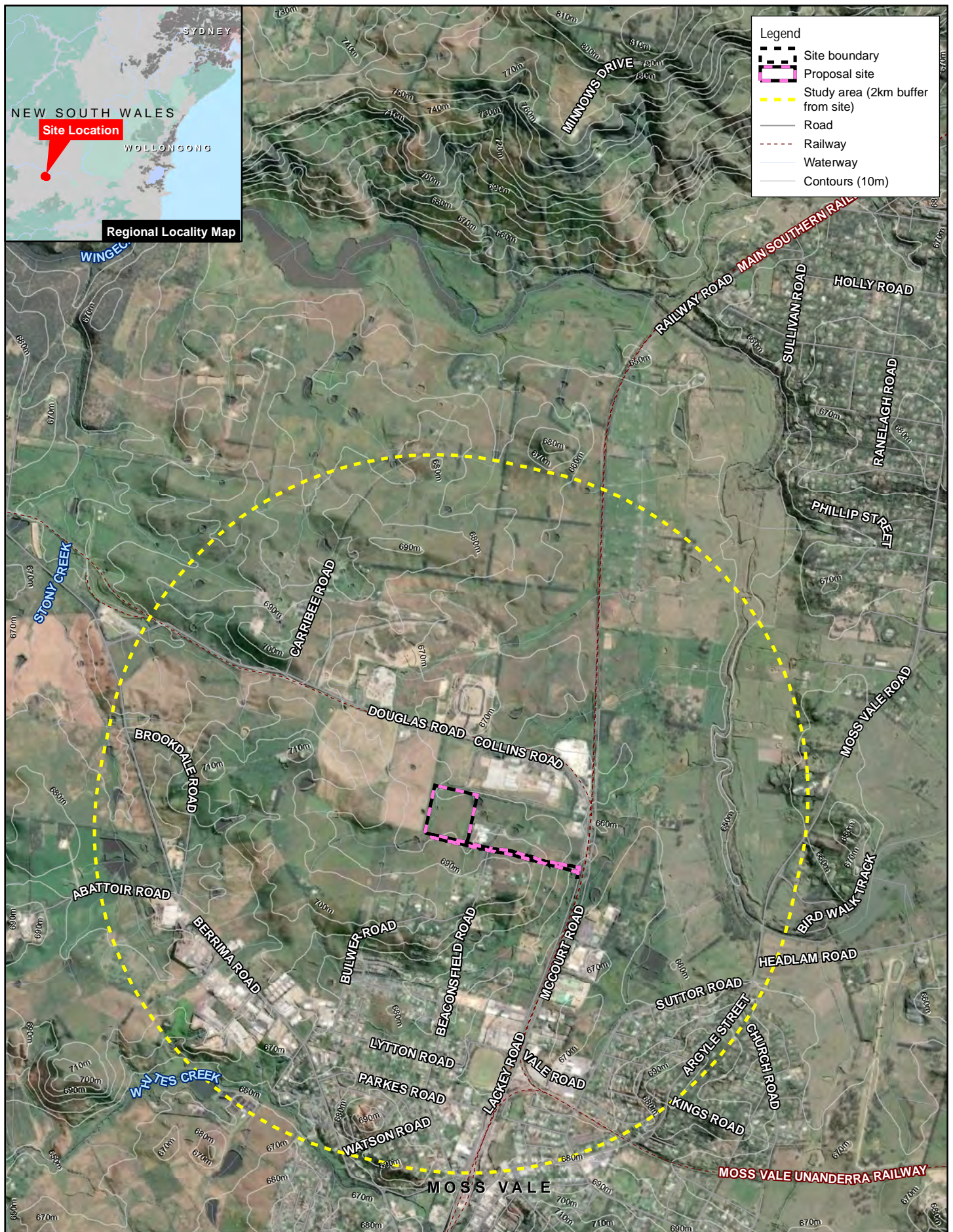
## 2.3.7 Mitigation measures

Mitigation measures were developed in response to the impacts identified within Section 6 and Section 7. Potential mitigation measures may include:

- Adopting alternative designs or revisions to the basic engineering and architectural design to prevent and/or minimise negative impacts
- Remedial measures such as colour and textural treatment of structural features
- Compensatory measures such as landscape design to compensate for unavoidable negative impacts and to attempt to generate long-term positive impacts

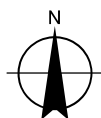
A full list of recommended mitigation measures is provided in Section 8.





Paper Size ISO A4  
0 0.25 0.5 0.75 1  
Kilometers

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



Plasrefine Pty Ltd  
Moss Vale Plastics Recycling Facility

Project No. 12524108  
Revision No. E  
Date 16/09/2021

Study Area

FIGURE 2.1

\\ghdnet\ghd\VAU\Sydney\Projects\21\12524108\GIS\Maps\Deliverables\BeaconsfieldRD\_LVIA\12524108\_2011\_BeaconsfieldRD\_LVIA\_StudyArea.mxd

© 2021. Whilst every care has been taken to prepare this map, GHD (and Sixmaps 2021, NSW Department of Lands, Geoscience Australia) make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Aerial imagery - Sixmaps 2021 Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. General topo - NSW LPI DTDB 2020, 2015; Enterprise corridor - Wingecarribee Shire Council & NSW DPE 2018; Inset map - Geoscience Australia. Created by: dschmidt



## 3. Proposal description

The following section provides a summary of the proposal site and includes detail relating to the main visual components that have potential to affect the landscape character and visual amenity of the study area.

### 3.1 Proposal site

The proposed plastics recycling and reprocessing facility and ancillary infrastructure would be located on the northern parcel of land in Lot 11 DP 1084421 (the proposal site). This parcel of land has a total site area of about 7.7 hectares, divided by an access easement. It does not contain any existing infrastructure and is partially fenced. The proposal site is also generally clear of large vegetation.

The proposal would be accessed via Braddon Road (currently unformed) and a new connection to Lackey Road via Lot 4 DP 26490 and Lot 10 DP1084421 (the Braddon Road east extension).

The proposal site is also included within the Moss Vale Enterprise Corridor (MVEC) catchment. The MVEC is a significant area of land between Moss Vale and New Berrima set aside for employment generating development under the *Wingecarribee Shire Local Environmental Plan 2010* (NSW Government, 2021).

The proposal would be located about 140 kilometres south-west of the Sydney central business district and approximately 2.8 kilometres north-west of the Moss Vale town centre at 74-76 Beaconsfield Road. It would be located on the western side of Beaconsfield Road and on the southern side of Douglas Road, within the Wingecarribee local government area, as shown in .

### 3.2 Key features

The proposal is defined as the construction and operation of a plastics recycling and reprocessing facility with capacity to receive up to 120,000 tonnes per year of mixed plastics and wastes containing plastics, comprising:

- Two main buildings up to 16 metres high, for waste receipt, recycling and reprocessing and finished product storage
- Wastewater treatment plant
- Ancillary infrastructure including an office building, workshop, truck parking, staff and visitor parking, internal roadways, weighbridges, water management, fire management, landscaping, fencing, signage and utility connection
- A new access road from the plastics recycling and reprocessing facility to Lackey Road via part of Braddon Road (currently unformed) and Lot 1 DP 26490 and Lot 10 DP 1084421 (the Braddon Road east extension).

The key features of the proposal are shown in Figure 1.2.

### 3.3 Construction phase

An indicative construction strategy has been developed, based on the current design, to be used as a basis for the environmental assessment process. Detailed construction planning, including programming, work methodologies and work sequencing would be undertaken once construction contractor(s) have been engaged and during detailed design.

It is estimated that the proposal would take about 15 months to construct and commission and consist of three key stages:

- Early works and site establishment (1 month):
  - Construction of site access road
  - Utilities connection
  - Establishment of construction compound including construction staff amenities
  - Installation of temporary fencing
- Main site works (11 months):

- Clearance of vegetation within the construction footprint, stripping and stockpiling of topsoil for reuse
- Bulk earthworks for site shaping and surface water drainage and the bioretention pond
- Pouring concrete foundation slab, footings, hardstand and slabs for the buildings
- Construction of pavement areas for the truck and car park, internal roads and the site entrance/egress points
- Installation of steel truss framework for structures
- Erection of pre-cast concrete panels for external and internal partition walls and metal roof sheets for site buildings
- Installation of processing equipment
- Building finishing works including fit out
- Installation of firewater and other tanks
- Installation of weighbridges
- Installation of permanent fencing and signage
- Restoration works including removal of temporary construction compound, general site clean up and landscaping following construction
- Testing and commissioning (3 months)

Further information on how the proposal would be constructed is provided in the EIS.

## 4. Legislation and policy

The following section provides an overview of relevant legislation and policy objectives relevant to this assessment. Table 4.1 provides a summary of the key legislation and policy objectives. Refer to a more detailed overview in Sections 4.1-4.3.

**Table 4.1** Relevant Legislation and Policy

Legislation / Policy	Topic	Relevant Features / Objectives
<b>STATE</b>		
<i>Environmental Protection and Assessment Act 1979</i>	Legislation governing planning in NSW.	Part 4 – Development Assessment and Consent Division 4.7 – State Significant Development
<i>Design and Place State Environment Planning Policy (Draft)</i>	Principle-based State Environment Planning Policy (SEPP), integrating and aligning good design and place considerations into planning policy. This includes good design and amenity of the built environment, sustainable management of built and cultural heritage, and the proper construction and maintenance of buildings.	Design principles: 1. Design places with beauty and character, 3. Design productive and connected places, 4. Design sustainable and greener places and 5. Design resilient and diverse places
<i>Local Character and Place Guideline</i>	Framework to maintain, enhance and cultivate the unique character and identity of places in NSW	Assessing local character Elements that contribute to/shape and local character and place
<i>Better Placed</i>	Integrated design policy for the built environment in NSW, to promote well designed public places and environments	Design objectives with respect to local place character and amenity
<b>REGIONAL</b>		
<i>South East and Tablelands Regional Plan 2036</i>	Blueprint for balanced regional growth while recognising and protecting the region's landscape and natural environment. It represents a cross border approach to economic investment, infrastructure delivery, servicing provision and housing development across the ACT and NSW Southern Tablelands region.	Goal 1: A connected and prosperous economy <i>Direction 4:</i> Leverage growth opportunities – Western Sydney <i>Direction 14:</i> Protect important environmental assets
<b>LOCAL</b>		
<i>Wingecarribee Local Environmental Plan 2010</i>	The local environmental plans (LEPs) and development control plans (DCPs) are prepared by Councils for the purpose of regulating development and land use within the LGA.	2.1 – Zoning provisions, 4.3 – Height of buildings, 4.4 – Floor space ratio (Note: as a State Significant Development, DCP compliance is not required).
<i>Wingecarribee Development Control Plans</i>		Moss Vale Enterprise Corridor DCP

## 4.1 State legislation and policy

### 4.1.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act (EP&A Act)* is the primary instrument setting out laws that govern planning in NSW. Part 4 and 5 of the *EP&A Act* relates to development assessment and environmental approvals, and State Significant Development (SSD). As the proposal is deemed an SSD, the proposal is seeking approval from the Minister for Planning and Public Spaces. Relevant objectives of the *EP&A Act* include:

- *l to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats*
- *(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage)*
- *(g) to promote good design and amenity of the built environment*

This LVIA report forms part of the overall EIS for the proposal, which has been prepared in accordance with provisions of this act. The proposal is an SSD and is subject to approval by the NSW Minister for Planning and Public Spaces under the NSW *Environmental Planning and Assessment Act 1979* (NSW Government, 2021).

### 4.1.2 Draft Design and Place SEPP

The proposed Design and Place SEPP (NSW Government, 2021) aims to positively influence new development through quality design and place-led design approaches. In doing so, this SEPP supports the design of healthy and prosperous places that support the wellbeing of people, community and country. This document is under preparation and will be exhibited in late 2021.

Based on the Explanation of Intended Effect (EIE) document, it sets out the relationship with other legislation and policy. The core principles of relevance include:

- Designing places with character, that are visually attractive, physically comfortable and make a positive contribution to their context. Projects should also respond to the community's needs and encourage pride and ownership.
- Design productive which support economic activity and well-connected places to support liveable, thriving communities.
- Design sustainable and green places through whole-of-life design considerations which minimise resource consumption and waste, and contribute to the wellbeing of communities and the environment.
- Intentional design of built and natural systems that are adaptive and resilient to change, providing diverse and accessible places.

### 4.1.3 Local Character and Place Guideline 2019

The *Local Character and Place Guideline* (NSW Government, 2019) seeks to ensure local character is considered in decision making, and the identity and place attributes that make an area distinctive are maintained, enhanced and cultivated. The guideline recognises that places are multi-layered and diverse, and that there are a number of influences that contribute to, and impact local character.

The guideline stipulates that a local character statement should be prepared for different areas, to provide a reference for development proposals and decision making. There is presently no character statement available for the Wingecarribee Shire LGA. This LVIA assessment, however, outlines the landscape and visual elements that contribute to local character, potential impact of the proposal and mitigation measures to manage these impacts. The approach in this LVIA is consistent with the *Local Character and Place Guidelines assessment toolkit*.

### 4.1.4 Better Placed

*Better Placed* is a design guide developed by the Government Architect NSW, recognising the importance of good design to make better places and enhance urban environments across the state. The design guide addresses design process, roles and responsibilities and desired outcomes (Government Architect NSW, 2017).

The relevant design principles within this guide include:

- **Better fit:** place-based response informed by and derived by its location, context and resonant with local character and heritage.
- **Better look and feel:** encouraging places which are welcoming and aesthetically pleasing, and design which contributes to the visual environment.

This guide prioritises visual amenity and local character. While of greater relevance to the proposal design, it has also informed the mitigation measures identified in this LVIA assessment.

## 4.2 Regional policy and strategies

### 4.2.1 South-East and Tablelands Regional Plan 2036

This Regional plan sets out the planning priorities and provides a framework for regional and local planning decisions (NSW Government, 2017). The region plans have a focus on the enjoyment of the *‘varied and distinct scenic landscapes from the highlands to the coast’* within the region. The region of Wingecarribee and Moss Vale has been identified as having strong economic development for the region, stating an aim to *‘capitalise on the land availability in the Moss Vale Enterprise Corridor to attract industry and investment’*.

While also stating a priority for the region’s landscape and visual quality that should be protected, including:

- *‘Protect high environmental value lands including regionally significant biodiversity corridors.’*
- *‘Protect the unique character of the Shire’s village and rural lifestyle.’*
- *‘Protect the Shire’s valued heritage assets.’*

## 4.3 Local legislation and policy

It should be noted that the proposal is an SSD and subject to terms of the assessment, should have regard to but does not need to comply with local planning policies and provisions, however it does require an environmental impact statement to be obtained and SEAR’s requirements to be met.

However, principles of good design and relevant recommendations should be incorporated, where possible. The following local planning policies and provisions are therefore considered relevant to the proposal:

### 4.3.1 Wingecarribee Local Environmental Plan 2010

The study area is located within the Wingecarribee Shire local government area and therefore falls under the *Wingecarribee Local Environmental Plan 2010* (NSW Government, 2021). This plan identifies a number of aims relevant to the landscape and visual amenity of the study area including:

- *‘retain the critical natural, rural and built environmental landscape elements that make up the scenic and cultural heritage value of Wingecarribee.’*
- *‘to protect areas of high scenic landscape value.’*

#### Land use designation

The proposal site occupies the northern portion of Lot 11 on DP1084421, comprising two different zonings – the northern part, which is zoned as General Industrial (IN1), and the southern part of the lot is zoned Environmental Living (E4). This site also forms part of the MVEC, which is a significant area of land between Moss Vale and New Berrima set aside for employment generating development under the Wingecarribee Shire Local Environmental Plan 2010 (WLEP 2010). The IN1 General Industrial zone has a focus on general industrial and warehouse development whilst the E4 land provides for a restricted range of development and land use activities that provide for rural settlement, sustainable agriculture and other types of economic and employment development.

Refer to Figure 4.1 for the land uses within the study area. The following lands use zones are within or near the proposal site and have specific objectives that are relevant to landscape and visual amenity:



## **Land use zones**

### Zone IN1 General Industrial

The proposal site is located within Zone IN1.

