Statement of Environmental Effects

Snow Excavation Sand Quarry

290 Jim Cattanach Road, Darlington Point

Lot 2 DP1088274

PREPARED FOR: SNOW EXCAVATIONS

BY: SKM PLANNING PTY LTD – 6 MURPHY CRESCENT, GRIFFITH NSW – ADMIN@SKMPLANNING.COM

DATE OF FINAL ISSUE – 6 JANUARY 2025

PREPARED BY KELLY MCNICOL M.PL (DIRECTOR) _____

Statement of Validity

Environmental Assessment prepared by	
Name:	Kelly McNicol
Qualifications:	Bachelor of Arts and Sciences – (Geography and English) Masters of Urban and Regional Planning
Address:	6 Murphy Crescent, Griffith NSW
In respect of:	Snow Excavations Sand Quarry
Applicant Name:	Snow Excavations
Applicant Address:	Farm 1247 Harwood Rd, Griffith
Proposed development:	The Proposal would comprise the construction and operation of a sand quarry facility with a capacity to extract up to 29,000 m^3 of sand per year The key construction components of the Proposal would include: • ongoing excavation of the quarry area • construction of an internal haulage road and turn-around area for heavy vehicles • construction of site fencing The key operational components of the Proposal would include: • Operation of a sand quarry 6 days a week between 7 am and 7 pm.
Land to be developed:	290 Jim Cattanach Road, Darlington Point, legally described as Lot 2 DP1088274
Signature:	Kelly McNicol M.Pl
Name:	Kelly McNicol
Date:	06/02/2025

Glossary of terms

Term	Description
ADG	Australian Dangerous Good
AEP	Annual Exceedance Probability
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
ANZECC	Australian and New Zealand Environment and Conservation Council
AOBV	Areas of Outstanding Biodiversity Value
Applicant	Snow Excavations
ARI	Average Recurrence Interval
AS	Australian Standard
BAR	*Rural Basic Right Turn*
BC Act	*Biodiversity Conservation Act 2016*
BCA	Building Codes of Australia
BDAR	Biodiversity Development Assessment Report
BIC	Building Information Certificate
BoM	Bureau of Meteorology
BOS	Biodiversity Offset Scheme
CIA	Coleambally Irrigation Area
CLM Act	*Contaminated Land Management Act 1997*
Council	Murrumbidgee Council
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CTMP	Construction Traffic Management Plan
DA	Development Application
DCP	Development Control Plan
DG	Dangerous Goods
DP	Deposited Plan
DPI	Department of Primary Industries (NSW)
DPE	Department of Planning and Environment (NSW) (The Department)
EEC	Endangered Ecological Community
EES Group	Environment Energy and Science Group within the Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EP&A Act	*Environmental Planning and Assessment Act 1979*

EP&A Regulation	*Environmental Planning and Assessment Regulation 2021*
EPA	Environment Protection Authority (NSW)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPIs	Environmental Planning Instruments
EPL	Environmental Protection Licence
ERA	Environment Risk Assessment
FRNSW	Fire and Rescue NSW
FRNSW Guidelines	NSW FRNSW Fire Safety in Waste Facilities Guidelines
ha	hectares
ICNG	Interim Construction Noise Guideline
IDO	Interim Development Order
MLEP 2012	Murrumbidgee Local Environmental Plan 2013
kg	kilogram
kL	kilolitres
km	kilometres
km/hr	kilometres per hour
L	litre
LAeq	Equivalent continuous sound level
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
Killoran Ag	Killoran Ag Pty Ltd
m	metres
m^3	cubic metres
mg	milligrams
ML	megalitres
mm	millimetres
mm/s	millimetres per second
MNES	Matters of National Environmental Significance
MSW	Municipal Solid Waste
NML	Noise Management Level
NPfI	Noise Policy for Industry (EPA, 2017)
NPI	National Pollutant Inventory
NSW	New South Wales

PANL	Project Amenity Noise Level
PINL	Project Intrusiveness Noise Level
PM	Particulate matter
PM_{10}	Particulate matter - 10 micrometres or less in diameter
$PM_{2.5}$	Particulate matter - 2.5 micrometres or less in diameter
PMF	Probable Maximum Flood
POEO (Waste) Regulation	*Protection of the Environment Operations (Waste) Regulation 2014*
POEO Act	*Protection of the Environment Operations Act 1997*
PRS	Preliminary Risk Screening
PSNL	Project Specific Noise Levels
RBL	Rating Background Level
RL	Reduced level
RNP	Road Noise Policy
Roads Act	*Roads Act 1993*
RTA	Roads and Traffic Authority
SAII	Serious And Irreversible Impact
SEED	Sharing and Enabling Environmental Data
SEPP	State Environmental Planning Policies
SEPP HR	State Environmental Planning Policy (Hazards and Risks) 2021
SSD	State Significant Development
SWL	Sound power levels
t	Metric tonne
TAPM	The Air Pollution Model
TIA	Traffic Impact Assessment
TN	Total nitrogen
TP	Total phosphorus
tpy	tonnes per year
TSC Act	*Threatened Species Act 1995 (repealed)*
VENM/ENM	Virgin Excavated Natural Material and Excavated Natural Material
WAD	Works Authorisation Deed

Table of Contents

1 Introduction

1.1 Background

This Statement of Environmental Effects (SEE) has been prepared by SKM Planning Pty Ltd (SKM) on behalf of Snow Excavations (the Applicant) to accompany an application for a local non-designated development application to be submitted to Murrumbidgee Council (Council). This application seeks development consent under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for an extractive industry (sand quarry). The site is located approximately 6.3 kilometres (km) south of the village of Darlington Point, New South Wales (NSW), within the Murrumbidgee Council Local Government Area (LGA).

The Applicant proposes operating a new sand quarry (the Proposal) at 290 Jim Cattanach Road, Darlington Point, on an 89 ha portion of Lot 2 DP1088274 (the site). The owners are pursuing a subdivision application through Council to subdivide the 84.9 ha quarry site (proposed Lot 1). Around 80 ha of proposed Lot 1 would continue to be used for intensive plant agriculture, including broadacre rotational crops. Proposed Lot 2 would contain the remainder of the existing farm holding, including 313.8 ha of land predominantly used for intensive plant agriculture. The subdivision has been proposed under Clause 4.2A of the Murrumbidgee Local Environmental Plan 2013 (MLEP 2013).

The development application proposes to authorise the excavation of 29,000 m^3 of excavated sand per year within a quarrying footprint of 1.8 ha. Excavation would occur at depths between 8-10 m, the known depth of the sand vein that runs through the region. Snow Excavation has dug test pits within the area to understand the depth and extent of the sand vein and is satisfied that the sand deposit would be sufficient to excavate for 10 – 15 years. Detailed quarrying operations and rehabilitation plans would be provided as a consent condition.

1.2 Purpose of this Report

The SEE aims to assess the development's potential environmental and social impacts on the locality, LGA, and region. It has been prepared in accordance with the EP&A Act, Environmental Planning and Assessment Regulation 2021 (EP&A Regulation), and any relevant guidelines.

1.3 The Applicant

Snow Excavations is a local excavation and material supply business that also owns Meyers Materials Supplies in Griffith.

The Applicant believes that their site provides the ideal location for a sand quarry as it is remote and removed from village areas and sensitive receivers. The site has good access to

the classified road network and is strategically located in proximity to concrete and cement manufacturing businesses and other users in Griffith and the surrounding region.

1.4 Approval Pathway

The proposal is considered local development under the EP&A Act. The proposal is not categorised under Schedule 3 of the EP&A Regulation as a designated development extractive industry for the following reasons:

- The proposal would extract less than 30,000 m^3 of sand per year.
- The proposal would not disturb in excess of 2 ha of land for clearing or extraction and storing overburden. The required internal haul routes would be constructed as a farm road as they are permissible without consent within the zone. The remainder of the land holding would continue to be utilised for broadacre cropping for lucerne.
- The site is not located:
    - Within 40 m of natural waterbody or environmentally sensitive area.
    - Within 100m of a wetland.
    - In an area of contaminated soil.
    - On land that has a substantial slope.
- The proposal does not include blasting.
- The quarry site is not located within 500 m of another extractive industry facility. The nearest quarry is located 620 m to the north-west of the proposed quarry on Lot. 3 DP1088274.

The proposal is also **not** integrated development under the *Protection of the Environment Operations Act 1997* (POEO Act).

Murrumbidgee Council is the approval authority for the development application. No external approvals are required. A permit or licence from the NSW Resources Regulator will be required following the approval of the development application. However, the proposal is not considered integrated development under the Mining Act.

2 The Site

2.1 Site Description

The existing farm holdings comprise a single lot (Lot 2 DP1088274) with an area of 396.24 ha. The site contains existing paddocks used for intensive plant agriculture (rotational crops), a farm dwelling and some outbuildings. Access to the site is gained from two driveways connected to Jim Cattanach Road (see **Figure 1**). The site contains some native vegetation patches, none of which are located near the excavation area.

The proposal includes the subdivision of an 84.9 ha portion of the farm holding to be utilised by Snow Excavations for the sand quarry and continued use for intensive plant agriculture. The quarry would take up 1.8 ha of this site area and be located 80 m from the proposed western boundary of Lot 1. The sand quarry's location does not contain native vegetation and has historically been used for pivot irrigation cropping.

A large east-to-west band of sand deposits runs through the site. Other landowners to the west and east have taken advantage of the sand deposit and commenced quarrying. The sand is suitable for the manufacturing of cement and concrete.

Figure 1: Existing Driveway

2.2 Site History

The site has historically been used as a rotational cropping site, including a large pivot for irrigation. The paddock that the quarrying operation will occupy has been laser levelled, worked up and planted with various crops over the years.

The site does not contain any development approvals for its infrastructure. Several buildings on the site were constructed prior to any Council Interim Development Order (IDO) or a requirement for building approval, including a dwelling.

2.3 Surrounding Land Uses

The site is located in a remote location in the LGA on Jim Cattanach Road, which connects to the Kidman Way at an existing intersection around 1.7 km from the site. Jim Cattanach Road is an all-weather, two-lane Council road. The nearest residential receiver not located on the farm holding is located 1.2 km to the north-west of the site at 5775 Sturt Highway, Darlington Point NSW 2706. The predominant land use in the locality is irrigated intensive plant agriculture, including large almond plantations

2.4 Zoning and Permissibility

The site is zoned RU1 Primary Production under the Murrumbidgee Local Environmental Plan 2013 (MLEP 2013) and extractive industries are a permissible use with consent of Council (see **Figure 2**).

extractive industry means the winning or removal of extractive materials (otherwise than from a mine) by methods such as excavating, dredging, tunnelling or quarrying, including the storing, stockpiling or processing of extractive materials by methods such as recycling, washing, crushing, sawing or separating, but does not include turf farming.

Figure 2: Zoning of the Site

2.5 Topography, Hydrology, Geology and Soils

The land is relatively flat and drains predominantly to an inter-allotment drainage system. There are no natural watercourse lines within close proximity to the site. There are a series of irrigation channels that traverse the locality. The area is within the Coleambally Irrigation Area (CIA), which ensures a secure water source as part of the regulated allocation of the Murrumbidgee River.

The CIA covers almost 400,000 hectares and services over 500 farms. The average farm size is 220 ha and provides for irrigated agriculture.

The site geography is the Shepparton formation, which is poorly consolidated clay, silt, sand, and gravel. This formation is found throughout the Riverina between the Lachlan and Murray Rivers.

The site is predominantly class 6 land with very severe limitations; some class 4 land has moderate to severe limitations closer to the road.

Class 6 land is shown in orange in **Figure 3** has very severe limitations for a wide range of land uses, and few management practices are available to overcome these limitations. Land generally is suitable only for grazing with constraints and not for cultivation.

Class 4 land shown in green can be cultivated occasionally for sowing of pastures and crops. However, it has cropping limitations because of erosion hazard, weak structure, salinity, acidification, shallowness of soils, climate, wetness, stoniness or a combination of these factors. It is only suitable for intermittent cultivation with specialised practices. Required erosion control practices include advanced conservation tillage, pasture cropping, well-planned rotations and maintenance of ground cover.

Classes as per the Land and Soil Capability Mapping for NSW and provide a statewide classification of soil capabilities.

