Appendix W

Quarry Work Plan Requirements Report

KENTBRUCK GREEN POWER HUB

Quarry Work Plan Requirements

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1. Introduction

1.1. Background

The Kentbruck Green Power Hub (the Project) is a wind farm development proposed by Neoen Australia Pty Ltd (Neoen) in southwest Victoria, approximately 330 kilometres (km) west of Melbourne (Figure 1). The township of Nelson is located 3 km west of the wind farm site, with the city of Portland 30 km to the southeast. The Project consists of the following:

- Up to 105 wind turbines and associated permanent and temporary infrastructure, with site accesses via Portland-Nelson Road. The wind turbines are located primarily within an actively managed and harvested pine forest, owned by Mount Gambier plantation company Green Triangle Forest Products (GTFP).
- A new 275 kilovolt (kV) transmission line which would connect the Project to the existing AusNet electricity transmission network. The transmission line would extend from the eastern boundary of the wind farm site to the existing Heywood Terminal Station. The transmission line would be underground and up to 26.6 km in length.
- An onsite quarry to provide material for construction of the Project.

The onsite quarry is proposed to supply road base material required for the construction of the Project which would incorporate hardstand areas, construction pads, upgrades and extensions to the existing roading network. The quarry will only operate to supply material for the Project and will remain available for the life of the Project to supply any materials for ongoing road maintenance during operation. The quarry will be rehabilitated when the Project requirements for material has ceased.

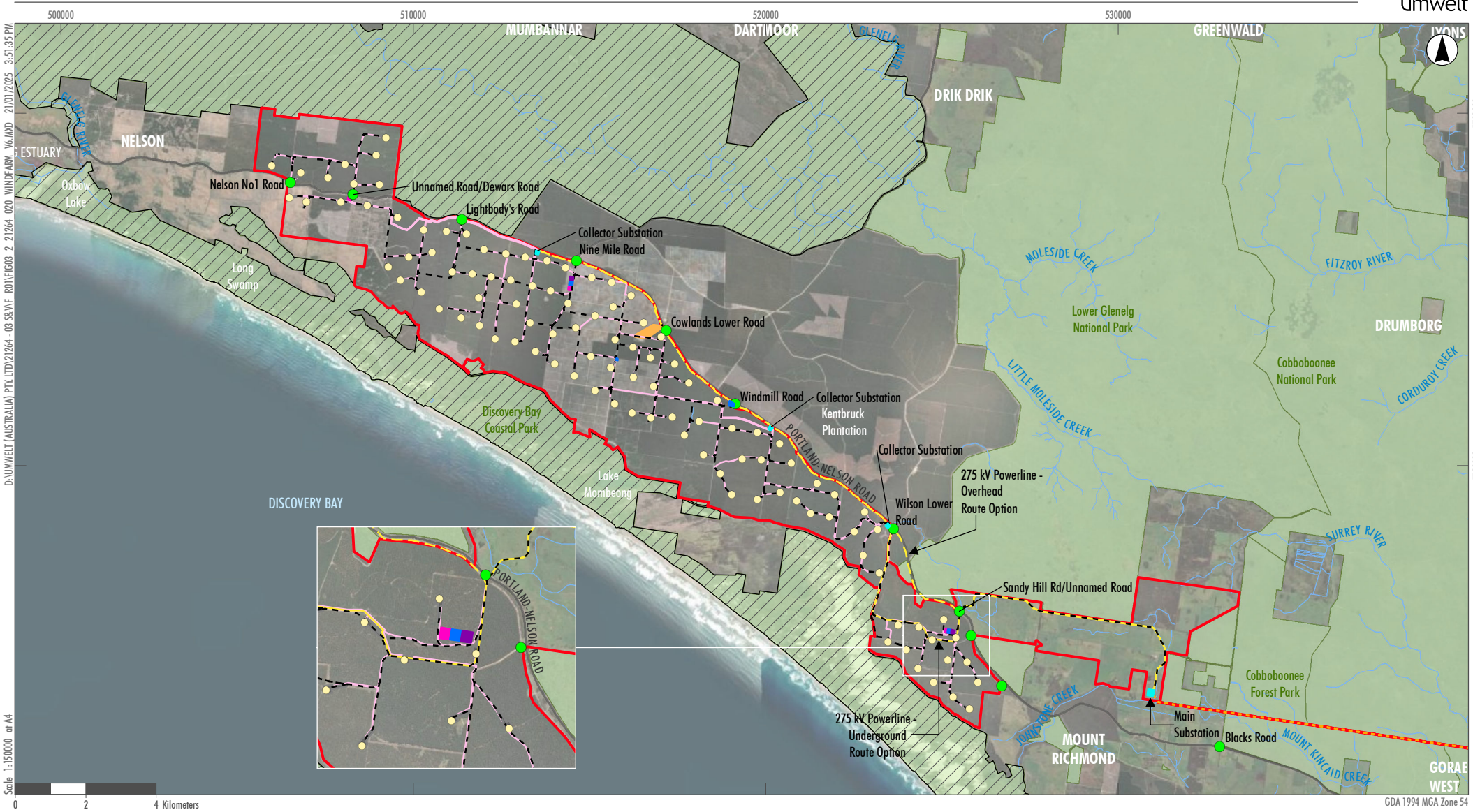
This Quarry Work Plan Requirements report aims to provide sufficient detail of the proposed quarry for the Project's Environment Effects Statement (EES), to allow the Minster for Planning and regulators to understand the potential environmental impacts of the quarry and to make any recommendations deemed appropriate.