- *‘To support and protect industrial land for industrial uses.’*
- *‘To ensure that new development and land uses incorporate measures that take account of their spatial context and mitigate any potential impacts on neighbourhood amenity and character, or the efficient operation of the local or regional road system.’*

### Zone IN3 Heavy Industrial

- *‘To minimise any adverse effect of heavy industry on other land uses.’*

### Zone RU2 Rural Landscape

- *‘To maintain the rural landscape character of the land’.*

### Zone RU4 Primary Production Small Lots

- *‘To avoid additional degradation or fragmentation of the natural environment caused by further clearing of native vegetation, high intensity development and land use.’*
- *‘ensuring that development minimises any off and on site impacts on biodiversity, water resources and natural landforms.’*

### Zone E4 Environmental Living

- *‘To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.’*
- *‘To ensure that residential development does not have an adverse effect on those values.’*
- *‘To encourage the retention of the remaining evidence of significant historic and social values expressed in existing landscape and land use patterns.’*
- *‘To provide for a restricted range of development and land use activities that provide for rural settlement, sustainable agriculture and other types of economic and employment development, recreation and community amenity in identified drinking water catchment areas.’*
- *‘To manage land in a way that minimises impact on its environmental and scenic value from adjacent and nearby development and land use activity.’*
- *‘To minimise the proliferation of buildings and other structures in these sensitive landscape areas.’*

## **Height of buildings**

The Moss Vale Enterprise Corridor (MVEC) Development Control Plan (DCP) recommends a maximum height of 20 metres for this area. As a State Significant Development, DCP compliance is not required, however the following objectives are considered, where appropriate:

*(b) to ensure that the heights of buildings are compatible with the character of the existing development within the surrounding area.*

## **Floor space ratio**

There is no floor space ratio defined for the site, however on account of the nature of the proposal within a predominately rural area, the following objective is relevant:

*(b) to ensure that floor space ratios provide development opportunities that are compatible with building heights.*

## 4.3.2 Development Control Plans

*Pursuant to the provisions of Clause 11 of the SRD SEPP, development control plans do not apply to SSD. Notwithstanding the above, the proposal has been designed to have regard to the DCP wherever possible*

The site falls within the Moss Vale Enterprise Corridor (MVEC). The Wingecarribee Shire Council's *Industrial Land DCP* (Wingecarribee Shire Council, 2011) excludes the MVEC, to which the Moss Vale Enterprise Corridor DCP (2012) applies. Land within the immediate surrounds is subject to provision of the Moss Vale Township DCP (Wingecarribee Shire Council, 2021), Industrial Lands DCP (Wingecarribee Shire Council, 2011) and Rural Lands DCP (Wingecarribee Shire Council, 2021).

## 4.3.3 Moss Vale Enterprise Corridor Development Control Plan 2012

The DCP for the Moss Vale Enterprise Corridor aims to establish more detailed controls on development in the Moss Vale Enterprise Corridor (Wingecarribee Shire Council, 2012). Supporting conventional light and general industrial development to meet local and regional demands for industrial land. However, it also notes that the Corridor has important environmental and cultural values that must be protected. The DCP includes the aims:

- *'To facilitate the development of the Moss Vale Enterprise Corridor for employment uses.'*
- *'To ensure development adopts sound urban design and sound environmental management Practices'.*
- *'To protect the scenic amenity of the Moss Vale area.'*
- *'To protect the amenity of surrounding rural and residential areas'*

Relevant development controls include:

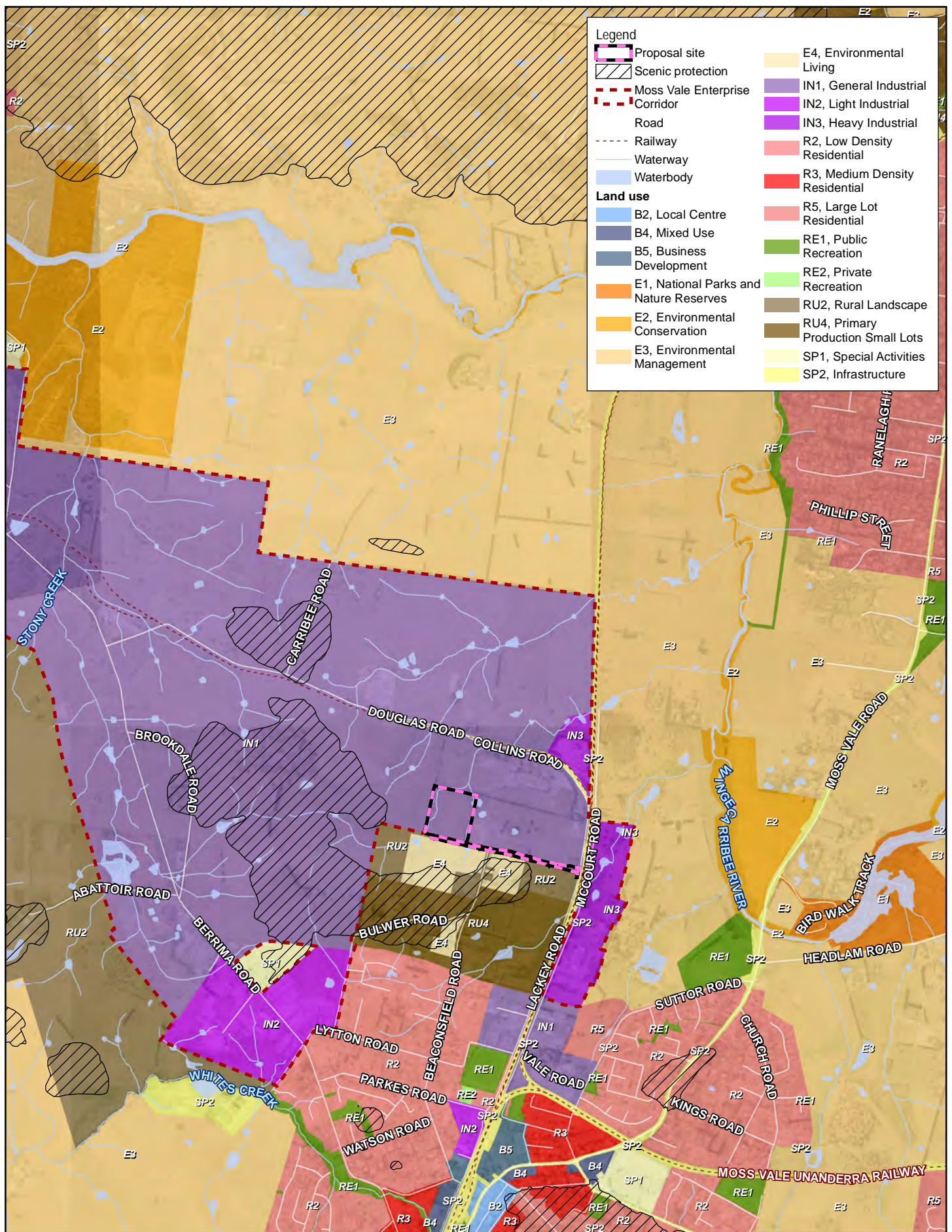
- *The bulk and scale of new development is appropriate to the area*
- *The size and siting of buildings within lots maintains the open rural character of the area*
- *The siting of buildings ensures that important natural or cultural features within lots are protected*
- *The bulk and scale of new development does not compromise the scenic amenity of the area*
- *Development is not visible from public viewpoints along Berrima Road and from surrounding townships*

The proposal is deemed an SSD, however the following DCP provisions have informed the design and mitigation measures:

- *Building materials should be non-reflective and external colours are to be muted earth and bush vegetation tones. Dark colours and large areas of white or vibrant colours are to be avoided.*
- *Landscape treatments should be used to reduce the visual impact of development and enhance the amenity of users. It is recommended that:*
  - *A minimum 15-metre-wide landscaped area is to be established along lot frontages to internal access roads and along boundaries with rural zoned land outside the Enterprise Corridor.*
  - *A minimum 3-metre-wide landscaped area is to be established along the side and rear boundaries of a site unless otherwise specified above.*
  - *Strategic landscaping within other parts of the site should be established to provide shade to car parking areas and to soften the appearance of large expanses of hardstand areas.*

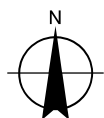
### Scenic Protection Overlay

The Scenic Protection Overlay includes elevated and prominent parts of the study area above 690 metre contour, south and west of the proposal site. While the proposal site itself is not affected by this overlay, views of the proposal may be possible from these vantage points. There are specific development controls applicable to protect visual amenity within these areas.



Paper Size ISO A4  
0 0.25 0.5 0.75 1  
Kilometers

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



Plasrefine Pty Ltd  
Moss Vale Plastics Recycling Facility

Project No. 12524108  
Revision No. E  
Date 16/09/2021

Land Use Zoning

FIGURE 4.1

## 5. Existing environment

The following section provides an overview of relevant land use and built form, topography, hydrology and vegetation, and key views and viewsheds in the vicinity of the proposal site. These features all contribute to the landscape character and visual amenity of the study area.

### 5.1 Land use and built form

The proposal site is undeveloped land within a predominately rural landscape, which is in a state of transition to employment land and industrial activities. The site and wider rural landscape afford long range views north to the ridgelines of the Southern Highlands. Land uses in proximity to the proposal site include farming and agricultural uses, rural living properties and large format industrial facilities.

The proposal site is currently accessed via the unformed east-west road, Braddon Road, which is at the northern end of Beaconsfield Road. Council's *S94 Contributions Plan* proposes a future east-west link to Lackey Road which would provide direct access to Collins Road, Douglas Road and Berrima Roads in the future.

The property immediately adjacent is the Garvan Institute's Australian Bioresources facility, which is a medical research facility, breeding and holding researching mice. The design of this facility is quite modest in terms of its massing and built form design, with the building pad level constructed on a low part of the site, surrounded by perimeter planting, to reduce its visual prominence. A number of other industrial businesses are located within one kilometre of the proposal site including:

- Dux Hot Water – industrial manufacturing facility
- Omya Australia – mineral processing facility
- Moss Vale Recycled Timber Building Centre – recycled building materials
- Cromford Pope Holdings – polyurethane pipe manufacturing facility
- A&I Coatings – polyurethane and fluoropolymers manufacturing

This wider area (1,100ha) is undergoing change due to the rezoning of land to industrial, supporting the growth of the Moss Vale Enterprise Corridor. Several new roads and new industrial estates are currently under construction, north of the proposal site. Existing industry activities range from light industry warehouses and sheds to large-format factories and processing facilities, with vertical towers and elements evident in some cases. The larger industrial facilities are generally setback from the local roads and accessed via private entrances.

The proposal site is also located within approximately 200 metres of five residential dwellings on Beaconsfield Road. The broader locality is dominated by a number of low-density residential properties to the south-east and multiple large rural blocks to the west. The wider pastoral landscape and rural residential areas typically feature one to two-storey residences on small to large land holdings, with perimeter and internal fencing. Houses are typically set back between 10 to 25 metres from the local road network.

Figure 4.1 illustrates the zoning and relevant overlays for the study area, including the MVEC boundary.

### 5.2 Topography and hydrology

The topography of the proposal site is slightly undulating, with its highest elevation of 680m AHD along the south-eastern edge, sloping down towards the northern boundary, to an elevation of 670m AHD. The contours of the proposal site are shown in Figure 5.1 and the broader area is characterized by gently rolling hills and rounded peaks with deep channel incision on horizontal quartz sandstone and shale.

The Wingecarribee River is located approximately two kilometres north-east of the proposal site. Two unnamed water bodies are also present on the proposal site (running along the western and eastern boundaries). The eastern watercourse is mapped as an ephemeral stream and the western watercourse is mapped in Council's LEP as Category 3 Riparian Land, which extends within 10 metres from the top of the stream bank on each side.



## 5.3 Vegetation

The vegetation surrounding the proposal site is mostly modified or disturbed. The landscape is typified primarily by grasslands pastures, areas of woodland typically on steeper hillslopes, with shelterbelt vegetation on property boundaries and scattered pockets of native vegetation. Residential exotic vegetation and other non-native species are found within urban areas and also on field boundaries, notably linear plantings of cypress or pine tree 'windbreaks'.

As detailed further in the *Biodiversity Assessment Report* forming part of the EIS for this proposal, there may be native remnant species throughout the modified landscape which include the species identified within the Moss Vale Highlands vegetation class, including woodland species of Silvertop ash (*Eucalyptus sieberi*), Sydney peppermint (*Eucalyptus piperita*), smooth-barked apple (*Angophora costata*), blue-leaved stringybark (*Eucalyptus agglomerate*) and scribbly gum (*Eucalyptus haemostoma*). Or remnant heath vegetation of; prickly broom heath (*Monotoca scoparia*), coral heath (*Epacris microphylla*), Christmas bells (*Blandfordia nobilis*) and button grass (*Gymnoschoenus sphaerocephalus*) with patches of stunted silvertop ash, red bloodwood (*Corymbia gummifera*), and scrub she-oak (*Allocasuarina paludosa*).

## 5.4 Bioregions, Sub-regions and NSW Mitchell landscapes

Bioregions are geographically distinct regions based on common climate, geology, landform, native vegetation, and species information. Sub-regions are a subset of the bioregions and are based on a finer grain of climate, landform geological, topographical, vegetation and biota patterns. The NSW Mitchell Landscapes are a subset of the sub-regions and reflect the local patterns of New South Wales (NSW Department of Environment, 2011). Refer to Figure 5.2 for the locations of the Mitchell Landscapes within the study area.

The study area is located within the Sydney Basin Bioregion (SB), the sub-regions and Mitchell landscapes include:

- Moss Vale - Moss Vale Highlands
- Moss Vale Basalts - Robertson Basalts

## 5.5 Key visual elements

Key views are typically achieved from elevated locations within the study area. Of note are views from and towards the visually prominent ridgeline south and west of the site, protected by a Scenic Protection overlay. Other long-range views of note include views from the elevated areas further north, including Oxley Hill within Bowral.

Other visual elements within the immediate area include:

- A landscape of gently rolling green hills, with field boundary trees and residences dotted throughout
- The adjoining Australian Bio-resources facility (Garvan Institute) and nearby industrial facilities
- Area of native woodland, linear mature Cypress tree windbreaks and rows of exotic evergreen trees

From Beaconsfield Road, the proposal site levels drop by more than 10 metres, which provides a degree of screening. There are however exposed areas along Collins Road/Douglas Road, with sparse tree and hedgerow planting, from where the proposal site would be more visible.

## 5.6 Zone of theoretical visibility

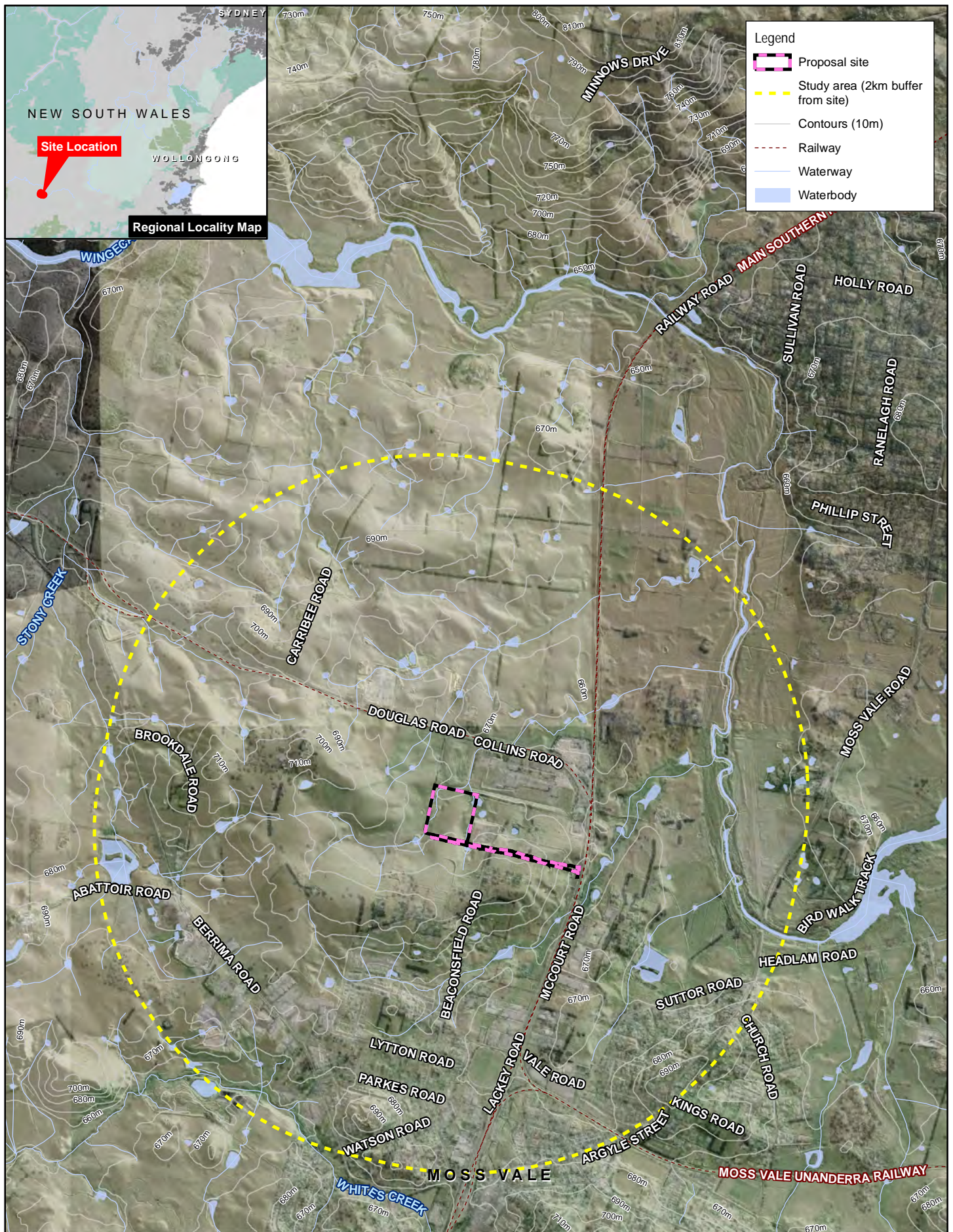
ZTV mapping undertaken for the proposal revealed that the proposal would have potential visibility from the surrounding area, as shown in Figure 5.3. However, as this mapping does not take into consideration the presence of built form and vegetation, the site inspection revealed the viewshed for the proposal is primarily confined to elevated areas within 6 kilometres of the site. Views possible from the surrounding area would predominately be of the top part of the building, proposed at 16 metres high.