Figure 3: Soil and Land Classification Map

2.6 Biodiversity

The proposed quarrying operations would be located on a paddock which has been laser levelled, worked up and planted with rotational crops for several years. The quarry site is void of any native vegetation. No native vegetation or habitat would be removed as part of the proposal.

2.7 Surrounding Receivers

The nearest sensitive receiver to the site, which is not part of the farm holding, is located 1.4 km from the northwest of the proposed quarrying operations.

There are three dwellings not associated with the proposed development within 3 km of the proposed quarrying operations. **Figure 4** illustrates the sensitive receivers in the locality.

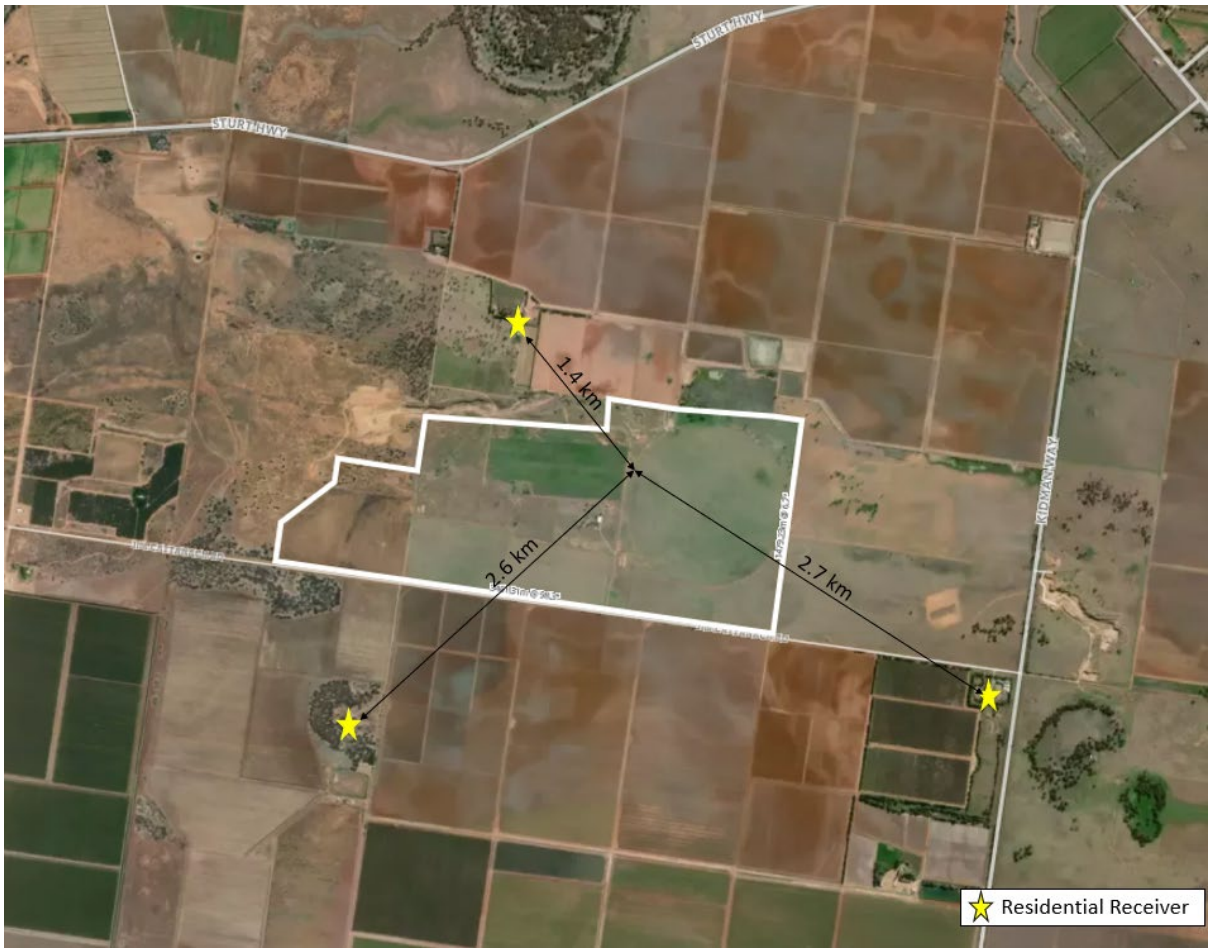


Figure 4: Sensitive Receivers within 3km of Site (source: Google Earth)

2.8 Climate

The climate at the site can be described as warm and temperate. The nearest long-term weather station is at the Yanco Agricultural Institute (Yanco), some 56.7 km away. Long-term averages from Elders are shown in **Table 1**:

Table 1: Long Term Temperature Averages at Yanco

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Mean Max (°C)	34.2	32.4	28.9	24.3	19.0	15.2	14.5	16.3	20.5	25.0	29.0	31.1	**24.2**
Mean Min (°C)	18.8	18.3	15.4	11.7	7.6	5.7	4.9	5.2	7.6	10.7	14.3	16.4	**11.4**
Mean Rain (mm)	30.4	30.4	34.6	29.9	35.4	35.1	33.2	34.9	35.1	36.8	29.6	31.0	**394.0**
Mean Rain Days	4.5	4.0	4.7	5.2	8.1	10.9	12.1	10.8	8.8	7.1	5.7	5.2	**86.8**

It is noted the prevailing winds in the locality are from the west and north-west.

3 Proposed Development

3.1 Proposal Overview

The proposal relates to constructing and operating a sand quarry with the capacity to extract 29,000 m^3 of sand per year. The development is not considered designated development as it proposes to extract less than 30,000 m^3 of materials per year, which does not meet the criteria in clause 16 of Schedule 3 of the EP&A Regulation.

The extraction area would be limited to 1.8 ha under this development application to ensure the triggers for designated development are not breached. Based on the expected amount of sand within the vein to depths of around 8-10 m, quarrying operations would most likely cease after 15 years, and the site would be rehabilitated to reduce the depth and bulk of the pit.

The proposed location of the sand quarry within the land holding contains a vein of sand, which is considered ideal for the construction industry and production of concrete in Griffith, Narrandera and Darlington Point. The potential resource has been confirmed onsite through targeted test excavation pits with an excavator. Also, sand quarries are historically located to the east and west of the site along the sand vein. The production quality in these quarries is considered ideal for concrete application.

3.2 Description of extraction operations

The proposal includes the progressive stripping of sand in 400mm layers. The initial top-soil layer would be stockpiled to allow rehabilitation at the end of the quarry's life. An excavator, front-end loader, and mobile screen will be used to extract sand during extraction. Sand would be temporarily stockpiled following screening. A maximum of 400 tonnes would be stockpiled at any given time, equating to a 2.5-day supply of sand that would be removed from the site.

The proposal would extract 29,000 m^3 of sand annually or around 46,400 tonnes per year. The quarry would operate 6 days a week from 7 am – 5 pm. Around 150 tonnes per day would be excavated and removed from the site, requiring three B-double truck trips daily. The site would employ two workers on-site. On employee would be working the excavator and one working the front-end loader. These workers would also transport the sand in B-doubles to the client. The truck would be parked in the vehicle turning area, and the workers would operate the machinery to load the B-double.

It is expected that the proposal would require four two-way light vehicle movements. Due to the limited truck and light vehicle movements, a traffic impact assessment is not considered warranted.

3.3 Design and Layout

The Proposal includes the following:

- The total excavation area/extent of quarrying operations is to be 1.8 ha (80m x 200 m, including a heavy vehicle turnaround area and stockpile location).
- Use of an excavator and mobile screens to remove debris.

- Temporary stockpiling of sand awaiting removal from the site.
- An existing internal farm road would be utilised to access the quarry.
- Construction of permitter fencing

3.4 Surface Water Drainage

Surface water entering the extraction area would continue to drain through the sand into the groundwater. A bund would be created around the extraction area to limit surface water flows into the quarrying area. Stormwater flows would continue to drain overland to the north.

3.5 Site Preparation

Site preparation works for the Proposal would include:

- Marking of the quarrying footprint area
- Progressive removal of top-soil and stockpiling
- Installation of safety and information signage throughout the site.
- Installation of fencing.

3.6 Site Access and Parking

The site contains existing access from Jim Cattanach Road, an unsealed all-weather Council road. No upgrades are proposed to the existing access or driveway. Informal parking would be provided on-site for employees. However, the main base of the Applicants operations is on Wakaden Street in Griffith.

3.7 Dust Suppression

The quarrying operation would adopt the following dust suppression measures:

- Staff will undertake regular inspections of dust arising from the site and implement dust suppression strategies to ensure dust remains on site, including watering stockpiles and haul roads if required via a water cart.

3.8 Site Amenities

A site amenities building would be provided. The building would be transportable in nature and consist of toilet facilities and a small lunch room. The Applicant has not selected a transportable amenities block from a provider at this time. It is requested that Council determine the development application with a condition of consent requiring the approval of a section 68 approval for a transportable building to provide staff amenities. The staff amenities would include a tank which a lincenced pump out truck would pump out.

3.9 Rehabilitation

Following the completion of quarrying activities after around 15 years the quarrying footprint would be returned to as near as possible to its original condition, including:

- Developing a final landform with minimal earthworks.

- Continued use of overland stormwater conveyance system to discharge to irrigation channels.
- Producing quarry faces and benches that provide a safe final landform with long-term stability.
- Replacement of top-soil to cover quarrying footprint.
- Management of off-site impacts will include ensuring erosion does not impact on other undisturbed land through surface water run-off management. Ongoing monitoring will ensure that if erosion occurs, management activities can be implemented to stop the erosion. This monitoring will be undertaken by the landholder and the proponent.
- The area would be planted with native vegetation if the quarrying footprint cannot be reverted to agricultural purposes.

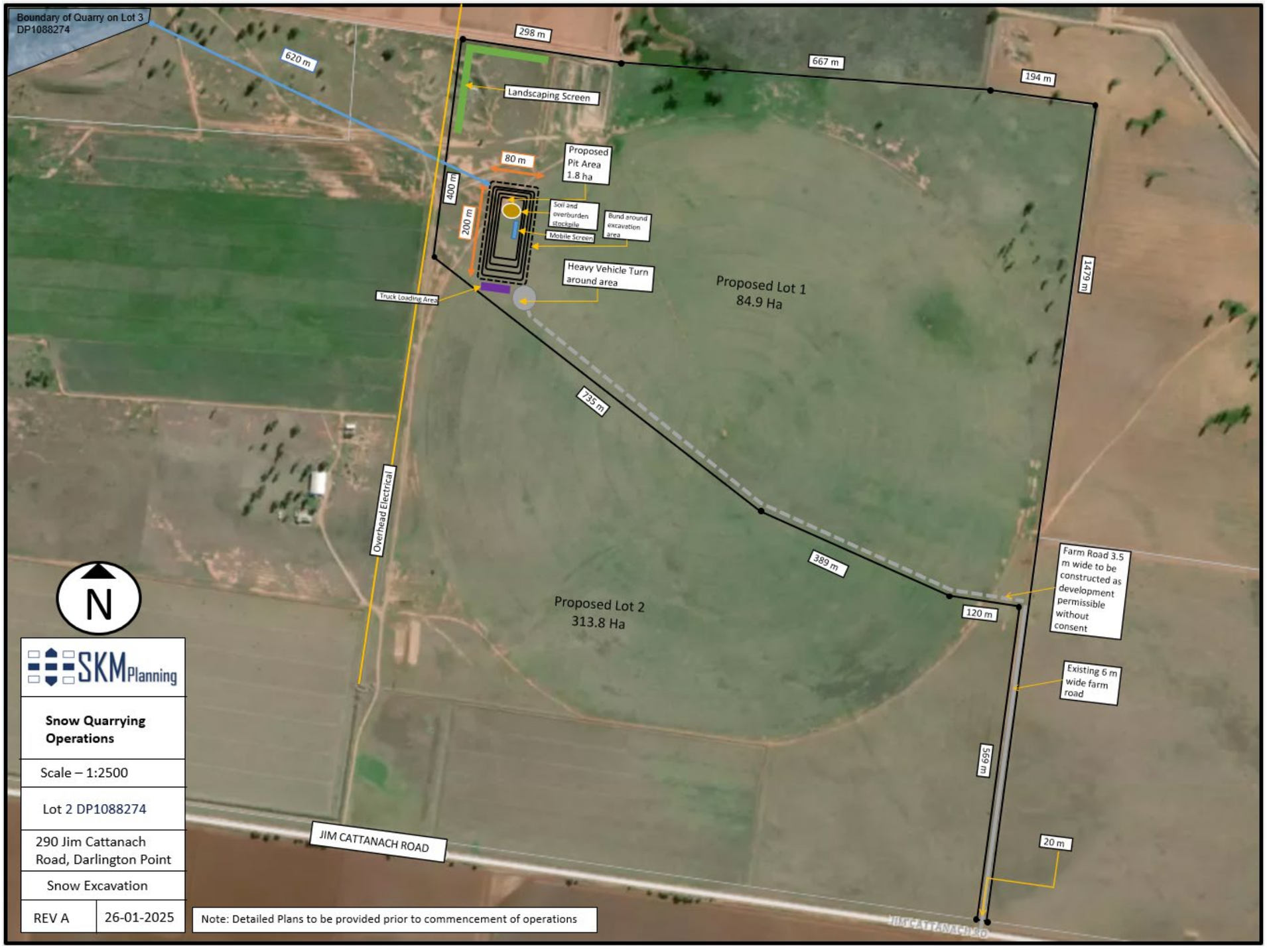


Figure 5: Overall Site Plan (Larger Version provided at **Appendix 1**)

4 Statutory Planning Approvals

This section provides an assessment of the Proposal against the relevant planning legislation as prescribed in Section 4.15 of the EP&A Act.

