METROMIX

Scoping Report

for the

Teralba Quarry

Prepared by:

RWCorkery&co

January 2026

ACKNOWLEDGEMENT

R.W. Corkery & Co. acknowledge and pay our respects to the Traditional Custodians of the lands in NSW and Australia on which our projects are located. We value the knowledge, advice and involvement of the Elders and extended Aboriginal community that contribute to our Projects and extend our respect to all Aboriginal and Torres Strait Islander peoples.

METROMIX

ABN: 39 002 886 839

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Prepared for:

Metromix Pty Ltd
ABN: 39 002 886 839

PO Box 3
BOOLAROO NSW 2284

Telephone: (02) 4950 6640
Email: info@metromix.com.au

Prepared by:

R.W. Corkery & Co. Pty Limited
Geological & Environmental Consultants
ABN: 31 002 033 712

Telephone: (02) 9985 8511
Email: admin@rwcorkery.com
Postal: PO Box 1796
CHATSWOOD NSW 2057

Sydney | Orange | Newcastle | Townsville

Sydney
Suite 12.01, 1-5 Railway Street
CHATSWOOD NSW 2067

Orange
62 Hill Street
ORANGE NSW 2800

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RWCorkery&co

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1. Introduction

1.1 Scope

This Scoping Report has been prepared by R.W. Corkery & Co. Pty Ltd on behalf of Metromix Pty Ltd to describe the proposed Teralba Quarry Project ("the Project") that would extend and continue existing operations that extract and process conglomerate for the production of various aggregate and roadbase products. The existing Teralba Quarry (the Quarry) has been developed on Lot 1 and Lot 2 DP 224037 and has been operating since 1964. The Quarry is located approximately 18 kilometres (km) southwest of Newcastle on the mid-coast of NSW (refer **Figure 1**). Existing operations are approved under Project Approval (PA)10_0183 that was granted on 22 February 2013 and may continue until 31 December 2038.

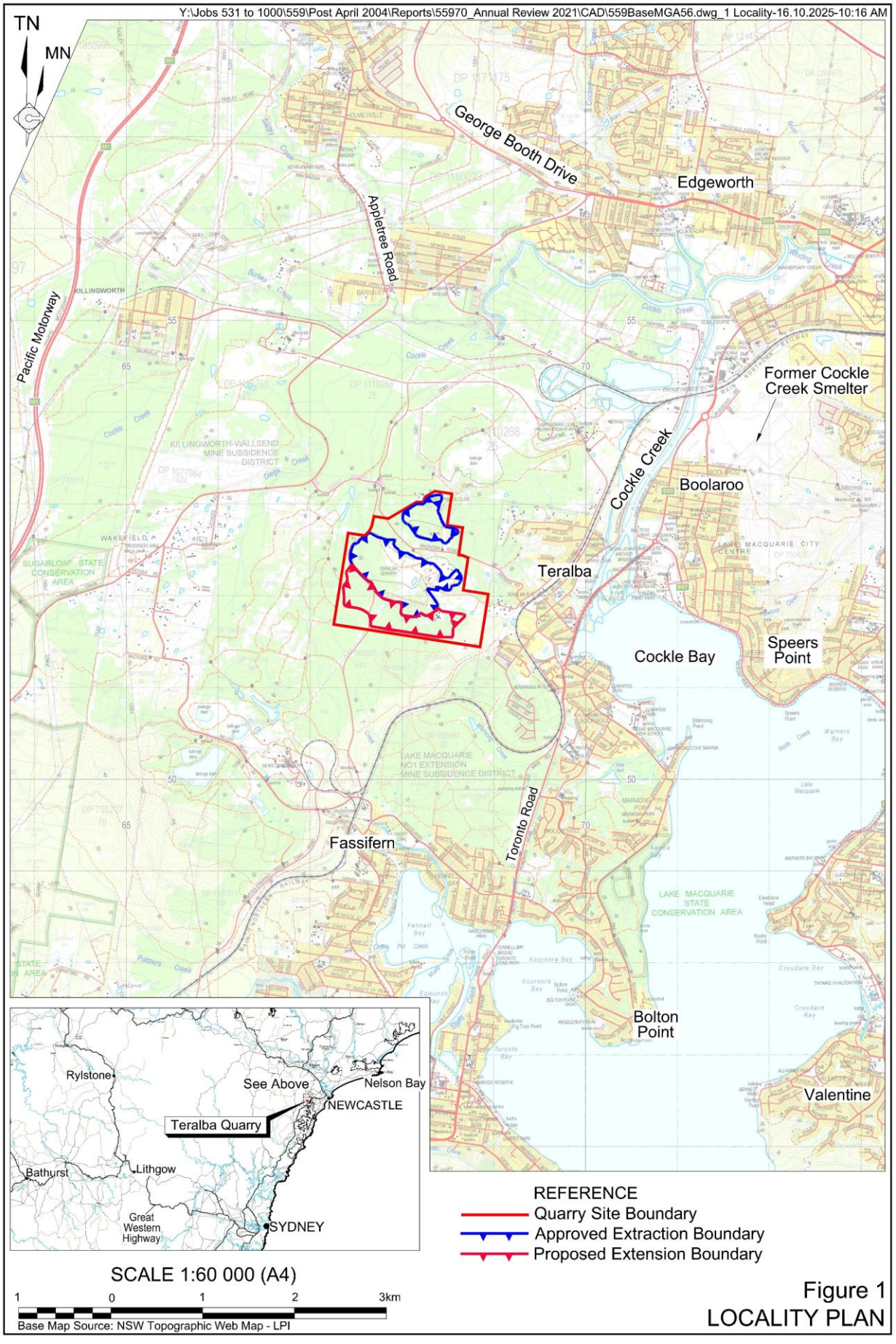
Quarry planning has identified that the cost associated with construction of the approved underground conveyor between the approved extraction areas in the north of the property and the processing facilities is prohibitive. As a result, it is estimated that only 3.5 years of economically feasible resource is remaining in the approved areas.

Metromix is proposing to expand quarrying activities within the southern portion of Lot 2 DP 224037. In summary, the Project comprises the following.

- An approximately 37.1ha extension to the southern extraction area, providing a total operating area of 104.6ha.
- Extraction at a rate of 1.2 to 1.5 million tonnes per annum (Mtpa).
- Sales of up to 1Mtpa of hard rock aggregate and road construction materials (consistent with existing operations).
- Use of existing processing, stockpiling and transport infrastructure.
- Relocation or removal of the existing private coal haul road used to access land to the south.

Extraction from the northern areas currently approved under PA 10_0183 would continue under the Project, however access to these areas would be via an approximately 300m section of Rhondda Road and rely on short campaigns. Material would be extracted and then transported to the fixed processing plant on the southern side of Rhondda Road.

All processing and associated infrastructure used for the existing operation would continue in the same locations and key activities such as processing, stockpiling and product despatch would not change. The transport route would also remain the same. Progressive rehabilitation of completed areas would continue and there would be no change to the proposed final land use.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TN
MN
George Booth Drive
Edgeworth
Appletree Road
Pacific Motorway
Former Cockle Creek Smelter
Cockle Creek
Boolaroo
Teralba
Cockle Bay
Speers Point
Fassifern
Toronto Road
Bolton Point
Valentine
Rylstone
See Above
Nelson Bay
NEWCASTLE
Teralba Quarry
Bathurst
Lithgow
Great Western Highway
SYDNEY
REFERENCE
Quarry Site Boundary
Approved Extraction Boundary
Proposed Extension Boundary
SCALE 1:60 000 (A4)
1 0 1 2 3km
Base Map Source: NSW Topographic Web Map - LPI
Figure 1
LOCALITY PLAN

The Project would be classified as "State Significant Development" for "extractive industries" under Section 7 of Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021* as it would:

- extract more than 500,000 tonnes of extractive materials per year;
- extract from a total resource greater than 5 million tonnes (Mt); and
- comprise an extension to an existing State Significant Development.

Therefore, the Project requires an application for development consent under Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This application will be assessed by the Department of Planning, Housing and Infrastructure (DPHI) with the consent authority being the Minister for Planning and Public Spaces (or their delegate).This Scoping Report has been prepared generally in accordance with Appendix A of the *State Significant Development Guidelines – Preparing a Scoping Report* (DPIE, 2022). The information presented in this Scoping Report is intended to provide the Department and relevant government agencies with sufficient information for the development and issue of Secretary's Environmental Assessment Requirements (SEARs) for the Project. These SEARs will be addressed in the Project's Environmental Impact Statement (EIS) that will be prepared to support its application for development consent.

This Scoping Report is also intended to inform Lake Macquarie City Council (Council), members of the community and others about the Project to facilitate consultation throughout preparation of the EIS.

1.2 The Applicant

The Applicant is Metromix Pty Limited (Metromix). Metromix, formed in 1985, is wholly owned by Holcim (Australia) Pty Ltd and Heidelberg Materials Australia (NSW), two of the most successful building materials companies in Australia.

Metromix operates six concrete plants throughout Sydney and the Blue Mountains as well as three raw material extraction sites, namely the Marrangaroo Quarry near Lithgow, the Anna Bay Sand Quarry near Port Stephens and the Teralba Quarry.

1.3 The Application Area

The Application Area is located within the Lake Macquarie Local Government Area (LGA) and comprises the Quarry Site.

The Quarry Site covers an area of approximately 184.8ha and incorporates the existing Teralba Quarry extraction and processing areas and the proposed Extension Area. The Quarry Site excludes an area of approximately 3ha comprising an asphalt plant operated by Downer EDI that is located within the property boundary.

Land within the Quarry Site is zoned SP1 – Special Activities and C2 – Environmental Conservation (**Figure 2**) under the *Lake Macquarie Local Environmental Plan 2014*. Extractive industry is permissible within these land zones by virtue of Clause 2.9(3)(a) of the *State Environmental Planning Policy (Resources and Energy) 2021.*

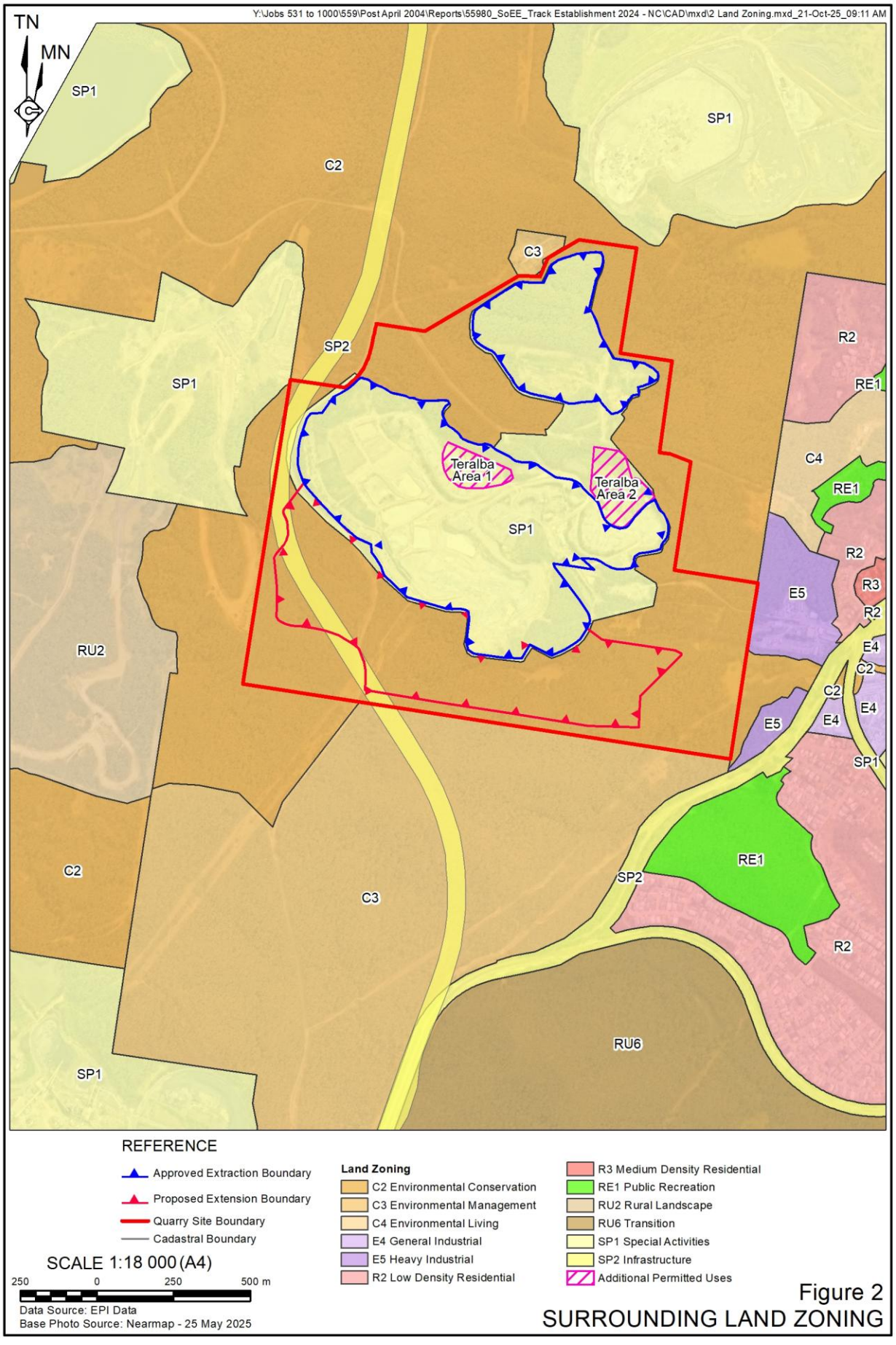


Figure 2
SURROUNDING LAND ZONING

A section of the Quarry Site is a designated future infrastructure corridor zoned SP2 – Infrastructure (**Figure 2**) under the *State Environmental Planning Policy (Transport and Infrastructure) 2021*. Extractive industry is also permissible within this land zone by virtue of Clause 2.9(3)(a) of the *State Environmental Planning Policy (Resources and Energy) 2021*.

In addition, subsections of the Application Area are identified as 'Teralba Area 1' and 'Teralba Area 2' (**Figure 2**) under Clauses 20 and 21 of Schedule 1 (Additional Permitted Uses) of the *Lake Macquarie Local Environmental Plan 2014*. Teralba Area 1 contains the Downer EDI asphalt plant. Teralba Area 2 was the site of a former concrete plant on the property that is no longer operating. This land is currently used by Metromix for material import, stockpiling and the blending of recovered materials with aggregate to form products that meet client specifications. Development (with development consent) for the purpose of resource recovery facilities and industries is permitted within Teralba Areas 1 and 2 respectively.

Table 1 and **Figure 3** provide the details of all land within the Application Area.

Table 1
Project Components and Planning Information

Project Components	Lot	Deposited Plan	Zoning
Quarry Site	1	224037	SP1 – Special Activities (Extractive Industry) SP2 – Infrastructure C2 – Environmental Conservation
	2	224037	

1.4 Project Overview

Table 2 provides a summary of the key Project components and activities.

Table 2
Key Project Components and Activities

Page 1 of 2

Project Component / Activity	Description
Quarry Site	• An area of approximately 184.8ha of freehold land incorporating the full area of the existing Teralba Quarry extraction and processing operations and the proposed Extension Area.
Land Titles	• Lots 1 and 2 DP224037
Extraction Method	• Conventional drill, blast, load and haul.
Total Resource	• Approximately 28.2Mt of conglomerate with interbedded sandstone lenses.
Overburden	• Approximately 7.5Mt
Processing Plant Infrastructure	• Fixed and mobile plant.
Maximum Extraction Rate	• 1.5Mtpa
Maximum Production Rate	• 1Mtpa
Site Access	• "Top Gate" – Rhondda Road. • "Bottom Gate" – local road via McEwen Street leased from Teralba Business and Storage Park.

Table 2 (Cont'd)
Key Project Components and Activities

<table>
<tr><th>Project Component / Activity</th><th>Description</th></tr>
<tr><td>Transport Routes</td><td>
• Northwestern Corridor – Top Gate, Rhondda Road, Wakefield Road towards Barnsley
• Southwestern Corridor – Top Gate, Rhondda Road, Wakefield Road, M1 Pacific Motorway
• Northeastern Corridor – Bottom Gate, Railway Street, York Street, Five Islands Road to the Esplanade or Lake Road
• Southeastern Corridor – Bottom Gate, Railway Street, York Street, Toronto Road
</td></tr>
<tr><td>Transportation Limits</td><td>
• No more than 326 heavy vehicle movements dispatched per day.
• No more than 241 heavy vehicle movements per day, or 20 per hour, westwards along Rhondda Road.
• No more than 85 heavy vehicle movements per day, or 8 per hour, eastwards through Teralba.
• No heavy vehicle movements through Teralba between 6:00pm and 6:00am.
• No heavy vehicle access to the Quarry Site via the Railway Street entrance (i.e. Bottom Gate) between 6:00pm and 7:00am.
• Hourly dispatch rates:
– 6:00am to 7:00am – 28 heavy vehicle movements
– 7:00am to 6:00pm – 20 heavy vehicle movements
– 6:00pm to 5:00am – 6 heavy vehicle movements
– 5:00am to 6:00am – 12 heavy vehicle movements
</td></tr>
<tr><td>Material Importation</td><td>
• The importation of recycled materials for the purpose of processing and blending and eventual sale of up to 200,000tpa of products that contain recycled materials (within the proposed production limit of 1Mtpa).
• 100,000tpa of Virgin Excavated Natural Material and Excavated Natural Material for on-site construction, use, and to support rehabilitation activities.
</td></tr>
<tr><td>Employment</td><td>
• Metromix personnel – approximately 26
• Contractors – approximately 20
</td></tr>
<tr><td>Hours of Operation</td><td>
<table>
<tr><th>Activity</th><th>Days</th><th>Hours</th></tr>
<tr><td colspan="3">Roadworks</td></tr>
<tr><td rowspan="2">These activities are described in Section 3.3.3</td><td>Monday to Friday[1]</td><td>7:00am to 6:00pm</td></tr>
<tr><td>Saturday</td><td>8:00am to 1:00pm</td></tr>
<tr><td colspan="3">Operations</td></tr>
<tr><td rowspan="2">Extraction and processing</td><td>Monday to Friday[1]</td><td>7:00am to 7:00pm</td></tr>
<tr><td>Saturday</td><td>7:00am to 2:00pm</td></tr>
<tr><td>Blasting</td><td>Monday to Friday[1]</td><td>10:00am to 4:00pm</td></tr>
<tr><td rowspan="2">Product loading and dispatch</td><td>Monday to Friday[1]</td><td>4:00am to 00:00am</td></tr>
<tr><td>Saturday</td><td>00:00am to 6:00pm</td></tr>
<tr><td rowspan="2">Importation of recycled concrete or Virgin Excavated Natural Material</td><td>Monday to Friday[1]</td><td>7:00am to 6:00pm</td></tr>
<tr><td>Saturday</td><td>7:00am to 2:00pm</td></tr>
<tr><td>Maintenance activities (inaudible at privately owned residences)</td><td>7 days</td><td>24 hours</td></tr>
<tr><td colspan="3">Notes: 1 Public Holidays excluded.</td></tr>
</table>
</td></tr>
<tr><td>Project Life</td><td>
• Extraction operations over 30 years with a further 10 years proposed for completion of backfilling, landform creation and rehabilitation.
</td></tr>
<tr><td>Final Landform and Land Use</td><td>
• Stabilised final landform suitable for a range of land uses including native vegetation, sporting / recreational and unspecified industrial (subject to further approval).
</td></tr>
</table>

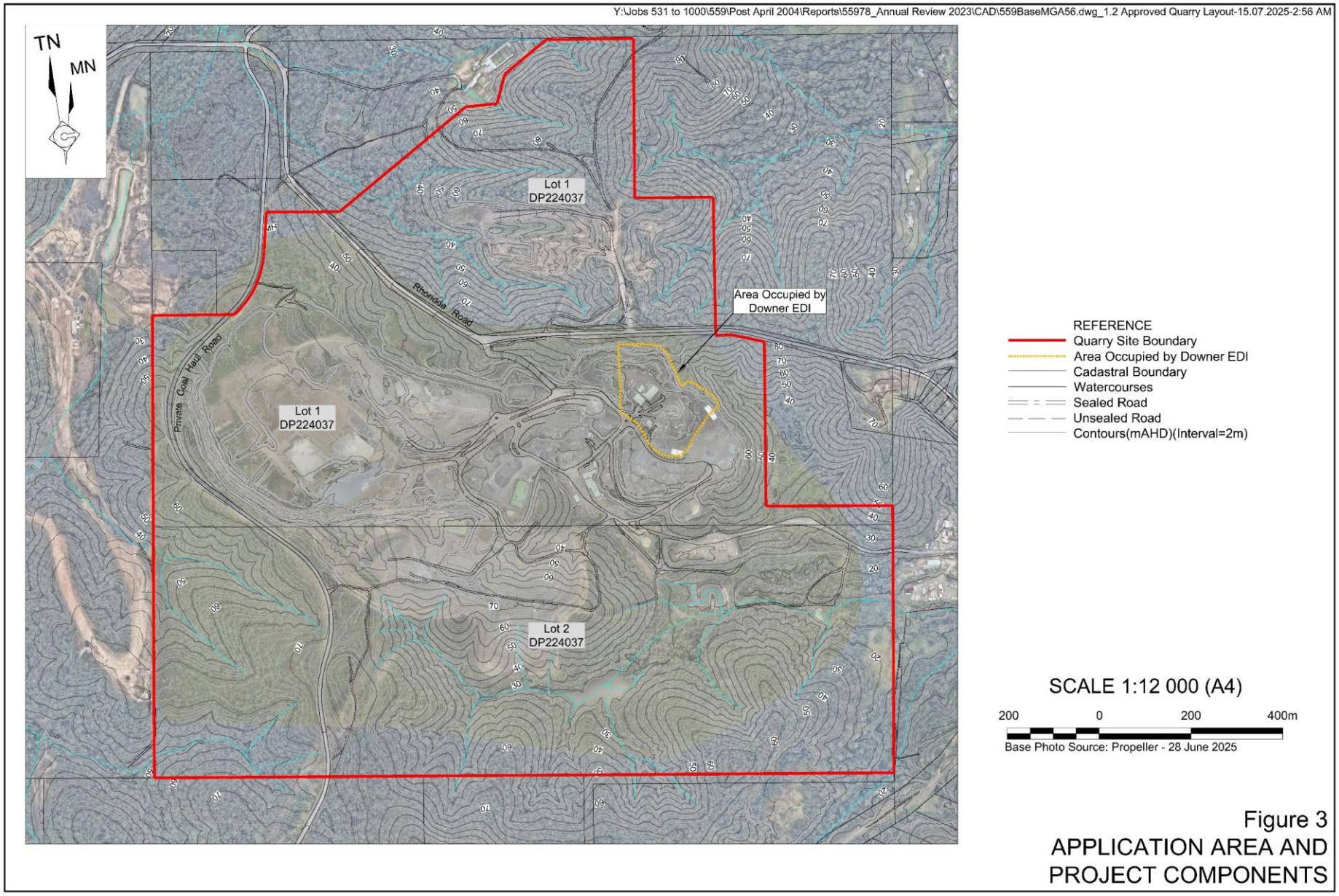


Figure 3
APPLICATION AREA AND
PROJECT COMPONENTS

1.5 Project Objectives

The objectives in developing and operating the Project are to:

1. secure access to a strategically located and long-term hard rock resource that would provide a range of high-quality aggregates and road construction materials for use in the Hunter, Central Coast and Greater Sydney regions as well as wider NSW;
2. extract up to 1Mtpa and produce up to 1.2 to 1.5Mtpa of extractive materials to meet the increasing supply demands of these markets over the next 30 years;
3. maximise the efficient resource recovery within the defined extraction area;
4. undertake activities in an environmentally responsible manner to meet all relevant criteria and satisfy reasonable community expectations;
5. develop the operation in a manner that is considerate of the wide variety of local land uses and community amenity;
6. ensure the health of its workforce and the surrounding community is not adversely affected;
7. provide a stimulus to the local economy through increasing local employment levels and supply opportunities; and
8. operate in a cost-efficient manner.