The presence of ridgelines to the south and west, provides a degree of screening for residential properties within the main township and further west, however views of the proposal may be possible from rural residential



properties dotted throughout the undulating hilly landscape in all directions. While development along the ridgelines is minimal, and there is limited public access within these areas, views of the proposal are theoretically possible, notwithstanding the mitigating effects of vegetation.



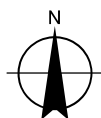


Paper Size ISO A4

0 0.2 0.4 0.6 0.8

Kilometers

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



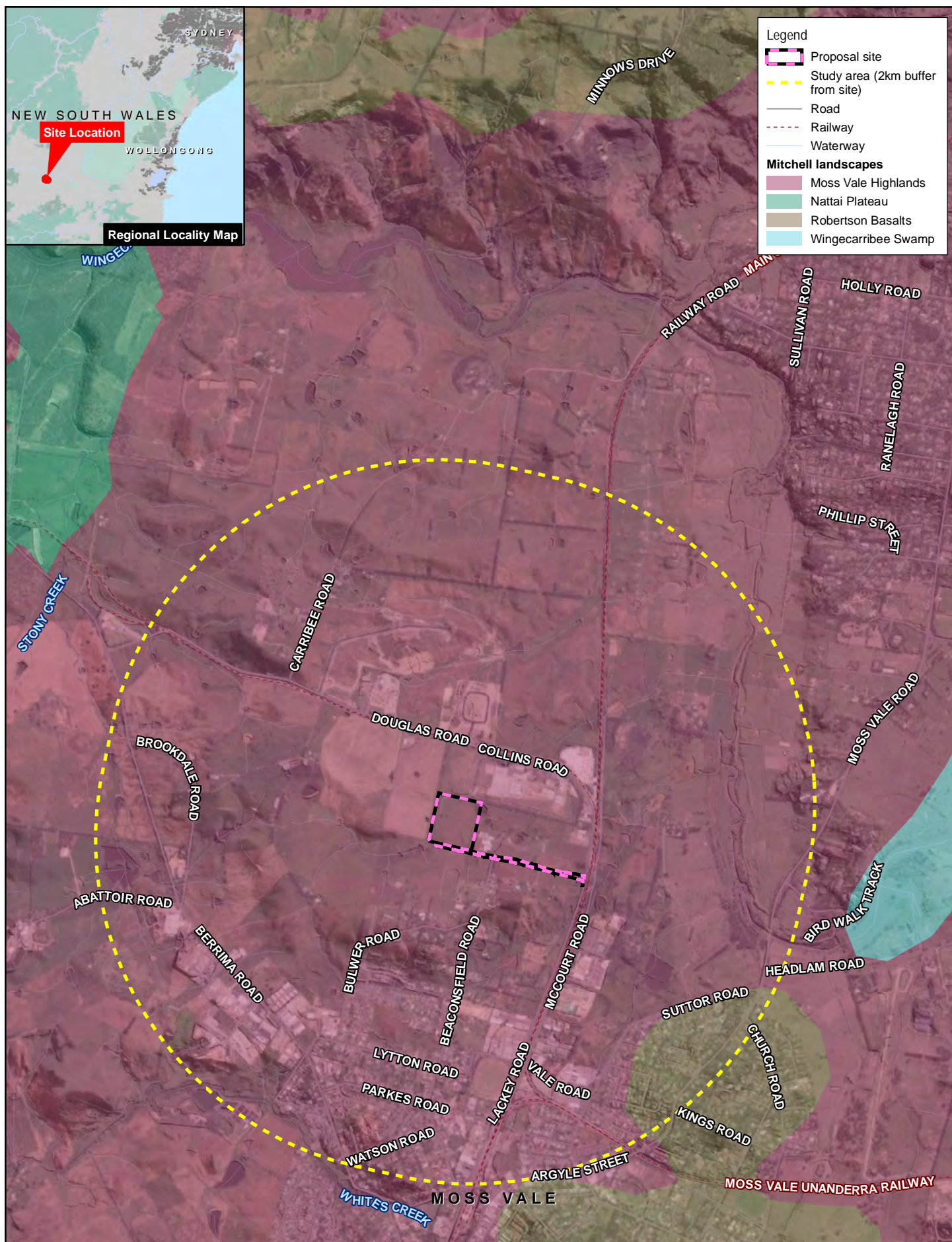
Plasrefine Pty Ltd  
Moss vale Plastics Recycling Facility

Project No. 21-12524108  
Revision No. A  
Date 16/09/2021

Topography and Hydrology

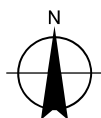
FIGURE 5.1





Paper Size ISO A4  
0 0.25 0.5 0.75 1  
Kilometers

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



Plasrefine Pty Ltd  
Moss Vale Plastics Recycling Facility

Project No. 12524108  
Revision No. A  
Date 16/09/2021

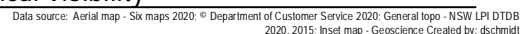
Mitchell landscapes

FIGURE 5.2

\\ghdnet\ghd\AU\Sydney\Projects\21112524108\GIS\Maps\Deliverables\BeaconsfieldRD\_LVIA\12524108\_2019\_BeaconsfieldRD\_LVIA\_MitchellLandscapes.mxd  
© 2021. Whilst every care has been taken to prepare this map, GHD (and Sixmaps 2021, NSW Department of Lands, Geoscience Australia) make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Aerial imagery - Sixmaps 2021 Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community General topo - NSW LPI DTDB 2020, 2015; Enterprise corridor - Wingecarribee Shire Council & NSW DPE 2018; Inset map - Geoscience Australia. Created by: dschmidt





## 6. Landscape character assessment

The study area has been classified into four Landscape Character Zones (LCZs) based on distinguishing elements such as topography, land use, settlement patterns, built form, scale and vegetation.

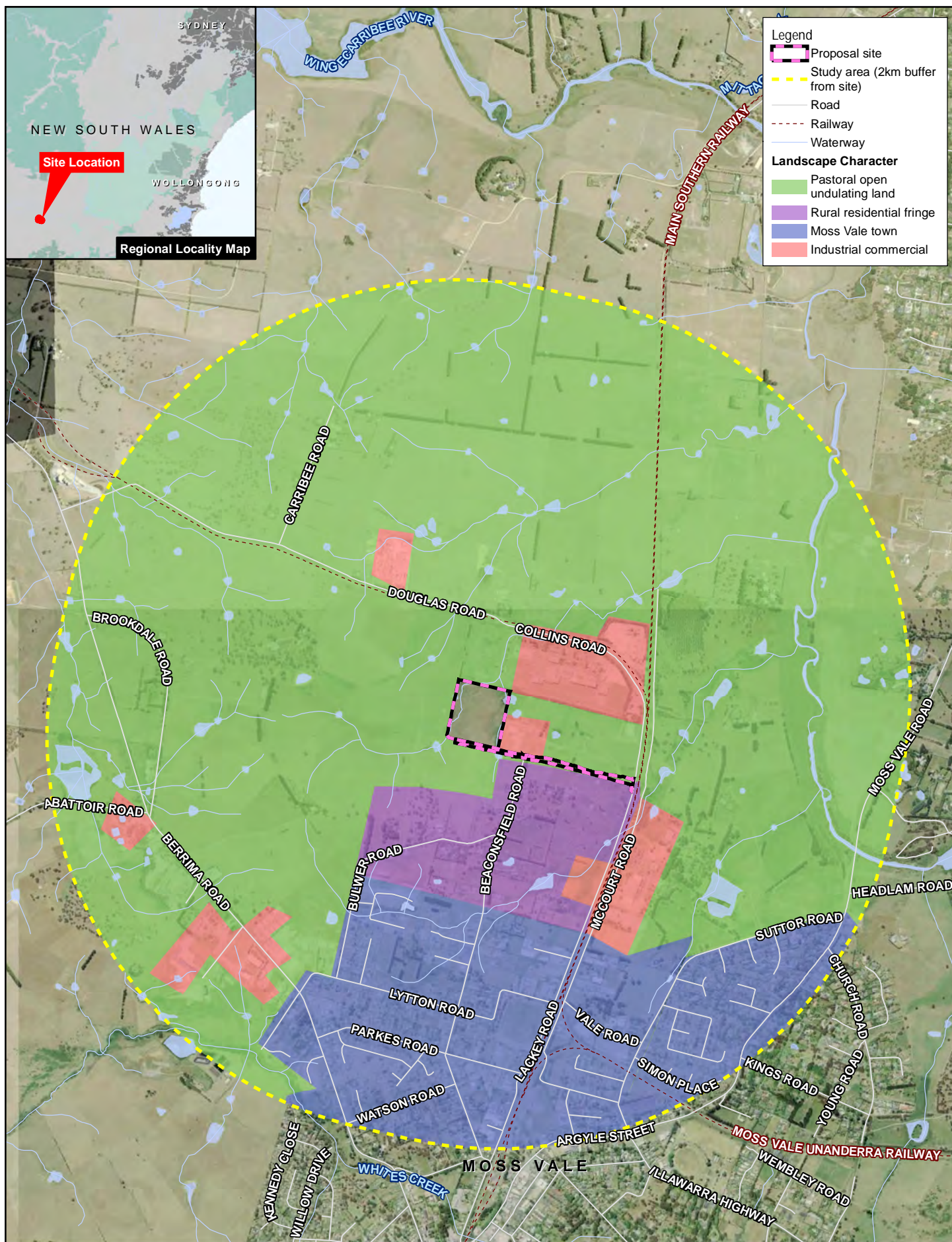
These LCZs have different associated sensitivities to potential changes as a result of the proposal. The sensitivities are discussed in Section 6, and has informed the landscape impact assessment.

The four LCZs are as follows:

- LCZ1: Pastoral open undulating land
- LCZ2: Rural residential fringe
- LCZ3: Moss Vale town
- LCZ4: Industrial commercial

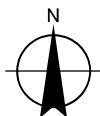
These LCZs are illustrated in Figure 6.1.





Paper Size ISO A4  
0 0.25 0.5 0.75 1  
Kilometers

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



Plasrefine Pty Ltd  
Moss Vale Plastics Recycling Facility

Project No. 12524108  
Revision No. D  
Date 16/09/2021

Landscape Character Zones

FIGURE 6.1

\\ghdnet\ghd\AU\Sydney\Projects\21\12524108\GIS\Maps\Deliverables\BeaconsfieldRD\_LVIA\12524108\_2013\_BeaconsfieldRdLVIA\_LandscapeCharacterZones.mxd  
© 2021. Whilst every care has been taken to prepare this map, GHD (and Sixmaps 2021, NSW Department of Lands, Geoscience Australia) make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a

Data source: Aerial imagery - Sixmaps 2021 © Department of Customer Service 2020 General topo  
NSW LPI DTDB 2020, 2015; Inset map - Geoscience Australia. Created by: dschmidt



## 6.1 Landscape character zone 1 (LCZ1): Pastoral, open and undulating land

The key features of LCZ1 are described below and illustrated in Photo 6-1 to Photo 6-4. The LCZ1 impact assessment is outlined in Table 6.1.



**Photo 6-1** View north from proposal site towards Southern Highlands ridgeline



**Photo 6-2** View looking west from proposal site, towards hilly landscape of farmland



**Photo 6-3** View looking south-west from proposal site of grassland landscape and scattered vegetation cover



**Photo 6-4** View of Wingecarribee River, north of proposal site

LCZ1 comprises rural living and farmland areas around the periphery of Moss Vale town. This LCZ is characterised by a gently undulating and hilly landscape, dominated by paddocks and pastoral landscapes, with discrete areas of woodland, windbreak planting and hedgerow vegetation.

Key characteristics of LCZ1 include the following:

- A relatively large area of open, rural, green, undulating land, with expansive views to rolling hills and far ridgelines.
- The landscape is largely comprised of grasslands and paddocks used for farming/pastoral activities.
- Moderately sloping to rolling hilly landscape. West of the site, an elevated hillslope area is covered by a Scenic Protection Overlay.
- Scattered rural dwellings, farming buildings and associated structures.
- Punctuated with occasional industrial and commercial areas that make up LCZ4, located along Lackey Road, Collins Road and Berrima Road.
- Areas of hedgerow and dense woodland are present, with vegetation heights of approximately 10-20 metres. Vegetation is typically along property boundaries, adjacent to roads and along drainage paths.

- Small tributary network of drainage paths, dams and creeks, including Wingecarribee and Mittagong Creek.
- Built form is typically rural residential dwellings of one to two-storeys with associated sheds and ancillary infrastructure associated with farming activities, including post and wire fencing.
- Limited road and internal network, except for private driveways to properties setback from the road reserve.

Values associated with LCZ1 include areas protected by the Scenic Protection Overlay (Refer Section 4.3.3). The broader LCZ1 area has scenic value and makes a strong contribution to the local character. LCZ1 therefore has a **High** landscape value.

Refer to Table 6.1 for LCZ1 impact assessment.

**Table 6.1** LCZ1 impact assessment

Landscape character zone 1: Pastoral open undulating land	
Anticipated change to landscape character	<p>The proposal site and planned works would mostly occur within LCZ1. The proposal involves construction and operation of a plastics recycling and reprocessing facility. The key elements include two main buildings approximately 16 metres high, and associated infrastructure for the storage, processing and transportation of finished recycled products.</p> <p>Planned works include a new road access including Braddon Road (currently unformed). Other ancillary infrastructure would include internal roads and hardstand areas for truck access and parking, two weighbridges, staff and visitor carparking, stormwater bioretention ponds and basins, fencing, landscaped bunds around the perimeter, lighting and signage installations.</p>
Susceptibility to change	LCZ1 has a <b>High</b> susceptibility to change. As the predominant landscape character, LCZ1 makes a strong contribution to local and broader regional landscape character. It is both a productive landscape for farming/pastoral activities and has scenic value, allowing long-range views of the area. The type of development proposed could have a detrimental effect on the landscape character, condition or value. Mitigation measures are unlikely to reduce the impacts of the change.
Sensitivity to change	LCZ1 has a <b>High</b> sensitivity to change due to the high landscape value and susceptibility to change.
Magnitude of change	The magnitude of change would be <b>Low</b> . Although the introduction of a large-scale recycling facility would constitute a change to the landscape character for the immediate proposal site, these changes would occur within a small localised section of the wider character zone, and the overall landscape character of LCZ1 would be retained.
Significance of impact	<p>The significance of impact for the proposal would be <b>Moderate</b> due to the high sensitivity of the landscape and proposal, although the proposal would introduce new features into the landscape, these changes would be localised and the overall character of LCZ1 would be retained.</p> <p>This landscape is also a newly zoned 'General Industrial' area and falls within the MVEC. It will therefore undergo significant development and a change in character in the future.</p>



## 6.2 Landscape character zone 2 (LCZ2): Rural residential fringe

The key features of LCZ2 are described below and illustrated in Photo 6-5 to Photo 6-8.



**Photo 6-5** View from proposal site looking south towards LCZ2 rural residential properties



**Photo 6-6** View looking west from Lackey Road towards rural properties along Beaconsfield Road



**Photo 6-7** View looking north along Beaconsfield Road, comprising rural residential properties



**Photo 6-8** View of typical rural residential properties along Minnows Drive

LCZ2 includes an area on the northern fringe of the Moss Vale township, comprising larger rural residential allotments. These are typically low-density 'lifestyle blocks' with single or double storey dwellings with large gardens or paddocks. Key characteristics of LCZ2 include the following:

- Flat to moderately undulating topography, including a hilltop south of the proposal site, covered by a Scenic Protection Overlay.
- Cleared land with some perimeter and ornamental garden planting, comprising native and non-native species.
- Rural lifestyle properties that range from 1,000 to 3,500 square metres, allowing for hobby activities but are not generally used for farming and grazing activities.
- Built form comprising typical residences of one to two-storeys setback approximately 10-15 metres from the road, typical of various architectural eras ranging from Federation and post-war styles to more modern constructions. Properties also feature ancillary structures such as water tanks, sheds and outbuildings.
- Local roads providing access to rural residential properties, typically two-way sealed roads, without lighting or piped drainage infrastructure.
- Fencing is varied but is predominately standard post and wire fencing, brick and timber feature fencing and aluminium fencing.