4.1 Environmental Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is administered by the Commonwealth Department of the Environment (DoE) and provides a legal framework to protect and manage places defined as Matters of National Environmental Significance (MNES). The EPBC Act lists the following places as MNES:

- *World Heritage properties.*
- *National heritage places.*
- *Wetlands of International Significance (including Ramsar wetlands).*
- *Listed threatened species and ecological communities.*
- *Listed Migratory Species protected under international agreements (CAMBA and JAMBA).*
- *The Great Barrier Reef Marine Park.*
- *Water resources (relating to coal seam gas development and large coal mining development).*
- *Protection of the Environment from Nuclear Actions.*
- *Marine Environment.*

Under Part 9 of the EPBC Act, actions that may have a significant impact on a MNES are deemed 'controlled actions' and require approval from the Commonwealth Minister for the Environment (Environment Minister).

The assessment of the significance of the impact is based on the criteria listed in the DoE's Significant Impact Guidelines 1.1 (DoE 2003). Should the Environment Minister decide the action will be taken in a manner that will ensure it will be likely to not have an adverse impact on the MNES, approval will be granted.

The proposal would not have an impact on MNES, and accordingly, approval from the Commonwealth Minister for the Environment is not required.

4.2 Environmental Planning and Assessment Act 1979

The proposed quarrying operations require development consent from the Council under Part 4 of the EP&A Act.

Development applications must consider the objects of the EP&A Act, which are as follows:

(a) 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,

(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,

(c) to promote the orderly and economic use and development of land,

(d) to promote the delivery and maintenance of affordable housing,

(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,

(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),

(g) to promote good design and amenity of the built environment,

(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,

(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,

(j) to provide increased opportunity for community participation in environmental planning and assessment.

The Proposal is considered to be generally in accordance with objects of the EP&A Act for the following reasons:

- The sand quarry would extract a valuable resource that is used in the construction industry with limited environmental impacts.
- The site is located in a remote area that is generally used for agricultural purposes, including broadacre and irrigated cropping and grazing of livestock, and sand quarrying. The use of the site for a sand quarry would promote the orderly and economic use of the land.
- The proposal would not require the removal of any native vegetation, and the sand quarry would be located on disturbed land that has been historically modified and used for rotational crops.

4.3 Environmental Planning and Assessment Regulation 2021 (EP&A Regulations)

The sand quarry would extract a maximum of 29,000 m^3 of sand per year. The Proposal would not be considered designated development under Schedule 3 Section 13 of the EP&A Regulations, which prescribes as follows:

26 Extractive industries

(1) Development for the purposes of an extractive industry facility is designated development if the facility obtains or processes for sale, or reuse, more than 30,000 cubic metres of extractive material per year.

(2) Development for the purposes of an extractive industry facility is designated development if the facility disturbs or will disturb a total surface area of more than 2 hectares of land by—

(a) clearing or excavating, or

(b) constructing dams, ponds, drains, roads or conveyors, or

(c) storing or depositing overburden, extractive material or tailings.

(3) Development for the purposes of an extractive industry facility is designated development if the facility is located—

(a) in or within 40 metres of a natural waterbody or environmentally sensitive area of State significance, or

(b) in or within 100 metres of a wetland, or

(c) within 200 metres of a coastline, or

(d) in an area of contaminated soil or acid sulfate soil, or

(e) on land that slopes at more than 18 degrees to the horizontal, or

(f) if the facility involves blasting—within 1,000 metres of a residential zone or within 500 metres of a dwelling not associated with the development, or

(g) within 500 metres of the site of another extractive industry facility that has operated during the last 5 years.

Commentary:

The Proposal is not considered designated development for the following reasons:

- Only 29,000 m^3 of sand would be extracted per year.
- The location of the quarry is not:
    - Within 40 m of a waterbody.
    - Within 100 m of a wetland.
    - In an area of contaminated ore acid sulfate soils.
    - On a sloping site.
    - Within 500 m of a dwelling not associated with the development.
    - Within 500 metres of the site of another extractive industry.

4.4 Protection of the Environment Operations Act 1997 (POEO Act)

The Proposal is considered a scheduled activity under Schedule 1, Section 12 of the POEO Act. This section prescribes:

19 Extractive activities

(1) This clause applies to extractive activities, meaning the extraction (by any method, including by excavation, dredging, blasting or tunnelling) or processing of extractive materials.

(2) However, this clause does not apply to the following—

> *(a) cut and fill operations, or the excavation of foundations or earthworks, that are ancillary to development that is subject to development consent or approval under the Environmental Planning and Assessment Act 1979,*
>
> *(b) extractive activities to which clauses 33 or 35 applies.*

(3) The activities to which this clause applies are declared to be scheduled activities if they involve the extraction or processing of more than—

> *(a) for maintenance dredging of a navigation channel for vessels carried out by or on behalf of a public authority—30,000 cubic metres of extractive materials per year, or*
>
> *(b) otherwise—30,000 tonnes extractive materials per year, where 0.65 cubic metres of extractive material that is wet is taken to weigh 1 tonne.*

(4) For the purposes of this clause, if more than 30,000 tonnes of extractive material is transported in a year from premises at which extraction occurs, more than 30,000 tonnes of extractive material are taken to have been extracted in that year at the premises.

(5) In this clause, extractive materials means clay, sand, soil, stone, gravel, rock, sandstone or similar substances that are not minerals within the meaning of the Mining Act 1992.

Accordingly, the Proposal would require an EPL from NSW Environment Protection Authority to operate. The Proposal is considered integrated development and the EPA would provide General Terms of Approval for the development prior to Council providing development consent.

Commentary:

The Proposal would not require an EPL from the EPA.

4.5 Roads Act 1993

The Roads Act 1993 (Roads Act) provides a framework for the management of roads in NSW. It provides for the classification of roads and the declaration of the TfNSW and other public authorities for both classified and unclassified roads. The Roads Act confers functions on TfNSW and other roads authorities and allows distribution of such functions between TfNSW and other roads authorities. The Roads Act sets out procedures for the opening and closing of public roads and regulates the carrying out of various activities on public roads.

The proposal is not considered a form of traffic-generating development. Traffic movements to the site would be limited to three two-way heavy vehicle movements per day and an additional three two-way light vehicle movements. The limited traffic movements of the Proposal would not create a need to upgrade the intersection of Kidman Way and Jim Cattanach Road, an unsealed Council road. The existing accessway to the site is considered suitable for the Proposal as it would permit the movement of B-doubles into and out of the site. The existing driveway is 6m wide and would be extended to the quarry area in the coming months.

4.6 Water Management Act 2000

The *Water Management Act 2000* provides a framework for controlling the extraction of water, the use of water, the construction of works such as dams and weirs, and the carrying out of activities on or near water sources in NSW.

Part 3 of the Act contains a number of approvals that deal with the capture, conveyance and use of water in NSW. The proposed development consists of a leachate water storage sump and dam and a fire water tank proposed to be supplied by a bore through an entitlement from WaterNSW.

89 Water use approvals

(1) A water use approval confers a right on its holder to use water for a particular purpose at a particular location.

(2) A water use approval may authorise the use within New South Wales of water taken from a water source outside New South Wales.

90 Water management work approvals

(1) There are three kinds of water management work approvals, namely, water supply work approvals, drainage work approvals and flood work approvals.

(2) A water supply work approval authorises its holder to construct and use a specified water supply work at a specified location.

(3) A drainage work approval confers a right on its holder to construct and use a specified drainage work at a specified location.

(4) A flood work approval confers a right on its holder to construct and use a specified flood work at a specified location.

91 Activity approvals

(1) There are two kinds of activity approvals, namely, controlled activity approvals and aquifer interference approvals.

(2) A controlled activity approval confers a right on its holder to carry out a specified controlled activity at a specified location in, on or under waterfront land.

(3) An aquifer interference approval confers a right on its holder to carry out one or more specified aquifer interference activities at a specified location, or in a specified area, in the course of carrying out specified activities.

No works are proposed requiring approvals or licences from Water NSW.

4.7 Biodiversity Conservation Act 2016 (BC Act)

The BC Act includes a two-tiered approach for the assessment of biodiversity impacts of a development. The first tier of assessment (i.e. thresholds tests) for 'local development' assessed under Part 4 of the EP&A Act initially focuses on 'triggers' that otherwise indicate a requirement, or not, for a second tier of assessment performed under Part 7 of the BC Act.

Threshold tests applied to determine if a development or activity is "likely to significantly affect threatened species" are listed below:

- Impacts exceed the biodiversity offsets scheme thresholds (Section 7.2 of the BC Act); or
- Impacts are likely to significantly affect threatened species or ecological communities or their habitats (Section 7.3 of the BC Act); or
- Impact on declared area of outstanding biodiversity value.

'Yes' to any of the above triggers a requirement for an impact assessment performed in accordance with the Biodiversity Assessment Methodology (BAM) by an Accredited Person (Section 7.7 of the BC Act). A Preliminary Biodiversity Assessment has been prepared for the development and is provided in **Section 7**. The Proposal does not include the removal of any native vegetation or potential habitat for fauna. The Proposal would be unlikely to impact any threatened or endangered species. As such, a Biodiversity Development Assessment Report (BDAR) is not considered necessary.

4.8 State Environmental Planning Policies (SEPP)

SEPP Transport and Infrastructure 2021

Division 5 Electricity transmission or distribution

Subdivision 2 Development likely to affect an electricity transmission or distribution network

45 Determination of development applications—other development

(1) This clause applies to a development application (or an application for modification of a consent) for development comprising or involving any of the following—

(a) the penetration of ground within 2m of an underground electricity power line or an electricity distribution pole or within 10m of any part of an electricity tower,

(b) development carried out—

(i) within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists), or

(ii) immediately adjacent to an electricity substation, or

(iii) within 5m of an exposed overhead electricity power line,

(c) installation of a swimming pool any part of which is—

(i) within 30m of a structure supporting an overhead electricity transmission line, measured horizontally from the top of the pool to the bottom of the structure at ground level, or

(ii) within 5m of an overhead electricity power line, measured vertically upwards from the top of the pool,

(d) development involving or requiring the placement of power lines underground, unless an agreement with respect to the placement underground of power lines is in force between the electricity supply authority and the council for the land concerned.

(2) 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.

Commentary

Essential Energy's infrastructure is located within and in close proximity to the site. The Proposal has been designed with reference to Essential Energy's guidelines. All earthworks would be located at least 5 m from the overhead lines and poles running into the site from the main lines to the north of the site. **Figure 6** shows the existing overhead electrical lines in the locality from Essential Energy's Network Mapping System online. As the Proposal is in proximity to this infrastructure it is expected that Council will notify the authorities in accordance with the SEPP.

Figure 6: Essential Energy Network Map

Clause 2.21 & Schedule 3 – Traffic Generating Development

The development is not considered a traffic-generating development requiring referral to TfNSW.

SEPP Resilience and Hazards 2021

4.6 Contamination and remediation to be considered in determining a development application

(1) 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.