This Quarry Work Plan Requirements report:

- describes the context of the Project.
- describes the regulatory framework of the Project's Work Plan in the context of the EES process.
- describes the nature and scale of the proposed extractive industry activities.
- identifies potential social and environmental effects of the quarry and how these impacts would be mitigated or managed.
- identifies design alternatives considered to date.
- presents conceptual and technical information on quarry rehabilitation objectives and final landform.
- describes the approach to community engagement.
- identifies next steps in the preparation of a detailed Work Plan as required under the *Mineral Resources (Sustainable Development) Act 1990* (MRSDA).

It should be noted this Work Plan Requirements report is not an operational document that aims to meet the statutory requirements of a Work Plan, but rather a summary of the key findings related to potential impacts from the quarry and how these will be managed.

If the Minister for Planning (the Minister) decides the Project would have acceptable environmental outcomes, a Work Plan would be prepared to the satisfaction of the Earth Resources Regulator (ERR, part of the Department of Energy, Environment and Climate Action (DEECA)) to meet the criteria in the Earth Resources Regulation Guideline for Preparation of Work Plans and Work Plan Variations - Guideline for Extractive Industry Projects (December 2020). This Work Plan would serve as the instrument by which the Project would be regulated under the MRSD Act. ERR would consider the Minister's Assessment of the EES prior to issuing approval of the Work Plan.



Legend

- Project Area
- Glenelg Estuary and Discovery Bay Ramsar Wetland
- Roads
- Watercourses
- Site Access Points

Permanent Wind Farm Infrastructure

- Onsite Quarry
- Collector Substation
- Crane Hardstand
- Proposed Turbine Location
- Underground Transmission Line
- 275 kV Powerline - Overhead
- 275 kV Powerline - Underground
- Internal Access Roads
- Underground Powerlines

Temporary Wind Farm Infrastructure

- Concrete Batch Plant
- Laydown Areas
- Site Compounds

FIGURE 1
Wind Farm Details

Image Source: ESRI Basemap (2021) Data source: DELWP (2021); Geoscience Australia (2021); Aurecon (2021)

1.2. Quarry overview

The Project is located in southwest Victoria and is proposed to comprise a wind farm, onsite substations, and a transmission line to collect the electricity that is generated and transport it to the existing electricity grid. The proposed wind farm would be located on a site of approximately 8,318ha (Figure 1). The majority of the wind farm is proposed to be located within an active commercial forestry operation, with the remaining footprint on agricultural land.