Values associated with LCZ2 include areas protected by the Scenic Protection Overlay (refer Section 4.3). Parts of LCZ2 have scenic value contributing to the local character. LCZ2 therefore has a **Moderate** landscape character value.

There is no impact on LCZ2 as the proposal does not affect nor change the elements that define this landscape character zone, as described above and shown in Figure 6.1.



## 6.3 Landscape character zone 3 (LCZ3): Moss Vale town

The key features of LCZ3 are described below and illustrated in Photo 6-9 to Photo 6-12.



*Photo 6-9 View of historic retail frontages along Argyle Street*



*Photo 6-10 View of heritage listed Railway bridge structure near the main activity centre*



*Photo 6-11 View of typical residential properties along Napper Close, south-west of the proposal site*



*Photo 6-12 View of large-format commercial development along Berrima Road*

LCZ3 comprises the northern part of the Moss Vale township, south-east of the proposal site. This expanding area represents the main rural centre within the Southern Highlands region. It comprises low-density residential areas and a range of community and retail services, to support the local and visitor population. Moss Vale has a rich history and is one of the original settlements in this region.

Key characteristics of LCZ3 include the following:

- Flat to gently undulating topography with residential subdivision patterns, following the undulating land and capitalising on views from elevated rises.
- A thriving 'high street' retail centre along Argyle Street, east of the rail line and a range of civic, community, open space and recreational facilities around the main retail village.
- Low density residential development, typically one to two-storey houses, on standard residential blocks. Housing is typically setback 6-10 metres, with architectural styles that date back to the late 19<sup>th</sup> Century.
- Historic features from early settlement, including the main southern railway and Argyle Street railway bridge.
- Strong tree lined street character, with the local road network typically comprising two-way sealed roads with formalised drainage and street lighting.

Moss Vale performs an important administrative and retail/business function for the region. It is also an area with a distinct local character with a high level of amenity. LCZ3 holds significant visual, historic and social value, and as such has a **High** landscape character value.

There is no impact on LCZ3 as the proposal does not affect nor change the elements that define this landscape character zone, as described above and shown in Figure 6.1.



## 6.4 Landscape character zone 4 (LCZ4): Industrial commercial

The key features of LCZ4 are described below and illustrated in Photo 6-13 to Photo 6-18. The LCZ4 impact assessment is outlined in Table 6.2.



**Photo 6-13** View of Australian Bioresources facility, located directly east of the proposal site



**Photo 6-14** View of industrial estate along Collins Road, north of the proposal site



**Photo 6-15** View of industrial premises along Collins Road, north of the proposal site



**Photo 6-16** View west along Collins Road near proposal site



**Photo 6-17** View of landscaped entry from Lackey Road to Australian Bioresources facility



**Photo 6-18** View north-east of railway line, running parallel to Collins Road / Douglas Road

LCZ4 includes the commercial and industrial areas along the rail corridor and north-west of the main Moss Vale township, in proximity of the proposal site. LCZ4 comprises a mixture of light and heavy industrial activities, taking advantage of the rail and road connections in this part of Moss Vale, with the Greater Sydney Metropolitan region.

Key characteristics of LCZ4 include:

- Generally flat to moderately sloping landform, which is highly modified due to the nature and format of industrial and commercial activities.
- Large land holdings with a number of industry business parks and subdivisions, some are currently under construction, on the northern side of Collins Road/Douglas Road.
- Built form comprising large format industrial warehouses, sheds and manufacturing facilities, with large open areas for services and storage. Vertical shafts and structures associated minerals processing.
- Industrial building heights range on average from approximately seven metres to 20 metres, with homogenous colours and materiality. Older developments include predominately long corrugated iron sheds and steel structures with large landscape setbacks and mature screening vegetation. Newer developments (like Australian Bioresources) include architecturally designed buildings, with façade and roofline articulation, a range of materials and textures, and site-specific landscape design.
- Buildings that are typically set back from the road network by more than 20-30 metres, with hedgerow and screen planting along property boundaries and the road network, in some instances.
- The network of major roads outside of the township, namely Lackey Road, Collins Road/Douglas Road, which are two-way sealed roads with gravel verges and sporadic planting.
- The rail corridor traversing this LCZ, providing for freight connections. The railway corridor runs parallel to the main road network, typically at-grade or raised on small embankments with stone ballast and unfenced. There is an at-grade level crossing north of the site where Collins Road becomes Douglas Road. This is currently an uncontrolled crossing.

Part of this industrial commercial character area includes the MVEC. The MVEC is an area earmarked for a range of future commercial and industry activities, supported through provisions of the Wingecarabee LEP and DCP. As such, it is anticipated that this LCZ will expand within the surrounding rural landscape, as highlighted within Section 6.1.

This area is a highly modified landscape and has a lower level of amenity and sensitivity however holds social and economic value as an emerging business and enterprise area. LCZ4 therefore has a **Low** landscape character value.

Refer to Table 6.2 for LCZ4 impact assessment.

**Table 6.2** LCZ4 impact assessment

Landscape character zone 4: Industrial / Commercial	
Anticipated change to landscape character	There is no development within LCZ4 and works associated with the proposal are within LCZ1. There is an anticipated change on LCZ1 land which is adjacent to LCZ4, which would include the construction of a new road access connection to Lackey Road.
Susceptibility to change	The susceptibility to change for LCZ4 would be <b>Low</b> . The area is a modified landscape which is undergoing change. The proposed development would unlikely have an adverse effect on the landscape character, condition or value, that could not be mitigated.
Sensitivity to change	The sensitivity to change would be <b>Low</b> due to the low value and susceptibility to change.
Magnitude of change	The magnitude of change would be <b>Negligible</b> . The Moss Vale Enterprise corridor and transport networks within this area are expanding and being upgraded, to support the growth and expansion of this area as an industry and business centre. The introduction of a new road corridor would not be uncharacteristic within the existing landscape character.
Significance of impact	The significance of impact would be <b>Negligible</b> .

## 7. Visual impact assessment

Based on the existing environment analysis, sensitive visual receivers were identified, and viewpoint locations selected for assessment.

Sensitive visual receivers within the proposal viewshed include the following:

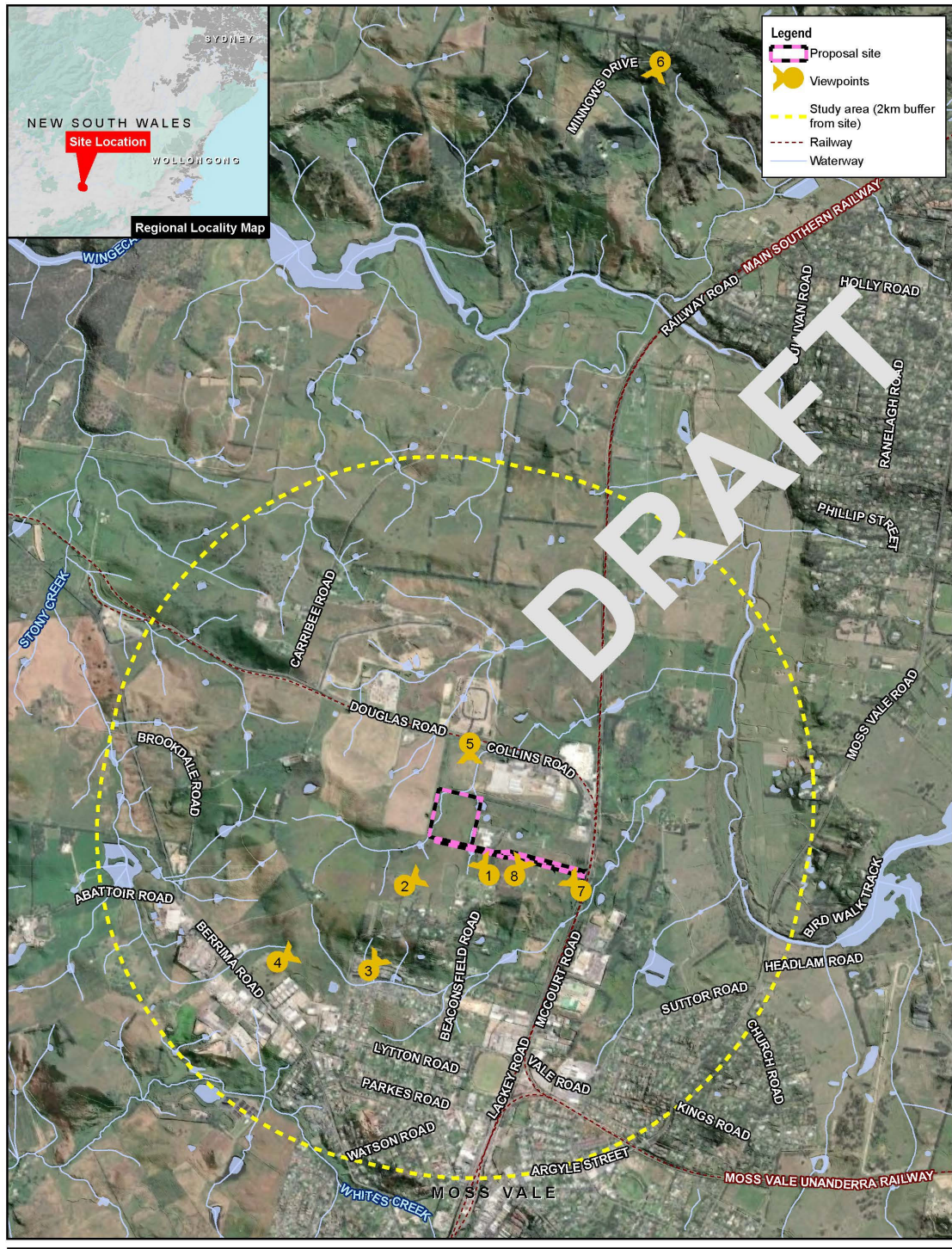
- Residents in dwellings with views to the proposal
- Road Users (including vehicle drivers, passengers, pedestrians and cyclists)
- Workers of the surrounding industrial and commercial areas

Table 7.1 and Figure 7.1 identify representative viewpoints for assessment of views from a range of sensitive visual receivers. An assessment of the visual impacts for each location is provided in Sections 7.1-7.6 below.

**Table 7.1** Viewpoint locations

Viewpoint	Location	Description
Viewpoint location 1 (VP01)	Beaconsfield Road	VP01 is located on Beaconsfield Road representing residential receivers, looking north and west.
Viewpoint location 2 (VP02)	North of Bulwer Road	VP02 is located approximately 250 metres north of Bulwer Road representing residential receivers, looking north and east.
Viewpoint location 3 (VP03)	Napper Close	VP03 is located on Napper Close representing residential receivers, looking north and east.
Viewpoint location 4 (VP04)	Moss Vale General Cemetery	VP04 is located within Moss Vale General Cemetery looking north-east.
Viewpoint location 5 (VP05)	Collins Road	VP05 is located on Collins Road representing workers and road users, looking south.
Viewpoint location 6 (VP06)	Minnows Drive, Bowral	VP06 is located on Minnows Drive representing residential receivers, Bowral, looking south from the hill.
Viewpoint location 7 (VP07)	Lackey Road	VP07 is located on Lackey Road representing road users, looking northwest.
Viewpoint location 8 (VP08)	Residential receivers	VP08 is located within residential properties between Beaconsfield Road and Lackey Road, looking north.





Paper Size ISO A4  
0 0.25 0.5 0.75 1  
Kilometers

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



Plasrefine Pty Ltd  
Moss Vale Plastics Recycling Facility

Project No. 12524108  
Revision No. F  
Date 7/10/2021

Viewpoint Locations

**FIGURE 7.1**

lightweight\AU\Sydney\Projects\2112524108\GIS\Map\Deliverables\Beaconsfield\PD\_LVA12524108\_2015\_Beaconsfield\RA\VA\_ViewpointLocations.mxd  
© 2021. Whilst every care has been taken to prepare this map, GHD (and its maps) 2021, NSW Department of Lands, Geoscience Australia, make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Aerial imagery - Sentinel-2 2021 Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community  
Sources: Esri, USGS, NOAA, General topo - NSW LPI DT06 2020, 2015, Inset map - Geoscience Australia.

**Figure 7.1 Viewpoint locations**



## 7.1 Viewpoint location 1 (VP01) – Beaconsfield Road

VP01 is located along Beaconsfield Road, VP01 is facing north-west as shown in Photo 7-1. Photomontages have been prepared for this viewpoint showing the view with the proposal with no mitigation (Photo 7-2), and with mitigation at year 10 post construction (Photo 7-3). Refer to Table 7.2 for assessment.



**Photo 7-1** View from VP01 from Beaconsfield Road looking north and west



**Photo 7-2** Photomontage from Beaconsfield Road looking north-west, without mitigation measures



**Photo 7-3** Photomontage from Beaconsfield Road looking north-west, with mitigation measures at 10 years

**Table 7.2** Viewpoint 1 – visual impact assessment

Criteria	Comments
Location and view direction	View from Beaconsfield Road looking north-west Location (MGA Zone 55); E: 809672 N: 6173899 Elevation: 700.1 m
Description of existing view	The view is from the road reservation, looking across a gently undulating rural residential landscape. The foreground shows the sealed road, with gravel and grassed verge, some mature trees and vegetation on the left and right of view along the property boundary. The middle of the view shows a long view across a green pastoral landscape, with an isolated area of industrial or commercial development located in the lower parts of the valley, to rolling wooded hills and a blue-green ridgeline of the Southern Highlands in the background. Linear windbreak planting can be seen at the field boundaries in the middle distance, with wooded hillsides in the far distance. A small section of the Australian Bioresources building is partially visible in the centre right of view, however it is mostly screened by roadside vegetation.
Anticipated change to view	The proposal would be in the centre of view, in the middle ground, comprising a new recycling and processing facility, with two main buildings and associated infrastructure. The proposal's building would be located approximately 200 metres from this location. The southern façade would be approximately 130 metres long and up to 16 metres high. Some residents in this area have properties looking out towards this open rural landscape and the proposal would partially change the character of this view. It is anticipated that this view will change in the near future, due to other industrial developments proposed as part of the MVEC.
Sensitivity to change	<b>High</b> , as this view represents occupiers of nearby residential properties along Beaconsfield Road in proximity of the proposal site, with long viewing periods. Value is placed on the landscape and enjoyment of views from their setting.
Magnitude of change	<b>High</b> , as there would be a substantial and obvious change to the existing view, due to introduction of new buildings, that are of a different character, scale and density to buildings within the surrounding rural landscape.  Due to the size, scale and proximity of the building to the viewpoint, part of the long views towards the surrounding rural landscape would be obscured by the proposal. With the implementation of the proposed landscape plan, the building would be partially screened over time with the establishment of the proposed vegetation, as shown in Photo 7-2.
Significance of impact	<b>High</b> , resulting in substantial and obvious changes in the existing view due to partial loss of, or change to elements, features or characteristics of the view, however, has the potential to be partly mitigated by the screening vegetation over time. It should also be noted that the view to the vegetated ridgeline to the north-west remains visible and the built form does not disrupt the viewline to the New Berrima ridgeline.  The landscape within this view is also a newly zoned 'General Industrial' area and falls within the MVEC. It will therefore undergo significant development and changes to the view in the future would be anticipated.



## 7.2 Viewpoint location 2 (VP02) – Bulwer Road

VP02 is located at along Bulwer Road, VP02 is facing north-east as shown in Photo 7-4. Photomontages have been prepared for this viewpoint showing the view with the proposal with no mitigation (Photo 7-5), and with mitigation at year 10 post construction (Photo 7-6). Refer to Table 7.3 for assessment.