(2) Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in subsection (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.

(3) The Applicant for development consent must carry out the investigation required by subsection (2) and must provide a report on it to the consent authority. The consent authority may require the Applicant to carry out, and provide a report on, a detailed investigation (as referred to in the contaminated land planning guidelines) if it considers that the findings of the preliminary investigation warrant such an investigation.

(4) The land concerned is—

(a) land that is within an investigation area,

(b) land on which development for a purpose referred to in Table 1 to the contaminated land planning guidelines is being, or is known to have been, carried out,

(c) to the extent to which it is proposed to carry out development on it for residential, educational, recreational or child care purposes, or for the purposes of a hospital—land—

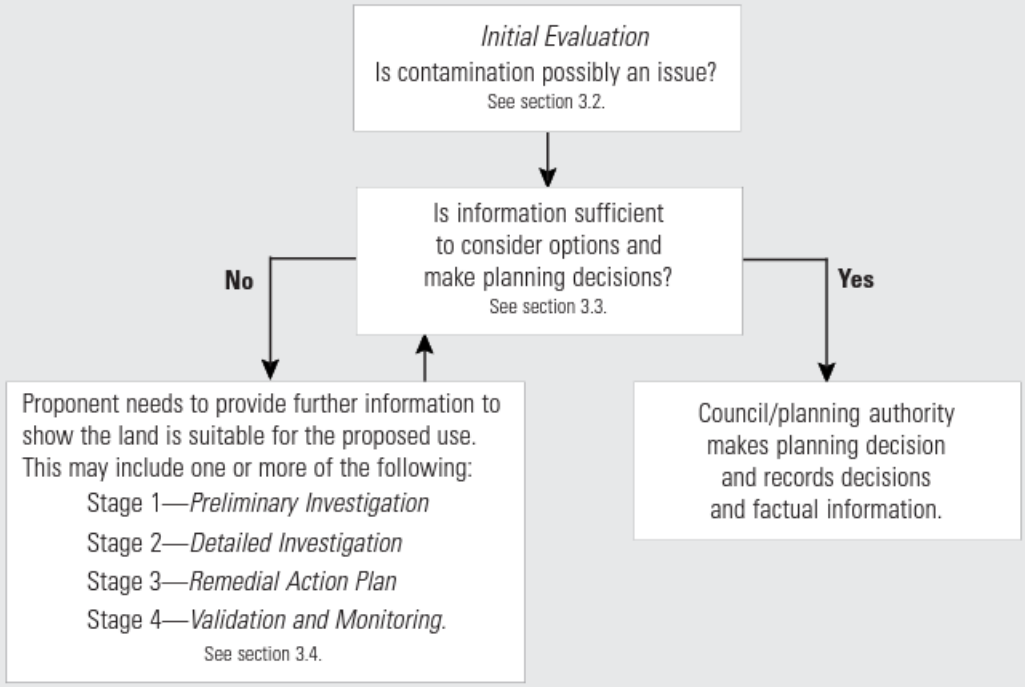
(i) in relation to which there is no knowledge (or incomplete knowledge) as to whether development for a purpose referred to in Table 1 to the contaminated land planning guidelines has been carried out, and

(ii) on which it would have been lawful to carry out such development during any period in respect of which there is no knowledge (or incomplete knowledge).

Commentary

The historical use of the site for grazing and rotational cropping is listed as a potentially contaminating land use in Table 1 of "Managing Land Contamination – Planning Guidelines – SEPP 55 – Remediation of Land."

Figure 1. Decision Process for Land Use Changes



A Preliminary Site Investigation is not considered warranted based on a review of the Guidelines for the following reasons:

- There is no evidence of the site being used for potentially contaminating uses historically with elevated levels of herbicide or pesticide usage.
- The site is not listed on a Contaminated Site Registry.
- There are no land restrictions or notices issued by Council or the EPA on the site.
- The Proposal does not include a sensitive land use.

An unexpected finds protocol would be established by the construction contractors. Should any potential contamination be found during excavation, Council and the EPA would be notified, and a suitable remediation plan prepared in accordance with the SEPP.

Chapter 3 – Hazardous and Offensive Development

The SEPP aims to ensure that measures are employed to reduce the impact of a development that is a hazardous or offensive industry. Under the SEPP, a consent authority must not consent to the carrying out of any development on land without considering:

- *Current circulars or guidelines published by the Department of Planning and Environment relating to hazardous or offensive development;*
- *Whether any public authority should be consulted concerning any environmental and land use safety requirements with which the development should comply;*

- *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;*
- *Any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application (including any feasible alternatives for the location of the development and the reasons for choosing the location the subject of the application), and*
- *Any likely future use of the land surrounding the development.*

The Proposal is for a quarrying operation that would not store or use any dangerous goods. The Proposal does not involve the use of hazardous chemicals above screening levels that would trigger consideration as potentially hazardous development. While the Proposal requires an EPL, extensive buffer lands exist which are owned by the landowner and are appropriately zoned to prevent encroachment. A preliminary risk screening assessment has been provided at **Section 5.**.

4.9 Murrumbidgee Local Environmental Plan 2013 (MLEP 2013)

The site is zoned RU1 Primary Production under the MLEP 2013 and extractive industries are a permissible use with the consent of Council.

extractive industry means the winning or removal of extractive materials (otherwise than from a mine) by methods such as excavating, dredging, tunnelling or quarrying, including the storing, stockpiling or processing of extractive materials by methods such as recycling, washing, crushing, sawing or separating, but does not include turf farming.

Under MLEP 2013 the objectives of the RU1 Primary Production zone are:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

Commentary:

The Proposal would meet the objectives of the zone by providing a facility that will extract sand to be used in the construction industry in the LGA and region without fragmenting land or creating land use conflicts.

Clause 5.10 – Heritage Conservation

1) Objectives

The objectives of this clause are as follows—

(a) to conserve the environmental heritage of Jerilderie,

(b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,

(c) to conserve archaeological sites,

(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

(2) Requirement for consent

Development consent is required for any of the following—

(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance)—

(i) a heritage item,

(ii) an Aboriginal object,

(iii) a building, work, relic or tree within a heritage conservation area,

(b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,

(c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,

(d) disturbing or excavating an Aboriginal place of heritage significance,

(e) erecting a building on land—

(i) on which a heritage item is located or that is within a heritage conservation area, or

(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,

(f) subdividing land—

(i) on which a heritage item is located or that is within a heritage conservation area, or

(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance

Commentary:

The site does not contain any heritage items and is not within a heritage conservation area. As such a Heritage Assessment is not required in this instance.

5.21 Flood planning

(1) The objectives of this clause are as follows—

(a) to minimise the flood risk to life and property associated with the use of land,

(b) to allow development on land that is compatible with the flood function and behaviour on the land, taking into account projected changes as a result of climate change,

(c) to avoid adverse or cumulative impacts on flood behaviour and the environment,

(d) to enable the safe occupation and efficient evacuation of people in the event of a flood.

(2) Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development—

(a) is compatible with the flood function and behaviour on the land, and

(b) will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and

(c) will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and

(d) incorporates appropriate measures to manage risk to life in the event of a flood, and

(e) will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.

(3) In deciding whether to grant development consent on land to which this clause applies, the consent authority must consider the following matters—

(a) the impact of the development on projected changes to flood behaviour as a result of climate change,

(b) the intended design and scale of buildings resulting from the development,

(c) whether the development incorporates measures to minimise the risk to life and ensure the safe evacuation of people in the event of a flood,

(d) the potential to modify, relocate or remove buildings resulting from development if the surrounding area is impacted by flooding or coastal erosion.

(4) A word or expression used in this clause has the same meaning as it has in the Considering Flooding in Land Use Planning Guideline unless it is otherwise defined in this clause.

(5) In this clause—

***Considering Flooding in Land Use Planning Guideline** means the Considering Flooding in Land Use Planning Guideline published on the Department's website on 14 July 2021.*

***flood planning area** has the same meaning as it has in the Floodplain Development Manual.*

***Floodplain Development Manual** means the Floodplain Development Manual(ISBN 0 7347 5476 0) published by the NSW Government in April 2005.*

Commentary:

The site has not been identified as flood-prone for the 1 in 100-year flood event in any Council flood study or management plan. Local knowledge suggests the site is not on a flood plain or subject to overland flow during flood events. The clause does not appear to be relevant to the Proposal. However, the quarrying operations would be bunded to ensure stormwater does not intercept the quarry and impact operations.

6.1 Earthworks

(1) The objectives of this clause are as follows:

(a) to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land,

(b) to allow earthworks of a minor nature without requiring separate development consent.

(2) Development consent is required for earthworks unless:

(a) the earthworks are exempt development under this Plan or another applicable environmental planning instrument, or

(b) the earthworks are ancillary to other development for which:

(i) development consent has been given, or

(ii) for which development consent is not required.

(3) Before granting development consent for 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 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 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 waterway, drinking water catchment or environmentally sensitive area,

(h) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

Commentary:

The proposed development will require a substantial amount of earthworks. The Proposal will not impact drainage patterns on adjacent farm holdings as existing overland drainage patterns would be maintained.

There are no sensitive receivers in the area which could be impacted by the dust created by the earthworks. The nearest dwelling not associated with Killoran Ag is located 1.4 km to the north-west of the site.

An AHIMS search has been completed which shows that there are no known Aboriginal sites or places near the quarrying operations.

The likelihood of disturbing any relics on the subject lands is considered low as the lands have been previously cultivated and worked up and therefore are highly disturbed. A more detailed assessment of Aboriginal Cultural Heritage has been provided in **Section 7.4**.

7.4 Biodiversity

(1) The objective of this clause is to maintain terrestrial biodiversity by:

(a) protecting native fauna and flora, and

(b) protecting the ecological processes necessary for their continued existence, and

(c) encouraging the conservation and recovery of native fauna and flora and their habitats

(2) This clause applies to land identified as "Biodiversity" on the Terrestrial Biodiversity Map.

(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider:

(a) whether the development is likely to have:

(i) any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and

(ii) any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and

(iii) any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and

(iv) any adverse impact on the habitat elements providing connectivity on the land, and

(b) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:

(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or

(b) if that impact cannot be reasonably avoided by adopting feasible alternatives—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

Commentary:

As previously stated, the area of the site subject to the quarrying operations is void of any native vegetation and the area has not been identified for "terrestrial biodiversity" in the MLEP 2012 maps (see **Figure 7**). A more detailed assessment of the potential biodiversity impacts of the development is provided in **Section 7**.