1.6 Project Background

1.6.1 Project History

The Quarry was initially established in 1964 by a private landowner and operated under DA 130/42, granted by (then) Lake Macquarie Municipal Council. It was acquired by the Readymix Group in October 1983 who sold it to Metromix in August 1986.

The Quarry currently operates in accordance with Project Approval (PA)10_0183 granted by the Minister for Planning and Infrastructure on 22 February 2013. In summary, approved operations at the Quarry under PA10_0183 currently include the following.

- Conglomerate extraction (blasting and excavation)
  - Up to 1.2Mtpa of extractive materials in any calendar year.
  - Extraction no deeper than 20m Australian Height Datum (AHD) in the Southern Extension and no deeper than 24m AHD in the Mid Pit Extraction and Northern Extension Areas.
- Processing operations (size reduction, screening, washing and blending).
- On-site load and haul operations involving off-road trucks on the internal road network conveying primary-crushed rock to the processing plant.

- Off-site transportation of products:
  - no more than 1Mt of quarry products from the site in any calendar year; or
  - no more than 326 laden trucks from the site on any day; or
  - no more than 241 laden trucks per day or 20 per hour westwards along Rhondda Road; and
  - no more than 85 laden trucks per day or 8 per hour eastwards through Teralba.
- Vehicle/equipment maintenance and ancillary activities and stores.
- Progressive rehabilitation and maintenance.
- Receipt of recycled concrete, Virgin Excavated Natural Material (VENM) and Excavated Natural Material (ENM).

1.6.2 Current Approvals and Licences

Table 3 presents all current approvals and licenses for the Quarry.

Table 3
Teralba Quarry – Approvals and Licences

Approval/Licence	Original Issue Date	Current Version Issue Date	Expiry Date	Scheduled Activities
Project Approval PA10_0183	22 February 2013	16 April 2018 (Modification 1)	31 December 2038	Extracting, processing product despatch and ancillary activities
Environment Protection Licence No 536 (EPL 536)	25 September 2000	25 August 2025	01 June*	Crushing, grinding or separating; Extractive activities
Environment Protection Licence No 13015 (EPL 13015)	17 July 2015	6 September 2024	17 July*	Resource recovery; Waste storage
Water Access Licence No. 40303 (WL 40303)	12 October 2012 (as Bore Licence 20BL173206)	1 July 2016	No Expiry	Recovery and use of water from Dam A
* Licence Anniversary Date				

1.7 Key Mitigation Strategies

The following key mitigation strategies have been incorporated into the design of the Project to avoid or minimise the impacts of the proposed activities.

- The layout of the Project has been designed to avoid and minimise environmental impacts as far as practicable (see Section 3.4).
- Project staging that is mindful of possible visual impacts and proximity to the community.

- Fixed processing operations will remain in their location. Primary, secondary and tertiary crushing and screening activities would continue to be limited to daylight hours.
- Consultation with surrounding landholders, community members and government agencies will continue to be undertaken during the preparation of the EIS to ensure that key issues raised are addressed at the planning stage (see Section 5).
- A highly skilled and qualified team of specialist consultants has been assembled to undertake detailed assessments of the anticipated environmental aspects of the Project and ensure that likely Project-related impacts are accurately identified throughout the preparation of the EIS (see Section 6).

2. Strategic Context

2.1 Project Justification

2.1.1 Introduction

The NSW Government has published a range of planning documents that collectively provide the basis for strategic planning in NSW. In addition, Council's strategic documents provide direction for planning and development within the Lake Macquarie LGA. Central to many of these documents is the recognition that extractive industries provide essential employment and economic activity locally and across NSW and that each of these industries must be developed in a manner that supports the communities and environment within which those industries operate.

The planning documents that are relevant to the Project and a brief description of how each of those documents provides strategic support to the Project are outlined in the following subsections. Additional discussion of each of these documents will be provided in the EIS.

2.1.2 Resource

2.1.2.1 Regional Geology

Figure 4 displays the regional geological setting of the Quarry Site.

The Quarry is located within the Permo-Triassic Sydney Basin, the southern part of a major basin system that extends over 1,500km through the Gunnedah Basin to the Bowen Basin in Queensland. The Sydney Basin overlies the Lachlan Fold Belt and Late Carboniferous volcanoclastic sediments, forming in the Early Permian from extension and is half-graben infilled with the Dalwood and Talaterang Groups. Foreland loading and compression of the Currarong Orogen in the Early Permian were followed by Late Permian uplift resulting in the formation of depocenters within the northeast Sydney Basin. The depocenters filled with pyroclastic and alluvial-paludal sediments in the Newcastle Coal Measures. Uplift of the offshore basin during the Triassic reworked the Permian sediments in fluvial environments before a final phase of thrusting during the Middle Triassic and further extension in the Late Cretaceous, resulting in the current structural boundaries of the basin's eastern margin.

The Narrabeen Group deposition commenced at the end of the Permian period, depositing up to 800m of lithic conglomerate, quartz-lithic sandstone and shale. Uplift in the New England Fold Belt to the north caused alluvial fans to deposit coarse detritus in the Hunter Valley area south-westwards across the Sydney Basin, covering estuarine deposits left by Late Permian transgression with finer claystone and siltstone sediments. These alluvial fans result in the Lower Narrabeen Group to display an upward gradation from basal estuarine and fine-grained alluvial sediments to braided alluvial coarse-grained sediments, deposited during an overall regression from the northeast to the southwest. The resulting geology from these processes includes, but is not limited to, the Munmorah Conglomerate, the Stanwell Park Claystone, Wombarra Claystone and Dooralong Shale (Geos Mining, 2025).

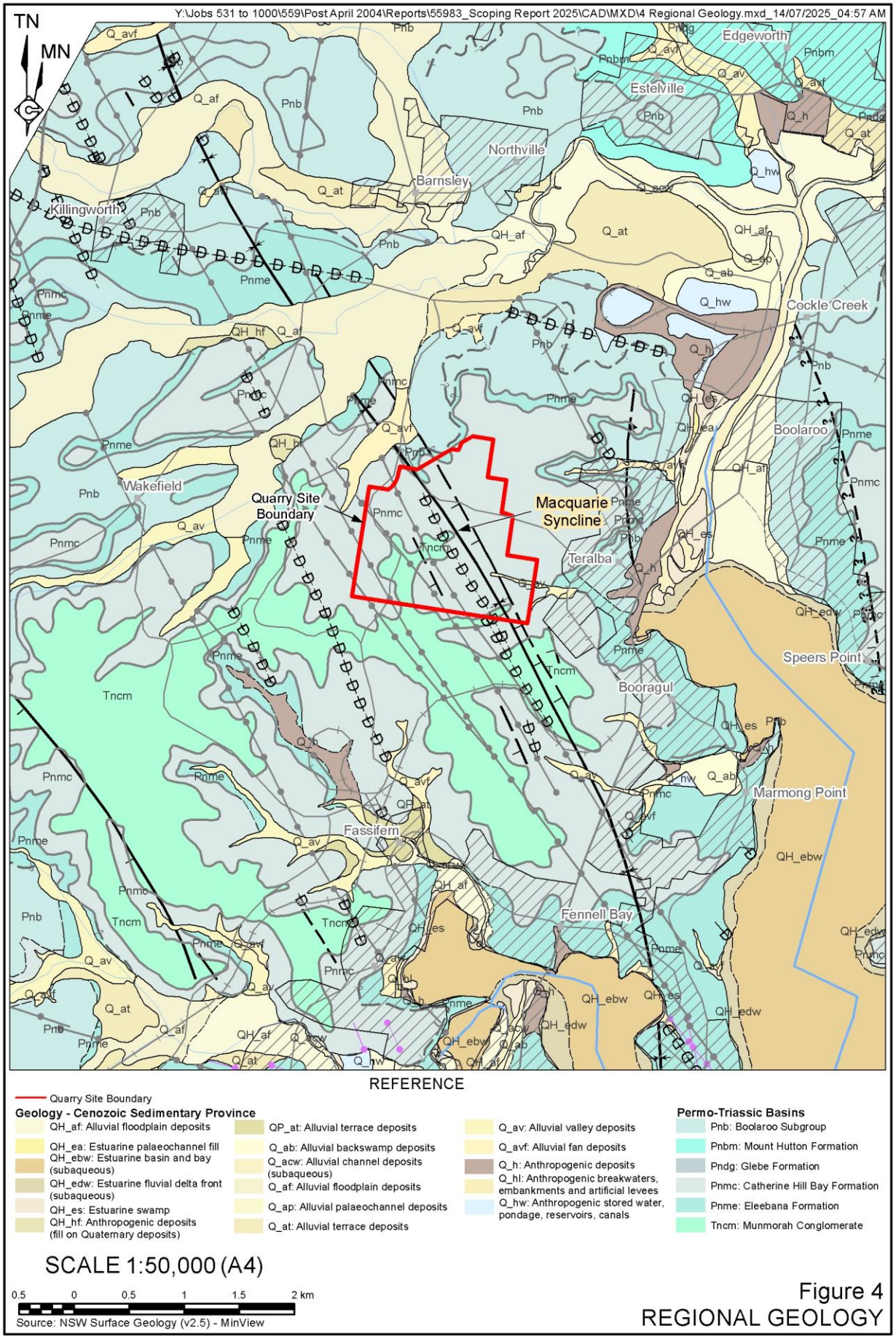


Figure 4
REGIONAL GEOLOGY

2.1.2.2 Local Geology

Local geology is characterised by two primary geological units (**Figure 5**). The Catherine Hill Bay Formation forms part of the late Permian Newcastle Coal Measures, comprising conglomerate, sandstone, shale, carbonaceous shale, coal, and tuff. It is represented by the Teralba Conglomerate Member, which is the most widespread conglomerate unit in the Newcastle Coal Measures (Geos Mining 2025). The second primary unit is the Munmorah Conglomerate, an Early Triassic formation within the Clifton Subgroup of the Narrabeen Group, consisting predominantly of sandstone and conglomerate. The Munmorah Conglomerate directly overlies the Catherine Hill Bay Formation.

The Teralba Conglomerate is densely packed, poorly sorted, and composed of pebbles and cobbles with a coarse sand matrix. It includes a variety of clastic particles such as chert, jasper, rhyolite, and other volcanic materials. The Munmorah Conglomerate contains more sandstone beds compared to the Teralba Conglomerate and is interpreted as part of a large alluvial fan complex. The Newcastle Coal Measures underlie the Catherine Hill Bay Formation, with the Great Northern Coal Seam located below the mapped surface elevations. The geological setting reflects a complex depositional environment influenced by braided river systems and alluvial fan processes (Geos Mining 2025). The local area includes northwest-trending dykes or veins, normal faulting, and the regional Macquarie Syncline. The area is characterised by dense vegetation, moderately steep topography, and drainage lines with limited outcrop exposure. Most hillsides are covered with soil profiles developed on weathered conglomerate.

2.1.2.3 Quarry Site Geological Investigations

A drilling program was undertaken across the Extension Area from 23 August 2024 to 3 September 2024 comprising seven drill holes for a total of 333m (see **Figure 5**). Material intersected was consistent with the conglomerate currently being extracted at the Teralba Quarry, with fresh polymictic conglomerate up to 50m thick intersected in some areas. Weathering typically reaches a depth of 10m, with some weathering present at greater depths due to groundwater movement through porous layers. Follow-up petrographic testing on drill chip samples confirmed the material's suitability for use in manufacturing quarry products, including coarse and fine aggregate, road base, and fill material.

Geological field mapping was also undertaken on 26 to 27 March 2025 covering approximately 16km of tracks across the Extension Area (see **Figure 5**). The program focused on identifying, tracing, and correlating marker beds to understand the thickness, structure, and continuity of conglomerate horizons across areas that could not be readily accessed via drill rig. The material observed was predominantly conglomerate with occasional sandstone interbeds. The observed conglomerate was weathered to very weathered, with massive bedding and occasional fining-up sequences. Limited sandstone interbeds were observed, typically 20cm to 30cm thick with occasional pebbly sandstone horizons. The observed material aligns with the characteristics of the conglomerate intersected during drilling and currently extracted at the Quarry.

2.1.2.4 Demand

Total product sales from the Quarry have consistently been greater than 700,000tpa since 2021. Based on current demand, there are approximately 3.5 years of resource remaining within the approved southern extraction area. Transportation of material from the approved northern extraction area via construction of the approved underground conveyor has been identified as cost prohibitive.

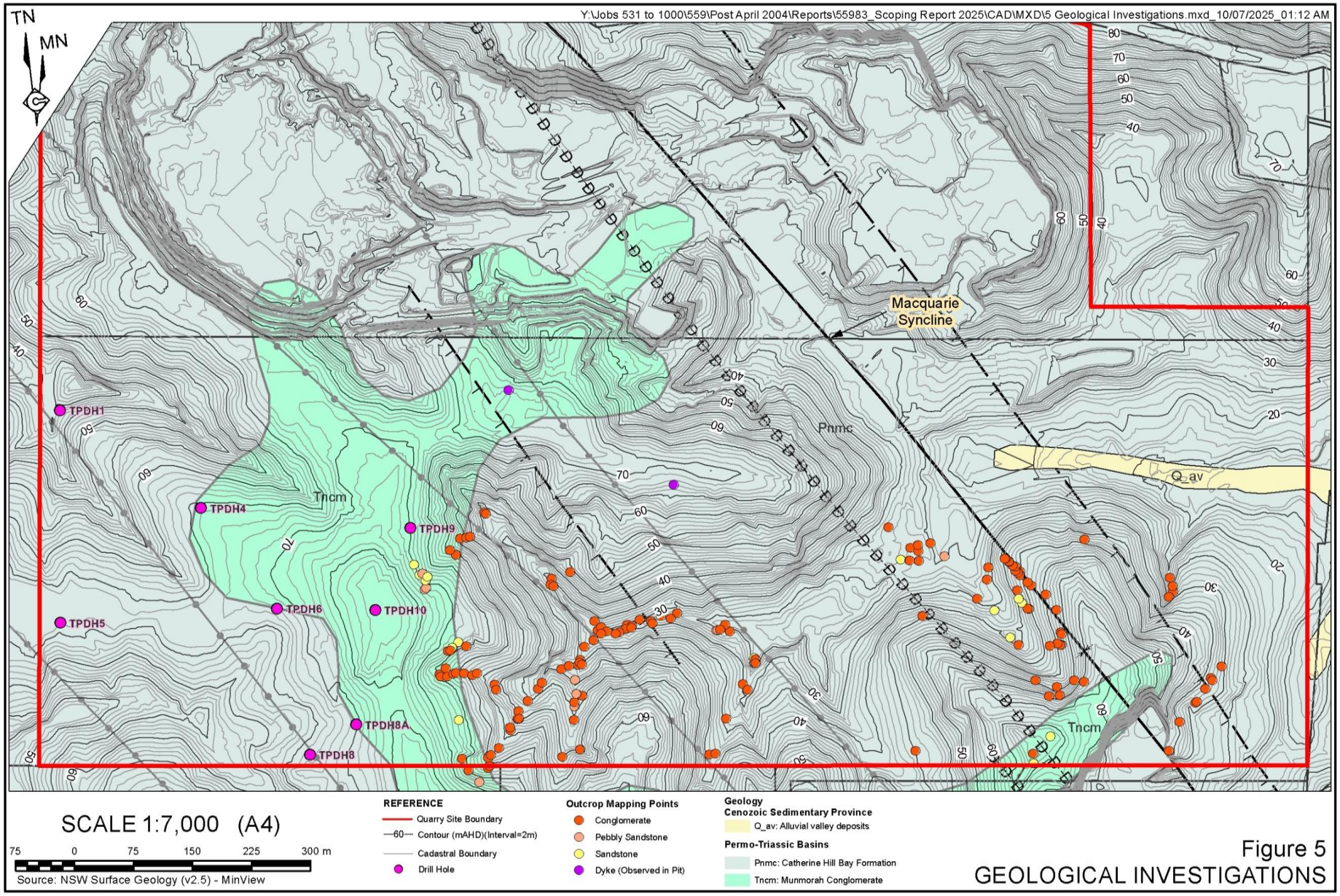


Figure 5
GEOLOGICAL INVESTIGATIONS

Based on the preliminary Extraction Area design (see Section 3.3.3), it is conservatively estimated that a total resource of 35.7Mt would be recovered from the proposed Extension Area and the approved northern extraction area (via Rhondda Road), comprising approximately 28.2Mt of conglomerate with interbedded sandstone lenses and 7.5Mt of overburden material.

The Project would facilitate the continued supply of material for local and regional infrastructure projects and continued development of the Lake Macquarie LGA for a further 30 years. It is expected that, compared with the proposed extension of an existing quarry, alternative greenfield exploration to meet product demand would result in more significant impacts to the environment. It would also risk interruptions to the supply of materials for planned infrastructure works in the Lake Macquarie area and Hunter region more broadly.

2.1.2.5 Employment

The Quarry is a key feature of the local setting and economy, providing benefits to the community through employment, economic investment, and support for local community clubs and schools. The short transport distance between the Quarry and population centres facilitates efficiency in the materials supply chain and competitive pricing for local infrastructure projects.

Should the Project not proceed, potential adverse social and economic impacts could arise for contractors, suppliers, and any businesses and individuals that rely upon the quarry products, services and flow on effects from Metromix's overall operations in the Lake Macquarie area.

2.1.3 Strategic Planning

2.1.3.1 Hunter Regional Plan

The *Hunter Regional Plan 2041*, published by the (then) NSW Department of Planning and Environment in 2022, establishes a 20-year plan to manage growth and change for the Lower Hunter and Greater Newcastle City areas in the context of social, economic and environmental matters. It is intended to inform district and local plans as well as the assessment of planning proposals, setting the regional planning framework through the implementation of several guiding objectives. It is considered that the Project would not limit the achievement of any objectives detailed in the *Hunter Regional Plan 2041.* In particular, the following identifies how the Project is consistent with specific objectives.

- **Objective 1** – Diversify the Hunter's mining, energy and industrial capacity

  This objective relates to the diversification of the Hunter economy and to ensure retention of 'employment lands' as NSW moves towards a net zero economy.

  The Project involves the extension of an existing extractive industry site local to a major population centre, providing ongoing stable employment to local residents. The minimised transport distance between the Quarry and population centres facilitates efficiency in the materials supply chain for local infrastructure projects.