**Photo 7-4** View from VP02 north of Bulwer Road looking north-east



**Photo 7-5** Photomontage from north of Bulwer Road looking north-east, without mitigation measures



**Photo 7-6** Photomontage from north of Bulwer Road looking north-east, with mitigation measures at 10 years

**Table 7.3** Viewpoint 2 – visual impact assessment

Criteria	Comments
Location and view direction	View from 250 m north of Bulwer Road, looking north-east towards the proposal site Location (MGA Zone 55); E: 809614 N: 6173871 Elevation: 715.2 m
Description of existing view	The view is from an unnamed access track north of Bulwer Road, looking north-east across an open, pastoral rolling landscape with a prominent ridgeline of Southern Highlands in the far distance. The foreground consists of a steel gate and a grassed paddock, with an informal line of mature trees, logs and dead tree trunks. The mid-ground consists of a large open flat grass landscape, sloping down towards a linear windbreak of conifer trees. The background consists of rolling hills and woodlands, with scenic views towards a prominent blue ridgeline of the Southern Highlands in the far distance.
Anticipated change to view	The proposal would be approximately 350 metres away from this location. The proposed works include a new recycling and processing facility, with two main buildings and associated infrastructure. The southern façade would be approximately 130 metres long and up to 16 metres high.  The land drops down away from this viewpoint and the proposal is set within the valley in the middle-ground, the upper part of the facility would be visible. Perimeter planting is proposed to the south of the proposal site on adjacent land, which would partially filter views of the proposal.
Sensitivity to change	<b>High</b> , as this view represents occupiers of nearby residential properties, with long viewing periods. Value is placed on the landscape and enjoyment of views from their setting.
Magnitude of change	<b>Moderate</b> , as there would be discernible changes in the existing view due to the introduction of the new buildings and partial loss of views to vegetation in the distant valley.  However, there are existing buildings within the view along Collins Road and with the implementation of the proposed landscape plan, the proposed building would be partially screened over time with the establishment of the proposed vegetation, as shown in Photo 7-6.  A key feature of the existing view is the long views to the distant vegetated ridgeline to the north-east, which would remain uninterrupted by the introduction of the proposed built form into the view.
Significance of impact	<b>High-Moderate</b> , resulting in discernible changes in the existing view due to the introduction of the proposed buildings within the existing view, however, this change has the potential to be partly mitigated by the screening vegetation over time.  The landscape within this view is also a newly zoned 'General Industrial' area and falls within the MVEC. It will therefore undergo significant development and changes to the view in the future would be anticipated.



## 7.3 Viewpoint location 3 (VP03) – Napper Close

VP03 is located at Napper Close, VP03 is facing north and east as shown in Photo 7-7. Refer to Table 7.4 for assessment.



**Photo 7-7** View from VP03 Napper Close looking north-east

**Table 7.4** Viewpoint 3 – visual impact assessment

Criteria	Comments
Location and view direction	View from Napper Close, looking north-east Location (MGA Zone 55); E: 808916 N: 6173374 Elevation: 692.6 m
Description of existing view	The view is looking towards a hilly rise from Napper Close. The foreground consists of a newly built residential subdivision area with dwellings along a bitumen local road, with concrete kerb and channel road edge, grass verges, young street trees, driveways and front gardens. On either side of the residential road are new single-story dwellings, with pitched roofs, garages and surrounding gardens. The middle view consists of houses located on elevated land, with extended driveways connecting the house down towards the street. On the far left of the view, behind the residences is a tall linear windbreak of evergreen trees, blocking the view to the rising hill. In the background to the right of view, a large rural living property is visible at the top of the hill surrounded by an open area of grassland paddock.
Anticipated change to view	The proposal would not be visible from this location due to the hill in the background screening views beyond.
Sensitivity to change	<b>High</b> , as this view represents occupiers of nearby residential properties, with long viewing periods. Value is placed on the landscape and enjoyment of views from their setting.
Magnitude of change	<b>Negligible</b> , as the proposal would not be visible from this location due to the hill in the background screening views beyond.
Significance of impact	The significance of impact is <b>Negligible</b> , as the magnitude of change is negligible.

## 7.4 Viewpoint location 4 (VP04) – Moss Vale General Cemetery

VP04 is located at the Moss Vale General Cemetery, VP04 is facing north-east as shown in Photo 7-8. Refer to Table 7.5 for assessment.



**Photo 7-8** View from VP04 Moss Vale General Cemetery looking north-east

**Table 7.5** Viewpoint 4 – visual impact assessment

Criteria	Comments
Location and view direction	View from northern boundary of Moss Vale General Cemetery, looking north-east Location (MGA Zone 55); E: 808378 N: 6173458 Elevation: 702.4 m
Description of existing view	This view is looking north-east, towards a gently rising hill, with the peak on the left side of the view. The foreground consists of densely growing grasses spreading continuously across the view, blending into the middle and background. A post and wire fence is visible in the middle-ground of the view. In the background, a linear group of mostly mature native trees can be seen on the top of the hill.
Anticipated change to view	The proposal would not be visible from this location, due to the hill in the background screening views beyond.
Sensitivity to change	<b>High</b> , as a cemetery, where communities visit and place value upon the scenic landscapes and sense of place. Viewers may also have longer and/or more frequent viewing periods from this location.
Magnitude of change	<b>Negligible</b> , as the proposal would not be visible from this location due to the hill in the background screening views beyond..
Significance of impact	The significance of impact is <b>negligible</b> , as the magnitude of change is negligible.

## 7.5 Viewpoint location 5 (VP05) – Collins Road

VP05 is located along Collins Road, VP05 is facing south as shown in Photo 7-9. Refer to Table 7.6 for assessment.



**Photo 7-9** View from VP05 Collins Road looking south

**Table 7.6** Viewpoint 5 – visual impact assessment

Criteria	Comments
Location and view direction	View from Collins Road, looking south Location (MGA Zone 55); E: 809615 N: 6174710 Elevation: 684.9 m
Description of existing view	The view is from the Collins Road reservation looking south towards the proposal site. To the left of view, dense vegetation can be seen along the boundary of the Australia Bioresources facility, which fully screens the facility and partially screens views to the residential buildings in the background. The view shows a relatively flat area of open grassland in the foreground fenced by a galvanized chain-link fence with razor wire top, along the road reserve boundary, with the landform sloping up away from the fence. The middle-ground is of the open paddock area of the proposal site, with densely clusters shrubs and trees to the left. Towards the mid-point of the view are scattered conifer trees on the proposal site's northern boundary. In the distance, at the higher elevation, occasional rural residential properties can be seen with some mature trees and shrubs along the ridgeline.
Anticipated change to view	The proposal would be located in the middle of the view. The proposed works include a new recycling and processing facility, with two main buildings and associated infrastructure. Due to the land levels dropping towards Collins Road, the proposal will be most visible from this location, however perimeter planting would in part, filter views towards the proposal.
Sensitivity to change	<b>Low</b> , representative of workers at nearby industrial premises and road users in motor vehicles, trains or on transport routes that are passing through or adjacent to the study area. These viewers would have short term views.
Magnitude of change	<b>High</b> , as there would be a substantial and obvious change to the existing view, due to introduction of new buildings, that are of a different character, scale and density to buildings within the surrounding rural landscape.
Significance of impact	<b>Moderate</b> as sensitivity to change is low and magnitude of change is high. This area has existing industrial facilities (such as the Dux facility, to the left and just out of view). The landscape within this view is also a newly zoned 'General Industrial' area and falls within the MVEC. It will therefore undergo significant development and changes to the view in the future would be anticipated.



## 7.6 Viewpoint location 6 (VP06) – Minnows Drive

VP06 is located at a clearing along Minnows Drive, VP06 is facing south as shown in Photo 7-9. Refer to Table 7.7 for assessment.



**Photo 7-10** View from VP06 Minnows Drive Bowral looking south from the hill

**Table 7.7** Viewpoint 6 – visual impact assessment

Criteria	Comments
Location and view direction	View from Minnows Drive, Bowral, looking south from the hill Location (MGA Zone 55); E: 811005 N: 6178763 Elevation: 816.1 m
Description of existing view	This view is from a highpoint on the Oxley Hill ridgeline at Minnows Drive. It is looking south between a gap in vegetation, with long range views over the Moss Vale valley and surrounding hills in the far distance. The foreground consists of a sealed bitumen road followed by tall roadside grasses and an informal row of mature native trees. On the middle right of view, overhead powerlines are visible. On far left and right, mature trees can be seen screening views to the background. Between the trees, the centre far background is a long view over a mostly rural landscape of undulating valleys, hills, paddocks and scattered areas of woodland. The Moss Vale settlement can be seen on hillslope in the far background, with occasional commercial and industrial buildings located in the lower parts of the valley, near the proposal site.
Anticipated change to view	The proposal would be visible from this location, in the middle of the view in the distance.
Sensitivity to change	<b>High</b> , as this view represents occupiers of nearby residential properties, with long viewing periods. Value is placed on the landscape and enjoyment of views from their setting.
Magnitude of change	<b>Negligible</b> , as the proposal would be an almost imperceptible change in the distance of this view.
Significance of impact	<b>Negligible</b> , as the proposal would be an almost imperceptible change in the distance of this view.

## 7.7 Viewpoint location 7 (VP07) – Lackey Road

VP07 is located at along Lackey Road, VP07 is facing north-west as shown in Photo 7-11. Refer to Table 7.8 for assessment.



**Photo 7-11** View from VP07 Lackey Road looking northwest

**Table 7.8** Viewpoint 7 – visual impact assessment

Criteria	Comments
Location and view direction	View from Lackey Road, looking north-west Location (MGA Zone 55); E: 810230 N: 6173781 Elevation: 653.9 m
Description of existing view	This view is from Lackey Road, approximately 20 metres south of the intersection with the Australian Bioresources facility driveway. The view is looking north-west towards an elevated paddock screening views beyond the hilltop. The foreground consists of a sealed bitumen road with tall roadside grasses and occasional small shrubs along a paddock fence line. There are some established trees and shrubs further along the fence line, to the right of the view, screening views into the distance. Within the middle of view, an entry road meanders up and over the elevated paddock, which screens views beyond. The paddock is predominantly cleared with grass species, several fence lines and a couple of scattered established trees. Towards the far left of view, on top of the hill and in the distance, part of a residential property can be seen with a shed surrounded to the north by vegetation.
Anticipated change to view	The anticipated changes would include a new sealed two-lane access road adjacent to the left of the existing Australian Bioresources Facility driveway, in the centre of the view. This road would mostly be in cutting, with a retaining wall to the south side of the new road, and cut and fill earth works altering the existing paddock. Traffic entering the access road and frequent truck movements along the access road will be visible within the middle of the view. There would be possible infrastructure at the gate intersecting with Lackey Road as well as potential entrance lighting and signage. Some of the vegetation along the top of the hill, to the left of the view may be removed for the construction of the road.
Sensitivity to change	<b>Low</b> , representative of road users in motor vehicles or on transport routes that are passing through or adjacent to the study area. These viewers would have short term views.
Magnitude of change	<b>Moderate</b> , as the proposal would leave a discernible change in the existing view due to the change to the paddocks features and characteristics of the view. The change would be out of scale with the existing view and would leave an adverse impact on the view, however, has potential to be partly mitigated.
Significance of impact	<b>Moderate-low</b> , as sensitivity to change is low and magnitude of change is Moderate.



## 7.8 Viewpoint location 8 (VP08) – Residential receivers

VP08 is representative of views within private properties between Beaconsfield Road and Lackey Road, VP08 is facing north as shown in Figure 7.1. This viewpoint was unable to be accessed during the site visit therefore there is no photo and a general discussion of the impacts has been provided based on aerial imagery, refer to Table 7.9. An extensive site visit was undertaken from publicly accessible areas surrounding these properties which assisted the author in understanding the existing topography and vegetation within the area.

Table 7.9 Viewpoint 8– visual impact assessment

Criteria	Comments
Location and view direction	Representative of views from private properties between Beaconsfield Road and Lackey Road, looking north Location (MGA Zone 55); E: 809831 N: 6173892 Elevation: N/A
Description of existing view	This view represents typical views north from within the residential properties adjacent to the proposal.  The views would generally be across an open paddock with vegetation aligning nearby fence lines. The foreground may consist of a residential fence and a grassed paddock or private garden, with mature trees filtering views. The mid-ground would likely consist of an open grass landscape, sloping to the right of view. The background may consist of rolling hills and woodlands, with scenic views towards a prominent blue ridgeline of the Southern Highlands in the far distance.
Anticipated change to view	The proposal would be partially visible from this location, in the middle of the view.  The anticipated changes would include a partially sunken road (with retaining walls up to seven metres high) with cut and fill earth works altering the existing paddock. There may be removal of screening vegetation within and along fence lines near the proposal access track, however the design has been aligned to avoid removal of existing vegetation, where possible. Traffic would be expected to run along the new access road, including frequent truck movements within the middle of the view.
Sensitivity to change	<b>High</b> , as this view represents occupiers of nearby residential properties, with long viewing periods. Value is placed on the landscape and enjoyment of views from their setting.
Magnitude of change	<b>Moderate</b> , as the proposal would leave a discernible change in the existing view due to the change to the paddocks features and characteristics of the view. The change would be out of scale with the existing view and would leave an adverse impact on the view, however, has potential to be partly mitigated.
Significance of impact	<b>High- Moderate</b> , as sensitivity to change is high and magnitude of change is moderate.

## 7.9 Construction impacts

Construction works would result in temporary landscape and visual impacts. Details of the proposed construction duration, activities and staging is detailed further in Section 3.3.

While temporary in nature, the landscape and visual impacts during construction resulting from those activities outlined in Section 3.3 would include:

- Site establishment and enabling works including site clearance, establishing the construction compound and laydown area
- Bulk earthworks
- Civil works including stormwater infrastructure, internal roads, hardstand and parking areas
- Main site works including foundations and building construction
- Installation of equipment and fit out
- Services installation

It is anticipated the majority of construction works would occur within the proposal footprint. There would be a construction compound for the storage of materials, staff offices and laydown areas. It would potentially be visible from along Collins Road and nearby properties along Beaconsfield Road. While the impacts would be temporary in nature, these activities shall result in discernible change to the visual and landscape character of this area which is currently a largely , rural landscape, used for pastoral purposes, with the areas along Collins and Lackey Road developed for large-scale industrial and commercial uses, which are typically well screened by perimeter planting.

There is also likely to be an increase in construction related traffic and personnel on site during the entire construction phase.

## 8. Mitigation measures

The following section recommends mitigation measures that respond to issues arising within the assessment that have potential to adversely impact on:

- The character of the landscape within which the proposal is located
- Views to the proposal

Mitigation measures address the most visual elements of the proposal as well as referencing any relevant considerations drawn from the legislation and policy review. Refer to Appendix C Urban Design Assessment for further detailed mitigation measures.

### 8.1.1 Site layout

- The design should work with the existing topography and land slope, to optimise the siting of buildings and external infrastructure components, in a way which minimises the visual and landscape impacts for surrounding uses.
- Design of the concept site layout should minimise (and avoid where possible) potential impacts to existing drainage corridors and nearby waterways.
- Maintain appropriate setbacks from public and private viewpoints, and suitable space for perimeter planting.
- The proposal layout and design should have regard to the surrounding vehicular, pedestrian and cycling networks. The design should achieve a well-integrated solution which achieves seamless integration between internal pathways and these surrounding networks. It should also examine and address key vantage points and views from more exposed sections along Collins Road.

### 8.1.2 Road access

- The alignment and design of new access roads to the proposal site should consider roadside planting and strategic use of lighting, to maintain the amenity of nearby rural residential properties.
- The design should consider taller canopy trees and screening vegetation along the length of newly proposed access routes, leading to the proposal site, to make a positive contribution to the landscape setting in this location.
- The proposed access road has been aligned to avoid the existing screening vegetation on the residential property boundaries, to the south. The existing screening planting should be retained to help mitigate views towards the proposed access road, where possible (excluding the interface with Beaconsfield Road, where tree removal is necessary).
- A planted entry statement with signage is recommended from the new entrance along Lackey Road, both in terms of wayfinding but contributing to a MVEC identity and quality of industrial development within this area, consistent with the aesthetic and character seen within the broader Moss Vale township. Any signage proposed for an Industrial property must comply with Advertising and Signage Policy and be consistent with *State Environmental Planning Policy 64 – Advertising and Signage (SEPP 64)*.

### 8.1.3 Buildings and structures

- The built form design should employ strategies to minimise the footprint, height and bulk of the building, by avoiding large blank facades without suitable articulation.
- The building materials and finishes should be compatible with surrounding visual environment and colours and materials that are sensitive to the surrounding landscape are recommended. Bright colours that would draw the eye and reflective surfaces should be avoided. A palette of natural, earthy tones that do not detract from long range views of the surrounding rural landscape, are preferred.

### 8.1.4 Landscaping and setbacks

- Planting should be undertaken in accordance with the Landscape Concept Plan provided in Appendix B, which illustrates the location and nature of proposed planting around the perimeter of the proposal site.
- It is recommended that 'early works' screening planting on the 'E4 site' be implemented at the earliest opportunity, to reduce impacts from both the construction phase and operation phase.
- A minimum 15-metre-wide landscaped area should be established along lot frontages to internal access roads and along boundaries with rural zoned land outside the Enterprise Corridor, and minimum 3-metre-wide landscaped area along the side and rear boundaries of a site, as per the Moss Vale Enterprise Corridor DCP.
- Plant selection within the proposal site and along new access roads should reflect the palette of the area, and use compatible local native species selected from the Council's native species list.
- Careful attention should be paid to the design of perimeter fencing. More transparent, open-style fencing is recommended over solid, impermeable structures except if needed for retaining purposes. Natural materials should be employed, which contributes to both the identity of MVEC but also complements the surrounding rural setting.
- Existing vegetation should be retained and where not possible, replacement vegetation should be provided and used to assist in screening the proposed built form from the surrounding roads, residential areas and scenic viewpoints.