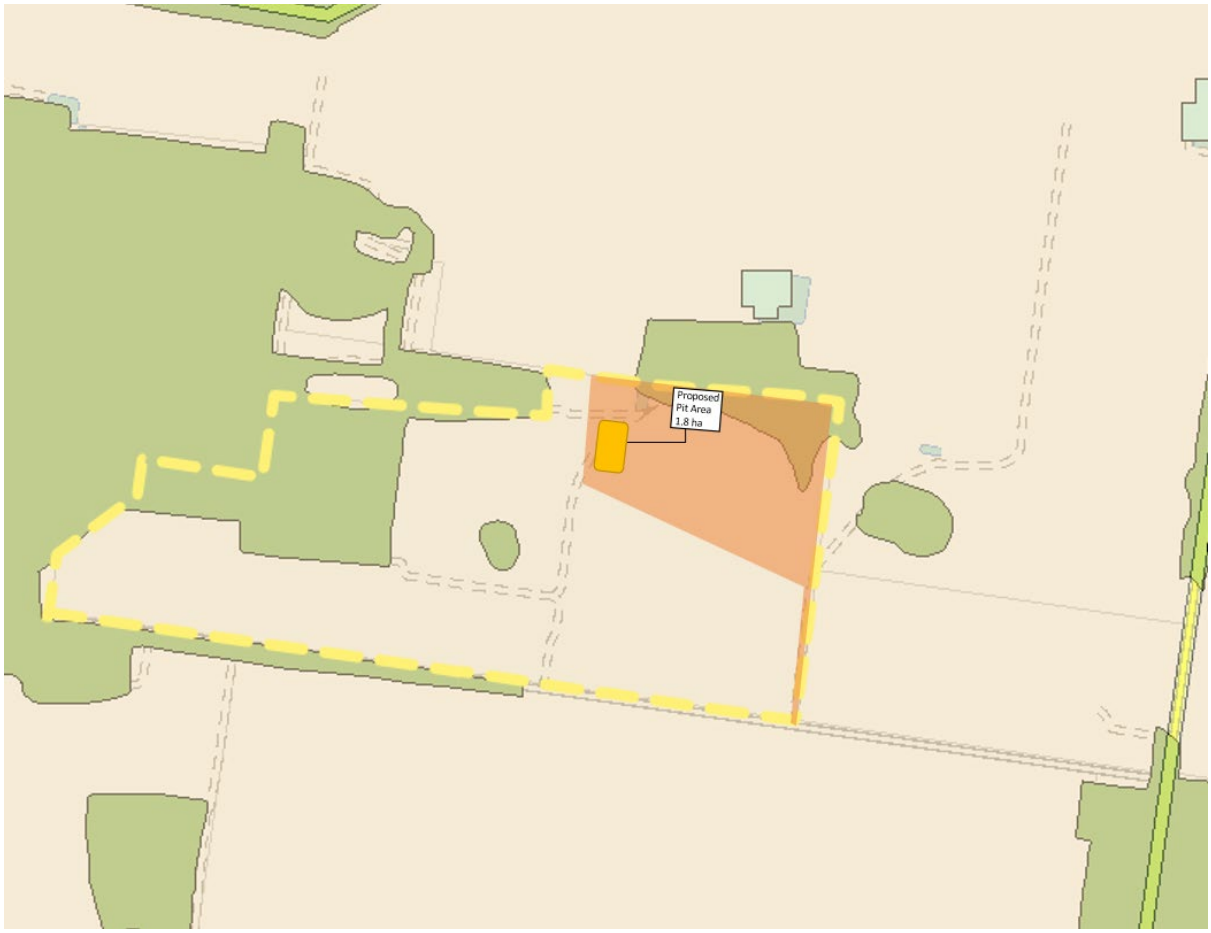


Figure 7: Council Biodiversity Map

Clause 6.5 – Groundwater Vulnerability

(1) The objectives of this clause are as follows—

(a) to maintain the hydrological functions of key groundwater systems,

(b) to protect vulnerable groundwater resources from depletion and contamination as a result of development.

(2) This clause applies to land identified as "Vulnerable" on the Groundwater Vulnerability Map.

(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider the following—

(a) the likelihood of groundwater contamination from the development (including from any on-site storage or disposal of solid or liquid waste and chemicals),

(b) any adverse impacts the development may have on groundwater dependent ecosystems,

(c) the cumulative impact the development may have on groundwater (including impacts on nearby groundwater extraction for a potable water supply or stock water supply),

(d) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that—

(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or

(b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

Commentary:

The site is mapped on the Groundwater Vulnerability Map of the MLEP 2013. The historical bore investigations on the site have shown that groundwater is located around 63-143 m from the ground surface. Preliminary investigations, including excavations, were also carried out, including the test pits to 6 m below the surface. No groundwater was intercepted as part of these investigations.

Should groundwater be intercepted during excavations, the appropriate actions would be taken to seek licences and approvals from Water NSW.

Clause 6.8 - 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 road access.

Commentary:

- The site is supplied by bore water, which would be used when required under licence with WaterNSW. When needed, a water cart would be used for staff amenities and dust mitigation.

- The site is connected to electricity. However, the quarrying operations do not require a connection to Essential Energy's supply network, which is located on the site.
- Transportable toilets and amenities facilities would be used and pumped out when required.
- The site is accessed from Jim Cattanach Road, which is an all-weather Council road that connects to Kidman Way to the east, which is a classified road under the control of TfNSW.
    - The amount of traffic caused by the proposal would not require any upgrades to the intersection at Kidman Way considering only three heavy vehicle and three light vehicle movements per day.

4.10 Development Control Plans (DCP)

A review of Council's DCP's indicates that the site is not covered by any development controls.

5 Consultation

5.1 Government Agency Consultation Outcomes

During the preparation of the Statement of Environmental Effects (SEE), the Applicant had a pre-lodgement meeting with Council, who suggested the SEE should contain:

- Due diligence assessment for Aboriginal Cultural Heritage.
- Details of the proposed traffic movements to the site.
- Proposed rehabilitation plans for the site.

5.2 Consultation During EIS Exhibition

This development would be placed on public exhibition for a minimum period of 21 days. The Applicant will continue to commit resources to satisfy consultation requirements during the public exhibition phase and throughout the life of the development. The Applicant will actively engage with key stakeholders to ensure they are aware the development is on public exhibition.

The Applicant will continue to undertake consultation with stakeholders as necessary post determination of the development.

6 Environmental Risk Assessment

To meet the environmental risk assessment requirements of the SEARs, the Australian Standard AS/NZS ISO 31000:2009 Risk Management Principles and Guidelines has been utilised in this section to understand the potential environmental impacts of the development.

6.1 Methodology

The potential environmental impacts of the Proposal requiring assessment were identified through:

- A review of other development applications for quarrying operations
- Outcomes of consultation with Council.
- Discussions with other quarrying operators in the area.

The key environmental and social impacts identified for the Proposal include:

- Air quality.
- Aboriginal Cultural Heritage

6.2 Impact Evaluation

The environmental impacts of the Proposal have been assigned a likelihood between almost impossible and almost certain, with a potential frequency for each.

Likelihood	Description	Frequency
Certain	Common Occurrence	At least daily
Very Likely	Expected to occur in most circumstances	Once per week
Likely	Probably will occur or has happened in the past	Once per month
Possible	Occurs Infrequently	Less than once per year
Unlikely	Could happen at some time	Less than once per 10 years
Almost Impossible	Not Likely to Occur	Less than 1 per 100 years

6.3 Consequence Evaluation

The environmental impacts have also been assigned a consequence rating between catastrophic and negligible in accordance with **Table 2**.

Table 2: Consequence Evaluation Ratings and Levels

Consequence Rating	Health and Safety	Natural Environment	Community Relations & Cultural Heritage	Damage / Loss	Level
Catastrophic	Multiple Fatality	Significant and irreversible impact on threatened species, habitat(s) or ecosystem(s)	Irreparable damage to sites of high cultural significance	Significant Financial Loss. >$10 million	6

Consequence Rating	Health and Safety	Natural Environment	Community Relations & Cultural Heritage	Damage / Loss	Level
Severe	Fatality	Very serious long-term environmental impairment of eco-system function	Very serious widespread social impact. Irreparable damage to valued cultural items	Major $1 M - $10 M	5
Significant	Lost Time Injury	Serious medium-term environmental effects	Ongoing serious social issues. Significant but repairable damages to structures/items of cultural significance	High $100,000 - $1 M	4
Moderate	Medical Treatment required. Medical Treatment Injury	Moderate short-term effects but not effecting overall ecosystem function	Ongoing social issues. Minor permanent damage to items of cultural significance.	Low financial Loss <$100,000	3
Minor	First Aid Treatment	Minor effects on biological or physical environment	Minor medium-term social impacts	Low Financial Loss <$10,000	2
Negligible	No medical attention. Report only	Limited damage to minimal areas of low significance	Low level repairable damage to commonplace structures	Min Financial Loss <$1000	1

6.4 Risk Assessment Matrix

The environmental impacts have been assigned a risk ranking from negligible to catastrophic as depicted in **Table 3**.

Table 3: Risk Matrix

Likelihood	Consequence					
	Negligible	Minor	Moderate	Significant	Severe	Catastrophic
6 – Certain	6	12	18	24	30	36
5 – Very Likely	5	10	15	20	25	30
4 – Likely	4	8	12	16	20	24
3 – Possible	3	6	9	12	15	18
2 – Unlikely	2	4	6	8	10	12
1 – Almost Impossible	1	2	3	4	5	6

6.5 Risk Assessment

Table 4 provides a risk assessment of the environmental and social impacts considered as part of the ERA. The risk assessment did not identify any aspects of the Project, following the implementation of mitigation measures (residual risk), with a risk rating above 'low'.

Table 4: Risk Assessment

Issue	Aspect	Potential Impact	Likelihood	Consequence	Risk Rating	Mitigation	Residual Risk
Air Quality	• Vehicle movements. • Excavation of sand works. • Stockpiling	Elevated levels of dust and odour emissions.	Likely	Moderate	Medium	- Cover loads. - Wet sand during adverse meteorological conditions - Limit truck movements during adverse meteorological conditions	Low
Traffic	• Employee and visitor light vehicle movements • Truck movements related to the removal of sand •	Increased traffic movements impacting the safety, capacity and efficiency of the road network. Traffic impacts are low.	Possible	Minor	Low	- Implement driver code of conduct. - All-weather surface on internal roads. - Establish adequate parking.	Very Low
Noise	• Vehicle and truck movements. • Use of plant and equipment • Operational noise including excavation and truck movements	Potential generation of offensive noise at receivers.	Possible	Minor	Low	- Avoid excavation in adverse weather conditions. - Avoid carrying out multiple noise-intensive procedures continuously. - Carry out loading and unloading activities during daytime hours.	Very Low
Groundwater and Surface Water	• Stormwater management	Contamination of surface and groundwater.	Unlikely	Minor	Low	- Limit storage of oil/chemical. - Implement spill management procedures. - Maintain all surfaces and water management systems and monitor integrity.	Very Low
Visual	• Visibility of the proposed new infrastructure.	Impact on the visual amenities of the existing environment.	Possible	Minor	Low	- Ensure any stockpiles are setback from the road reserve and restrict the height of the stockpiles to 5 m in height at any given. - Rehabilitate the site at the completion of excavation.	Very Low
Aboriginal Heritage	• Ground disturbance during excavation.	Disturbance of Aboriginal artefacts, sites or places of cultural heritage significance.	Possible	Minor to moderate	Medium	- Establish Unexpected Finds Protocol including consultation with local and State government agencies and registered Aboriginal Parties.	Very Low
Biodiversity	• Disturbance of biodiversity during construction and operations.	Disturbance of native vegetation outside the development footprint, weed management and fauna accessing the compost facility.	Unlikely	Negligible	Very Low	- Monitor for weeds and non-native plants. - Implement a Weed Management Plan. - Avoid removal of native vegetation.	Very Low

The Proposal would not be expected to create environmental risks that cannot be managed or mitigated to an acceptable level. This SEE provides a detailed assessment of each potential issue or impact, which is identified in the following sections. The two issues that have the potential to have a residual risk rating of low are air quality and Aboriginal Cultural heritage.

The air quality impacts of the development can be managed to ensure the amenity of the nearest sensitive receivers are substantially maintained. A number of mitigation and management measures will be implemented to decrease the potential for air quality impacts, including covering loads, using a water cart and wetting dry soil stockpiles.

There is potential that Aboriginal artefacts could be unearthed during excavation.

7 Likely Impacts of the Development

7.1 Air Quality

The Proposal includes the excavation of sand, the stockpiling of soils, the use of a mobile screen and other plant and equipment which could cause dust impacts in the locality.

Existing Environment

The site is located in a very rural area south of Darlington Point, surrounded by large-scale grazing and agricultural operations and other sand quarries. The site has a history of agricultural use, including grazing and broadacre cropping. There are three receivers not related to the quarry operations within 3 km of the proposed quarry location.

Assessment of Impacts

The excavation of sand itself would not be expected to create elevated dust levels due to the material's nature. However, the stockpiling of soils could cause potential dust issues.

Mitigation Measures

The following mitigation measures would be implemented to ensure the dust associated with the Proposal does not cause an impact on the nearby receivers:

- Avoid excavation in adverse weather.
- Cover loads transported away from the site.
- Rehabilitate the site in stages to reuse any top soils and soils and aggregate to limit stockpiling.
- All vehicles and plant will be regularly serviced, be in good working order and emissions will be kept within manufacturers' standards.
- Avoid unnecessary disruption of soil stockpiles.
- Haulage roads will be maintained to a high standard, allowing efficient and safe operation.
- Wet dusty surfaces during dry conditions using a water cart. Staff will undertake visual inspections of dust generation to ensure dust does not spread beyond the site's boundaries.
- Provide neighbours with the manager's contact details to divulge any dust impacts.
- Staff will receive training on methods to reduce dust generation.
- Quarrying/carting operations will cease if severe wind conditions are present.

Subject to the implementation of some best practice management and mitigation measures, it is not expected that air quality impacts would be experienced at nearby receivers.