- **Objective 5** – Plan for 'nimble neighbourhoods', diverse housing and sequenced development.

  This objective relates to strategic housing construction to provide diverse, affordable and resilient housing to accommodate population growth throughout the Hunter region.

  The Project involves the efficient use of existing industrial land and infrastructure to provide raw materials that would support local housing development, landscaping, and road networks required for the establishment of accessible '15-minute neighbourhoods'.

- **Objective 7** – Reach net zero and increase resilience and sustainable infrastructure

  This objective relates to supporting initiatives that contribute to achieving the NSW government's commitment to net-zero emissions by 2050 and improving the Hunter region's resilience to climate-related impacts.

  The Project would ensure the maintenance of a local reliable supply of construction materials to support infrastructure projects aimed at building resilience and reducing vulnerabilities to climate-related impacts. The Quarry is not a large emitter of greenhouse gases, and the short transport distance between the Quarry and population centres results in minimisation of emissions from haulage vehicles and employees' personal vehicles.

- **Objective 9** – Sustain and balance productive rural landscapes.

  This objective relates to the protection of extractive and agricultural industries within the Hunter region to ensure food and resource security.

  The Project would enable the continuation and expansion of an existing extractive industry project, ensuring the maintenance of a local reliable supply of construction materials to support the Hunter region's growing infrastructure and construction needs.

2.1.3.2 Lake Macquarie City Local Strategic Planning Statement

The *Lake Macquarie City Local Strategic Planning Statement*, published by Council in 2019, defines a vision for the future of the Lake Macquarie Local Government Area and provides a long-term framework to guide and influence delivery of that vision via several planning priorities. It is considered that the Project would not limit the achievement of any priorities detailed in the *Lake Macquarie City Local Strategic Planning Statement.* In particular, the following identifies how the Project is consistent with specific priorities.

- **Planning Priority 3 –** A city of prosperity that attracts investment, creates jobs, and fosters innovation.

  This priority relates to maximising the potential of existing local infrastructure and natural assets and capitalising on emerging industries to encourage investment and employment.

The Project involves the continuation and expansion of an existing extractive industry site local to a major population centre, providing ongoing stable employment to residents. The efficient use of existing industrial land and infrastructure to provide raw materials would continue to facilitate local development foundational to Council's long-term planning objectives.

- **Planning Priority 4 –** A city of close connections – where people, goods and services move efficiently.

  This priority relates to expansion of active transport networks and appropriate infrastructure to enable efficient movement of freight and commuters cater for population growth.

  The Project would enable the maintenance of a local reliable supply of construction materials to support the Hunter region's growing infrastructure and construction needs. In addition, the short transport distance between the Quarry and local population centres facilitates efficiency in the materials supply chain and accessibility for employed personnel.

2.1.3.3 Lake Macquarie City Community Strategic Plan

The *Lake Macquarie City Council Community Strategic Plan 2025-2035*, published by Council in 2025, establishes a 10-year plan for achieving Council's and the community's vision for the future of the Lake Macquarie Local Government Area as defined by four "community goals". It is considered that the Project would not limit the achievement of any goals detailed in the *Lake Macquarie City Council Community Strategic Plan 2025-2035.* In particular, the following identifies how the Project is consistent with specific community goals.

- **Community Goal 1** – A city with a diverse and thriving economy.

  The Project involves the continuation and expansion of an existing extractive industry site local to a major population centre, providing ongoing stable employment to residents. The efficient use of existing industrial land and infrastructure to provide raw materials would continue to facilitate local development foundational to Council's long-term planning objectives.

- **Community Goal 3** – A city where people want to live and work, and feel connected to each other.

  The Quarry is a key feature of the local setting and economy, providing benefits to the community through employment, economic investment, and support for local community clubs and schools. Metromix also regularly engages with community representatives through the Community Consultative Committee (CCC).

- **Community Goal 4** – A council that operates with good governance, trust, transparency and respect.

  The Project would enable Metromix to continue to support Council's operations through financial contributions for maintenance works on local roads utilised by the Quarry via a Planning Agreement (see Section 2.4), as well as remaining a local cost-competitive supplier of raw material for planned infrastructure works.

2.1.3.4 Lake Macquarie City Resourcing Strategy

The *Lake Macquarie City Council Resourcing Strategy 2025-2035* and accompanying *Asset Management Plan,* adopted by Council in 2025, outlines operational strategies for the application of Council's resources to supports the delivery of the *Community Strategic Plan 2025-2035*. According to the *Asset* Management *Plan,* the condition of Council's assets is scored across 13 key groups, with the average pavement condition of Council's road assets scored as 'good – significant maintenance required'.

Metromix would continue to support Council's long-term financial plan by providing financial contributions to maintenance works on local roads utilised by the Quarry via a Planning Agreement (see Section 2.4). Continued operation of the Quarry would also ensure consistent supply of raw materials to facilitate repair and/or maintenance of Council's assets.

2.1.4 Planning Instruments

A range of statutory planning instruments apply to the Project. Metromix will ensure that the Project would be consistent with the requirements of each of these instruments, which will also be addressed in the EIS. These instruments include, but are not limited to, the following.

- *State Environmental Planning Policy (Biodiversity and Conservation) 2021.*
- *State Environmental Planning Policy (Planning Systems) 2021.*
- *State Environmental Planning Policy (Resilience and Hazards) 2021.*
- *State Environmental Planning Policy (Resources and Energy) 2021.*
- *State Environmental Planning Policy (Transport and Infrastructure) 2021*
- *Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016*
- *Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources 2022*
- *Lake Macquarie Local Environmental Plan 2014.*

2.1.5 Policy Documents

Metromix will ensure that the Project would, to the extent practicable, be consistent with the requirements of each of the following policies and guidelines that were current at the time of preparing this Scoping Report.

- *Aquifer Interference Policy.*
- *Guidelines for Controlled Activities.*
- *Noise Policy for Industry.*
- *NSW Road Noise Policy.*
- *Biodiversity Assessment Method.*

- *Biodiversity Offsets Scheme.*
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.*
- *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW.*
- *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW.*
- *Guide to Traffic Generating Developments.*
- *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33.*

2.2 Key Features of the Site and Surrounds

2.2.1 Introduction

The key features surrounding the Quarry that could affect or be affected by the Project include the local and regional community, surrounding land uses and land ownership, and surrounding natural and built features.

2.2.2 Local and Regional Community

The communities surrounding the Quarry include the following.

- Near Neighbours

  The area surrounding the Quarry Site is typical of a semi-rural coastal NSW suburb. Teralba features a blend of established residential homes, bushland, and larger semi-rural properties, representative of the Lake Macquarie region. Several residences in the locality are identified as heritage items under the Lake Macquarie LEP.

- Residents of the suburbs of Teralba and Wakefield

  A combined total of approximately 2,798 people live in the suburbs of Teralba and Wakefield[1].

- Local Infrastructure

  Infrastructure within the suburb includes recent residential development including Billy's Lookout, a number of schools (both public, primary and secondary), a train station, Teralba Business & Storage Park (Teralba Engineering, Kymar Steel Fabrications), Downer Teralba & Asphalt Plant, Holcim Teralba Concrete Plant, Structural Concrete Industries, Teralba Lakeside Caravan Park and various cafes, butchers and hair salons. Community facilities include Rural Fire Brigades, the Newcastle Spanish Seventh-day Adventist Church and Anzac Park. Several

[2] ABS 2021 Census – Suburb and Localities of Teralba and Wakefield.

facilities and areas in the locality, including Teralba Public School, Rhondda Colliery and the Great Northern Hotel, are identified as heritage items under the Lake Macquarie LEP.

- Surrounding suburbs

  The Quarry Site is surrounded by a number of other suburbs, including the following.

  – Woodrising, located approximately 1.7km southeast
  – Fassifern, located approximately 1.9km south
  – Speers Point, located approximately 2.2km east
  – Barnsley, located approximately 3.1km north

2.2.3 Land Ownership

The land on which the Quarry Site is situated is privately leased by Metromix. **Figure 6** presents land ownership within and surrounding the Quarry Site.

Table 4 provides a breakdown of the number of residences and their proximities to the Quarry Site.

Table 4
Distance to Residences

Distance from Quarry Site	Number of Residences
≤500m	194
≤1km	882
≤2km	1,856
≤4km	9,922

2.2.4 Surrounding Land Uses

Figure 7 presents land uses, as defined by the NSW Land Use and Management database, within and surrounding the Quarry Site. In summary, the dominant land use is environmental conservation and special activities (mining and extractive industries). The Quarry Site has been utilised for these land uses since 1964. Other land uses include the following.

- Manufacturing and industrial uses associated with the Downer Teralba & Asphalt Plant, Holcim Teralba Concrete Plant, Concrush Recycling Facility and Structural Concrete Industries.
- Mining associated with West Wallsend Colliery (Glencore) and Newstan Colliery (Centennial Coal).
- Recreational uses associated with Black Rock Motor Resort.

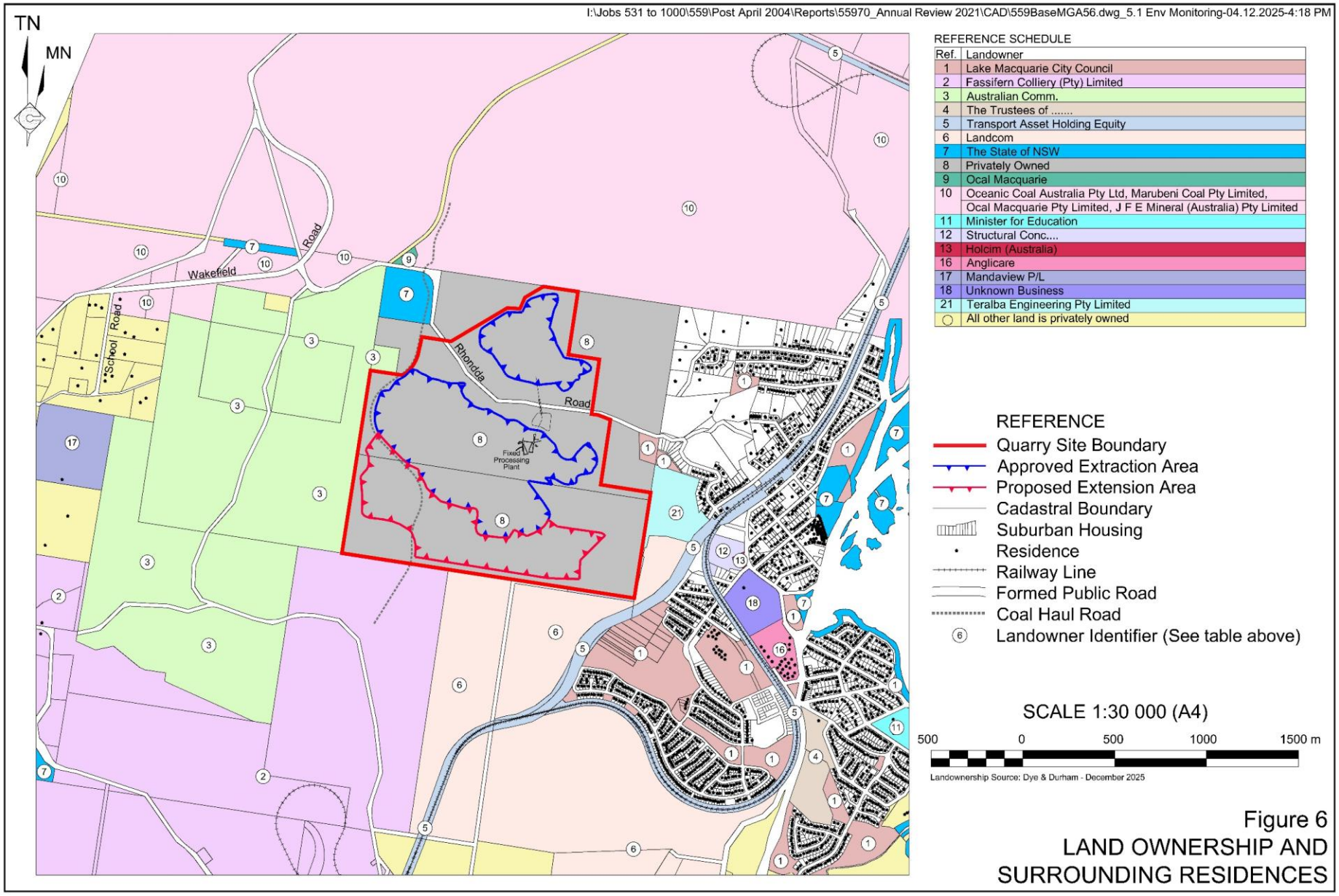


Figure 6
LAND OWNERSHIP AND SURROUNDING RESIDENCES

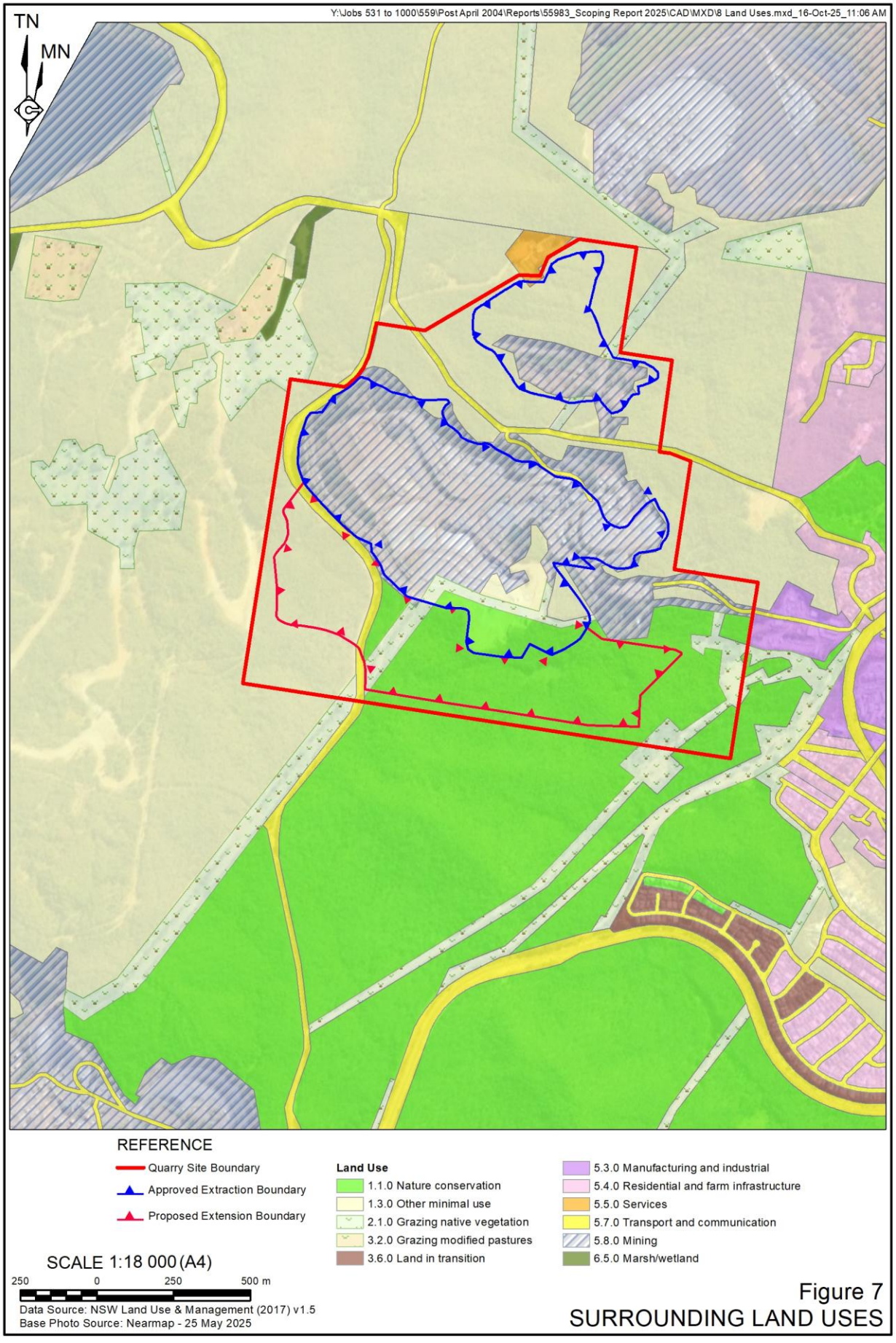


Figure 7
SURROUNDING LAND USES

- Road transportation associated with Rhondda Road, Wakefield Road, Toronto Road, and Lake Road in addition to surrounding local roads.
- Rural and Low-density residential infrastructure associated with the suburbs of Teralba and Wakefield.
- Nature conservation and "other minimal use" associated with areas of native vegetation.

2.2.5 Natural and Built Features

Figure 8 presents natural and built features surrounding the Quarry Site. Natural features include the following.

- The Quarry Site is located within undulating topography and situated to the west of a low north-south oriented ridge line that forms part of the foreground to the more prominent and elevated Watagan Mountains. The elevation of the Quarry Site generally ranges from approximately 30m to 70m AHD and contains a number of convex narrow ridges and hillcrests grading into moderately inclined side slopes with narrow concave drainage lines.
- A series of non-perennial minor watercourses drain eastwards toward Cockle Creek, a tributary of Lake Macquarie. There are also several non-perennial minor watercourses west of the current Coal Haul Road that also drain into Cockle Creek.
- Lake Macquarie, is located approximately 1.2km to the east.

Built features surrounding the Quarry Site include the following.

- State roads including Rhondda Road, Wakefield Road and Railway Street that provide part of a north-south link through Newcastle and the Central Coast via Ourimbah, Swansea, Argenton and Edgeworth.
- Local roads, including Rhondda Road, Wakefield Road, Toronto Road, Lake Road, Five Islands Drive, and Northville Drive.
- The suburbs of Teralba and Wakefield, including residences and other infrastructure.
- Downer Asphalt Plant, owned and operated by Downer Group Limited.
- Holcim Concrete Batching Plant, owned and operated by Holcim Australia Pty Limited.
- Concrush Recycling Facility, owned and operated by Concrush Pty Ltd.
- Transport infrastructure connecting Newcastle to the Central Coast and Sydney via Teralba train station.
- Above ground powerlines and buried telecommunication infrastructure.

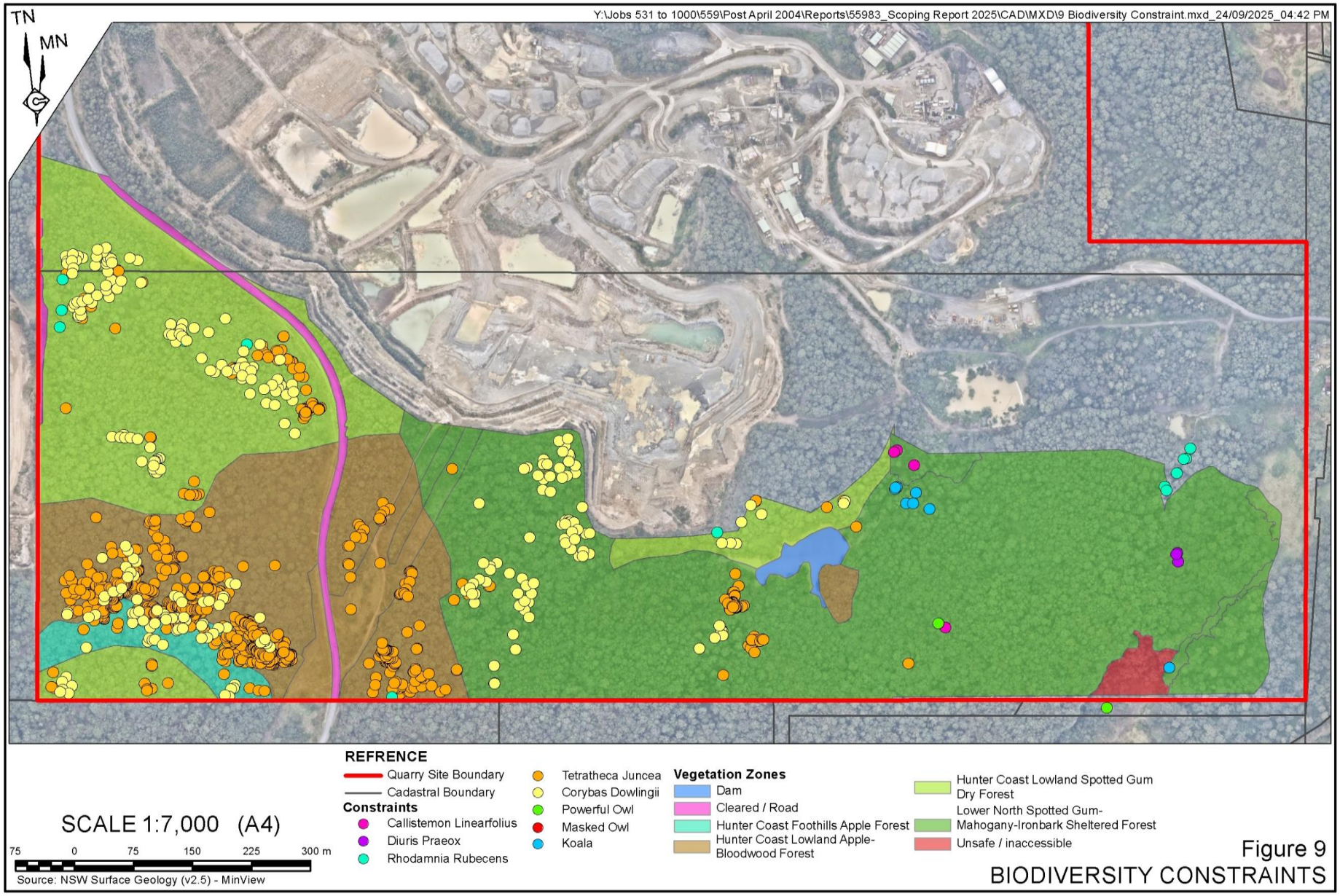
Figure 8
NATURAL AND BUILT FEATURES

2.2.6 Risks and Hazards

An environmental risk assessment for the Project will be used to inform key risks and prioritise assessment and will be presented in the EIS. Key risks and hazards associated with the Project include the following.