### 8.1.5 Lighting

- The proposed lighting on the site should be designed in accordance with the Australian Standards for outdoor lighting, *AS/NZS 4282:2019 Control of the Obtrusive Effects of Outdoor Lighting*, to minimise lighting spill within the area.
- The lighting design should consider the use of eco lighting and, where appropriate, the use of directional luminaires, shields and baffles should be considered to minimise sky glow and light spill for surrounding rural residential properties.

### 8.1.6 Construction

Construction works would result in temporary landscape and visual impacts which would be wholly contained within the site boundary. Details of the proposed construction duration, activities and staging is detailed further in Section 3.3.

- Take all practical measures to ensure construction equipment, stockpiles, and other visible elements are located away from rural residential properties and sensitive views, as much as possible.
- Should any equipment or stockpiles be located in a visually prominent location for any reasonable period of time, incorporate screening measures such as hoarding and practices to ensure the site is kept tidy and visibility reduced.
- Consider staging of works to undertake perimeter buffer planting in advance of construction works, particularly in locations where short-term visual mitigation would be beneficial. This should include larger-sized trees and shrub planting stock.
- Maximise seed collection of local provenance species for use in the revegetation
- Implement no-go-zones around drainage and water capture areas, and tree protection fencing as needed, supporting vegetation retention during the construction period.
- It is recommended that 'early works' screening planting on the 'E4 site' be implemented at the earliest opportunity, to reduce impacts from both the construction phase and operation phase.



## 9. General response to key legislation and policy objectives

Table 9.1 provides a summary of the proposal's response to key landscape and visual legislation and policy objectives in the study area as identified in Section 4.

**Table 9.1**      *Summary of Landscape Impacts*

Legislation / Policy	Topic	Relevant Features / Objectives	Response
<b>STATE</b>			
<i>Environmental Protection and Assessment Act 1979</i>	Legislation governing planning in NSW.	Part 4 – Development Assessment and Consent Division 4.7 - State Significant Development	The proposal is State Significant Development in accordance with the requirements of Part 4 of the <i>Environmental Planning and Assessment Act 1979</i> (NSW) (EP&A Act). This LVIA study has been prepared in accordance with the requirements of the EP&A Act.
<i>Design and Place SEPP (Draft)</i>	Aimed at integrating and aligning good design and place considerations.	Design principles 1, 3, 4 and 5	The proposal that has been assessed as part of this LVIA represents a concept design. The mitigation measures outlined in this report have been prepared with reference to best practice principles and design approaches outlined in the Design and Place SEPP, which would be applied during the design development phase.
<i>Local Character and Place Guideline</i>	Framework to maintain, enhance and cultivate the unique character and identity of places in NSW	Assessing local character Elements that contribute to/shape and local character and place	This LVIA study represents a review of the landscape character and place attributes, consistent with the guideline.
<i>Better Placed</i>	Integrated design policy for the built environment in NSW, to promote well designed public places and environments.	Design objectives with respect to local place character and amenity	The proposal footprint has been carefully sited to position the facility in a partially hidden location, using land level changes advantageously. It also promotes on-site stormwater detention and management, along with landscape treatments around the perimeter.  Further mitigation measures are proposed as part of this LVIA, to further promote best practice and locally responsive design through the design development process, as set out in Better Placed.
<b>REGIONAL</b>			
<i>South East and Tablelands Regional Plan 2036</i>	Regional plan to support growth and prosperity, while protecting the regional landscape	Goal 1: A connected and prosperous economy <i>Direction 4</i> <i>Direction 14</i>	The proposal is consistent with the directions set out in this plan, in terms of supporting sustainable energy initiatives.  Mitigation measures are aimed at achieving the landscape and environmental objectives of this plan.
<b>LOCAL</b>			
<i>Wingecarribee Local Environmental Plan 2010</i>	The local environmental plans (LEPs) and development control plans (DCPs) are prepared by Councils for the purpose of regulating development and land use within the LGA.	2.1 - Zoning provisions, 4.3 – Height of buildings, 4.4 – Floor space ratio	As an SSD, the proposal is not required to satisfy the local planning controls, however these provisions have been referred to, to recommend appropriate mitigation measures that respond to the landscape character and attributes of this area. In particular, measures to reduce the bulk and visual impact, and appropriate landscape treatments around the facility.
<i>Wingecarribee Development Control Plans</i>		Moss Vale Enterprise Corridor DCP	

# 10. Conclusion

This report has been prepared to understand the potential landscape and visual impacts resulting from the proposal, and forms part of the broader EIS. At the time of writing, the proposal was in the concept design phase. The proposal is deemed an SSD and involves the construction and operation of a plastics recycling and reprocessing facility, with capacity to receive up to 120,000 tonnes per year of mixed plastics and wastes containing plastics.

The proposal is located within Wingecarribee Shire, just off Beaconsfield Road in Moss Vale (Lot 11 DP 1084421). While the study area is predominately a rural landscape at present, the area surrounding the proposal forms part of the Moss Vale Enterprise Corridor (MVEC) and is a significant area of land between Moss Vale and New Berrima which is set aside for employment generating development under the *Wingecarribee Shire Local Environmental Plan 2010*.

The surrounding landscape is characterised by a gently undulating or hilly rural setting, grassland pastures with boundary vegetation, and long-range views north, to the Southern Highlands ridgeline near Bowral. Land uses in proximity of the proposal site include farming and agricultural uses, rural living properties and large format industrial facilities. Part of the study area is covered by a Scenic Protection overlay (on elevated land above 690 m AHD), however the proposal site is outside of this area.

A total of four landscape character zones were identified within the study area, including Pastoral open undulating land (LCZ1), Rural residential fringe (LCZ2), Moss Vale town (LCZ3), and Industrial and commercial (LCZ4). The landscape character assessment of LCZ1 resulted in a moderate impact, as although the proposal would introduce new features into a rural setting, these would occur in a localised area and the overall character of LCZ1 would be retained. LCZ2 and LCZ3 resulted in no impact as the proposal does not affect these landscape character zones and the impact on LCZ4 had a negligible impact, due to the proposal only being adjacent to this character zone.

Sensitive receivers were identified as part of this assessment, including residents, including along Beaconsfield Road and Bulwer Road, local road users, and workers. The viewshed for the proposal is largely confined to land within two kilometres of the proposal site, due to the existing nature of vegetation and undulating landscape.

Eight viewpoint locations were chosen to assess the visual impact of the proposal on sensitive receivers within the study area. It was found that the highest impacts are to VP01, VP02 and VP08, due to the sensitive receiver types, proximity and visual exposure to change associated with the proposal. Visual impacts were assessed as high or high-moderate for these viewpoints and photomontages were created illustrating the proposal from VP01 and VP02 without mitigation and with mitigation.

While the proposal design aims to minimise the impact on the surrounding landscape and sensitive receivers, the scale and nature of buildings would result in a discernible change to the visual characteristics, features, and values of the proposal site and immediate area. Mitigation measures proposed for the construction and operational stages should therefore be taken into consideration in the next design phase of the project. Proposed mitigation planting on the adjacent 'E4' land, would significantly reduce visual impacts associated with the proposal for the sensitive receivers on the southern side of the proposal site and it is recommended that 'early works' screening planting on the 'E4 site' be implemented at the earliest opportunity.

The landscape is in a state of transition, with rural land earmarked and under development for future industrial uses within the MVEC. It is anticipated that the proposal would be in keeping with the planned future character of the 'General Industrial - IN1' zone.

The visual impact of the proposal would be high for the surrounding sensitive receivers, and it is anticipated that the ongoing changes through the re-development of rural land would result in long-term and adverse impacts to the landscape character of LCZ1 and the surrounding sensitive receivers, with significant and irreversible, changes to the attributes, elements and value of the rural landscape character.

This fact should be considered in the design response, to promote a sensitive and high-quality design, setting a strong benchmark for future development in this area. Mitigation measures and responsive design solutions for inclusion into the detailed design stage are outlined in Section 8 of this report, in the Landscape Plan (refer Appendix B) and in the Urban Design assessment recommendations (refer Appendix C).

The following Table 10.1 and Table 10.2 provides a summary of landscape and visual impacts for the proposal.

**Table 10.1**      *Summary of Landscape Impacts*

<b>LCZ</b>	<b>Description</b>	<b>Sensitivity to change</b>	<b>Magnitude of change</b>	<b>Overall Rating</b>
LCZ1	Pastoral open undulating land	High	Low	Moderate
LCZ2	Rural residential fringe	Negligible	Negligible	Negligible
LCZ3	Moss Vale town	Negligible	Negligible	Negligible
LCZ4	Industrial and commercial	Low	Negligible	Negligible

**Table 10.2**      *Summary of Visual Impacts*

<b>Viewpoint</b>	<b>Location</b>	<b>Sensitivity to change</b>	<b>Magnitude of change</b>	<b>Overall Rating</b>
VP1	Beaconsfield Road	High	High	High
VP2	North of Bulwer Road	High	Moderate	High-Moderate
VP3	Napper Close	High	Negligible	Negligible
VP4	Moss Vale General Cemetery	High	Negligible	Negligible
VP5	Collins Road	Low	High	Moderate
VP6	Minnows Drive, Bowral	High	Negligible	Negligible
VP7	Lackey Road	Low	Moderate	Moderate- low
VP8	Residential receivers	High	Moderate	High-moderate

# 11. References

Government Architect NSW. (2017). *Better Placed*.

Landscape Institute and Environmental Management Assessment. (2013). *Guidelines for Landscape and Visual Impact Assessment*.

Natural England, Scottish Natural Heritage and Countryside Council. (2011). *Landscape Character Assessment Guidance*.

NSW Department of Environment, C. C. (2011). *Mitchell Landscapes NSW*.

NSW Government. (2017). *South East Tablelands Regional Plan 2036*.

NSW Government. (2019). *Local Character and Place Guideline*.

NSW Government. (2021). *Environmental Planning and Assessment Act 1979*.

NSW Government. (2021). *Planning, industry and Environment, Design and Place State Environment Planning Policy- Draft*.

NSW Government. (2021). *Wingecarribee Local Environmental Plan 2010*.

Transport for New South Wales. (2020). *Environmental impact assessment practice note EIA-N04 - Guideline for landscape character and visual impact assessment, Version 2.2*.

Wingecarribee Shire Council . (2012). *Moss Vale Enterprise Corridor Development Control Plan*.

Wingecarribee Shire Council. (2021). *Moss Vale Township Development Control Plan*.

Wingecarribee Shire Council. (2021). *Rural Lands Development Control Plan*.

Wingecarribee Shire Council. (2011). *Industrial Land Development Control Plan*.

Wingecarribee Shire Council. (2008). *Moss Vale Enterprise Corridor's future Transport and Infrastructure Plan*



# Appendices

# **Appendix A**

## **Photomontages**

Photomontage VP01: View from Beaconsfield Road looking north-west

- Existing view
- Proposed design (without mitigation)
- Proposed design (with mitigation, at 10 years post construction)

Photomontage VP02: View from Bulwer Road looking north-east

- Existing view
- Proposed design (without mitigation)
- Proposed design (with mitigation, at 10 years post construction)

# Appendix B

## Landscape Plan

Appendix B includes a Landscape Plan which illustrates the proposed landscape mitigation measures to reduce the visual impacts of the Proposal on the surrounding landscape and sensitive receivers. An area of land to the south of the proposal site has also be included for a large 14 metre area of screening planting on land which is also owned by the client and zoned as 'Environmental Living E4'.



## GENERAL NOTES

1. THIS PLAN IS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND ENGINEERING PLANS AND SPECIFICATIONS.
2. THESE DRAWINGS ARE PRELIMINARY ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION.
3. CONFIRM ALL UTILITY AND SERVICE LOCATIONS AND DIMENSIONS PRIOR TO CONSTRUCTION AND PROTECT FROM DAMAGE.
4. NEW TREE PLANTING TO AVOID IMPACT ON EXISTING AND NEW SERVICES/UTILITIES AND STRUCTURES.
5. TREE PLANTING LOCATIONS TO COMPLY WITH ALL RELEVANT AUTHORITY REQUIREMENTS INCLUDING UTILITY SETBACKS.
6. PLANT QUANTITIES ARE INDICATIVE ONLY.
7. PLANTING TYPE EXTENTS SHOWN ARE INDICATIVELY ONLY. REFER ENGINEERING PLANS FOR EXTENT OF LANDSCAPE BATTERS. JUTE MESH TO BE APPLIED TO ALL EMBANKMENTS 1:3 AND GREATER.
8. PLANS MUST BE PRINTED IN COLOUR.
9. DO NOT SCALE DRAWING.

## LEGEND

- Proposal site
- Building
- Internal road
- Bioretention basin
- Other structure
- Indicative site layout
- Waterway
- Planting type 1 - vegetated riparian zone
- Planting type 2 - bushland screen planting
- Planting type 3 - planting on steep batters
- Planting type 4 - groundcover planting