7.2 Traffic Impacts

The site is located on Jim Cattanach Road, a local Council all-weather road that connects to the Kidman Way, a classified road located 1.7km from the site's entrance.

Kidman Way is an important north-south route. It runs from the Newell Highway at Bundure (roughly 15km north of Jerilderie) for over 600km to Bourke in northern NSW, providing access to western NSW regional centres including Griffith, Hillston and Cobar. Signposted as the B87, it is a State Road under the control of Transport for NSW (TfNSW) and is authorised for travel by vehicles up to and including AB triples. Its role favours through movement over property access.

In the vicinity of the site, Kidman Way is a two-lane, two-way sealed rural road that runs roughly north-south and is located to the east of the site. Contained within an 80m-wide road reserve, the main carriageway contains one 3.6m-wide through lane in each direction, with 1.5-2.0m-wide sealed shoulders and roadside table drains. No pedestrian or cyclist facilities are present, and there is no street lighting. The speed limit is 100km/h near the site.

The Proposal would extract 29,000 m^3 of sand annually or around 46,400 tonnes annually. The quarry would operate 6 days a week from 7 am – 5 pm. Around 150 tonnes per day would be excavated and removed from the site. This would equate to around three B-double truck trips per day. The site would employ two workers on site. One works the excavator, and the other works the front-end loader. These workers would also transport the sand in B-doubles to the client. The truck would be parked in the vehicle turning area, and the workers would operate the machinery to load the B-double.

It is expected that the Proposal would require four two-way light vehicle movements. Due to the limited truck and light vehicle movements, a traffic impact assessment is not considered warranted.

Assessment of Impacts

Based on the limited amount of truck and light vehicle movements and the good level of service experienced on Jim Cattanach Road and at the intersection with Kidman Way, the Proposal is not expected to adversely impact the safety, capacity and efficiency of the road network requiring intersection upgrades.

Mitigation and Management Measures

The Proposal includes the following road improvements and management and mitigation measures:

- The access into the site would be designed as a typical rural property access with tapers catering for a B-Double. More detailed accessway plans can be provided as a condition of consent.

- Preparation of a driver code of conduct to ensure drivers cover their loads and use identified haulage routes.
- Ensure internal roadways are constructed of an all-weather surface and maintained to an all-weather standard at all times.
- Ensure parking spaces are delineated with markers that are maintained.

Conclusions

The potential traffic impacts of the development have been carefully considered in the SEE. The site is located on a all weather Council road connected to the Kidman Way, a classified road. The Proposal includes the upgrade of the existing access to the site. The type and levels of traffic forecasted during the entire operation of the development would not be expected to impact the road network's safety, capacity, or efficiency.

7.3 Water and Hydrology

The proposed quarrying operation is located on a former broadacre paddock used for the cultivation of rotational crops. The site is located in an area that is not known to contain saline soils. However, the site has been mapped in the MLEP 2013 as Groundwater Vulnerable. The nearest stream or river to the site is the Murrumbidgee River, which is around 6 km to the north of the site.

Rainfall

Rainfall data for the surface water assessment has been sourced from the BoM Station at Yanco. Annual rainfall patterns are consistent with a summer climate zone with low rainfall during the summer months and slightly higher rainfall in the winter months. Average rainfall data is provided in **Figure 8**.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Mean Max (°C)	34.1	32.4	29.0	24.3	18.9	15.1	14.5	16.2	20.4	24.7	28.5	31.1	24.1
Mean Min (°C)	18.8	18.2	15.4	11.7	7.6	5.7	4.9	5.2	7.6	10.6	14.2	16.2	11.3
Mean Rain (mm)	31.2	29.5	34.9	30.4	35.9	34.7	32.9	35.2	35.9	37.9	31.9	30.4	399.1
Mean Rain Days	4.8	3.9	4.7	5.3	8.1	11.0	12.0	10.9	8.9	7.3	5.9	5.3	87.8

Figure 8: Average Rainfall Data

Flooding

The site is not located in an area that has been known to be impacted by flooding. The site is not located within the study boundaries of the Murrumbidgee River at Darlington Point and Environs Flood Study 2018. There is no outside flood risk to the site, and the area is not shown as flood-prone land or within flood planning areas within the MLEP 2013 *Flood Planning Maps*.

As the site is not flood-prone, a flood impact assessment has neither been prepared nor warranted.

Groundwater

Bore records from the site and area indicated groundwater is between 60 and 140 m below the surface level. No known karst systems occur in the proposed quarry area. Based on the depth of the wells drilled in the area, groundwater is expected to be at least 20 m below the ground surface and the quality variable. It is not anticipated that groundwater would be intercepted during the quarrying operations, given that other similar operations along the sand vein/seam have not experienced groundwater during excavation.

Wetlands and Riparian Land

There are no wetland areas located within the site, as identified in the MLEP 2012. Riparian land is considered to be located within 40 metres of a watercourse. As the nearest watercourse is 6 km to the north, the site is not considered to be in a riparian zone.

Mitigation Measures

The measures which will be implemented to avoid potential impacts to surface and groundwater are provided in **Table 5** and are based on best practices and measures utilised at other sand quarries across the state.

Table 5: Surface and Groundwater Mitigation Measures

Potential Impact	Mitigation Measure
Pollution from sedimentation, oil/chemical spills and gross pollutants	• No storage of fuels and chemicals. • Plant and equipment would be regularly inspected and serviced to limit the risk of oil loss. • All staff would be appropriately trained in the spill response plan for the minimisation and management of unintended spills. • All reasonable and practicable measures would be taken to prevent pollution of any existing waterways as a result of silt and oil or grease spills from any machinery. • Trucks would not be cleaned on-site.
Stormwater	• Clean stormwater to be diverted around the facility. The entire facility would be bunded to main overland flows around the quarry.
Groundwater	• In the unlikely event that groundwater is intercepted, Water NSW would be notified, a dewatering licence obtained, and rectification works carried out.

Conclusion

Through the staged construction and excavation of the quarrying operation, impacts to surface and groundwater will be avoided. The proposed mitigation measures are considered adequate to limit any potential impacts on receiving waters above and below the surface. The proposal is not expected to impact ground or surface waters unless mitigation measures are implemented.

7.4 Aboriginal Cultural Heritage

The quarrying operations are proposed to be located on a former broadacre paddock, which has been worked up and cultivated over the years for rotational crops. Due to the degraded nature of the site and the lack of native vegetation disturbance, an Aboriginal Cultural Heritage Assessment has not been completed. An assessment of the development against the Aboriginal Code of Practice is provided in this section.

Landscape

Factors that are typically used to inform the archaeological potential of landscapes include the presence or absence of resources that would have been used by Aboriginal people, including water, animal and plant foods, stone and other resources.

Topography

The general topography of the area is flat, gently undulating low tablelands. The area is underlain by the Quaternary alluvium sediments (floodplain sediments) comprising unconsolidated clay, silt, sand and gravel in accordance with 1:250,000 Scale "Metallogenic Series Sheet SI/55-10 for Narrandera". The site and surrounding area is flat with very little variation in topography, however, the site generally slopes towards the Murrumbidgee River to the north.

Surface Geology

The geology of the locality is part of the Riverine Bioregion and the Murrumbidgee Subregion, typified with flood deposits of black and red clays and silts with sand and gravel. The seed online portal was used to understand the surface geology of the area.

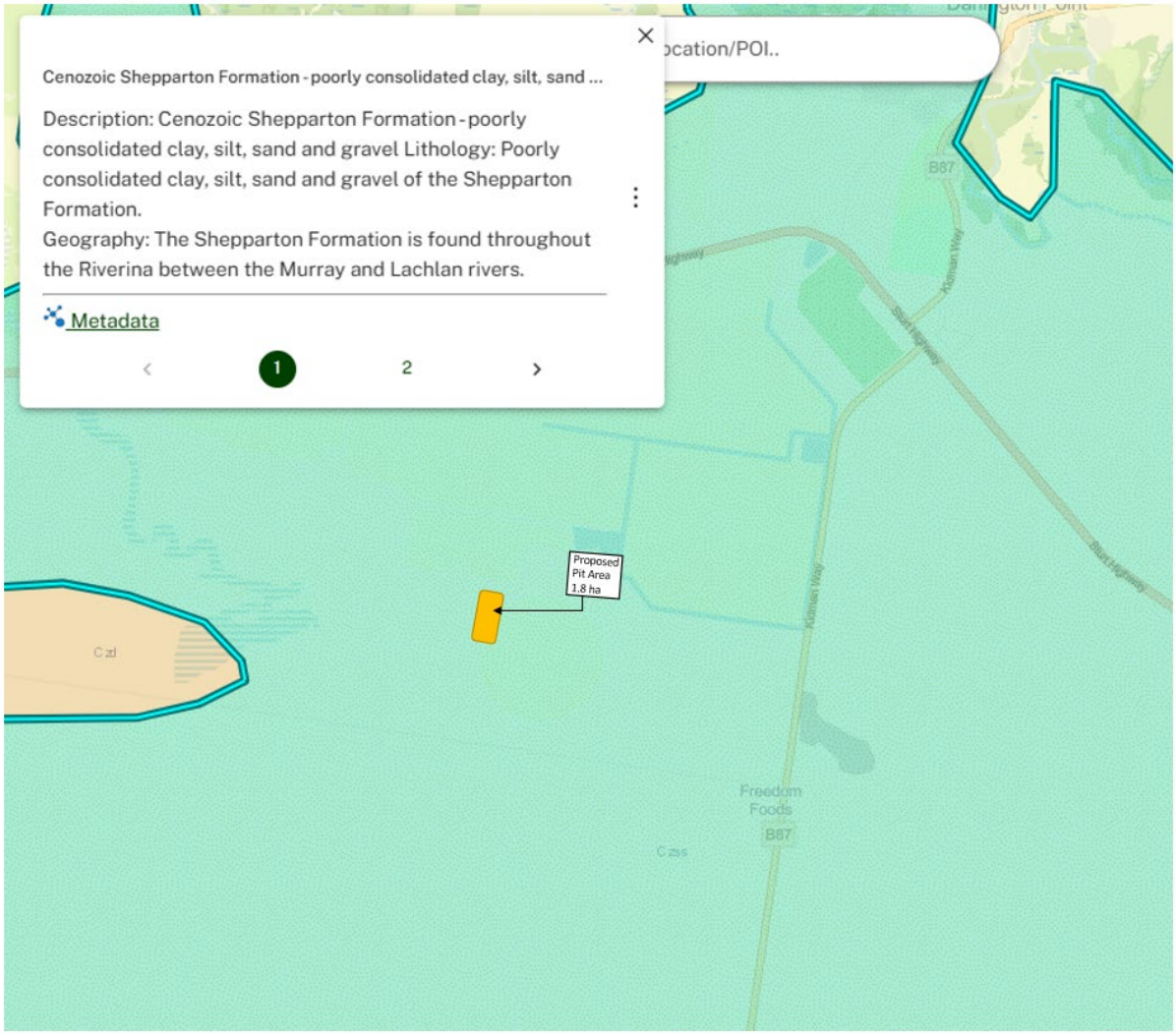


Figure 9: Surface Geology (source: SEED)

The surface geology of the site is predominantly Cenozoic Shepparton Formation - poorly consolidated clay, silt, sand and gravel. This surface geology has a widespread distribution in the Riverina and would not in itself suggest the historical presence or use of the area by Aboriginal people.

Soil Landscapes

Soils in the locality and within the Murrumbidgee catchment have been generally formed from the deposition of flood material.