- Proximity to residential development: 882 residential properties are located within 1km of the Quarry Site boundary. Several of these are within the Billy's Lookout development area, established in 2015.
- Biodiversity: disturbance of areas of native vegetation, including potential Koala habitat. Ecological surveys have identified the following plant community types across the Extension Area.
  - PCT 3244 (Lower North Spotted Gum-Mahogany-Ironbark Sheltered Forest)
  - PCT 3437 (Hunter Coast Lowland Spotted Gum Dry Forest)
  - PCT 3581 (Hunter Coast Foothills Apple Forest)
  - PCT 3582 (Hunter Coast Lowland Apple-Bloodwood Forest)

  Various threatened flora and fauna species have also been identified across the Extension Area. PCT mapping and threatened species information is displayed on **Figure 9**.
- Traffic and transportation: an increase to the period that the Quarry would contribute heavy vehicle movements to the public road network. The Project would require the use of Rhondda Road to transport material from the approved northern extraction area to the fixed processing plant.
- Visual amenity: a potential increase to the amount of public vantage points with views of the Quarry.
- Noise, vibration and air quality: an increase to the period that the Quarry would generate noise, vibration and dust within the local area.
- Amenity and social impacts: potential impacts to the social and community cohesion of residents within Teralba, Wakefield and suburbs surrounding the Quarry Site.
- Final landform and land use: establishment of an acceptable final landform and rehabilitation of that landform.
- Surface water, flooding and erosion and sediment control: including diversion of surface water around the active sections of the Quarry Site and into natural drainage.
- Aboriginal and historic heritage: including disturbance of areas which may be of heritage significance.
- Underground workings: historic underground coal mine shafts.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Quarry Site Boundary
Cadastral Boundary
Constraints
Callistemon Linearfolius
Diuris Praeox
Rhodamnia Rubecens
Tetratheca Juncea
Corybas Dowlingii
Powerful Owl
Masked Owl
Koala
Vegetation Zones
Dam
Cleared / Road
Hunter Coast Foothills Apple Forest
Hunter Coast Lowland Apple-Bloodwood Forest
Hunter Coast Lowland Spotted Gum Dry Forest
Lower North Spotted Gum-Mahogany-Ironbark Sheltered Forest
Unsafe / inaccessible
SCALE 1:7,000 (A4)
75 0 75 150 225 300 m
Source: NSW Surface Geology (v2.5) - MinView
Figure 9
BIODIVERSITY CONSTRAINTS

The following environmental aspects are not anticipated to be significant risks or hazards for the Project for the following reasons.

- Flooding: a series of clean water diversions would be constructed along the boundary of the Extension Area as extraction progresses. The clean water diversions would be designed to convey water at non-erosive velocities to natural drainage.
- Groundwater: the primary aquifer in the region is contained within the historically mined Great Northern Coal Seam, which lies below the existing Quarry floor at approximately 15m AHD and dips at approximately 2º to 4º to the south-southeast. Given that the proposed depth of the Extension Area would be 20m AHD and would not intercept the historic underground workings, groundwater inflows are expected only during periods of high rainfall and would be minor throughout the life of the Project.
- Soils, land capability and agriculture: a desktop screening process consisting of slope analysis, interpretation of aerial photography and land use mapping identified that the entirety of the Quarry Site does not meet the criteria for Biophysical Strategic Agricultural Land classification.
- Economic: the anticipated impacts would likely be positive to the Hunter and Central Coast regions.

These key risks would be controlled using the management and mitigation measures that will be detailed throughout the EIS.

2.3 Cumulative Impacts

It is anticipated that the Project may result in cumulative impacts with the following existing and proposed developments.

- Downer Asphalt Plant – located within the Quarry Site and utilising Rhondda Road and McEwen Street.
- Holcim Concrete Batching Plant – located within Teralba approximately 380m east of the Quarry Site utilising Rhondda Road and York Street.
- West Wallsend Colliery – located approximately 2.4km northeast of the Quarry Site and utilising the Coal Haul Road.
- Newstan Colliery – located approximately 1.3km south of the Project Site and utilising the Coal Haul Road that transect the Quarry Site.

Potential cumulative impacts from the Project will be addressed in the EIS.

2.4 Agreements

The Teralba Quarry Extension Deed of Planning Agreement was executed on 5 December 2016 and commenced on 6 February 2017. Metromix will consult with Council to ensure that the Agreement remains suitable to address the maintenance of local roads utilised by Metromix and any other relevant matter, as agreed with Council.

The EIS will include further details of any agreements and initiatives between Metromix and relevant stakeholders.

3. Project Overview

3.1 Introduction

This subsection presents an overview of the Project in sufficient detail to enable SEARs to be prepared and to facilitate community and agency consultation. The EIS accompanying the application for development consent will include additional detailed descriptions of the proposed activities. Detailed design, scheduling and environmental assessment works are ongoing and the final Project description presented in the EIS may vary from that presented in this document.

3.2 Project Site Layout

Figure 3 presents the key Project components and **Figure 10** presents a conceptual layout of the Quarry Site components. These components are discussed further in the following sub-sections. The total area of new disturbance within the Quarry Site would be approximately 37.1ha, with a total operating area of 104.6ha.

3.3 Project Staging

3.3.1 Site Establishment

Site establishment activities would include the following.

- Key boundaries and locations would be marked on the ground and recorded on relevant site construction plans and documents, with clear delineation between the areas to be disturbed and the areas which would be avoided.
- Survey and marking to ensure clear delineation of disturbance areas and those of retained vegetation. All survey points would be recorded and marked on construction plans and documents.
- Suitable fencing, including warning signs, would be established to separate active disturbance areas from those of retained vegetation.
- Construction and installation of temporary and permanent erosion and sediment control measures, including sediment basins, clean water diversion structures and dirty water collection drains.
- Drill and blast of terminal faces within the active extraction area to establish access to the Extension Area.

3.3.2 Coal Haul Road

The private Coal Haul Road is recognised on the land title for Lots 1 and 2 DP224037 as a right of carriageway in favour of Glencore and is currently used to transfer coal ash to aid rehabilitation works at the West Wallsend and Newstan Collieries. Metromix has identified that up to approximately 13.5Mt of conglomerate resource would be accessed by removing a section of the Coal Haul Road.

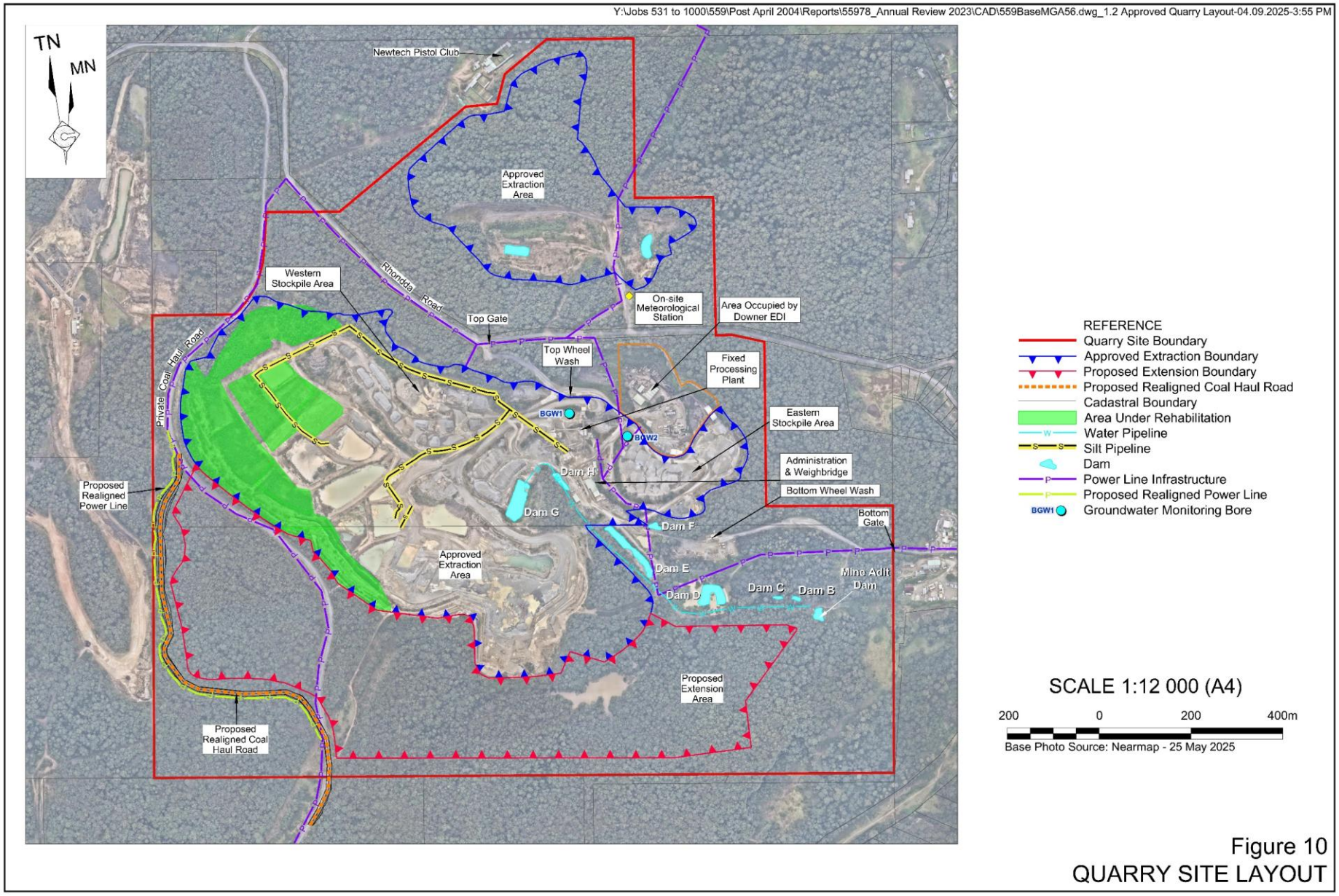

Figure 10
QUARRY SITE LAYOUT

Metromix is currently in discussions with Glencore to determine if it is preferred to simply remove the road as part of the Project, or to realign the road to pass approximately 355m to the west and outside the proposed quarry area. A preliminary design of a road realignment option is presented in **Figure 10** and has been prepared based on the design particulars nominated in **Table 5**.

Table 5
Indicative Coal Haul Road Particulars

Parameter	Value
Width	10m
Batter Angle	45°
Maximum Gradient	1:10
Cut	13,500m^3 (not including swell)
Fill	14,400m^3 (not including swell)
Total Length	881m
Source: Australian Mine Design and Development Pty Ltd	

Further conceptual design of the realigned Coal Haul Road will be completed during preparation of the EIS. During the design process, consideration will be given to options to minimise visual and acoustic impacts as well as erosion and sediment controls.

3.3.3 Extraction Operations

Staging of extraction operations would be constrained by the location of the private Coal Haul Road and timing for realignment of this infrastructure and the planned development of the Lower Hunter Freight Corridor. An approach to staging of the Project would be described in more detail in the EIS. This would incorporate extraction operations in the approved northern extraction area that would be undertaken on a campaign basis based on demand for road-base material.

The removal of near surface material (i.e. soil) would be undertaken using conventional free dig, load and haul techniques. This material would be stockpiled for use in rehabilitation activities. Once more competent material is exposed, it would be extracted using conventional drill, blast, load and haul techniques. The indicative design features for the Extension Area are identified in **Table 6**. These parameters would be subject to modifications based on factors such as localised geological or geotechnical conditions.

Table 6
Indicative Extraction Area Design Particulars

Parameter	Value
Extraction Floor Elevation	20m AHD
Toe-to-Crest Batter Angle	75°
Face Height	4m to 8m (working) 8m (terminal)
Bench Width	30m (working) 8m (terminal)
Maximum Haul Ramp Gradient	1:10
Haul Ramp Width	25m
Source: Australian Mine Design and Development Pty Ltd	

The majority of the existing and proposed extraction areas are underlain by underground workings within the Great Northern Coal Seam. These workings were undertaken using a room and pillar method which has resulted in numerous coal pillars interspersed with mined voids, or 'rooms'. Since 2005, Metromix has successfully extracted conglomerate down to the roof of the Great Northern Coal Seam via a drill and blast method approved by the (then) I&I NSW-MR (see **Figure 11**). It is envisaged that this practice would continue throughout the Extension Area and over the life of the Project.

Consistent with current operations, completed areas of the Extension Area floor would be converted to silt cells for the management of processing fines (see Section 3.3.8.2).

3.3.4 Stockpiling Operations

The existing stockpile areas would continue to be utilised throughout the life of the Project. In summary, various roadbase products would be stored within the Eastern Stockpile Area, while washed aggregate and sands would be stored within the Western Stockpile Area prior to despatch from the Quarry Site. Roadbase and washed aggregates would be hauled from the fixed processing plant to their respective stockpile areas, while sand would be pumped in a slurry pipeline and dewatered prior to placement in the Western Stockpile Area. Temporary stockpiling of mobile crusher products may also be undertaken within the Extension Area footprint, subject to spatial availability.

3.3.5 Processing Operations

The fixed processing plant would continue to be utilised in its current location throughout the life of the Project. A conceptual flow chart of processing operations is provided as **Figure 12** and **Table 7** lists the main components of the processing plant. The fixed plant would continue to be used in the existing manner, with components refurbished / upgraded as required. Any new items of equipment would have a sound power level comparable with or less than the existing equipment.

Table 7
Processing Plant Components

Equipment[1]	Number of Items	Use
Primary Crusher (Jaw Crusher)	1	Primary crushing of materials
Secondary Crusher (Cone Crusher)	2	Secondary crushing of materials
Tertiary Crusher (Vertical Shaft Impactor)	1	Tertiary (wet) crushing of materials
Screens (various sizes)	6	Size screening of materials
Conveyors (dry and wet)	17	Movement of materials around processing plant
Blade Mill Washer	1	Scrubbing and dewatering of material
Sand Screw Washer	1	Dewatering of material
Mobile Crusher	1	Primary crushing of materials (campaign use)
Pugmill	1	Blending of materials and production of roadbase products
Note 1: These items would be periodically refurbished/replaced, as required throughout the life of the plant.		

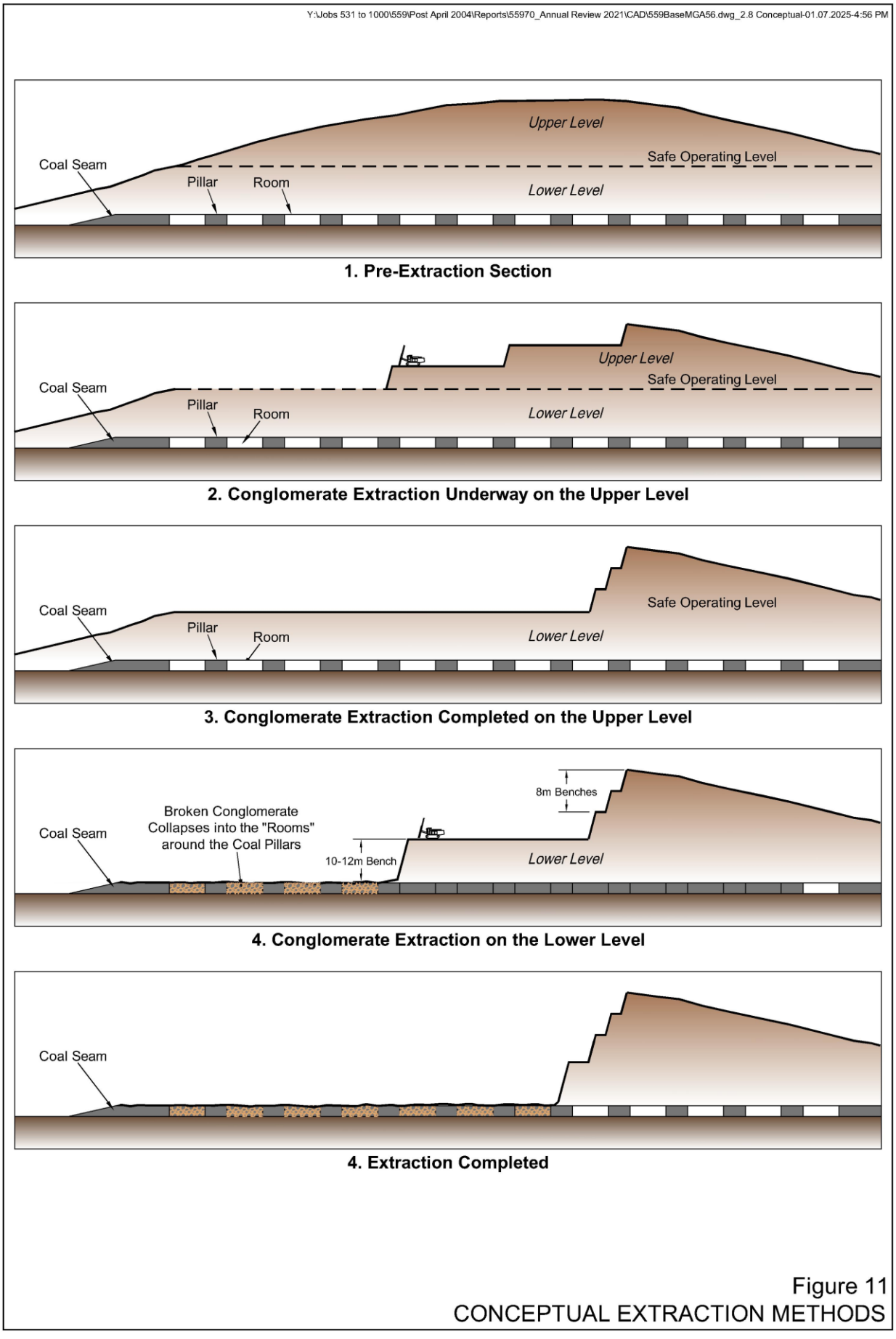

Figure 11
CONCEPTUAL EXTRACTION METHODS

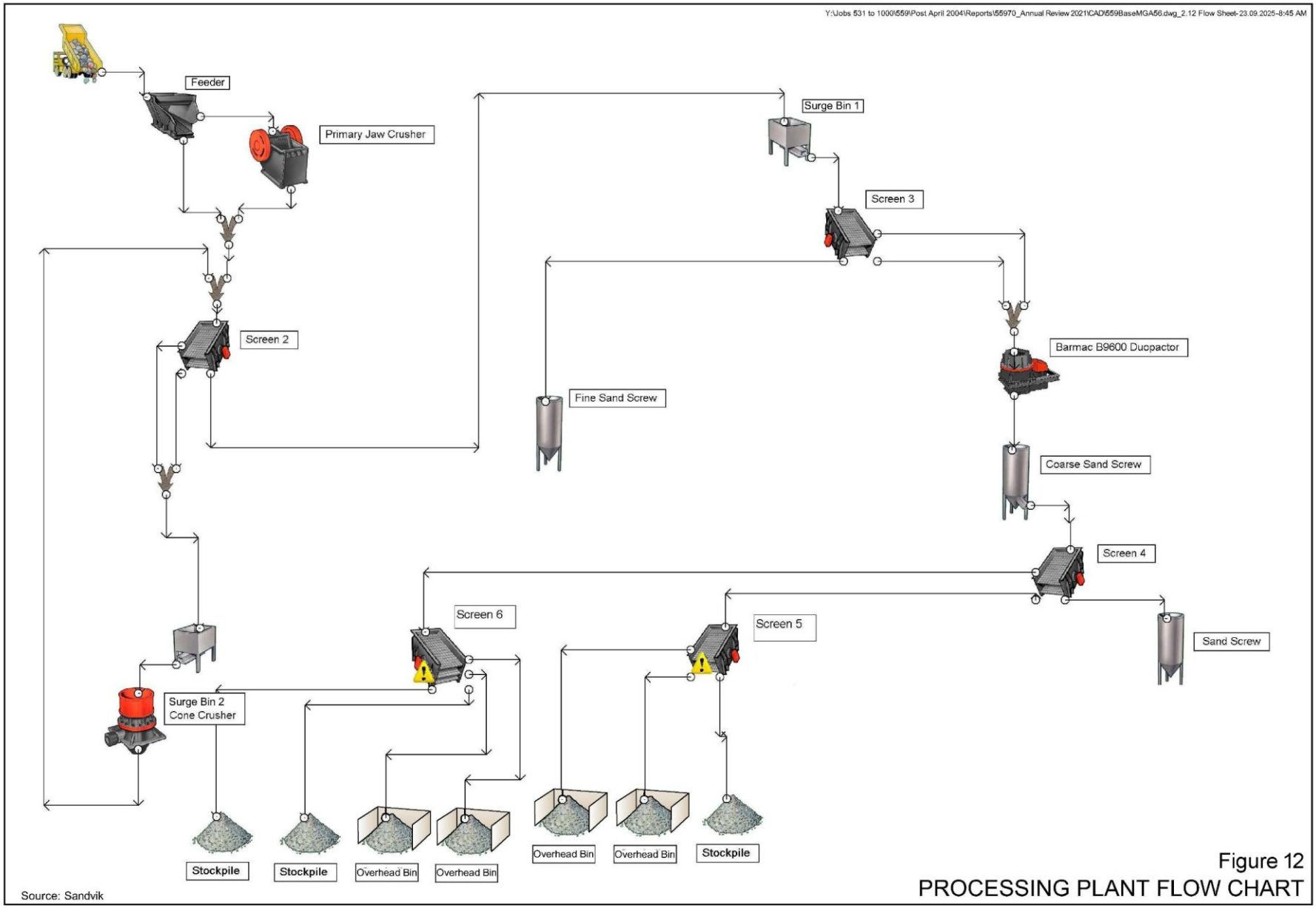

Figure 12
PROCESSING PLANT FLOW CHART

A mobile crusher would continue to operate on a campaign basis in conjunction with the existing fixed processing plant.