0 100 200 Metres



## PLANTING SCHEDULE

BOTANICAL NAME	COMMON NAME	HEIGHT (m)	WIDTH (m)	POT SIZE	PERCENTAGE	QUANTITY
<strong>Planting Type 1 - Vegetated Basin and Riparian planting</strong>						
<strong>Trees</strong>						
<i>Eucalyptus ovata</i>	Swamp Gum	20	15	Tubestock	1%	116
<i>Eucalyptus quadrangulata</i>	Coast White Gum	50	20	Tubestock	1%	116
<i>Eucalyptus viminalis</i>	Manna Gum	30	15	Tubestock	1%	116
<i>Eucalyptus salita</i>	River Peppermint	30	15	Tubestock	1%	116
<i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>	River Oak	35	15	Tubestock	1%	116
<i>Eucalyptus mannifera</i> subsp. <i>mannifera</i>	Brittle Gum	20	10	Tubestock	1%	116
<strong>Shrubs</strong>						
<i>Acacia dealbata</i>	Silver Wattle	15	12	Flag	3%	1,744
<i>Melaleuca hypericifolia</i>	Hillock-Bush	6	4	Flag	3%	1,744
<i>Hakea microcarpa</i>	Small-fruit Hakea	2	2	Flag	3%	1,744
<i>Laportea grandifolium</i>	Mountain Tea Tree	4	2	Flag	3%	1,744
<i>Laportea monticola</i>	Tea Tree	3	1	Flag	3%	1,744
<i>Laportea ovatum</i>	River Tea Tree	2	1.5	Flag	3%	1,744
<i>Melaleuca armillaris</i>	Bracelet honey myrtle	5	3	Flag	3%	1,744
<strong>Grasses</strong>						
<i>Balioskion fibratum</i>	Balioskion fibratum	0.8	0.5	Flag	4%	465
<i>Pennisetum decipiens</i>	Slender Knotweed	0.3	0.5	Flag	4%	465
<i>Balioskion fibratum</i>	Balioskion fibratum	0.85	0.5	Flag	4%	465
<i>Pennisetum decipiens</i>	Slender Knotweed	1.2	0.5	Flag	4%	465
<i>Epilobium billardiereanum</i> subsp. <i>Cinerum</i>	Common Bog-rush	1	0.5	Flag	3%	349
<i>Schoenus apocynifolius</i>	Myrtophyllum vanillosum	0.15	0.3	Flag	3%	349
<i>Myrtophyllum vanillosum</i>	Schoenoplectus validus	2	1	Flag	3%	349
<i>Schoenoplectus validus</i>	Isotria medeolae	0.1	1	Flag	3%	349
<i>Isotria medeolae</i>	Swamp Club-rush	0.5	0.5	Flag	3%	349
<i>Centropogon cumingianus</i>	Old Man Weed	0.2	0.3	Flag	3%	349
<i>Eleocharis acuta</i>	Eleocharis acuta	0.9	0.5	Flag	3%	349
<i>Lilaeopsis polyantha</i>	Creeping Oranilla	0.5	0.5	Flag	3%	349
<i>Centropogon cumingianus</i>	Sheep-weed	0.3	0.5	Flag	3%	349
<strong>Planting Type 2 - Bushland screen planting</strong>						
<strong>Trees</strong>						
<i>Acacia salita</i>	Mountain Cedar Wattle	20	15	Flag	3%	1,744
<i>Macaranga tetragona</i>	Square Twig sedge	1	0.5	Flag	3%	1,744
<i>Carex gaudichaudiana</i>	Caustic Sedge	1	0.5	Flag	3%	1,744
<i>Blechnum sphegodes</i>	Tall Spikerush	1	0.5	Flag	3%	1,744
<i>Hydrocotyle pedunculata</i>	Penwort	0.2	0.5	Flag	3%	1,744
<i>Isotria medeolae</i>	Swamp Millet	0.7	0.5	Flag	3%	1,744
<i>Juncus ustulatus</i>	Common Rush	1	0.5	Flag	3%	1,744
<i>Laportea anarthra</i>	Scale Rush	0.7	0.5	Flag	3%	1,744
<i>Rapicarpus tenuifolius</i>	River Buttercup	0.15	0.15	Flag	3%	1,744
<strong>Shrubs</strong>						
<i>Eucalyptus cinerea</i> subsp. <i>cinerea</i>	Kaggle Apple	15	8	Tubestock	1%	72
<i>Eucalyptus spathulata</i>	Monty Grey Gum	20	10	Tubestock	1%	72
<i>Laportea grandifolium</i> subsp. <i>polygalifolium</i>	Tantoni	10	5	Tubestock	1%	72
<i>Eucalyptus viminalis</i>	Ribbon Gum	30	15	Tubestock	1%	72
<i>Allocasuarina littoralis</i>	Black She-oak	15	5	Tubestock	3%	217
<i>Acacia floribunda</i>	White Sally Wattle	6	2	Tubestock	2%	145
<i>Acacia binervata</i>	Two-veined Hickory	15	7	Tubestock	2%	145
<i>Acacia melanocylon</i>	Blackwood	20	10	Tubestock	2%	145
<i>Acacia meunieri</i>	Black Wattle	8	5	Tubestock	2%	145
<i>Personna linearis</i>	Narrow-leaved Geebung	5	4	Tubestock	2%	145
<i>Hakea salicifolia</i>	Finger Hakea	3	2	Tubestock	2%	145
<i>Melaleuca stypheloides</i>	Prickly-leaved Tea Tree	10	3	Tubestock	2%	145
<i>Laportea grandifolium</i>	Flaky-leaved Tea Tree	5	3	Tubestock	2%	145
<i>Eucalyptus globulosa</i>	Narrow-leaved Peppermint	15	9	Tubestock	2%	145
<i>Eucalyptus mannifera</i>	Stringy Bark	40	15	Tubestock	2%	145
<i>Eucalyptus salita</i>	Brittle Gum	20	13	Tubestock	2%	145
<i>Eucalyptus pauciflora</i>	Snow Gum	12	5	Tubestock	3%	217
<i>Eucalyptus amplifolia</i>	Cabbage Gum	30	15	Tubestock	1%	72
<i>Eucalyptus divers</i>	Broad-leaved Peppermint	20	15	Tubestock	1%	72
<strong>Grasses</strong>						
<i>Cothamus dicranellus</i>	White Dogwood	5	1	Flag	2%	578
<i>Hardenbergia violacea</i>	Wandurra	3	2	Flag	2%	578
<i>Olearia vicioides</i>	Wallaby Weed	2.5	2.5	Flag	2%	578
<strong>Groundcovers</strong>						
<i>Daniella caerulea</i>	Paroo Lily	1	2	Flag	3%	4,337
<i>Laportea grandifolium</i> subsp. <i>lanceolata</i>	Sword-sedge	1	0.8	Flag	3%	4,337
<i>Austrobaileya laurifolia</i> subsp. <i>nervosa</i>	Austrobaileya laurifolia subsp. <i>nervosa</i>	0.3	0.2	Flag	3%	4,337
<i>Carex longibrachia</i>	Drooping Sedge	0.8	0.5	Flag	3%	4,337
<i>Laportea grandifolium</i>	Sword-sedge	1.5	1	Flag	3%	4,337
<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	Many-flowered Mat-rush	1	0.5	Flag	3%	4,337
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	1	0.5	Flag	3%	4,337
<i>Themeda triandra</i>	Kangaroo Grass	1.5	0.5	Flag	3%	4,337
<i>Austrobaileya laurifolia</i>	Austrobaileya laurifolia	1.2	0.5	Flag	3%	4,337
<i>Mitrasacme stipitata</i>	Weeping Grass	0.2	0.2	Flag	3%	4,337
<strong>Planting Type 3 - Planting on steep batters</strong>						
<strong>Shrubs</strong>						
<i>Cothamus dicranellus</i>	White Dogwood	5	1	Flag	4%	73
<i>Hardenbergia violacea</i>	Wandurra	3	2	Flag	4%	73
<i>Olearia vicioides</i>	Wallaby Weed	2.5	2.5	Flag	4%	73
<i>Leucopogon lanceolatus</i> var. <i>lanceolatus</i>	Leucopogon lanceolatus var. <i>lanceolatus</i>	0.3	1	Flag	4%	73
<i>Eleocharis acuta</i>	Eleocharis acuta	1	0.4	Flag	4%	73
<i>Laportea grandifolium</i>	Prickly Tea-tree	2	2	Flag	4%	73
<i>Laportea grandifolium</i>	Grey Tea-tree	3	2	Flag	4%	73
<i>Laportea grandifolium</i>	Grey Tea-tree	3	2	Flag	4%	73
<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney Golden Wattle	10	5	Flag	4%	73
<strong>Grasses</strong>						
<i>Daniella caerulea</i>	Paroo Lily	1	2	Flag	4%	365
<i>Laportea grandifolium</i> subsp. <i>lanceolata</i>	Sword-sedge	1	0.8	Flag	4%	365
<i>Austrobaileya laurifolia</i> subsp. <i>nervosa</i>	Austrobaileya laurifolia subsp. <i>nervosa</i>	0.3	0.2	Flag	4%	365
<i>Carex longibrachia</i>	Drooping Sedge	1.5	1	Flag	4%	365
<i>Laportea grandifolium</i>	Prickly Tea-tree	0.3	0.2	Flag	4%	365
<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	Many-flowered Mat-rush	0.9	0.5	Flag	4%	365
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	1	0.5	Flag	4%	365
<i>Themeda triandra</i>	Kangaroo Grass	1.5	0.5	Flag	3%	273
<i>Austrobaileya laurifolia</i>	Austrobaileya laurifolia	1.2	0.5	Flag	3%	273
<i>Mitrasacme stipitata</i>	Weeping Grass	0.2	0.2	Flag	3%	273
<i>Gonocarpus tetragynus</i>	Common Ragwort	0.3	0.2	Flag	3%	273
<i>Veronica plebeia</i>	Creeping Speedwell	1	0.5	Flag	3%	273
<strong>Planting Type 4 - Groundcover planting</strong>						
<i>Glycine claudeflora</i>	Glycine	-	-	150mm	3%	164
<i>Kennedia rubicunda</i>	Dusky Coral-pea	0.3	-	150mm	3%	164
<i>Lobelia purpurascens</i>	Whiteroot	1	1	150mm	3%	164
<i>Hibbertia scandens</i>	Climbing Guinea Flower	2	4	150mm	3%	164
<i>Ipomoea graminea</i>	St John's Wort	0.4	0.5	150mm	3%	164
<i>Psoralea microphylla</i>	Small Psoralea	0.5	0.5	150mm	3%	273
<i>Viola hederacea</i>	Native Violet	0.2	0.5	150mm	3%	273
<strong>Total Plant Count</strong>						
						120,189

Figure B1 Concept landscape plan

# **Appendix C**

## **Urban Design Assessment**

## C-1 Urban Design Assessment

### C-1-1 Purpose and scope

The purpose of this chapter is to assess the potential urban design impacts from the proposal. This chapter:

- Addresses the SEARs and agency requirements nominated below.
- Describes the existing surrounding environment, with respect to Urban Design
- Assesses the impacts of the proposal on Urban Design
- Recommends measures to mitigate and manage the impacts identified

### C-1-2 Overview

The proposed Plasrefine Recycling Facility in Moss Vale has been designated as a 'State Significant Development' (SSD); therefore, it need not comply to local council planning legislation. However, as the development is one of the first in the newly zoned industrial precinct called the 'Moss Vale Enterprise Corridor' and as the site borders a 'Rural Use Landscape' RU2 zone, near an 'Environmental Living' E4 zone, with residents living in close proximity, it is recommended that the development should follow the following urban design principles.

The proposal design should:

- Consider the council's development control requirements and 'be a good neighbour'
- Set a benchmark for good design for the 'Moss Vale Enterprise Corridor'
- Demonstrate a level of design quality comparable to or exceeding other similar state significant projects.

It is assumed that this approach may help to alleviate community concerns and reinforce Plasrefine's commitment to being a 'good neighbour'.

By satisfying the key requirements as outlined in Table C.1 and providing a design response which responds to the rural amenity of Moss Vale and integrates with the future industrial context; the visual quality of the Enterprise Corridor will be enhanced and the urban and visual impacts reduced.

### C-1-3 SEARs Requirements

The specific SEARs (SSD-9409987) requirements for 'Urban Design and Visual' are:

- A visual impact assessment (including photomontages and perspectives) of the development layout and design (buildings and storage areas), including staging, site coverage, setbacks, open space, landscaping, height, colour, scale, building materials and finishes, façade design, signage and lighting, particularly in terms of potential impacts on:
  - Nearby public and private receivers
  - Significant vantage points in the broader public domain
- Consideration of the layout and design of the development having regard to the surrounding vehicular, pedestrian and cycling networks
- Detailed plans showing suitable landscaping which incorporates endemic species



## C-1-4 Existing conditions

The surrounding area is undergoing significant land-use change. Previous land-use and character was predominantly rural, green hilly pastoral paddocks used for livestock grazing, with occasional farming related buildings, structures, and associated mostly single storey dwellings. Much of this rural character still remains. Photo 12 and Photo 13 show the proposal site and the surrounding landscape.



**Photo 12**      *View of the proposal site in the foreground with the Dux facility to the north-west in the middle background*



**Photo 13**      *View of the proposal site in the foreground with the Australian Bioresources facility in the background*

Four existing large-scale industrial facilities are located within approximately one kilometre of the proposal site: the adjacent Australian Bioresources facility (refer Photo 18); the Dux hot water manufacturing facility (refer Photo 35); the Omya Calcium Carbonate processing facility (refer Photo 34) and the Cromford Pipe Holdings Facility (refer Photo 32). It should be noted that there are also several large development sites currently under construction.

These facilities include buildings up to 8,500 square metres and approximately 12-18 metres in height. Larger structures are generally setback from public roads by at least 60 metres and generally have large areas of landscaped areas with mature vegetation and car parking between the road and the buildings. These large ‘green setbacks’ generally help to integrate the facilities into the landscape, screen the industrial structures and reduce the visual impacts.

A number of dwellings are located approximately 200 metres to the south-east of the proposal site, off Beaconsfield Road, as shown in viewpoint VP01 (refer to section Photo 7-1).

Other nearby dwellings are located approximately 300 metres to the south, off Bulwer Road as shown on viewpoint VP02 (refer to section Photo 7-4) with a few scattered dwellings located to the West, off Berrima and Brookdale roads.

A full list of sensitive receivers is listed in Section 7.





**Photo 32**      **View of Cromford Pipe industrial premises along Collins Road, north of the proposal site**



**Photo 33**      **View north-west along Collins Road near proposal site**



**Photo 34**      **View of Omya Calcium Carbonate processing facility along Collins Road, north-east of the proposal site**



**Photo 35**      **View south-east along Collins Road of Dux facility**



**Photo 18**      **View of the proposal site in the foreground and the Australian Bioresources facility, located directly east of the site**



**Photo 37**      **View of industrial estate along Collins Road, north of the proposal site**

## C-1-5 The proposal

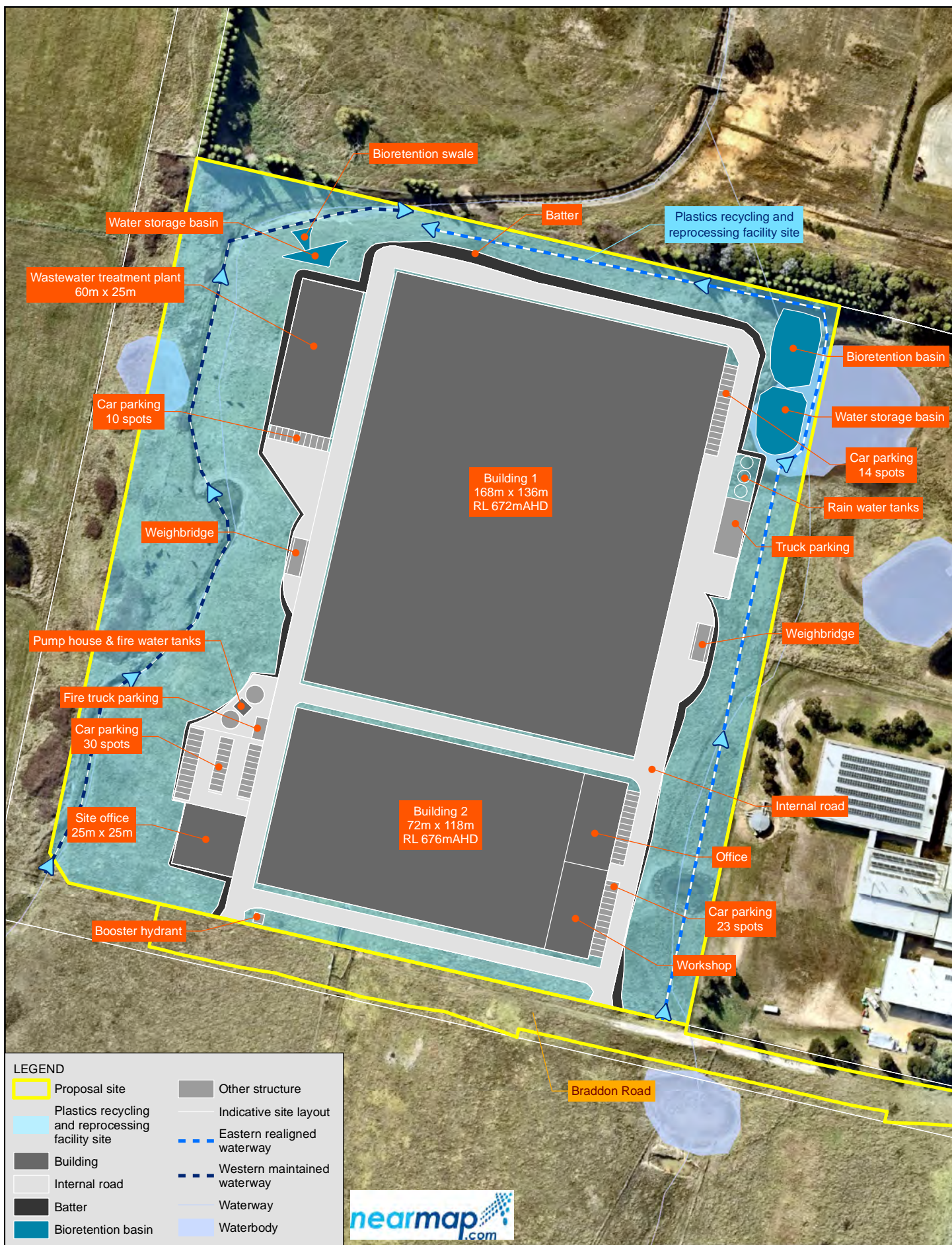
The proposed Plasrefine Recycling Facility site layout is shown in Figure C.1. The built form has been designed to a high-level concept design only, however key features include:

- Two large industrial buildings with smaller ancillary buildings, site infrastructure
- Two existing waterways (one to be diverted and one in its existing alignment) with bio retention basins
- Proposed soft landscaping
- Car parks and internal access roads

The southern boundary is the closest to sensitive receivers, as there are dwellings located within 200 metres to the south-east. Key design features on the southern boundary include:

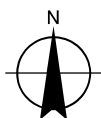
- Building façade width is 136 m (adjacent to the future road)
- Building façade height is 14 m (adjacent to the future road)
- Building set back approximately 15 m from road reservation (approximately 40 on western boundary)
- Window design amended to be high, small and linear
- Unspecified architectural treatment





Paper Size ISO A4  
0 20 40  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



Plasrefine Recycling Pty Ltd  
Moss Vale Plastics Recycling and Reprocessing Facility

Project No. 12524108  
Revision No. A  
Date 06 Oct 2021

Proposed site layout

**FIGURE C.1**

## C-1-6 Assessment of the proposal

### Methodology

The wider area has been zoned General Industrial IN1 and Moss Vale Enterprise Corridor (MVEC) (refer Figure 4.1). This planning designation allows for the development of larger-scale industrial facilities. To the south, the proposal site is currently adjacent to Rural Landscape RU2 (which is likely to be rezoned for the construction of Braddon Road) and in close proximity Environmental Living E4.

To help guide this change in development and to assist with good urban design, Wingecarribee Shire Council have provided development controls for the Moss Vale industrial areas. These development controls form part of this assessment and are referred to in section 4 and Table C.1. As a State Significant Development, Development Control Plan (DCP) compliance is not required, however they have been considered as part of the planning and design process, where appropriate.