The proposed wind farm would consist of up to 105 wind turbines. The indicative rotor diameter length is 190m with maximum blade tip height of 270m above ground level and the lowest blade tip height 60m above ground. Depending on final turbine selection, each turbine would produce between 4 MW and 8 MW peak power output, to yield a forecast total installed capacity of up to approximately 600 MW and annual production of up to approximately 2,000GWh.

The Project is proposed to include the upgrade and construction of onsite tracks and access to main roads, up to eight wind monitoring masts (anemometers), three internal power collection stations, an onsite terminal substation, underground and overhead electrical reticulation, and an operations and maintenance building. Temporary infrastructure associated with construction of the Project would include a construction compound (with office facilities, parking, and toilet facilities), up to six ancillary construction compounds, laydown areas, concrete batching plants and an onsite quarry.

The proposed quarry would be located within the Project Area and would supply graded road base materials for construction of the associated infrastructure and hardstand areas required by the Project, as well road base material for the roading network. It is anticipated that the timeframe for construction of the infrastructure / roading network would be in the order of two years. The quarry would have a life in the order of 27-32 years (wind farm operation of 25-30 years plus the two-year Project construction period). It is anticipated that the Project would require approximately 230,000m^3 of material for road sub-base (< 100mm) and 70,000m^3 of material for road base/pavement (< 30mm). The proposed quarry would not be producing aggregates for use in concrete.

The proposed quarry would require a Work Authority of approximately 18ha, comprising approximately 9ha of extraction area, 3.5ha of overburden and product stockpiles and 1ha of quarry office/parking infrastructure, with the remainder of the Work Authority being buffers. The quarry would be a traditional soft rock extraction operation and would not involve any drilling or blasting. Extraction would be with dozers or excavators ripping and pushing the material into stockpiles. The stockpiles would then be either loaded directly into trucks for despatch or delivered to the quarry stockpiles for storage or further processing / sizing. Mobile equipment typically used on site would consist of:

- a dozer for ripping and pushing.
- a mobile sizing / processing plant.
- multiple excavators for ripping, feeding the processing plant, stockpiling, loading.
- a wheel loader for stockpiling, feeding the processing plant and loading trucks.
- road trucks for transporting the material from the extraction area to the stockpile area.

The quarry would be a new Work Authority and would only be available to supply material for the life of the Project. The Work Authority would be surrendered at the decommissioning of the Project, and the quarry will be rehabilitated to a landform that will be suitable to continue use as a source of plantation timber. The Work Authority for the proposed quarry would not be an extension of the adjacent existing quarry Work Authority (WA748) owned by Green Triangle Forest Products.

1.3. Scope and purpose

The aim of the Quarry Work Plan Requirements report is to provide sufficient detail to enable an informed reader to understand the activities proposed to be undertaken at the quarry site, their potential impacts, and the control or management actions required. It outlines the nature and scale of the proposed extractive industry activities and provides an overview of technical aspects of the quarry.

The purpose of the Quarry Work Plan Requirements report is to detail the potential environmental effects of the quarry and how these will be avoided or mitigated in the development and operation of the quarry.

Following assessment of the EES (and this Work Plan Requirements report) by the Minister for Planning, a Work Plan would be prepared, addressing the outcomes and recommendations from the ESS process. This Work Plan would require formal assessment and approval by ERR (part of DEECA).

2. Regulatory framework

This section outlines the regulatory framework and the environment and planning approvals required for the quarry to service the construction material needs of the Project.

The EES process does not provide a direct avenue for approval of the Project. The completed EES informs the Minister's assessment of the acceptability of environmental effects of the Project, including the quarry, which in turn is provided to Commonwealth, State and local decision makers to inform all applicable planning and environmental approvals.

As outlined in the EES Scoping Requirements issued by the Victorian Government, key approvals required under Victorian legislation include:

- an approved cultural heritage management plan (CHMP) under the *Aboriginal Heritage Act 2006* (AH Act).
- an Amendment to the Glenelg Planning Scheme (Planning Scheme) pursuant with the *Planning and Environment Act 1987* (P&E Act) to apply the Specific Controls Overlay to the Project Site and insert an Incorporated Document into the Planning Scheme.
- an approved Work Authority and Work Plan under the MRSD Act.