Consistent with current operations, it is estimated that approximately 35% of materials would be processed dry with the remaining 65% processed through the wash plant.

3.3.6 Transportation Operations

The Project would seek to replace the current approval for a conveyor tunnel beneath Rhondda Road with the occasional use of Rhondda Road to transport raw materials from the northern operating areas to the fixed processing plant. This would require review of the current access arrangements to the northern areas including intersection design and any further traffic controls that may be required, which would be completed as part of the design and assessments completed for the EIS.

It is proposed that transportation of products from the Quarry Site would be undertaken via the existing transport routes (refer **Figures 13** and **14**), summarised as follows.

- Northwestern corridor – Exit at Top Gate onto Rhondda Road, travel westwards and then turn northwards along Wakefield Road towards Barnsley.
- Southwestern corridor – Exit at Top Gate onto Rhondda Road, travel westwards and then turn southwards along Wakefield Road to the M1 Pacific Motorway.
- Northeastern corridor – Exit at Bottom Gate and enter the public road network at the southern end of Railway Street, travel through Teralba northward along Five Islands Road and then turn east along The Esplanade or continue northwards.
- Southeastern corridor – Exit at Bottom Gate and enter the public road network at the southern end of Railway Street, travel through Teralba and then turn southwards along Toronto Road towards Toronto.

Consistent with current approved operations, the following limits on transportation would be enforced throughout the life of the Project.

- No more than 326 heavy vehicle movements dispatched per day.
- No more than 241 heavy vehicle movements per day, or 20 per hour, westwards along Rhondda Road.
- No more than 85 heavy vehicle movements per day, or 8 per hour, eastwards through Teralba.
- No heavy vehicle movements through Teralba between 6:00pm and 6:00am.
- No heavy vehicle access to the Quarry Site via the Railway Street entrance (i.e. Bottom Gate) between 6:00pm and 7:00am.

In addition, hourly despatch rates from the Quarry Site would continue to be limited to the levels identified in **Table 8**.

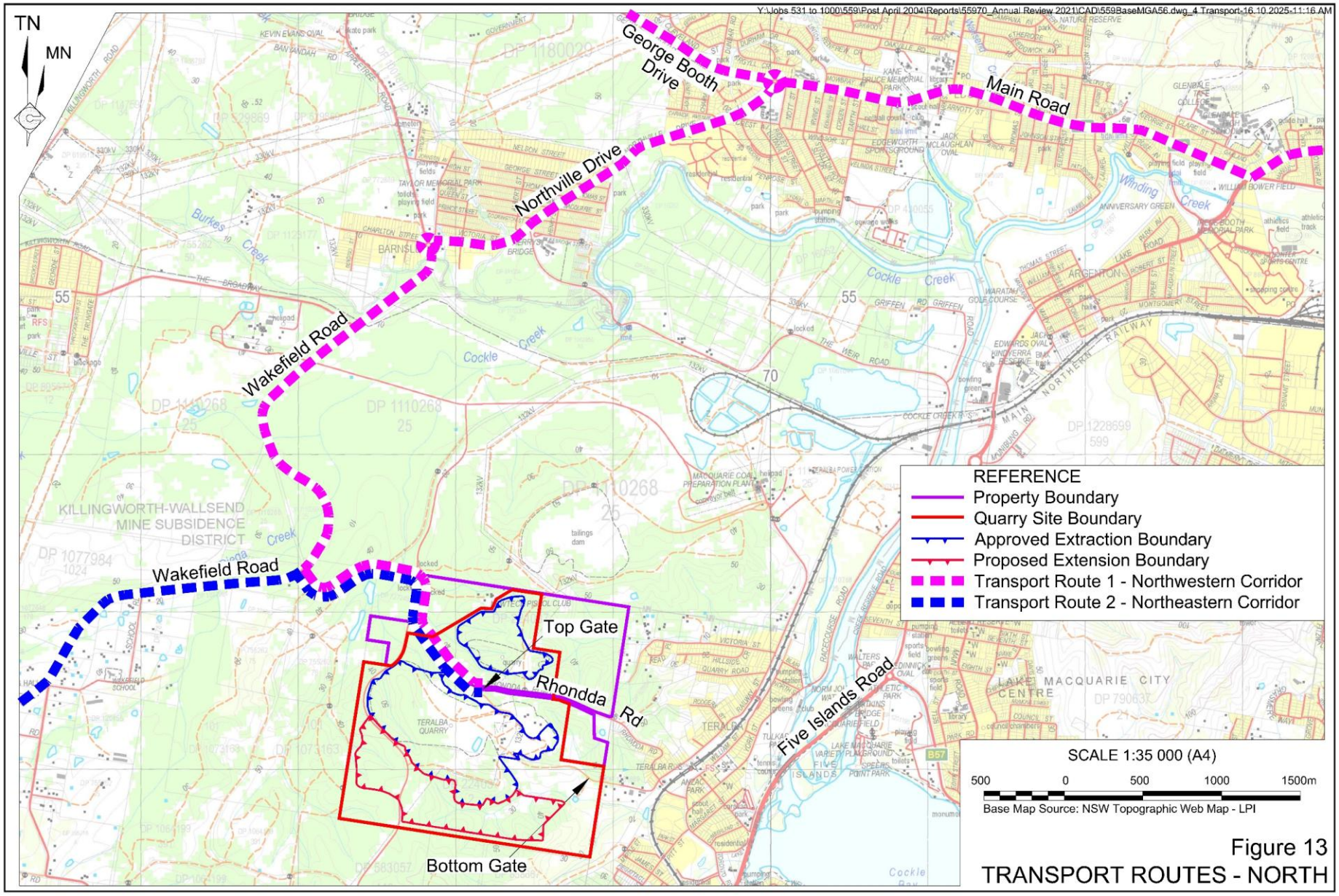

Figure 13
TRANSPORT ROUTES - NORTH

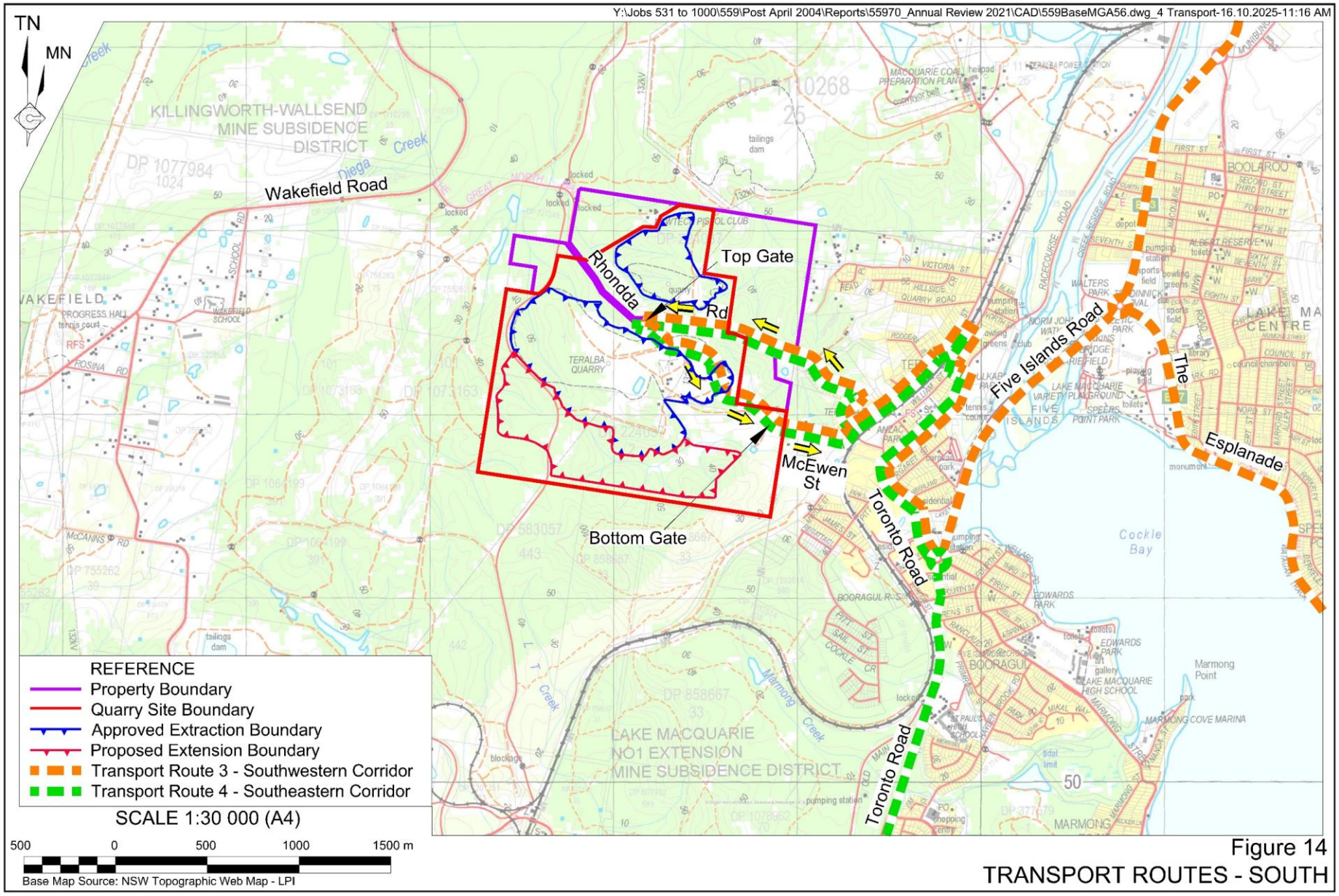

Figure 14
TRANSPORT ROUTES - SOUTH

Table 8
Maximum Hourly Transportation Limits

Period	Maximum Hourly Despatch Rate
6:00am to 7:00am	28 heavy vehicle movements
7:00am to 6:00pm	20 heavy vehicle movements
6:00pm to 5:00am[1, 2]	6 heavy vehicle movements
5:00am to 6:00am[1, 2]	12 heavy vehicle movements
Note 1: Vehicle movements through Teralba are prohibited during these periods.	
Note 2: Trucks dispatched from the Quarry Site during these periods must be fitted with airbag suspension.	

Depending on origin, the delivery of consumables and equipment to the Quarry Site (i.e. diesel, gas and spare parts, etc.) would utilise the existing public road network, provided the roads used are approved for the vehicle configuration.

3.3.7 Production Waste Management

3.3.7.1 Overburden Management

It is estimated that approximately 7.5Mt of overburden would be recovered throughout the life of the Project.

Consistent with current operations, <100mm screened product would continue to be produced from overburden. If market demand for fill material is high, overburden would be processed to <100mm product for sale. Conversely, if demand is low, overburden would be temporarily stockpiled within the Extension Area footprint for later use in rehabilitation.

It is conservatively estimated that an average of approximately 50,000t of overburden would be sold annually and the remaining overburden would be used for internal haul road and track maintenance, silt cell construction or stored for later use in rehabilitation.

3.3.7.2 Processing Plant Fines

Conventional above-ground silt cells would continue to be used to manage processing fines. In summary, this would involve the construction of cell walls using overburden and/or imported VENM or ENM. Each silt cell would be designed to contain over approximately 100,000m^3 of silt and be approximately 10m high. A minimum of three cells would be active at any one time, with the first cell receiving fines while the second and third cells provide additional residence time for settlement. As each cell is filled, supernatant water would be pumped to Dam G (see Section 3.3.10) and the fines allowed to settle. Once sufficiently consolidated, the surface of the silt cell would be progressively covered with approximately 2m of overburden and/or VENM or ENM.

3.3.8 Non-Production Waste Management

3.3.8.1 Generated Waste

It is proposed that non-production wastes generated at the Quarry Site would continue to be managed as described in **Table 9**.

Table 9
Non-Production Waste Management

Waste Type	Management and Disposal
General Solid Waste	General rubbish – 20m^3 covered skip bin which is emptied on a weekly basis Paper waste – 3m^3 skip bin with monthly collection by paper recyclers and 2 x 240L wheelie bins collected by Council Glass, aluminium and tins – segregated and collected fortnightly for recycling
Waste Oil	Collected from the workshop sump and removed on a monthly/as required basis for recycling
Scrap Metal	Dedicated bins removed on a regular basis by a licenced metal recycler
Sewage	Council approved Envirocycle sewage treatment system with regular maintenance by a licenced contractor

3.3.8.2 Imported Waste

Metromix has identified a growing market for the receipt and processing of recycled materials (largely concrete) and the incorporation of this material into a road-base or other products that may be improved by the addition of concrete. Recycled materials including concrete returns from pre-mixed concrete companies would continue to be imported to the Quarry Site for use in recycling and incorporation into up to 200,000tpa of various products. Consistent with current operations, this material would be placed in the active extraction area in front of the next blast or added to the raw feed at the raw feed bin. Following the blast, it would be extracted with conglomerate and fed through the plant, ultimately ending up as product.

In addition, up to 100,000tpa of VENM or ENM would continue to be imported to the Quarry Site. The materials would be used for final landform construction, silt cell construction or silt cell capping. Where possible, VENM/ENM would preferentially be backloaded in Quarry vehicles following product deliveries.

3.3.9 Water Management

A series of clean water diversions would be constructed along the boundary of the Extension Area as extraction progresses. The clean water diversions would be designed to convey water at non-erosive velocities.

During the initial stages of extraction operations, sediment laden runoff generated would be managed by a series of temporary sediment basins and associated dirty water collection drains located within the footprint of the Extension Area. If required, excess runoff captured within the sediment basins would be treated with flocculant prior to discharge. These sediment basins would eventually be removed throughout the progressive development of the Extension Area. The Extension Area would ultimately be internally draining with all runoff reporting to a sump.

All other areas of Quarry-related disturbance would continue to be serviced by the existing "catch and release" water management system, comprising a series of 9 sediment basins and two water storage dams (refer **Figure 10**). **Table 10** identifies each existing site water storage, their capacities and licencing requirements.

Table 10
Site Water Storages

Dam[1]	Description	Licencing[2, 3]	Volume (ML)	Surface Area (m^2)
Dam A (Mine Adit Dam)	Flooded Mine Adit	WAL40303	1.2	400
Dam B	Final Sediment Dam	Excluded work	0.3	200
Dam C	Sediment Dam	Excluded work	0.3	200
Dam D	Vegetated Sediment Dam	Excluded work	35.0	9,900
Dam E	Reed Bed Sediment Dam	Excluded work	9.0	3,000
Dam F	Stockpile Sediment Dam	Excluded work	0.7	230
Dam G	Lined Process Water Storage Dam	Within Harvestable Rights Capacity	10.8	2,700
Dam H	Initial Sediment Dam	Excluded work	4.3	1,440
Dam J	Sediment Dam – western Mid Pit	Excluded work	36 3	6,300
Dam K	Sediment Dam – eastern Mid Pit	Excluded work	2.6	4,500
Dam L	Sediment Dam/Wheel Wash Runoff	Excluded work	0.5	300

Note 1: See **Figure 10** for dam locations.

Note 2: Sediment dams are classified as 'excluded works' under Part 7 of Schedule 4 of the *Water Management (General) Regulation 2025* and are exempt from licencing requirements.

Note 3: The Quarry Site has a harvestable rights dam capacity of 24.33ML.

3.3.10 Hours of Operation and Project Life

Table 11 outlines the proposed hours of operation. These hours are consistent with existing operations.

Table 11
Hours of Operation

Activity	Days	Hours
Roadworks		
These activities are described in Section 3.2.2	Monday to Friday[1]	7:00am to 6:00pm
	Saturday	8:00am to 1:00pm
Operations		
Extraction and processing	Monday to Friday[1]	7:00am to 7:00pm
	Saturday	7:00am to 2:00pm
Blasting	Monday to Friday[1]	10:00am to 4:00pm
Product loading and dispatch	Monday to Friday[1]	4:00am to 00:00am
	Saturday	00:00am to 6:00pm
Importation of recycled material, Virgin Excavated Natural Material or Excavated Natural Material	Monday to Friday[1]	7:00am to 6:00pm
	Saturday	7:00am to 2:00pm
Maintenance activities (inaudible at privately owned residences)	7 days	24 hours

Notes: 1 Public Holidays excluded.

Based on a total identified resource of approximately 35.7Mt and a proposed annual extraction rate of 1.2 to 1.5Mtpa, it is anticipated that extraction operations would occur over a period of 24 to 30 years. However, Metromix proposes to seek approval for 30 years to account for peaks and troughs in product demand, with a further 10 years required for completion of backfilling, landform creation and rehabilitation.

3.3.11 Final Landform, Land Use, Rehabilitation and Mine Closure

The design of the proposed final landform is currently in progress and will be guided by the minimum backfill requirements to provide a suitable elevation for planned future uses, including the designated future infrastructure corridor. It is currently envisaged that the proposed final landform would include the following.

- Two partially backfilled and revegetated integrated extraction areas, namely the current Approved Extraction Area and the proposed Extension Area.
- Two retained levelled areas, namely the Eastern Stockpile Area and the Processing Area, revegetated with stabilising groundcover and suitable for potential industrial use, subject to separate approval and re-zoning as required.
- Retention of site water storages as clean water dams.
- Retention of internal access roads and power infrastructure.

All infrastructure not required for the final land use would be removed. Final land uses would comprise a mixture of native vegetation and unspecified industrial.

Backfilling and final landform creation would be undertaken progressively, with completed areas of the Extension Area not required for silt management, temporary stockpiling or manoeuvring of equipment backfilled throughout the life of the Project. Rehabilitation of other sections of the Quarry Site would be undertaken at the end of the extraction operations. The current *Biodiversity and Rehabilitation Management Plan* would be updated to describe the proposed rehabilitation activities and provide detailed completion criteria in accordance with the guidelines relevant at the time.

3.4 Alternatives Considered

3.4.1 Introduction

The design and layout of the Project as described in this document is the result of over 12 months of research, technical investigations, consultation and high-level design. In addition, Metromix is continuing to evaluate the Project and will continue to assess and refine the design and layout throughout preparation of the EIS. Metromix is also engaging in detailed consultation with a range of government agencies and the community. As a result, the EIS will include a detailed description and analysis of alternatives considered and the reasons why the Project, as proposed, is the preferred alternative. Notwithstanding the above, the following alternatives have been or are currently under consideration.

3.4.2 Retention of Coal Haul Road in Current Alignment

Two options for the location and alignment of the Coal Haul Road were considered as follows.

- Option 1 – retain the Coal Haul Road in its current alignment and forego access the resources west of the road.
- Option 2 – realign the Coal Haul Road to maximise accessible resources across the Extension Area.

While Option 1 would represent a cost saving compared with Option 2 as there would be no requirement to realign the road, a significant volume of resource would be sterilised.

Following a constraints analysis for the Option 1 access route, the overwhelming preference was for Option 2 given the additional 13.5Mt of resource which would be accessed. Additional refinements to the realignment of the Coal Haul Road will continue to be made through the detailed design process and further information will be provided in the EIS.

3.4.3 Design and Location of the Extraction Area

The boundaries of the Proposed Extraction Area displayed in **Figure 10** have been adjusted through the preliminary planning phase to minimise potential environmental impacts. Several designs (with numerous sub variations) were considered and were not preferred for a range of reasons including the following.

- The disturbance of an area of high density *Tetratheca juncea* in the southwestern most area of Lot 2 DP 224037.
- Proximity to residences and associated amenity impacts.
- Greater levels of impact upon areas of existing high biodiversity value.
- Insufficient access to the volumes of resource required for Project feasibility.

Figure 15 presents a selection of the design options considered and not preferred.

3.4.4 Additional Processing Plant Components

Careful consideration of additional processing plant components was undertaken. Establishment of an on-site pre-coat plant and concrete plant was considered, however, internal feasibility studies and market research determined that introduction of these components would likely not be profitable due to saturation of the local market.