### Wingecarribee Shire Council Development Controls

Wingecarribee Shire Council has requirements for industrial development to encourage good urban design and reduce visual impact (Refer to *Moss Vale Enterprise Corridor DCP 2008 and Industrial Land DCP 2017 Part A A2.6*).

*“Every new structure generates an impact on the visual amenity of the immediate environment which, in turn, affects the environment of the surrounding area. Visual impacts result from the overall appearance of the development and its relationship to the existing built form”.<sup>2</sup> (Refer DCP A2.6)*

Inappropriate design can generate significant adverse impacts and new developments should make a positive visual contribution. The nature of Industrial Building Design however, does not always lend itself to assimilate all building structures into the public domain and streetscape. To balance this against the economic function of Industrial Areas, visual amenity objectives prompt a greater level of attention to the street frontage treatment and public interface of the proposal.



## General assessment and mitigation measures

The following section assesses the high-level concept design. An assessment of the proposal on the existing and future urban design is described below in Table C.1. Development Control Plan (DCP) recommendations to avoid, mitigate or manage the impacts are described below, as are project specific design responses. It is noted that as a State Significant Development, DCP compliance is not required, however the DCP has been considered as part of the planning and design process, where appropriate.

**Table C.1** Urban design assessment and recommendations

Urban design element (SEARS requirement)	Assessment of potential urban design impacts	Recommendations to avoid, mitigate, manage and/or offset impacts	Design response
<b>Site coverage</b>	Large building coverage	<i>"Building footprints must not exceed 65% of the total site area."</i> <sup>1</sup> (Refer DCP 3.4.7)	<p>The proposal site is the northern parcel of land in Lot 11 DP 1084421. This parcel is about 7.7 hectares.</p> <p>On the western boundary, buildings have been set back by approximately 60 m, due to the watercourse, allowing a large open undeveloped area to be maintained as a riparian corridor.</p> <p>On the eastern boundary, buildings have been set back by approximately 35 m, due to a drainage pathway which will be enhanced with appropriate native wetland planting.</p> <p>The building footprint is less than 65% of the total site area.</p>
<b>Setbacks</b>	<p>Small setbacks from site boundary (less than 15m)</p> <p>No variation or articulation of built form height setbacks.</p>	<p><i>"A minimum 15-metre-wide landscaped area is to be established along lot frontages to internal access roads and along boundaries with rural zoned land outside the Enterprise Corridor."</i><sup>1</sup> (Refer DCP 3.10.4)</p> <p><i>"The minimum building setback from other roads is 10 metres."</i><sup>1</sup> (Refer DCP 3.4.4)</p> <p><i>A minimum 3-metre-wide landscaped area is to be established along the side and rear boundaries of a site."</i><sup>1</sup> (Refer DCP 3.10.5)</p> <p><i>"Front building setback areas must be used for landscaping or staff and visitor car parking. Open storage is not permitted."</i><sup>1</sup> (Refer DCP 3.4.6)</p>	<p>The landscaped area on the southern side is approximately 6 metres wide and significantly less than the recommended 10 metre width to frontages on public roads (Future Braddon road)).</p> <p>To mitigate this impact, it is proposed that a 14-metre-wide bushland screening vegetation be planted on the adjacent to the proposed access road, on the northern boundary of the E4 portion of the lot at Lot 11 DP 1084421 (also owned by the client). This proposed screening planting is shown in the Landscape Plan (refer to Appendix B).</p>
<b>Building Scale</b>	<p>Very large-scale built form within a rural landscape.</p> <p>Larger scale than the neighbouring Australian Bioresources</p>	<p><i>"The bulk and scale of new development is appropriate to the area and does not compromise the scenic amenity of the area."</i><sup>1</sup></p> <p><i>"The size and siting of buildings within lots maintains the open rural character of the area."</i><sup>1</sup></p>	<p>This area has been zoned as General Industrial IN1, therefore it is not expected that a rural character can be maintained. However, impacts can be reduced through good quality design, by keeping the building height lower than 20m</p>

<sup>1</sup> Extract from: Moss Vale Enterprise Corridor, Development Control Plan 2008, Wingecarribee Shire Council.

Urban design element (SEARS requirement)	Assessment of potential urban design impacts	Recommendations to avoid, mitigate, manage and/or offset impacts	Design response
	development, however not out of character with height and proportions of other industrial buildings within the area (refer to section C-1-4)		and by mitigating impacts through vegetation screening.  Detailed design phase to include a high-quality architectural design response, including using setbacks, articulation of façades and variations to roofline, to reduce the visual size and bulk of buildings.
<b>Building Height</b>	Tall building, but in keeping with height and proportions of other industrial buildings within the area (refer to section C-1-4).	<i>"The height of buildings and other structures must otherwise not exceed 20 metres above ground level".<sup>1</sup> (Refer DCP 3.4.2)</i>	The building height is under 20 metres.  During the design process, buildings have been sited and stepped down, to reduce their overall height and therefore their visual impact.  Consider articulation of building setbacks (with higher built form set back further than the lower storeys) and variation of roof height, to reduce the visual bulk and provide a less imposing visual form.
<b>Façade design</b>	Limited facade articulation, detail, rhythm.  Due to spatial constraints, woodland screening planting is not possible on the southern boundary of the site, therefore the southern façade of the building will be visible from the proposed road and partially visible from nearby residential properties.	<i>"Articulation should be used where facades (longer than 10 metres) will dominate the property frontages."<sup>2</sup>  Variation and repeated patterns in the façade would reduce the bulk of the building, provide a less imposing built form and provide a more aesthetically pleasing outcome. Regularity and consistency of façade - including rhythm of openings and window placement is suggested (refer C-2).  "Building materials should be non-reflective and external colours are to be muted earth and bush vegetation tones. Dark colours and large areas of white or vibrant colours are to be avoided."<sup>1</sup> (Refer DCP 3.4.9)</i>	Suggest façade design as described in recommendations  Suggest building colours as described in recommendations
<b>Landscaping and Open space</b>	Refer to Appendix B Landscape Plan for recommended planting design and visual screening.  Landscape objectives: – To integrate existing native vegetation	<i>"A landscape concept plan prepared by a suitably qualified person is to be submitted with a development application. The landscape concept plan must indicate the location and nature of proposed landscape treatments within the development site including identification of species and mature heights".<sup>1</sup> (Refer DCP 3.10.1)</i>	A landscape concept plan has been prepared by a landscape architect (refer Appendix B). The plan shows the proposed landscape treatments within the development site, including identification of species and mature heights.

<sup>2</sup> Extract from: Industrial Land - Part B Development Control Plans, Wingecarribee Shire Council.

Urban design element (SEARS requirement)	Assessment of potential urban design impacts	Recommendations to avoid, mitigate, manage and/or offset impacts	Design response
	<p>within the development site where possible.</p> <ul style="list-style-type: none"> <li>– To complement the area and create consistent and attractive streetscapes.</li> <li>– To reduce the visual impact of development and enhance the amenity of users".<sup>1</sup></li> </ul> <p>(Refer DCP 3.10)</p>	<p><i>"A minimum 15-metre-wide landscaped area is to be established along lot frontages to internal access roads and along boundaries with rural zoned land outside the Enterprise Corridor".<sup>1</sup> (Refer DCP 3.10.4)</i></p> <p><i>"A minimum 3-metre-wide landscaped area is to be established along the side and rear boundaries of a site unless otherwise specified above"<sup>1</sup> (Refer DCP 3.10.5)</i></p> <p><i>"The height and density of vegetation within building setback areas must be sufficient to provide effective visual softening to buildings and other structures and open hardstand areas".<sup>1</sup> (Refer DCP 3.10.6)</i></p> <p><i>"Landscaping should be integrated with existing native vegetation and should use compatible local native species selected from the council native species list".<sup>1</sup> (Refer DCP 3.10.7)</i></p> <p><i>"Strategic landscaping within other parts of the site should be established to provide shade to car parking areas and to soften the appearance of large expanses of hardstand areas".<sup>1</sup> (Refer DCP 3.10.8)</i></p> <p><i>"Native plant species should be used for Riparian areas and a mix of exotic and native plants should be used in all landscape areas with emphasis on water efficient species. The plant species must be selected from the council native species list and must be compatible with existing native vegetation within the site".<sup>1</sup> (Refer DCP 3.10.9)</i></p> <p><i>"Transparent or open-style fencing along street frontages is encouraged and should not be located forward of the building line".<sup>1</sup> (Refer DCP 3.8.1). "The integration of landscaping with fence lines is encouraged".<sup>1</sup> (Refer DCP 3.8.2) and "Fencing details must be submitted as part of a development application".<sup>1</sup> (Refer DCP 3.8.3)</i></p> <p><i>"The siting of development must consider the presence of remnant vegetation. Mature trees are to be retained where possible".<sup>1</sup> (Refer DCP 3.12.6)</i></p>	<p>The Landscape Plan shows 20-metre-wide landscaped area of native bushland planting on the adjacent E4 zoned land, to the south of the access road. The client also owns this site and therefore mitigation vegetation has been proposed to visually screen the development from the sensitive receivers located to the south.</p> <p>The Landscape Plan shows a proposed minimum 3-metre-wide landscaped area along the side and rear boundaries.</p> <p>The Landscape Plan shows native vegetation selected from the council native species list.</p> <p>Shade tree planting to car parking areas to be addressed at detailed design phase.</p> <p>The Landscape Plan shows native vegetation selected for Riparian areas.</p> <p>Fencing design to be addressed at detailed design phase.</p>

Urban design element (SEARS requirement)	Assessment of potential urban design impacts	Recommendations to avoid, mitigate, manage and/or offset impacts	Design response
		<p><i>“Watercourses should be retained as natural drainage corridors with suitable buffers where significant”.<sup>1</sup> (Refer DCP 3.12.7)</i></p> <p><i>“Remnant native vegetation and conservation areas within development sites must be managed in accordance with an approved Vegetation Management Plan”.<sup>1</sup> (Refer DCP 3.12.8)</i></p>	
<b>Lighting</b>	The proposal shows wide linear windows.	<i>Refer to the following guidance: Control of Obtrusive Effects of Outdoor Lighting (AS 2482) (ie high level advice on lighting angles / light spill based on the AS etc.)</i>	Will be considered at design development stage.
<b>Staging</b>	No information at this stage		Will be considered at design development stage
<b>Signage / telecommunications and radiocommunications Infrastructure</b>	No information at this stage	<i>“Carriers are to design antennas and supporting infrastructure in such a way as to minimise or reduce visual and cumulative visual impact.”<sup>1</sup> (Refer DCP 4.4.6)</i>	Will be considered at design development stage
<b>Consideration of the layout and design of the development having regard to the surrounding vehicular, pedestrian and cycling networks</b>	The surrounding site has limited vehicular, pedestrian and cycling networks, however the Moss Vale Enterprise Corridor’s future Transport and Infrastructure Plan includes a proposed bus stop 400m metres to the south-west of the site on the future Bulwer Road extension.	<p>Public road streetscapes should be designed to encourage walking and cycling.</p> <p>Safe pedestrian access, particularly from the bus stop to the building’s entrance should be designed into the proposal.</p> <p>Footpaths and should include street trees for shade and amenity.</p> <p>Bicycle lanes and facilities should be provided.</p>	<p>Will be considered at design development stage</p> <p>Consider pedestrian and cyclist connectivity and amenity from the site to the bus stop. Consider shared paths and shade trees.</p>
<b>Detailed plans showing suitable landscaping which incorporates endemic species</b>	Refer to Landscape Plan Appendix B	Refer to Landscape Plan Appendix B	Concept plans have been produced, showing endemic species. Refer to Landscape Plan Appendix B
<b>Scenic Protection Development Control</b>	There is a Scenic Protection Development Control for elevated parts of the Enterprise Corridor, above the 690 metre contour line.	Development proposals within the Scenic Protection DPC areas will require careful consideration of visual impact, to protect visual amenity within these areas.	The proposal site is located lower than this contour and therefore does not fall into the Scenic Protection area, however it is within 250m of its boundary.



## Assessment of Southern Façade

An assessment of the proposed southern façade and boundary treatment has also been carried out as the southern boundary is the closest to the sensitive receivers, as identified in section 7.

The window design has been amended to suit acoustic modelling. Photo 38 shows the original design, with a regular sequence of apertures, which punctuate the blank façade and give articulation to the street frontage. Photo 39 shows the proposed design.



**Photo 38**      *Original façade design – approx. 12-18m high (120m long x 250m deep)*



**Photo 39**      *Proposed southern façade design - approx. 12-18m high (120m long x 250m deep)*

From an urban design assessment perspective, the following has been noted:

- The proposed façade treatment shown above has an irregular sequence of apertures, lacks articulation and aesthetically pleasing visual information, resulting in the large building look bulky and unsympathetic to aesthetic rules of pattern, scale and rhythm.
- It is recommended that to reduce visual bulk and to better integrate the proposal with the surrounding landscape, sensitive articulation of the façade and the roofline should be considered. Consider articulating façade into smaller collection of visual elements rather than one large element. Consider variation of façade depth, a variety of façade angles and use of parapet into the design to introduce light, shadow and visual intricacy.
- To help screen the building and provide an aesthetically pleasing street frontage, a variety of landscaped setbacks should be considered.
- To help reduce the visual bulk of the upper levels of the buildings and the roof, a variety of upper-level setbacks and adjustments should be considered to help integrate the building with the ridgeline backdrop and the surrounding patterns of the landscape. Flat roofs and angular, bulky built form to be avoided, particularly when viewed from the south. Refer to Table C.1 for further details.



**Photo 40**      *Original façade design looking northwest from unnamed track near Bulwer Road*



**Photo 41** *Proposed façade design looking northwest from unnamed track near Bulwer Road*

## **C-2      Benchmark projects**

The Plasrefine Recycling Facility proposal is one of the first in this newly zoned Industrial ‘Enterprise Corridor’. As an innovative state-significant project, this is an opportunity to influence the future quality of development in the area.

There are a number of industrial developments shown below which illustrate examples of good urban design. These developments have a number of attributes and generally, these developments have been designed to:

- Sit sensitively into the landscape
- Avoid blank facades
- Provide an attractive and visually interesting built form, using proportion, pattern, variation, rhythm, texture and subtle use of colour to provide an aesthetically pleasing frontage to public roads
- Reduce the sense of visual bulkiness through variation and articulation of large facades, incorporating windows, cladding, setbacks, facade delineation and colour variation
- Have building heights that respond to the scale of the built form in the surrounding area. Where buildings are high, the highest levels are setback away from the street
- Landscaping elements play an important role in improving the visual presentation of industrial premises and reducing the ‘heat-island’ effect. Earth mounding, layered planting and landscape setbacks can all help an industrial development to site sensitively into the landscape



The Neighbouring development the Australian Bioresources is approximately 6-12 m high. Design includes setback of higher levels to reduce visual bulk, variation of material, angles and shadow to provide facade articulation, and large areas of landscape and screening trees (refer to Photo 42).



**Photo 42** *Neighbouring development - Australian Bioresources* Image from Garvan Institute of Medical Research (2021). <https://abr.org.au/contact>

The proposed Moss Vale factory, warehouse and industrial facility shown in Photo 43 is setback from the road, with façade articulation, roofline variation and variation of materiality, colour and texture.



**Photo 43** *73 Lytton Road, Moss Vale NSW 2577 - Proposed Factory, Warehouse & Industrial facility* Image from realcommercial (2021). <https://www.realcommercial.com.au/leased/property-73-lytton-road-moss-vale-nsw>

The proposed Mittagong industrial facilities shown in Photo 44 have pattern and regularity, landscaped setbacks and façade articulation, provide an attractive frontage.



**Photo 44** *Highland Spaces Proposed Development, Mittagong, Southern Highlands* Image from Sembrano Design. (2020). Industrial & Commercial Development. <https://sembranodesign.com.au/>

The Brunswick terminal station building is well concealed through careful design, including large landscaped setbacks with earth mounding, layered planting and articulated facades with artistic tree graphic.



**Photo 45** *Brunswick Terminal Station, Melbourne with landscape mitigation*



**Photo 46** *Brunswick Terminal Station, Melbourne with landscape mitigation*

### **C-3 Urban design assessment conclusion**

The character of the proposal site area would be changed by this proposal. Whilst the area consists of a mix of land uses and zones, the underlying character of this landscape is mostly pastoral with long views to ridgelines punctuated by low-scale built form. Occasional large scale industrial facilities are present, particularly along Collins Road and Lackey road, however they are typically well screened by vegetation. The anticipated transition to 'Enterprise Corridor' industrial zone with predominantly large industrial buildings and associated facilities will require concerted effort to mitigate. Mitigation will be possible through the use of sensitive and considered architecture and landscape design that considers façade articulation, built-form setbacks, architectural screening, and high-quality landscape treatments for visual amenity and screening. The detailed design phase of the proposal should take into consideration the benchmark projects outlined in section C-2 and the DCP recommendations, where possible.





[ghd.com](http://ghd.com)

→ **The Power of Commitment**