Figure 2 depicts the EES process under the *Environment Effects Act 1978* (EE Act) and its interplay with other legislation and approvals required for the Project.

Section 8AB of the MRSD Act specifies that an extractive industry work authority is needed before an extractive industry, such as a quarry, can be carried out on any land. The extraction of material for the Project requires a Work Authority under Section 77I of the MRSD Act, regulated by ERR, Victoria's regulator of extractive industry activities. To obtain a Work Authority, the proponent must prepare a Work Plan for the proposed extractive industry under section 77G of the MRSD Act, which includes a Risk Management Plan, Rehabilitation Plan and a Community Engagement Plan.

Typically, a Work Authority cannot be granted until a Planning Permit is issued for the extractive industry. However, Section 77T of the MRSD Act provides that if under a planning scheme a permit is required for carrying out an extractive industry, such permit is not required if an EES has been prepared for the proposed extractive activities and the Work Authority has been granted by the Minister for Resources following their consideration of the Minister's Assessment of the EES. The Project's EES includes the assessment of potential environmental impacts of the proposed quarry works, thereby exempting the Project from requiring a Planning Permit for the quarry.

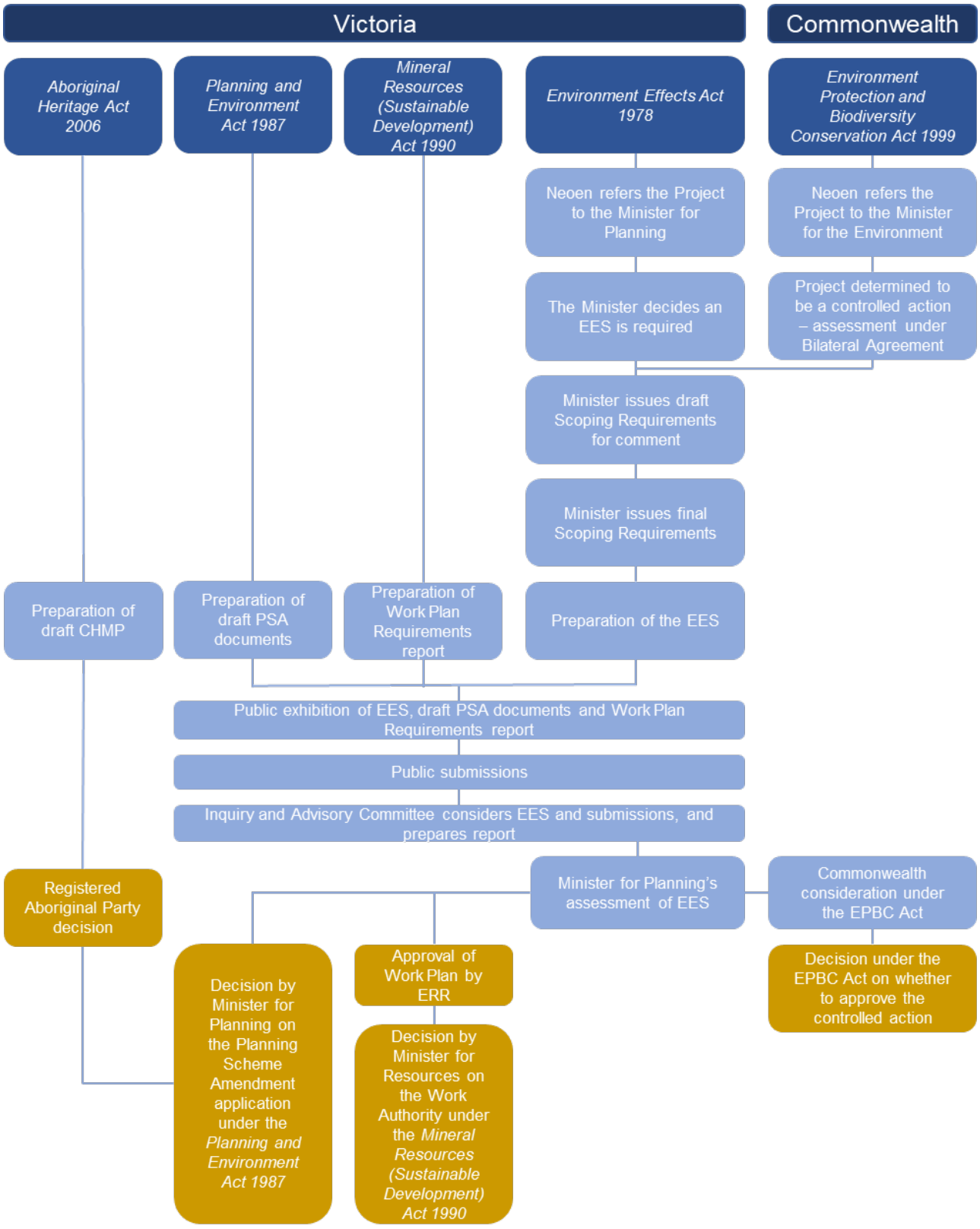


Figure 2 Interplay between the EES process and other statutory approvals

The Minister's assessment of the EES issued under the EE Act would provide recommendations to be considered by statutory decision makers. Following release of the Minister's assessment, a Work Plan would be prepared to address all the quarrying hazards and any relevant recommendations. The Work Plan requires approval by ERR and must meet all prescribed criteria specified in the MRSD Act and consider relevant requirements specified in the Minister's assessment before it is approved, and quarrying can commence.

The following steps would be completed following the submission of the Work Plan to ERR:

- Assessment of the Work Plan by the ERR Assessments Team to determine that all major components of a Work Plan are included; this process may result in a request for additional information / clarity if required.
- Distribution of the Work Plan to relevant authorities and other agencies by ERR for comment. As this is a non-statutory authorisation process, this step is to ensure that the relevant authorities / agencies have the opportunity to comment before the Work Plan is approved (under a statutory authorisation process this step is known as referral).