Hydrology

The site is located within the CIA which the NSW government established in the 1950's. The area has been highly modified to create a series of channels and drains, either newly created or by redirecting existing streams to convey water to irrigated paddocks. Prior to the construction of the irrigation scheme, the area would have been in a pastoral and agricultural setting. The nearest river to the site is Murrumbidgee River, which is located 6 km to the north of the site

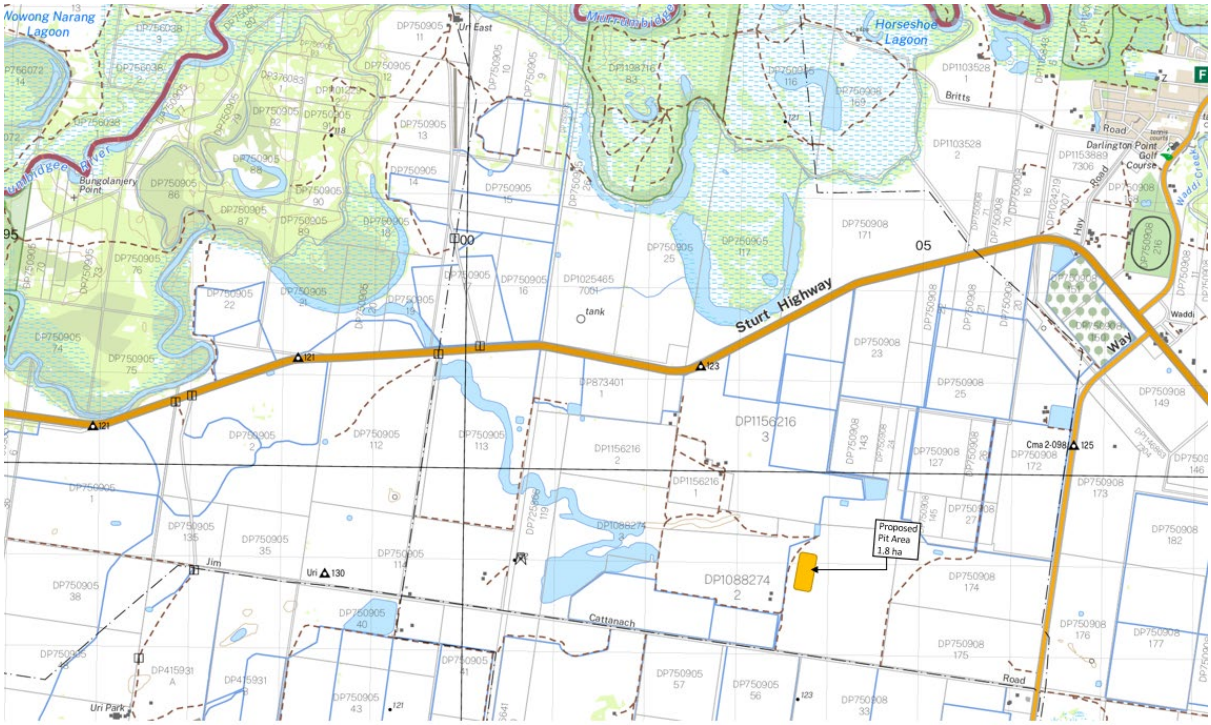


Figure 10: River and Modified Channel Location Near the Site

Summary of Landscape and Locality Context

The site and locality, including the irrigation area, have been highly modified through irrigation farming, construction of channels, laser levelling of land and ploughing of paddocks. Prior to the colonisation of Australia, the area would have been typified as a semi-arid desert plan disconnected from major water courses. Intact archaeological sites would likely be located within intact landscape formations void of significant ground modification. As the site and region contains a large sand vein, it could have potentially been a former stream that could have been utilised by Aboriginal peoples historically.

Assessment of development against Aboriginal Code of Practice

Will the activity disturb the ground surface?

Yes. The Proposal includes the disturbance of the ground surface. However, the ground surface is considered farmland, which has been disturbed by past agricultural practices.

Are there any:

a) *relevant confirmed site records or other associated landscape feature information on AHIMS? and/or*
b) *any other sources of information of which a person is already aware? and/or*
c) *landscape features that are likely to indicate presence of Aboriginal objects?*

Can harm to Aboriginal objects listed on AHIMS or identified by other sources of information and/or can the carrying out of the activity at the relevant landscape features be avoided?

An AHIMS search has been conducted and no Aboriginal sites were identified within 2 km of the site .

Does a desktop assessment and visual inspection confirm that there are Aboriginal objects or that they are likely?

The Desktop Assessment reviewed the geology, topography and vegetation on the site and in the area.

The activity area is in land that has historically been used for cropping and agricultural practices and has been subject to extensive previous disturbance through potential laser levelling and modification for the installation of the channel system that traverses the wider region. No undisturbed natural watercourses or significant landforms that are likely to contain potential Aboriginal sites or objects remain within the project area. There are no scar trees located on the site.

The above factors have likely removed any potential for unidentified Aboriginal sites to be present within the project area. Based on this assessment, conducting a pedestrian site inspection of the project area is deemed unnecessary as there is low potential for any intact archaeological deposits to be present.

The Desktop Assessment concludes that Aboriginal sites would unlikely be present on site or disturbed during the construction and operation of the sand quarry. It should also be noted that 3-4 other sand quarrying operations in the locality and along the sand vein have excavated to depths up to 20 m. These operations have not uncovered Aboriginal objects or places listed in AHIMS.

Mitigation Measures

The following mitigation measures would be implemented to ensure that Aboriginal artefacts or sites, if found during the construction or operation of the development, are protected:

- All relevant staff should be made aware of their statutory obligations for heritage under the *National Parks and Wildlife Act 1974* and the *Heritage Act 1977*. This is to be in the form of a heritage induction on site prior to works.
- An Unexpected Finds Protocol in accordance with the relevant guidelines would be prepared. The following protocol would be used in the unlikely event that an artefact is found:

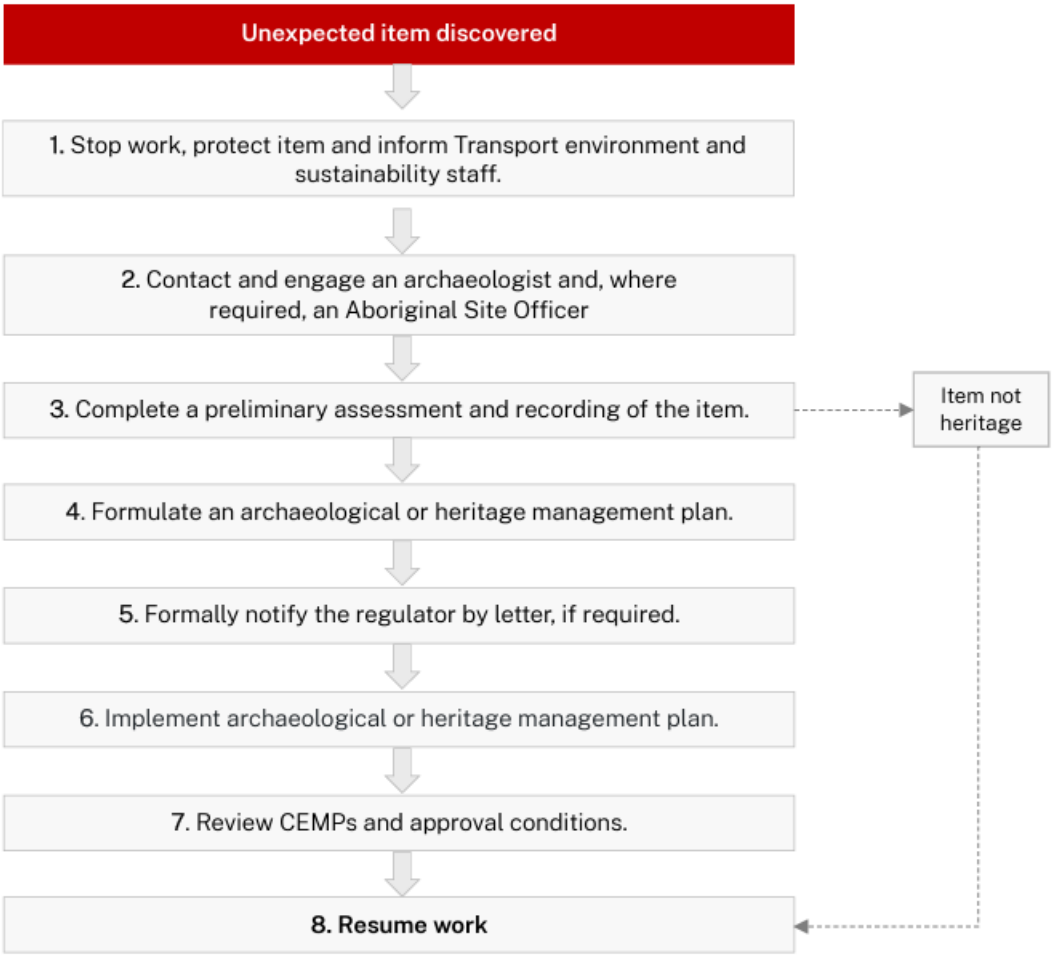


Figure 11: Unexpected Finds Protocol

Conclusions

Based on the assessment carried out in this section against the Aboriginal Code of Practice it is unlikely that Aboriginal artefacts or items would be unearthed during construction or operation. However, the Applicant would implement an Unexpected Finds Protocol during construction to ensure the relevant guidelines and legislation are followed to protect and manage any items encountered.

7.5 Biodiversity

The quarrying operations have been strategically sited on an existing paddock which has been extensively disturbed by past agricultural practices. The paddock has been land formed and used for rotational broadacre crops. There is no native vegetation on the site which will be disturbed by the construction and use of the quarrying oeprations, including native trees, shrubs and grasslands.

The Proposal is to be accessed under Part 4 of the *EP&A Act.* The *Biodiversity Conservation Act* (BC Act) and EPBC Act also apply. Assessment matters relevant to this proposal are:

- Matters referred to in the BC Act where a development or an activity is "likely to significantly affect threatened species or ecological community".
- Impact on matters identified by the BC Act and its regulation as constituting Serious and Irreversible Impact (SAII).
- Matters of National Environmental Significance (MNES).

Thresholds Test

The thresholds test focuses on triggers that indicate a requirement or not for a second tier of assessment performed under Part 7 of the BC Act. The tests are applied to determine if a development or activity is likely to significantly affect threatened species as listed below:

- Impacts that exceed the biodiversity offsets scheme thresholds (Section 7.2 of the BC Act); or
- Impact on declared areas of biodiversity value mapped on the BVM; or
- Impacts are likely to significantly affect threatened species or ecological communities, or their habitats (Section 7.3 of the BC Act).

If any of the above criteria are triggered, an impact assessment performed in accordance with the Biodiversity Assessment Method (BAM) by an Accredited Assessor is required.

Biodiversity Offset Scheme Thresholds Test

An area criteria threshold determines the clearing limit of native vegetation before triggering a requirement for assessment in accordance with the BAM. The site is not burdened by a minimum lot size. Therefore, the entire area of the lot is used to consider the extent of clearing permitted. The size of the lot which will contain the quarrying operations is 84.9 ha in area, therefore a total of 1 hectare can be cleared without the threshold being breached.

Minimum lot size of the land	Threshold for clearing, above which the BAM and offsets scheme apply
Less than 1 ha	0.25 ha or more
1 ha to less than 40 ha	0.5 ha or more
40 ha to less than 1000 ha	1 ha or more
1000 ha or more	2 ha or more

(Biodiversity Conservation Regulation 2017 cl. 7.2 (4))

Figure 12: Clearing Thresholds - BAM Method

Figure 13: Aerial with location of Quarrying Operations

As previously stated, the proposed quarrying operations are on an 84.9 ha paddock. The paddock has been disturbed from past agricultural practices including land forming, grazing, and cultivating rotational crops. The area is void of native vegetation including trees, shrubs and grasslands. The area of the larger farm holding was selected by the Applicant to avoid any impact to the patches of native vegetation throughout the site.

Biodiversity Values Map

The Biodiversity Values Map identifies land with high biodiversity value, as defined by the OEH Biodiversity Conservation Regulation 2017. A review of the Biodiversity Values Map has been carried out to understand if the site contains any areas identified as significant.