3.4.5 Alternative Transport Routes

An analysis of potential alternatives to the existing approved transport routes was undertaken, with reference to end points that were representative of each of the four routes. All alternatives identified, except one, resulted in an increase of 1.5km to 9.9km to distance travelled per trip, with associated fuel consumption and transport costs amounting to an increase of 34% to 102%.

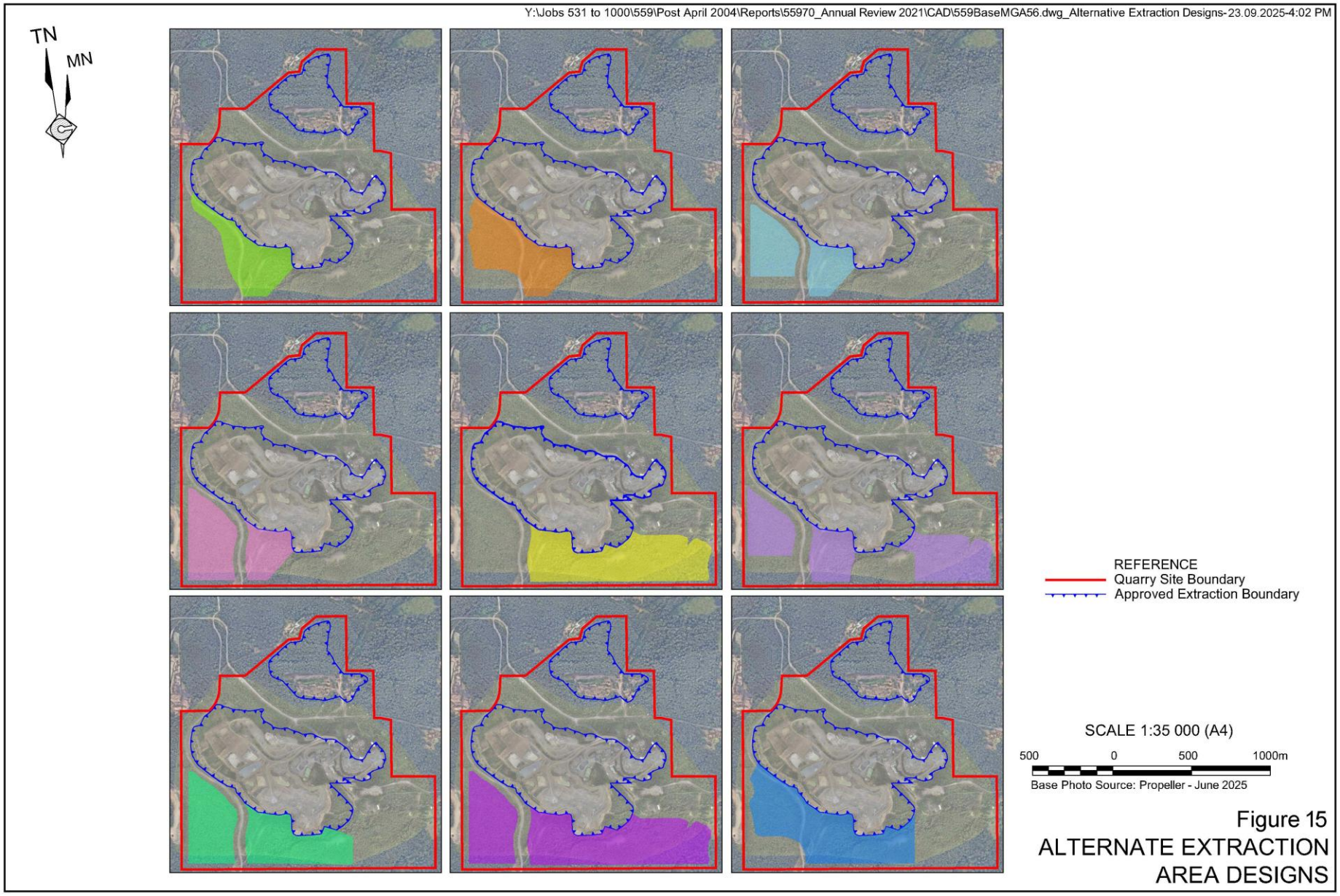

Figure 15
ALTERNATE EXTRACTION AREA DESIGNS

One alternative option identified provided a 4% cost saving on Route 2 (i.e. the northeastern corridor) by directing heavy vehicles to Toronto Road east of the Quarry Site. However, this option was not preferred as it involved an increase in heavy vehicle movements through Teralba.

Due to the increased transport costs, fuel consumption, and associated greenhouse gas emission impacts associated with the alternative routes identified, it is proposed that the existing approved transport routes continue to be used for the Project, with no change to truck volumes, frequencies or timing. This is considered appropriate as it would be consistent with the existing impacts (i.e. level of hourly/daily traffic) experienced by local residents.

3.4.6 Consequences of not Proceeding with the Project

Should the Project not proceed or not receive all required approvals:

- approximately 37.1ha of land would not be disturbed and would continue to be used for passive biodiversity conservation;
- the Coal Haul Road would not be realigned;
- noise, vibration, air quality, traffic, and related amenity impacts associated with the proposed operations would not occur;
- approximately 35.7Mt of resources would not be recovered, resulting in increased pressure on the construction costs and potentially reduced consumer choice in building products, contrary to State and Federal objectives to improving housing affordability;
- the Quarry would cease operations after it exhausts the remaining approved resource; and
- the potential closure of Metromix due to the loss of income and inability to sustain its employees and contractors, locally in Teralba, the Sydney Concrete business and broader regional operations. As a major regional employer and supplier of construction materials this would have a significant impact on the local economy.

4. Statutory Context

Tables 12 to **14** present an overview of the key statutory requirements, preconditions and mandatory considerations for the Project. Each of these matters will be addressed in the EIS.

Table 12
Key Statutory Requirements

Matter	Project Relevance
Power to grant consent	The Project would be classified as "State Significant Development" for "extractive industries" under Section 7 of Schedule 1 of the State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP) as it would: • extract more than 500,000t of extractive materials per year; • extract from a total resource greater than 5Mt; and • comprise an extension to an existing State Significant Development. The Project Development Application (DA) will therefore require assessment under Division 4.7 of Part 4 of the EP&A Act. As SSD, the consent authority will be the Minister for Planning and Public Spaces. In practice, it is understood that the Minister has delegated his/her authority to determine such applications to a senior officer of DPHI. Alternatively, under Section 2.7 of the Planning Systems SEPP, the Independent Planning Commission will be the consent authority should any of the following criteria be met: • Council provides a submission objecting to the Project. • There are more than 50 individual, unique submissions objecting to the Project. • Metromix has made a reportable political donation.
Permissibility	The Application Area is zoned SP1 – Special Activities and C2 – Environmental Conservation under the *Lake Macquarie Local Environmental Plan 2014*. Extractive industry is permissible within these land zones by virtue of Clause 2.9(3)(a) of the *State Environmental Planning Policy (Resources and Energy) 2021*. In addition, subsections of the Application Area are identified as 'Teralba Area 1' and 'Teralba Area 2' under Clauses 20 and 21 of Schedule 1 (Additional Permitted Uses) of the *Lake Macquarie Local Environmental Plan 2014*. Development (with development consent) for the purpose of resource recovery facilities and industries is permitted within Teralba Areas 1 and 2 respectively.
Other approvals (Consistent Approvals)	Section 4.42 of the EP&A Act identifies a range of approvals that must be applied consistently to any SSD consent granted. The following approvals will be required for the Project and are covered by this requirement. • A variation to EPL 536 under the Protection of the *Environment Operations Act 1997* to encompass the area of extended operations. • Approval under section 22 of the *Coal Mine Subsidence Compensation Act 2017* to carry out works within the Killingworth-Wallsend Mine Subsidence District. • Approval under Section 138 of the *Roads Act 1993* for offsite roadworks (if required).
Other approvals (EPBC Act Approvals)	Approval under the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* may be required as preliminary biodiversity assessments indicate that the Project would require clearing of land containing the following threatened species. • *Chalinolobus dwyeri* / Large-eared Pied Bat • Phascolarctos cinereus / Koala • *Rhodamnia rubescens* / Scrub turpentine • *Tetratheca juncea* / Black-eyed susan Metromix intends to submit an EPBC Act referral for the Project concurrently with the EIS.

Table 12 (Cont'd)
Key Statutory Requirements

Matter	Project Relevance
Other approvals (Not integrated into the SSD Assessment)	Other approvals that would be required for the Project but are not covered by the provisions of Sections 4.41 (see below) or 4.42 of the EP&A Act are as follows. • Water Access Licence issued under the *Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016* to account for groundwater extraction to support processing activities. Metromix holds WAL40303 that entitles it to 1,407 unit shares. • An aquifer interference approval under section 91 of the *Water Management Act 2000*.
Other approvals (Not required)	Section 4.41 of the EP&A Act identifies that if development consent is granted for SSD the following relevant authorisations that would otherwise have been required for the Project are not required. • An Aboriginal Heritage Impact Permit under section 90 of the *National Parks and Wildlife Act 1974*. • A water use approval under section 89 of the *Water Management Act 2000*. • A water supply work approval under section 90 of the *Water Management Act 2000*. • An activity approval (other than for aquifer interference) under section 91 of the *Water Management Act 2000*.

Table 13
Pre-Conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
Biodiversity Conservation Act 2016 (BC Act)		
Section 7.14(2)	The relevant authority, when determining a proposed SSD, is to take into consideration the likely impact of the proposed development on biodiversity values as assessed in the biodiversity development assessment report.	A Biodiversity Development Assessment Report will be prepared to assess the anticipated impacts of the Project on biodiversity values.
Section 7.16(3)	If the Minister for Planning is of the opinion that a proposed SSD is likely to have serious or irreversible impacts on biodiversity values, the Minister: a) is required to take those impacts into consideration, and b) is required to determine whether there are any additional and appropriate measures that will minimise those impacts if consent or approval is granted.	
Environmental Planning and Assessment Act 1979 (EP&A Act)		
Section 4.15 (1)	Matters for consideration – general In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application – a) the provisions of: i) any environmental planning instrument ii) any proposed instrument that is or has been the subject of public consideration under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and iii) any development control plan, and iv) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and v) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), that apply to the land to which the development application applies.	Relevant matters for consideration have been identified in accordance with this clause and would be addressed in detail in the EIS. It is noted that Clause 2.10(1a) of the *State Environmental Planning Policy (Planning Systems) 2021* states that Development Control Plans do not apply to State Significant Development.
	b) the likely impact of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,	The EIS would detail the potential environmental impacts of the Project to the extent identified in Section 6.

Table 13 (Cont'd)
Pre-Conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
Environmental Planning and Assessment Act 1979 (EP&A Act) (Cont'd)		
Section 4.15 (1) (Cont'd)	c) the suitability of the site for the development	Suitability of the site has been considered as part of project justification (see Section 2.1.5). In summary, the existing Teralba Quarry is a key feature of the local setting and economy. Compared with the extension of an existing Quarry as proposed, alternative greenfield exploration to meet product demand would result in more significant impacts to the environment.
	d) any submissions made in accordance with this Act or the regulations,	It is anticipated that DPHI would take any submissions into consideration during the assessment of this application.
	e) the public Interest	The public interest has been considered as part of project justification (see Section 2.1.5). In summary, the Project would enable the Teralba Quarry to continue to provide benefits to the public through employment, economic investment, provision of raw material for infrastructure projects, and support for local community clubs and schools.
Lake Macquarie Local Environmental Plan 2014 (Lake Macquarie LEP)		
Section 2.3(2) (Zoning)	The consent authority must have regard to the objectives for development in a zone when determining a development application in respect of land within the zone.	Extractive industry is permissible within zones SP1 and C2 by virtue of Clause 2.9(3)(a) of the *State Environmental Planning Policy (Resources and Energy) 2021*. In addition, subsections of the Application Area are identified as 'Teralba Area 1' and 'Teralba Area 2' under Clauses 20 and 21 of Schedule 1 (Additional Permitted Uses) of the Lake Macquarie LEP. Development (with development consent) for the purpose of resource recovery facilities and industries is permitted within Teralba Areas 1 and 2 respectively.

Table 13 (Cont'd)
Pre-Conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
Lake Macquarie Local Environmental Plan 2014 (Lake Macquarie LEP) (Cont'd)		
Section 7.2(3) (Earthworks)	Before granting development consent for earthworks (or for development involving ancillary earthworks), the consent authority must consider the following matters: a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality of the development, b) the effect of the proposed development on the likely future use or redevelopment of the land, c) the quality of the fill or the soil to be excavated, or both, d) the effect of the proposed development on the existing and likely amenity of adjoining properties, e) the source of any fill material and the destination of any excavated material, f) the likelihood of disturbing relics, g) the proximity to, and potential for adverse impacts on, any watercourse, drinking water catchment or environmentally sensitive area, h) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development	The Project would result in disturbance of land. The matters identified in this Clause will be addressed in the EIS.
Section 7.21 (Essential services)	Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required— a) the supply of water, b) the supply of electricity, c) the disposal and management of sewage, d) stormwater drainage or on-site conservation, e) suitable vehicular access.	The Project would require essential services. The matters identified in this Clause will be addressed in the EIS.
State Environmental Planning Policy (Biodiversity and Conservation) 2021 (Biodiversity and Conservation SEPP)		
Section 4.9 (Koala Habitat)	2) Before a council may grant consent to a development application for consent to carry out development on the land, the council must assess whether the development is likely to have any impact on koalas or koala habitat. 3) If the council is satisfied that the development is likely to have low or no impact on koalas or koala habitat, the council may grant consent to the development application. 4) If the council is satisfied that the development is likely to have a higher level of impact on koalas or koala habitat, the council must, in deciding whether to grant consent to the development application, take into account a koala assessment report for the development.	A Biodiversity Development Assessment Report and Koala Assessment Report will be prepared to assess the anticipated impacts of the Project on koalas or koala habitat.

Table 13 (Cont'd)
Pre-Conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
State Environmental Planning Policy Resilience and Hazards (Resilience and Hazards SEPP)		
Section 3.12 (Potentially hazardous or potentially offensive development)	In determining an application to carry out development to which this Part applies, the consent authority must consider (in addition to any other matters specified in the Act or in an environmental planning instrument applying to the development): a) current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development, and b) whether any public authority should be consulted concerning any environmental and land use safety requirements with which the development should comply, and c) in the case of development for the purpose of a potentially hazardous industry—a preliminary hazard analysis prepared by or on behalf of the applicant, and d) any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application (including any feasible alternatives for the location of the development and the reasons for choosing the location the subject of the application), and e) any likely future use of the land surrounding the development.	The Project does not constitute a hazardous industry. Key risks associated with the Project are noise, air quality, visual amenity, biodiversity, surface water and social impacts. All matters relating to potential risks and hazards will be assessed to the extent required and presented within the EIS (see Section 6).
Section 4.6 (Contamination and remediation)	A consent authority must not consent to the carrying out of any development on land unless: a) it has considered whether the land is contaminated, and b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.	The Project would not be situated on contaminated land and contamination levels within the Project Site would be compatible with the proposed final land uses.
State Environmental Planning Policy (Resources and Energy) 2021 (Resources and Energy SEPP)		
Section 2.9(3)	Development for any of the following purposes may be carried out with development consent a) extractive industry on land on which development for the purposes of agriculture or industry may be carried out (with or without development consent)	Agriculture (aquaculture/oyster aquaculture) is permissible within zones SP1 and C2 respectively, in accordance with the Lake Macquarie LEP. Therefore, in accordance with this Clause, development for the purposes of extractive industry is also permissible.

Table 13 (Cont'd)
Pre-Conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
State Environmental Planning Policy (Resources and Energy) 2021 (Resources and Energy SEPP) (Cont'd)		
Section 2.9(4)	If extractive industry is being carried out with development consent on any land, development for any of the following purposes may also be carried out with development consent on that land— a) the processing of extractive material, b) the processing of construction and demolition waste or of other material that is to be used as a substitute for extractive material, c) facilities for the processing or transport of extractive material, d) concrete works that produce only pre-mixed concrete or bitumen pre-mix or hot-mix.	The permissibility of extractive industry extends to the additional purposes listed within this Clause.
Section 2.17	Before determining an application for consent for development for the purposes of extractive industry the consent authority must: a) consider: i) the existing uses and approved uses of land in the vicinity of the development, and ii) whether or not the development is likely to have a significant impact on the uses that, in the opinion of the consent authority having regard to land use trends, are likely to be the preferred uses if land in the vicinity of the development, and iii) any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses, and b) evaluate and compare the respective public benefits of the development and the land uses referred to above, and c) evaluate any measure proposed by the applicant to avoid or minimise any incompatibility.	The Project Site incorporates an existing approved extractive industry land use. The matters identified in this Clause will be addressed in the EIS. It is considered that, with the implementation of appropriate management measures, the Project would remain compatible with the surrounding land uses (see Section 2.2.4).
Section 2.18	Before determining an application for consent for SSD for the purposes of extractive industry, the consent authority must consider any applicable provisions of the voluntary land acquisition and mitigation policy, and, in particular: a) any applicable provisions of the policy for the mitigation or avoidance of noise or particulate matter impacts outside the land on which the development is to be carried out, and b) any applicable provisions of the policy relating to the developer making an offer to acquire land affected by those impacts.	The Project's Air Quality Impact Assessment and Noise Impact Assessment will identify if the voluntary land acquisition and mitigation policy applies to the Project.

Table 13 (Cont'd)
Pre-Conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
State Environmental Planning Policy (Resources and Energy) 2021 (Resources and Energy SEPP) (Cont'd)		
Section 2.19(2)	Before determining an application to which this clause applies, the consent authority must: a) consider: i) the existing uses and approved uses of land in the vicinity of the development, and ii) whether or not the development is likely to have a significant impact on current or future extraction or recovery of minerals, petroleum or extractive materials (including by limiting access to, or impeding assessment of, those resources), and iii) any ways in which the development may be incompatible with any of those existing or approved uses or that current or future extraction or recovery, and b) evaluate and compare the respective public benefits of the development and the uses, extraction and recovery referred to above, and c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility.	The Project would not be incompatible with surrounding land uses and would result in substantial additional public benefit through the continued recovery of extractive materials. Notwithstanding, the matters identified in this Clause will be further addressed in the EIS.
Section 2.20(1)	Before granting consent for development for the purposes of extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following: a) that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable, b) that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable, c) that greenhouse gas emissions are minimised to the greatest extent practicable.	The preliminary design work completed to date has taken the minimisation of impacts upon these matters into consideration. The EIS will include an assessment of water resources, threatened species, biodiversity and greenhouse gas emissions.
Section 2.20(2)	In determining a development application for development for the purposes mining, the consent authority must consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development, and must do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions.	The EIS will include an assessment of greenhouse gas emissions.
Section 2.21(1)	Before granting consent for development for the purposes of mining, the consent authority must consider the efficiency or otherwise of the development in terms of resource recovery.	The preliminary design work completed to date has considered the most efficient recovery of resource possible given the environmental setting. The EIS will include an assessment of the efficiency of the recovery of the resource and reuse of materials.
Section 2.21(2)	Before granting consent for the development, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at optimising the efficiency of resource recovery and the reuse or recycling of material.	

Table 13 (Cont'd)
Pre-Conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
State Environmental Planning Policy (Resources and Energy) 2021 (Resources and Energy SEPP) (Cont'd)		
Section 2.21(3)	The consent authority may refuse to grant consent to development if it is not satisfied that the development will be carried out in such a way to optimise the efficiency of recovery of minerals, petroleum or extractive materials and to minimise the creation of waste in association with the extraction, recovery or processing of minerals, petroleum or extractive materials.	
Section 2.22(1)	Before granting consent for development for the purposes of extractive industry that involves the transport of materials, the consent authority must consider whether or not the consent should be issued subject to conditions that do any one or more of the following: a) require that some or all of the transport of materials in connection with the development is not to be by public road, b) limit or preclude truck movements, in connection with the development, that occur on roads in residential areas or on roads near to schools, c) require the preparation and implementation, in relation to the development, of a code of conduct relating to the transport of materials on public roads.	The existing Quarry has operated using approved transport routes and a Transport Management Plan (which includes a Driver's Code of Conduct). The Project has considered alternate road transportation routes to minimise Project-related impacts and a Traffic Impact Assessment will be prepared to support the EIS. The Quarry's Transport Management Plan would be updated following approval of the Project to reflect the conditions of the new consent.
Section 2.22(2)	If the consent authority considers that the development involves the transport of materials on a public road, the consent authority must, within 7 days after receiving the development application, provide a copy of the application to— a) each roads authority for the road, and b) the Roads and Traffic Authority (if it is not a roads authority for the road).	It is anticipated that DPHI will refer the application to any relevant roads authority and take any submissions into consideration during the assessment of this application.
Section 2.22(3)	The consent authority— a) must not determine the application until it has taken into consideration any submissions that it receives in response from any roads authority or the Roads and Traffic Authority within 21 days after they were provided with a copy of the application, and b) must provide them with a copy of the determination.	
Section 2.23(1)	Before granting consent for development for the purposes of extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring the rehabilitation of land that will be affected by the development.	Metromix would rehabilitate the Project Site to provide landforms suitable for the proposed final land uses (see Section 3.3.12). Rehabilitation will be further addressed as part of the EIS.