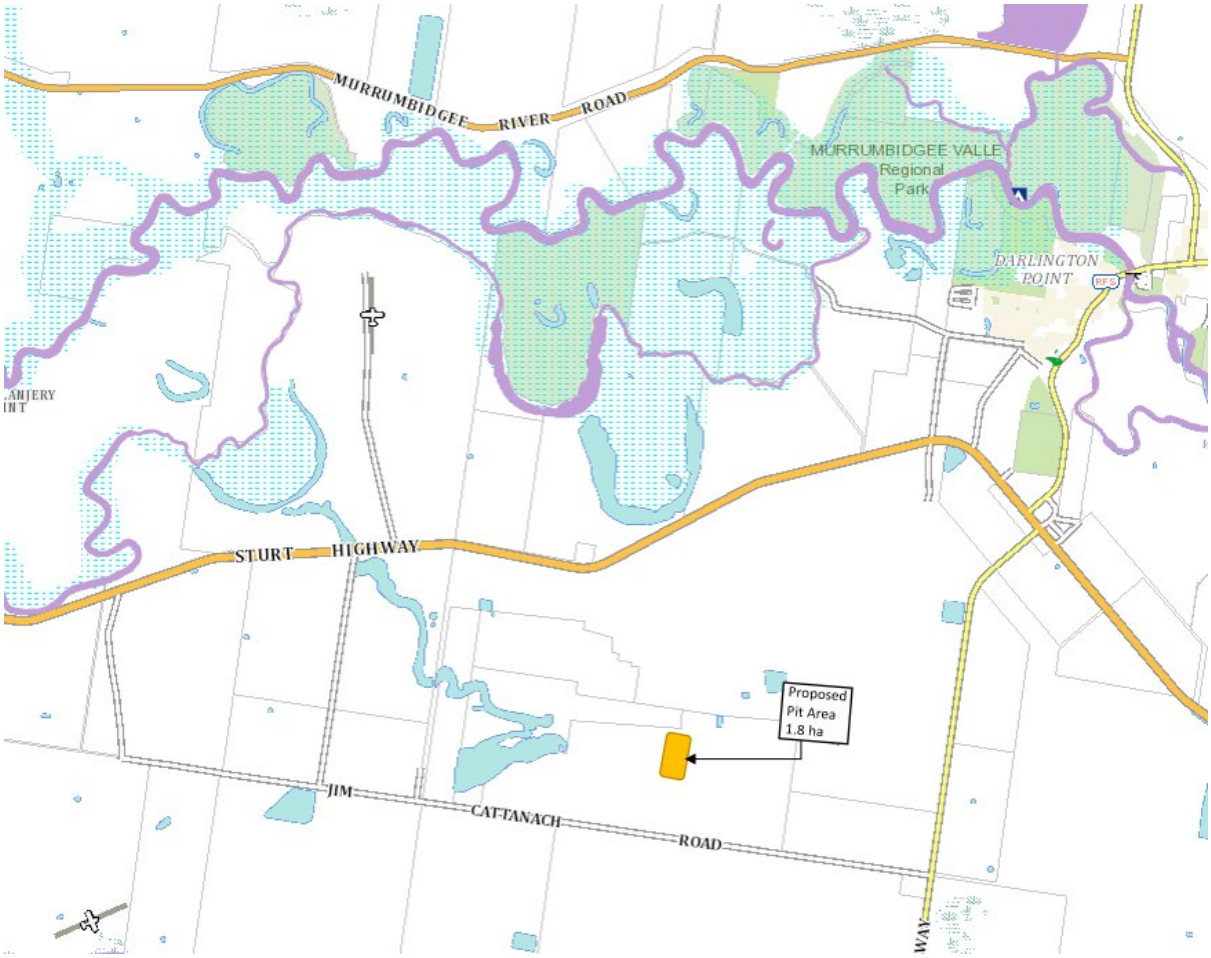


Figure 14: Biodiversity Values Map

Threatened Species

Fauna

The Threatened Species Test of Significance Guidelines state that a proposed development under Part 4 of the EP&A Act must identify if the site includes any threatened species (Schedule 1, BC Act).

A search of Bionet indicates that no threatened species have been sighted within 1 km of the quarrying operations. However, outside of this area, two fauna species are recorded within the region surrounding the site, including Grey-crowned Babbler (eastern subspecies) and the Eastern Grass Owl. As the Proposal does not include the removal of native vegetation or potential habitat, the development is not expected to have an adverse impact on any of the listed vulnerable species in the locality.

Flora

Using NSW SEED portal to search the sites vegetation classification, no threatened vegetation communities were found on or adjacent to the site.

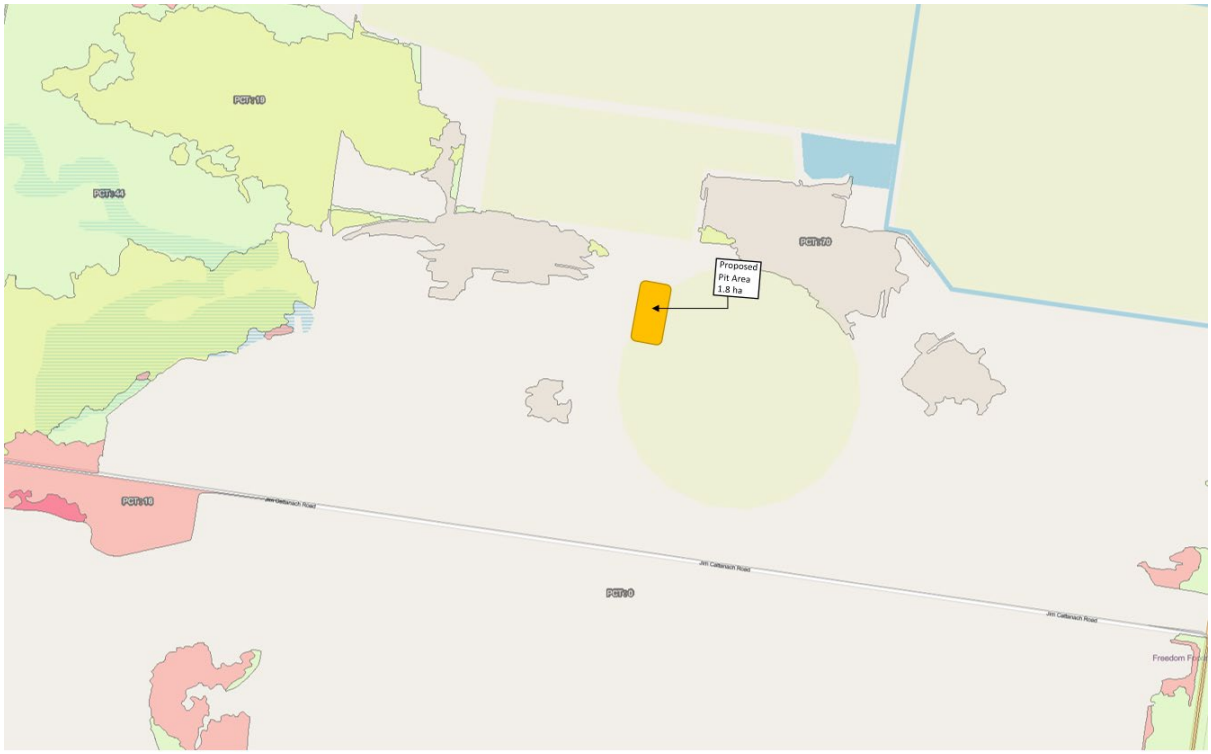


Figure 15: SEED Mapping of Vegetation Communities

The area to be utilised for the proposed quarrying operations does not contain any identified plant community types. Within the farm holding there are two notable plant communities including:

- PCT id.70 - White Cypress Pine woodland on sandy loams in central NSW wheatbelt
- PCT id.19 - Cypress Pine woodland of source-bordering dunes mainly on the Murray and Murrumbidgee River floodplains.

None of the identified patches of vegetation are listed as threatened under Schedule 2 in the *BC Act*.

As the Proposal would not disturb any native vegetation at all, let alone in excess of 1 ha in area, a BDAR is not warranted, and the Biodiversity Offset Scheme (BOS) does not apply to the development. A further Test of Significance has been performed to ensure that potential external biodiversity impacts have been assessed per the legislation.

Test of Significance

Under the BC Act, a development will require a five-part test for any clearing of native vegetation, impacts over threatened flora/fauna species and Endangered Ecological Communities. The five-part Test of Significance is not required in this instance as no impact on native vegetation or fauna habitat is proposed. However, the Test of Significance has been carried out as a precaution.

Table 6 below provides an assessment of the site and development against key threatening processes listed in Schedule 4 of the BC Act.

Table 6: Test of Significance

Factors in the test of significance	Impact of the proposed development
Adverse effects on the life cycle of species Applies to listed species (Schedule 1 BC Act) *In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction [BC Act section 7 (1)(a)]*	The development would not be expected to have an adverse impact on the species listed in Schedule 1 of the BC Act. The quarrying operations would be constructed on cleared land used historically for the cultivation of rotational crops. The life cycles of threatened species are not directly related to, dependent on or active on the site. There have been no sightings of threatened species on the area proposed for quarrying operations. The vulnerable species spotted in the locality would be able to move through the vegetation corridors which exist on the farm holding and around the quarrying operations.
Adverse effect on ecological communities Applies to endangered and critically endangered ecological communities listed under part 1 and 2 of schedule 2 in the BC Act *in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:* *(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or* *(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction [BC Act section 7(1)(b)]*	The site does not have any endangered or critically endangered ecological communities. No remnant native vegetation will be cleared. The proposed development will not negatively impact the vegetation communities on or surrounding the site.
Adverse effects on habitats Applies to the habitat area used by threatened species and ecological communities on and surrounding the site.	No threatened flora species or ecological communities have been recorded on or around the site.

in relation to the habitat of a threatened species or ecological community: *(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and* *(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and* *(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality*	The two threatened fauna species identified near the site are both avian and could potentially interact with the site as a transport corridor. The Proposal does not include the clearing of any vegetation which could have been used to support avian populations including habitat. The Proposal is not expected to have adverse impact on the habitat of any threatened species.
Adverse effects on areas of outstanding biodiversity value Applied to declared areas of outstanding biodiversity value (AOBVs)	The site is not in or within proximity to any areas of AOBV.
Key Threatening Processes Applies for processes listed in schedule 4 of the BC Act *whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process [BC Act section 7(1)(e)]*	**Clearing and/or loss of native vegetation (habitat, dead treed, hollow tree)** The Proposal does not include the clearing of any native vegetation. **Impact on native flora and fauna by feral animals (Rabbit, goats, cat, pigs, toad, fish, honeybees, bell miners, horses, deer, red fire ants, Yellow Crazy Ant, fox, rats)** The proposed development will not improve feral animal habitat or facilitate the spread of any invasive fauna. **Impact on native flora and fauna by pathogens and disease (Psittacine Circoviral, chytridiomycosis, *Phytophthora cinnamomi,* Pucciniales pathogenic)** N/A **Impact of the introduction and establishment of exotic species (vines, scramblers, Scotch Broomm, African Olive, *Chrysanthemoides monilifera,* perennial grasses, escaped garden plants, including aquatic plants, lantana)**

	A weed management plan would be used to during operations to ensure weeds and exotic species are not established on disturbed areas.

Mitigation Measures

The following mitigation measures would be implemented during the construction and operation of the facility to avoid potential impacts on biodiversity in the area:

- Monitor the surrounding areas for invasive weed species and non-native plants.
- Avoid the removal of any native vegetation during operation.

Conclusions

The Proposal is not expected to have an adverse impact on biodiversity. There is not considered to be any significant impact on any threatened species, ECC, critical habitat, or endangered populations by the proposed works on any state of nationally significant species population under the EPBC Act or BC Act.

8 Justification and Conclusion

Based on the assessment carried out in this SEE it is considered that the Proposal has merit and is justified. In summary, we believe there is adequate justification for the development for the following reasons:

- Project Need – The need for a sand quarry is justified as the construction industry has a shortfall in the amount of sand used in the preparation of concrete.
- The Proposal is not considered to be contrary to any local or regional strategic plans.
- The proposed development has been shown to be consistent with relevant local, State and Commonwealth government planning instruments.
- The site is located in a relatively remote area with good connections to the regional road network. There are few residential or sensitive receivers in close proximity to the site.
- The quarry operations within the broader farm holding has been selected on a disturbed area of the farm holding to avoid the removal of any native vegetation or the potential disturbance of Aboriginal artefacts.
- The SEE has concluded that quarrying operations can operate at full production without causing amenity impacts on receivers in the area, such as dust, odour, noise, or visual impacts.
- Mitigation measures have been proposed to ensure that residual environmental impacts are avoided, including groundwater and surface water, spread of invasive species and Aboriginal Cultural heritage.
- A rehabilitation plan would be submitted as a condition of consent.

The conclusion of this SEE is that the proposed development has merit, is justified and would have relatively limited environmental impacts subject to the implementation of mitigation, monitoring and management measures. As such, the Applicant seeks Council's timely approval of the Proposal.