Table 13 (Cont'd)
Pre-Conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
State Environmental Planning Policy (Resources and Energy) 2021 (Resources and Energy SEPP) (Cont'd)		
Section 2.23(2)	In particular, the consent authority must consider whether conditions of the consent should: a) require the preparation of a plan that identifies the proposed end use and landform of the land once rehabilitated, or b) require waste generated by the development or the rehabilitation to be dealt with appropriately, or c) require any soil contaminated as a result of the development to be remediated in accordance with relevant guidelines (including guidelines under clause 3 of Schedule 6 to the Act and the *Contaminated Land Management Act 1997*), or d) require steps to be taken to ensure that the state of the land, while being rehabilitated and at the completion of the rehabilitation, does not jeopardize public safety.	Metromix would rehabilitate the Project Site to provide landforms suitable for the proposed final land uses (see Section 3.3.12). Rehabilitation will be further addressed as part of the EIS.
State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP)		
Section 2.48(1)	Before determining a development application (or an application for modification of a consent) for development to which this clause applies, the consent authority must— a) give written notice to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks, and b) take into consideration any response to the notice that is received within 21 days after the notice is given.	The Project would involve realignment or removal of electricity transmission infrastructure along the private Coal Haul Road (see Section 3.3.3.). Realignment or removal would be undertaken in consultation with the relevant electricity supply authority.
Section 2.119(2)	The consent authority must not grant consent to development on land that has a frontage to a classified road unless it is satisfied that— a) where practicable and safe, vehicular access to the land is provided by a road other than the classified road, and b) the safety, efficiency and ongoing operation of the classified road will not be adversely affected by the development as a result of — – the design of the vehicular access to the land, or – the emission of smoke or dust from the development, or the nature, volume or frequency of vehicles using the classified road to gain access to the land.	Rhondda Road, which is adjacent to the Quarry Site, is not a classified road. Notwithstanding, the EIS will include a Traffic Impact Assessment to assess the anticipated Project-related impacts.

Table 13 (Cont'd)
Pre-Conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP) (Cont'd)		
Section 2.122(4)	Before determining a development application for development to which this clause applies, the consent authority must— a) give written notice of the application to TfNSW within 7 days after the application is made, and b) take into consideration— i) any submission that RMS provides in response to that notice within 21 days after the notice was given (unless, before the 21 days have passed, TfNSW advises that it will not be making a submission), and ii) the accessibility of the site concerned, including— a) the efficiency of movement of people and freight to and from the site and the extent of multi-purpose trips, and b) the potential to minimise the need for travel by car and to maximise movement of freight in containers or bulk freight by rail, and iii) any potential traffic safety, road congestion or parking implications of the development.	This is a matter for the consent authority.
Section 2.122(5)	The consent authority must give TfNSW a copy of the determination of the application within 7 days after the determination is made.	
Section 4.7(1)	Despite section 4.6, development may be carried out with development consent on land within a future infrastructure corridor, but only if— a) the development is of a kind that could be carried out on the land under an applicable environmental planning instrument immediately before the land was included within a future infrastructure corridor, and b) where the proposed development has an estimated development cost of more than $200,000—Transport for NSW grants concurrence to the proposed development, and c) the development is consistent with the aims of this Chapter.	Extractive industry is permissible within zones SP1 and C2 by virtue of Clause 2.9(3)(a) of the *State Environmental Planning Policy (Resources and Energy) 2021*. The Project would have an estimated development cost greater than $200,000 and will therefore require concurrence from TfNSW.

Table 13 (Cont'd)
Pre-Conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP) (Cont'd)		
Section 4.7(2)	Before determining a development application (or an application for modification of a consent) for development to which subsection (1)(b) applies, the consent authority must— a) within 7 days after the application is made, give written notice of the application to Transport for NSW, and b) take into consideration— i) any response to the notice that is received within 21 days after the notice is given, and ii) any guidelines issued by the Planning Secretary for the purposes of this section and published in the Gazette.	This is a matter for the consent authority.
Section 4.7(3)	In deciding whether to grant concurrence to proposed development under this section, Transport for NSW must take the following matters into consideration— a) the need to carry out the proposed development on the land, b) the timing of carrying out the proposed development and the proposed timing for constructing infrastructure in the future infrastructure corridor, c) the likely additional cost of constructing infrastructure in the future infrastructure corridor resulting from the carrying out of the proposed development.	This is a matter for TfNSW. Notwithstanding, the EIS will address need for the Project and the measures to minimise potential land use conflicts and/or costs to TfNSW.
Section 4.7(4)	Despite subsection (1)(b), the consent authority may grant consent to development to which that subsection applies without the concurrence of Transport for NSW if 21 days have passed since the consent authority gave notice under subsection (2)(a) and Transport for NSW has not granted or refused to grant concurrence.	This is a matter for the consent authority.
Section 4.9(1)	This section applies to development that involves the penetration of ground to a depth of at least 2 metres below ground level (existing) on land— a) within, below or above a future infrastructure corridor, or b) within 25 metres (measured horizontally) of a future infrastructure corridor, or c) within 25 metres (measured horizontally) of the ground directly below a future infrastructure corridor, or d) within 25 metres (measured horizontally) of the ground directly above an underground future infrastructure corridor.	The Project would trigger parts (a), (b) and (c) of this Section.

Table 13 (Cont'd)
Pre-Conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP) (Cont'd)		
Section 4.9(2)	Before determining a development application (or an application for modification of a consent) for development to which this section applies, the consent authority must— a) within 7 days after the application is made, give written notice of the application to Transport for NSW, and b) take into consideration— i) any response to the notice that is received within 21 days after the notice is given, and ii) any guidelines issued by the Planning Secretary for the purposes of this section and published in the Gazette.	This is a matter for the consent authority.
Section 4.9(3)	The consent authority must not grant consent to development to which this section applies without the concurrence of Transport for NSW.	
Section 4.9(4)	In deciding whether to provide concurrence, Transport for NSW must take into account— a) the potential effects of the development (whether alone or cumulatively with other development or proposed development) on— i) the safety or structural integrity of existing or proposed infrastructure in the future infrastructure corridor, and ii) the safe and effective operation of existing or proposed future infrastructure in the future infrastructure corridor, and b) what measures are proposed, or could reasonably be taken, to avoid or minimise those potential effects.	This is a matter for TfNSW. Notwithstanding, the EIS will address potential impacts on the integrity and safety of proposed future infrastructure. The EIS will also nominate measures to mitigate any potential impacts.
Section 4.9(5)	Despite subsection (3), the consent authority may grant consent to development to which this section applies without the concurrence of Transport for NSW if 21 days have passed since the consent authority gave notice under subsection (2)(a) and Transport for NSW has not granted or refused to grant concurrence.	This is a matter for the consent authority.

Table 14
Mandatory Matters for Consideration

Statutory Reference	Mandatory Consideration
Considerations under the EP&A Act	
Section 1.3	Relevant objects of the Act: • to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources, • to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment, • to promote the orderly and economic use and development of land, • to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats, • to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage), • to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State • to provide increased opportunity for community participation in environmental planning and assessment.
Section 4.15	Relevant environmental planning instruments.
	The *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) – to the extent that it prescribes matters for the purposes of Section 4.15(1)(a)(iv) of the EP&A Act.
	The likely impacts of the development, including environmental impacts on both the natural and built environment, and social and economic impacts in the locality.
	The suitability of the site for the development.
	Any submissions made in accordance with the EP&A Act or the regulations.
	The public interest.
Considerations under the EP&A Regulations	
Clause 78	A development consent may be granted subject to a condition referred to in Section 4.17(4A) or (4B) of the EP&A Act only if the development is SSD.
Considerations under Environmental Planning Instruments	
Lake Macquarie LEP	
Part 2	Objectives and land uses for zones SP1 and C2.
Schedule 1	Additional permitted uses for Teralba Area 1 and Teralba Area 2 (Clauses 20 and 21 of Schedule 1)
Other	Other relevant LEP sections.
State Environmental Planning Policies (SEPPs)	
Planning Systems SEPP	Sections 7(1) and 7(3) of Schedule 1 and Section 2.6.
Resources and Energy SEPP	Sections 2.9, 2.17, 2.18, 2.19, 2.20, 2.21, 2.22 and 2.23.
Resilience and Hazards SEPP	Sections 3.12 and 4.6.
Biodiversity and Conservation SEPP	Section 4.9
Transport and Infrastructure SEPP	Sections 2.48(1), 2.119(2), 2.122(4), 2.122(5), 4.7 and 4.9.

5. Engagement

5.1 Engagement Undertaken to Date

5.1.1 Government Agencies

The principal government agency consultation to date has been with Lake Macquarie City Council, with Council representatives notified of the Project during the most recent Community Consultative Committee (CCC) meeting. Ongoing engagement with Council is anticipated throughout the preparation of the EIS, particularly in relation to traffic, infrastructure, and final landform considerations.

A letter was sent to Council providing an overview of the Project on 9 October 2025 including a request for a meeting. This meeting was held on 4 November 2025.

Consultation has also been undertaken with Transport for NSW (TfNSW) on incorporation of the planned Lower Hunter Freight Corridor into Project design. A meeting was held on 23 October 2025.

Additional consultation has been initiated with the NSW Department of Climate Change Energy, the Environment and Water (DCCEEW) and the NSW Biodiversity Conservation Division (CPHR). This consultation has focused the survey methodologies to inform the Biodiversity Development Assessment Report (BDAR), including the identification of appropriate seasonal survey windows and target species.

Key themes emerging from consultation to date include the following.

- The need for early and ongoing engagement with Council and relevant agencies regarding potential amenity impacts due to proximity to residential development.
- The importance of ensuring that biodiversity survey methodologies align with current regulatory expectations and seasonal requirements.
- The need to consider cumulative impacts associated with nearby industrial operations, including the Downer Asphalt Plant and Holcim Concrete Batching Plant.
- The requirement for clear documentation of rehabilitation objectives and final landform outcomes, particularly where future land use may include a mix of conservation and industrial purposes.

Further consideration will be undertaken with relevant agencies and stakeholders as the Project progresses, and outcomes will be documented in the EIS.

5.1.2 Industry Engagement

Metromix has actively engaged with key stakeholders to ensure transparent communication and collaborative planning regarding the future use of the Coal Haul Road transecting the Quarry Site. As part of this engagement, Metromix submitted a proposal to Glencore outlining its

intentions for the Coal Haul Road. Key considerations include the status of existing approvals, landowner agreements, and long-term rehabilitation obligations that may influence infrastructure decisions.

Metromix has also engaged with Black Rock Motor Resort regarding potential impacts to that operation as a result of the Project. Key considerations arising from this consultation include potential for integrated final land uses and the importance of blast scheduling and notification timeframes to ensure the establishment of clearance zones.

Additionally, there is awareness of parallel planning activities by nearby operators that could impact shared infrastructure use. To support informed decision making, Metromix is working collaboratively with stakeholders and consultants to ensure all planning and compliance matters are thoroughly addressed. This engagement reflects Metromix's commitment to responsible development and transparent industry collaboration.

5.1.3 Community Engagement

A flyer was distributed to residents in the vicinity of the Quarry Site in the week commencing 17 September 2025 advising that representatives of Metromix and RWC would be available at Teralba Public School on Friday, 26 September 2025.

The intent of the session was to hear from the community regarding their current experience of the local area and to raise any issues of concern in relation to the Project. It is estimated that 30 people attended the meeting and 38 people registered prior to, at or following the event and provided contact information for further information on the Project.

A link to a survey was included in the initial flyer and was made available to all attendees at the meeting. The community was encouraged to circulate the survey to people who they were aware of that did not attend the meeting but may wish to contribute.

Several community members contacted Council and DPHI expressing their concerns about the Project and to seek further information. As a result, a meeting was requested with Greg Piper MP the Federal Member for Lake Macquarie. The meeting was held on 13 October 2025 in Mr Piper's offices.

A follow up session was held at Club Macquarie on 10 November 2025 to inform local residents of changes to the Project that had arisen from community consultation outcomes to date, including a reduction of the total size of the proposed Extension Area.

5.1.4 Community Views

Several concerns were raised by the community during the preliminary community information sessions and since that time, in email correspondence to Metromix. **Table 15** presents a summary of the key issues raised. For privacy purposes, views have not been attributed to specific community members.

Table 15
Key Findings of Preliminary Community Engagement

Category	Matter Raised / Discussed
Strategic Context	
	• Need for the Project considering the approved Northern Extraction Area.
The Project and Key Alternatives	
	• Community preference for a larger buffer (initially proposed at 245m) between extraction operations and existing residences.
Community Engagement	
	• Concerns about the facilitation of the initial community session, with various complaints about the timing, notice period and accessibility.
Key Issues to be Addressed in the EIS	
Air Quality	• Dust across properties is a concern, particularly during westerly winds.
Noise and Blasting	• Vibration and noise generated by blasting, particularly with regard to current operations.
	• Impacts of blasting on house structure and foundations.
Social	• Perceived mental health risks and changes to community fabric.
Economic	• Negative impacts to property values due to proximity of the Quarry.
Visual Amenity	• Concern about changed views of vegetation from existing properties.
Biodiversity	• Concern about clearing vegetation and loss of native species habitat.

Early consultation with the community has identified that the proximity of the Quarry to their properties was a key concern. Metromix has incorporated this advice into planning for the Project and asked its quarry design engineers to consider alternative options. This resulted in a revised Extension Area boundary located 500m from the nearest residence, more than double what was initially proposed (see Section 3.4.3).

5.2 Engagement to be Carried Out

Table 16 presents the community engagement to be carried out throughout preparation of the EIS, including indicative timing for each of the proposed engagement activities. As it has done to date, Metromix will maintain a consultation log and will actively seek feedback on the Project. That feedback will be recorded in the consultation log, with anonymised results presented in the EIS.

Metromix will continue to maintain a transparent and proactive approach to engagement, ensuring that community concerns are heard and addressed as part of the environmental assessment process.

In addition to direct engagement by Metromix, Metromix have also commissioned Ellen Davis-Meehan of Key Insights to prepare a Social Impact Assessment (SIA) for the Project. Key Insights will also implement a separate engagement strategy to inform the SIA. This engagement strategy will also include direct discussions, surveys, and information sheets. The SIA Scoping Worksheet is attached as **Appendix 2**.

Table 16
Engagement to be Carried Out

Stakeholder Group/ Classification	Potential Engagement Methodology	Indicative Timing
Near Neighbours	• Individual meetings/discussions • Email updates • Fact sheets/newsletters – hand deliver / letterbox drop / email	• Ongoing during EIS preparation • At completion of impact assessment (pre-exhibition) • During exhibition and pre-determination
	• Site tours	• On request
Community Consultative Committee	• Annual CCC meetings • Presentation of EIS findings • Site inspections and Q&A sessions	• At key milestones during EIS preparation and annually • Prior to public exhibition
Local Area Residents (including those near haul routes)	• Fact sheets/newsletters - letterbox drop • Individual meetings/discussions • Feedback forms	• Ongoing during EIS preparation • At completion of impact assessment (pre-exhibition) • During exhibition and pre-determination
Local Community Facilities (e.g. Teralba Public School, Teralba Bowling Club, CCC members, Neighbours, interest groups)	• Individual meetings/discussions • Email updates • Fact sheets/newsletters - hand deliver / email	• Ongoing during EIS preparation • At completion of impact assessment (pre-exhibition) • During exhibition and pre-determination
Surrounding Local Government Area residents	• Local media/websites/fact sheets	• Pre-exhibition • During exhibition
Local Aboriginal community	• Participation and input to the heritage assessment for the Project • Individual meetings/discussions	• Pre-exhibition • During exhibition
Non-government organisations	• Local media/websites/fact sheets	• Pre-exhibition • During exhibition
	• Individual discussions / meetings	• On request
Government Agencies (State and Commonwealth)	• Site tours	• During SEARs request
	• Scoping Report • Individual discussions / meetings • Emails updates • Website – fact sheets / newsletters	• Pre-exhibition • During exhibition

6. Proposed Assessment of Impacts

Table 17 presents a summary of environmental matters and identifies those matters that require further assessment in the EIS. **Appendix 1** identifies how each of the key matters requiring further assessment will be assessed in the EIS.

It is acknowledged that an analytical groundwater model will be limited and will be based on simplified assumptions (e.g. uniform aquifer properties, regular boundaries, flow geometry). However, this is considered acceptable as inflows would be limited and the piezometric surface is predicted to be below the proposed extraction area floor at all times except wet weather periods.

Given the proposed use continued use of current extraction methods, it is considered that an assessment of the geotechnical stability of underground workings is not required.

Finally, as anticipated economic impacts would likely be positive to the Hunter and Central Coast regions, it is considered that an economic assessment is not required.

Table 17
Preliminary Assessment Matters

Matter	Existing Environment	Potential Scale of Impacts	Nature of Project-Related Impacts	Sensitivity of Receiving Environment	Ability to Avoid, Mitigate or Offset Impact	Key Matter for Further Assessment and Level of Assessment?
Access – traffic and parking	Access via Rhondda Rd and region/local roads. Residential areas (Teralba, Wakefield) and community infrastructure (schools, businesses) nearby.	Moderate	Up to 652 heavy vehicle movements/day. Use of multiple corridors. Intersection upgrades and Coal Haul Road realignment or removal proposed. Use of Rhondda Road to transport material from the approved northern extraction area to the fixed processing plant. No off-site parking will be required.	Sensitive	No ability to avoid. Mitigation via haulage restrictions, time-of-day limits, temporary traffic controls, and Planning Agreement.	Yes – Standard
Air – Gasses	Mixed residential/industrial setting.	Negligible	Emissions of greenhouse gasses from operation of mobile and fixed equipment.	Non-sensitive	Impacts may be mitigated through the use of fuel-efficient mobile plant and operational controls.	Yes – Standard
Air – Particulate matter	Dust sources include quarrying, haulage, and nearby industry. Sensitive receivers include residences and schools.	Minor	Dust emissions associated with extraction activities, haulage vehicle movements, and wind erosion from disturbed surfaces.	Moderately Sensitive	Impacts may be mitigated through the use of project-design principles, dust suppression measures, and progressive rehabilitation.	Yes – Standard
Amenity - Blasting	Mixed residential/industrial setting. Current blasting associated with existing approved Quarry operations.	Moderate	Blasting to support extraction operations may result in impacts being experienced at sensitive receivers.	Sensitive	A range of design and operational safeguards will be incorporated into the Project to achieve compliance with applicable blasting criteria.	Yes – Standard
Amenity – Noise	Mixed residential/industrial setting. Existing noise from roads, rail, and industry.	Moderate	Noise from fixed and mobile plant, haulage, mobile crusher (campaign use), and blasting. Noise emissions are likely to comply with relevant criteria but will represent a change for near neighbours of the Project Site.	Moderately Sensitive	Impacts may be mitigated by strategic equipment placement, operational controls and time-of-day restrictions.	Yes – Standard
Amenity – Visual	Undulating terrain with views from public roads and residences. Vegetation and infrastructure present.	Moderate	Visual exposure from realigned haul road, extraction area, stockpiles and silt cells.	Moderately Sensitive	Mitigation via screening, landform shaping and progressive rehabilitation.	Yes – Standard
Biodiversity – Terrestrial flora and fauna	Native vegetation, including potential Koala habitat and CEECs.	Significant	Clearing of native vegetation and habitat disturbance.	Sensitive	Avoidance via layout, offsets under BC Act and restoration areas.	Yes – Detailed
Built Environment – Public infrastructure	Includes Rhondda Rd, Wakefield Rd, Toronto Rd, Teralba train station, and utilities.	Moderate	Increased use of roads, realignment or removal of Coal Haul Road and potential wear on infrastructure.	Sensitive	No ability to avoid. Mitigation via Planning Agreement, and coordination with stakeholders.	Yes – Standard
Economic – Natural resources use	Extraction of *in situ* conglomerate resource.	Minor	Extraction of known resource.	Non-sensitive	No ability to avoid.	Not relevant
Social – Community and Amenity	Residential communities (~2,800 people), schools, and businesses in Teralba and Wakefield.	Moderate	Amenity impacts from noise, dust, traffic, and visual change.	Sensitive	Mitigation via consultation, haulage, restrictions, temporary traffic controls, and community engagement.	Yes – Detailed
Heritage – Aboriginal and Historic	Potential for Aboriginal heritage; historic underground coal workings.	Moderate	Possible disturbance of heritage items or culturally significant areas.	Sensitive	Mitigation via RAP engagement, field surveys, and heritage assessments.	Yes – Standard
Water – Surface Water	Ephemeral watercourses draining to Cockle Creek. A natural dam is located within the proposed extraction area.	Minor	Modification and use of a natural dam for water storage. Construction of clean water diversions and sediment basins.	Moderately sensitive.	Mitigation via water management system, sediment control, flocculant treatment, and design of clean water diversions.	Yes – Standard
Water – Groundwater	Great Northern Coal Seam lies below the quarry floor (~15m AHD) and holds groundwater.	Minor	No interception of underground workings expected; inflows likely to be experienced during periods of high rainfall.	Non-sensitive	Analytical hydrogeological model and AIP-compliant assessment to be provided.	Yes - Standard
Land – Soils and Agriculture	Not classified as BSAL; no significant agricultural use.	Negligible	No impact to agricultural land.	Non-sensitive	Land Capability Assessment to be included.	Yes - Standard
Waste – Production and Non-production	Existing waste managed via silt cells, stockpiling, and recycling.	Minor	Overburden reuse, silt cell construction, and importation of VENM/ENM and concrete returns.	Non-sensitive	Managed via existing protocols and infrastructure; progressive rehabilitation.	Yes - Standard
Water – Site Water Management	Nine (9) sediment basins and two (2) dams; harvestable rights capacity 24.33 ML.	Minor	Continued use of “catch and release” system; new silt cells and clean water diversions.	Moderately sensitive	Mitigation via flocculants, sediment control, and dam licensing.	Yes – Standard

Appendix 1

Scoping Summary

(Total No. of pages including blank pages = 4)

Table A1
Scoping Summary

Level of Assessment	Matter	Cumulative Impact Assessment	Community Engagement	Relevant Government Plans, Policies and Guidelines
Detailed	Biodiversity – Terrestrial flora and fauna	Yes	General	• Commonwealth EPBC 1.1 Significant Impact Guidelines – Matters of National Environmental Significance (Commonwealth of Australia, 2013) • Commonwealth EPBC 1.2 Significant Impact Guidelines – Actions on, or Impacting upon, Commonwealth Land and Actions by Commonwealth Agencies (Commonwealth of Australia, 2013) • Commonwealth Department of the Environment – Nationally Threatened Ecological Communities and Threatened Species Guidelines (various) • Commonwealth Department of the Environment – Survey Guidelines for Nationally Threatened Species (various) • Biodiversity Assessment Method (EES 2020) • Guidance and Criteria to assist a decision maker to determine a serious and irreversible impact (OEH 2017) • Ancillary rules: Biodiversity conservation actions (NSW Environment 2017) • Ancillary rules: Reasonable steps to seek like-for-like biodiversity credits for the purpose of applying variation rules (OEH 2017) • NSW Guide to Surveying Threatened Plants (OEH 2016) • Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna – Amphibians (DECC 2009) • Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities – Working Draft (DEC 2004) • Threatened Species Assessment Guideline – The Assessment of Significance (DECC 2007) • OEH principles for the use of biodiversity offsets in NSW (OEH 2014) • NSW State Groundwater Dependent Ecosystem Policy (NOW 2002)
	Social – Social amenity and cohesion	Yes	Detailed	• Social Impact Assessment Guideline (DPIE 2023)
Standard	Access – traffic and parking	Yes	General	• Guide to Traffic Generating Development (RTA 2002) • Road Design Guide (RMS) & relevant Austroads Standards (RMS / Austroads)
	Air – Gasses	Yes	On Request	• Protection of the Environment Operations (Clean Air) Regulation (NSW Government 2022) • Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA 2022) • Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA 2022) • National Greenhouse Accounts Factors (Commonwealth 2024)
	Air - Particulate matter	Yes	General	• Protection of the Environment Operations (Clean Air) Regulation (NSW Government 2022) • Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA 2022) • Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA 2022) • Assessment and Management of Odour from Stationary Sources in NSW (DEC 2006) • National Greenhouse Accounts Factors (Commonwealth 2024)
	Amenity – Noise	Yes	General	• NSW Noise Policy for Industry (EPA 2017) • Interim Construction Noise Guideline (EPA 2009) • NSW Road Noise Policy (EPA 2011) • Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC 1990)
	Amenity – Visual	No	General	• Large-Scale Solar Energy Guideline – Technical Supplement for Landscape Character and Visual Impact Assessment (DPHI 2022)
	Built Environment – Public infrastructure	Yes	General	• Nil
	Hazards and risks – Biosecurity	No	On Request	• Nil
	Hazards and risks – Bushfire	Yes	On Request	• Planning for Bushfire Protection (RFS 2019)

Table A1 (Cont'd)
Scoping Summary

Level of Assessment	Matter	Cumulative Impact Assessment	Community Engagement	Relevant Government Plans, Policies and Guidelines
Standard (Cont'd)	Heritage – Aboriginal	No	General	• The Burra Charter (The Australia ICOMOS charter for places of cultural significance) (2013) • Guide to investigation, assessing and reporting on Aboriginal cultural heritage in NSW (OEH) 2011 • Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH 2010) • Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (OEH 2010) • Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (OEH 2010) • NSW Heritage Manual (OEH 1996) • Statements of Heritage Impact (OEH 2023)
	Heritage – Historic	No	On Request	• NSW Heritage Manual (OEH 1996) • Guidelines for preparing a Statement of Heritage Impact (NSW DPE 2023)
	Land – soil and Land capability	Yes	General	• State Environmental Planning Policy (Resilience and Hazards) 2021 • Agricultural Land Classification (DPI 2017) • Rural Land Capability Mapping (OEH 2021) • Soil and Landscape Issues in Environmental Impact Assessment (OEH 2021) • Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC 1992) • Guidelines for Consultants Reporting on Contaminated Sites (EPA NSW 2020) • Agricultural Issues for Extractive Industry Development (DPI 2016)
	Water – Hydrology and surface water	Yes	On Request	• NSW State Rivers and Estuary Policy (NSW Water Resources Council 1993) • NSW Government Water Quality and River Flow Objectives (EPA 2006) • Using the ANZECC Guideline and Water Quality Objectives in NSW (EPA 2006) • National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ 2018) • National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ 2000) • Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (EPA 2022) • Managing Urban Stormwater: Volume 1 Soils & Construction (Landcom 2004) • Managing Urban Stormwater: Volume 2E: Mines and Quarries (DECC 2008) • Managing Urban Stormwater: Treatment Techniques (EPA 1997) • Managing Urban Stormwater: Source Control (EPA 1998) • Technical Guidelines: Bunding & Spill Management (EPA 2022) • A Rehabilitation Manual for Australian Streams (LWRRDC and CRCCH 2000) • NSW Guidelines for Controlled Activities (NOW 2022)
	Water – Hydrogeology and groundwater	No	On Request	• NSW Aquifer Interference Policy (NSW DPI 2012) • NSW State Groundwater Policy Framework Document (NSW DLWC 1997) • NSW State Groundwater Quality Protection Policy (NSW DLWC 1998) • NSW State Groundwater Quantity Management Policy (NSW DLWC 2000) • Australian Groundwater Modelling Guidelines (National Water Commission 2012) • National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC 2013) • Guidelines for the Assessment & Management of Groundwater Contamination (EPA 2007)

Table A1 (Cont'd)
Scoping Summary

Level of Assessment	Matter	Cumulative Impact Assessment	Community Engagement	Relevant Government Plans, Policies and Guidelines
Not required	Biodiversity – Aquatic flora and fauna	No	On Request	• Commonwealth EPBC 1.1 Significant Impact Guidelines – Matters of National Environmental Significance (Commonwealth 2013) • Commonwealth EPBC 1.2 Significant Impact Guidelines – Actions on, or Impacting upon, Commonwealth Land and Actions by Commonwealth Agencies (Commonwealth of Australia, 2013) • Commonwealth Department of the Environment – Nationally Threatened Ecological Communities and Threatened Species Guidelines (various) • Commonwealth Department of the Environment – Survey Guidelines for Nationally Threatened Species (various) • Biodiversity Assessment Method (EES 2020) • Guidance and Criteria to assist a decision maker to determine a serious and irreversible impact (OEH 2017) • Ancillary rules: Biodiversity conservation actions (NSW EES 2017) • Ancillary rules: Reasonable steps to seek like-for-like biodiversity credits for the purpose of applying variation rules (NSW EES 2017) • NSW Guide to Surveying Threatened Plants (OEH 2016) • Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna – Amphibians (DECC 2009) • Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities – Working Draft (DEC 2004) • Threatened Species Assessment Guideline – The Assessment of Significance (DECC 2007) • OEH principles for the use of biodiversity offsets in NSW (OEH 2014) • NSW State Groundwater Dependent Ecosystem Policy (NOW 2002)
	Economic – Livelihood and opportunity cost	No	General	• NSW Government Guide to Cost Benefit Analysis (NSW Treasury 2023). • Guideline for the economic assessment of mining and coal seam gas proposals (NSW Planning 2015) • Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals (NSW Planning 2018)
	Economic – Natural resources use	No	On Request	• NSW Government Guide to Cost Benefit Analysis (NSW Treasury 2023). • Guideline for the economic assessment of mining and coal seam gas proposals (NSW DPE 2015) • Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals (NSW DPE 2018)
	Hazards and risks – Dams safety	No	On Request	• Dams Safety NSW and Australian National Committee on Large Dams guidelines

Appendix 2

Social Impact Assessment Scoping Worksheet

(Total No. of pages including blank pages = 6)

Social Impact Assessment (SIA) Scoping Worksheet **Project name:** **Date:** 18/12/2025

SCOPE SOCIAL IMPACTS													PLAN YOUR SIA		
PROJECT ACTIVITIES	**CATEGORY OF SOCIAL IMPACT**	**LIKELY IMPACTS ON PEOPLE**			**COMBINED AND CUMULATIVE IMPACTS**	**DIMENSIONS OF IMPACT**					**MANAGEMENT BY OTHER TECHNICAL DISCIPLINES**	**ASSESSMENT LEVEL FOR EACH IMPACT***		**Data collection plan**	**Opportunities for, or refinements to date?**	**Initial mitigation or enhancement plans?**
Which **project activity / activities** could produce social impacts?	Which **social impact categories** could be affected by the project activities	How is this impact likely to be experienced by people? Use additional rows if different people are likely to experience the impact differently	Who is likely to be impacted?	Is the impact **positive or negative**	Will this impact combine with others from this project, and/or have cumulative impacts with other projects?	Is this dimension significant for the social impact? **extent**	**duration**	**intensity**	**sensitivity**	**level of concern/interest**	Is there another technical discipline (i.e. not the SIA) that will likely manage some of this social impact?	Level of assessment for each social impact	Indicative data requirements	What data and methods will you use to investigate this impact?	Have you identified or adopted any refinements to reduce social impacts?	What **mitigation / enhancement measures** are being considered?
Blasting	Surroundings	Concerns re vibration, subsidence and dust. Concerns about impacts on property values	Near neighbours and broader community	Negative	Unknown	Yes	Yes	?	?	Yes	Yes - fully	Minor	Secondary data + limited engagement (if required)	Refer to water estpert report	Monitor in engagement inputs	Restrictions on blast times and frequency
Mining and Truck haulage	Accessibility	Sense of impingement and concern of safe road access from properties	Nearest neighbours on haulage route	Negative	Yes	Yes	Yes	Yes	Yes	Yes	Yes - fully			Community inputs to level of concern	Identify quatum shift from current status	Routes, timing, driver protocols.
Mining and Truck haulage	Health and Wellbeing	Concern about air quality, noise, vibrations	Wakefield, Teralba and nearest neighbours	Negative	Unknown	?	?	?	Yes	Yes	Yes - fully	Minor	Secondary data + limited engagement (if required)	cross reference traffic report against concerns	Include in engagement and track	Refer other studies
Mining and Truck haulage	Way of Life	Percieved loss of amenity	local community	Negative	Unknown	No	Yes	No	No	?	Yes - partly			interviews, survey, compare with current baseline	widened the definition of loal community	Refer to other expert studies
Land clearing	Surroundings	Sense of loss for flora and fauna, possible visual impacts	subsections of local community	Negative	Unknown	Yes	Yes	?	?	Yes	Yes - fully	Minor	Secondary data + limited engagement (if required)	include data from current rehab	Monitor in engagement inputs	Amend original project design, rehab plan
Supply of product	Livelihoods	Meeting the needs of housing and other construction	local community and wider region	Positive	Unknown	Yes	Yes	?	?	?	Yes - fully	Minor	Secondary data + limited engagement (if required)	market demand, regional economic development strategies	yes - assess regional strategy	Extend life of quarry to guarantee supply
Distrurbance of Aboriginal Hertitage	Culture	Potential sense of loss	Local First Nations	Negative	No	?	?	?	?	?	Yes - fully	Minor - unknown	Secondary data + limited engagement (if required)	interveiw local LAC	no	refer to Heritage Study
Employment and Training	Livelihoods	employment and skills training	local people	Positive	Unknown	Yes	Yes	Yes	Yes	Yes	Yes - partly	Standard	Secondary data + targeted engagement + potentially targeted research	employment and procurement data	no	promote local employment
Rehabilitation	Surroundings	Counter biodiversity concerns above	elements of the local community & wildlife carers/ organisations	Positive	No	Yes	Yes	?	?	Yes	Yes - fully	Minor	Secondary data + limited engagement (if required)	current rehab data	Include in engagement and track	rehab is a mitigation
Community sponsorship	Community	public benefit through Quarry participation and support of loally identigfied needs; particulalry through the local school	local community	Positive	Unknown	Yes	Yes	?	?	Yes	No	Standard - unknown	Secondary data + targeted engagement + potentially targeted research	data from current sponsorships and assess outcomes in engagement	no	community sponsorship policy
Natural resource use	Surroundings	Concerns about water	?	Negative	Unknown	?	?	?	?	?	Yes - fully	Minor - unknown	Secondary data + limited engagement (if required)			Unkown if necessary at this stage
Project planning	Decision Making Systems	Not feeling heard across all the plans for Teralba (cumulative impacts)	Community	Negative	Yes	Yes	?	No	Yes	Yes	No	Detailed	Secondary data + detailed engagement + targeted research	Direct input from community members and local government	Project design being amended based on community impacts	Transparent stakeholder engagement plan.

*** If the recommended level of assessment includes an 'unknown', research these aspects first to establish the level of assessment to undertake**

CATEGORIES		MEANING FOR WORKSHEET PURPOSE	FURTHER EXPLANATION AND EXAMPLES
SOCIAL IMPACTS	*way of life*	*including how people live, how they get around, how they work, how they play, and how they interact each day*	*Impacts on people's daily routines caused by construction activities and/or operational arrangements. Impacts on people's commuting/travelling times, their experience of travel, and their ability to move around freely. Impacts on people's experience of privacy, peace, and quiet enjoyment, especially if affected by increased noise. Impacts on people's general experience of life in their community, especially if the project might cause a 'tipping point' of cumulative impacts on their lives, e.g. through property acquisitions, severance of communities, or major disruption during construction.*
	community	*including composition, cohesion, character, how the community functions, resilience, and people's sense of place*	Composition - impacts on demographic characteristics and community structure. Can be changed by in-migration and out-migration over time, including the presence of newcomers and loss of longer term residents or sections of the community. Also inflow/outflow of temporary residents, e.g. during construction. Character - impacts on a community's shared identity and attributes, and natural and built features that people value. Can be affected by changes to buildings, vegetation, landscapes, land uses/industries, or land ownership and management. Cohesion and function - impacts on social connections, interrelationships, networks and interactions, trust and cooperation, participation in community activities and institutions, and the potential for harmony or conflict. Lack of cohesion can result in social dislocation, alienation, division, dispossession, tensions, impoverishment, and crime. Sense of place - impacts on feelings of belonging in a place, or identity with a place, which may derive from cultural or historical connections.
	accessibility	*how people access and use infrastructure, services and facilities, whether provided by a public, private, or not-forprofit organisation*	*Impacts on how people use roads and other access routes; severance, restrictions, and/or improvements in access. Impacts of project (including project-related transport) on pedestrian routes and people's access to schools, medical services, community services, and businesses. Impacts on capacity of services to respond to in-migrating residents.*
	culture	*both Aboriginal and non-Aboriginal, including shared beliefs, customs, practices, obligations, values and stories, and connections to Country, land, waterways, places and buildings*	*Impacts on people's values, customs, and beliefs associated with (or embedded in) the site or locality, e.g. as secondary effects of changes to scenic quality, landforms, or water flows. Strengthening of community values and culture through project design elements.* *For Aboriginal cultural heritage, also consider potential for intangible harm through 'cultural or spiritual loss' (i.e., loss or diminution of traditional attachment to the land or connection to country, or loss of rights to gain spiritual sustenance from the land).*
	health and wellbeing	*physical and mental health*[1], especially for people vulnerable to social exclusion or substantial change, psychological stress resulting from financial or other pressures, access to open space and effects on public health	*Health impacts, and well-founded concerns/fears about health impacts, associated with noise, dust, odour, vibration, lighting, and toxic materials. Stress, anxiety, and uncertainty - or hopes - about a proposal, about changes to adjacent uses, and about cumulative change to a neighbourhood. Psychological stress and fears/hopes for the future. Potential impact of the project on social behaviours such as alcohol/drug use, domestic or other violence. Impacts of project elements on ability to sleep, people's general health and wellbeing, and overall community health.*
	surroundings	*access to, and use of, services that ecosystems provide*[2], such as shade, pollution control, erosion control, public safety and security, access to and use of the natural and built environment, and amenity aesthetic value and amenity[3]	*Impacts on anything provided by the environment and that is useful for people, e.g. food and clean water supply, flood or fire defences. Impacts on safety of pedestrians, children, drivers, and cyclists. Impacts on* levels of crime and violence, perceptions of crime, safety, and security, especially for women. Loss or enhancement of public spaces. Impacts on the perceived quality and uses of a natural or built area. Impacts on the valued features, the soundscape, and aesthetics of a place and how people use or appreciate it.
	livelihoods	*including people's capacity to sustain themselves through employment or business*	*Impacts on people's livelihoods, e.g. from new employment and business opportunities (positive), or from disruption during construction (negative). For Aboriginal people, rights to land and to gain spiritual and cultural sustenance from the land.*
	decision-making systems	*including the extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.*	*Capacity of affected people to influence project decisions, including elements of project design. Extent to which they can navigate large amounts of technical material and make informed decisions. Effectiveness of engagement mechanisms at enabling all groups (especially vulnerable or marginalised groups) to participate in the assessment process. Levels of trust in the rigour and impartiality of the assessment process. Extent to which people feel empowered to determine their futures, including after a project closes. Opportunities for people to have a say in the project's community investment decisions. Accessibility and effectiveness of complaint and remedy procedures.*

CATEGORIES	EXAMPLES
A social impact may be physically observable or it may manifest as rational or justified fears (of negative impacts in the future) or aspirations (of positive impacts in the future).	**Physically observable impacts** *More paths and cycleways* *Acquisition of residential properties*
	Rational or justified fears *Psychological stress regarding the future personal and community impacts of compulsory property acquisition*
A social impact may be experienced positively by some people, and negatively by others.	**Positive** *Improved livelihoods owing to more work opportunities*
	Negative *Increased prevalence of adverse health conditions*
A social impact may be tangible or intangible.	**Tangible** *Availability of affordable housing*
	Intangible *Community cohesion*
Social impacts may be direct or indirect. They may also combine with other impacts from a single project or be cumulative with impacts from other projects.	**Direct** *Sleep disturbance caused by construction noise*
	Indirect *Strain on family relations and health from sleep disturbance caused by construction noise*
	Combined *Sleep disturbance due to increased noise and restricted access because of significantly reduced street parking caused by a single project*
	Cumulative *Sleep disturbance due to increased noise and restricted access because of significantly reduced street parking from one project. In addition, poor air quality creating health conditions and strained family relations from another project*
A social impact may be best assessed using quantitative methods or qualitative methods.	**Directly quantitative** *Changes in population demographics*
	Partially/indirectly quantitative *Incidence of voluntary work among a community as a proxy indicator of community cohesion*
	Qualitative (measurable through perception surveys or oral story telling, for example) *Cultural values* *Sense of place* *Connection to Country*
A social impact may be experienced differently within a community, by different communities, and at different times/stages of the project.	**Different experiences within a community** *An increase in the value/cost of housing may be positive for homeowners wanting to rent out or sell their properties, but negative for individuals and families wanting to buy or rent.*
	Different experiences for different communities *People living near a project may experience most of the noise and dust impacts, while people in the region's nearest town may benefit from most of the job opportunities.*
	Different experiences over time *People's experiences of impacts during project construction may be quite negative, whereas experiences during operation may be more positive.*

DIMENSIONS		DETAILS NEEDED TO ENABLE ASSESSMENT
Magnitude	*Extent*	Who specifically is expected to be affected (directly, indirectly, and/or cumulatively), including any vulnerable people? Which location(s) and people are affected? (e.g. near neighbours, local, regional, future generations).
	Duration	When is the social impact expected to occur? Will it be time-limited (e.g. over particular project phases) or permanent?
	Intensity or scale	What is the likely scale or degree of change? (e.g. mild, moderate, severe)
	Sensitivity or importance	How sensitive/vulnerable (or how adaptable/resilient) are affected people to the impact, or (for positive impacts) how important is it to them? This might depend on the value they attach to the matter; whether it is rare/unique or replaceable; the extent to which it is tied to their identity; and their capacity to cope with or adapt to change.
	Level of concern/interest	How concerned/interested are people? Sometimes, concerns may be disproportionate to findings from technical assessments of likelihood, duration and/or intensity.

LEVEL		MEANING FOR WORKSHEET PURPOSE
LEVEL OF ASSESSMENT FOR EACH SOCIAL IMPACT	*Detailed assessment*	The project may result in a significant negative social impact, including cumulative impacts
	Standard assessment	The project may result in a moderate social impact, including cumulative impacts
	Minor assessment	The impact is considered minor.
	Not relevant	Where potential social impacts are immaterial and do not warrant assessment.