- Decision of approval (or otherwise) by ERR. If approved, ERR will provide a letter setting out advice of approval and next steps, along with a statement of reasons, site specific conditions and the Work Plan.

Other approvals and consents, as recommended by the Minister, may also be required to authorise commencement of quarrying activities. For example, an approved CHMP will be required before commencement of any on-ground works (Section 49(2)) of the AH Act).

The design and delivery of the Project, including the quarry, must also comply with appropriate duties, regulations and guidelines under the *Environment Protection Act 2017* (EP Act) where they apply to works and other project activities.

3. Methodology

The following steps were undertaken to prepare this Quarry Work Plan Requirements Report:

- A review of available geological mapping and geological reports, including a search of our (BCA Consulting = Earth Resources) archives and discussions.
- A desktop assessments/review of existing information, including a review of relevant EES technical reports:
    - Appendix C Flora and Fauna Existing Conditions and Impact Assessment
    - Appendix F Surface Water Impact Assessment
    - Appendix G Groundwater Impact Assessment
    - Appendix I Environmental Site Investigation
    - Appendix K Historical Heritage Assessment
    - Appendix L Landscape and Visual Impact Assessment
    - Appendix N Air Quality Impact Assessment
    - Appendix O Environmental Noise Assessment.
- Consultation with Rob Hanssen from Golden Triangle Forest Plantations, including a site visit on 13 December 2021 to visit the existing GTFP quarry, other quarrying attempts, and a discussion around plantation yield.
- Inspection of nearby quarries and discussion with GTFP personal and local civil contractors regarding suitability of material for use as a road base.
- Critical review of drafts by Umwelt personnel; Emily Scott, Keira Banks, and David Knight.
- A review of the standard quarry hazards as they apply to the proposed quarry and a preliminary assessment of the risk.

4. Geology

The geology of the wind farm site comprises predominantly aeolian, calcareous dunes and dune limestone (the Bridgewater Formation) overlying upper mid-Tertiary limestone (Port Campbell Limestone). Some coastal dunes and minor swamp deposits are present directly to the south of the wind farm site. These form the beach and dune systems and the Long Swamp wetlands that form part of the Glenelg Estuary and Discovery Bay Ramsar site.

A generalised cross section showing the key landforms and geology is provided in Figure 3.

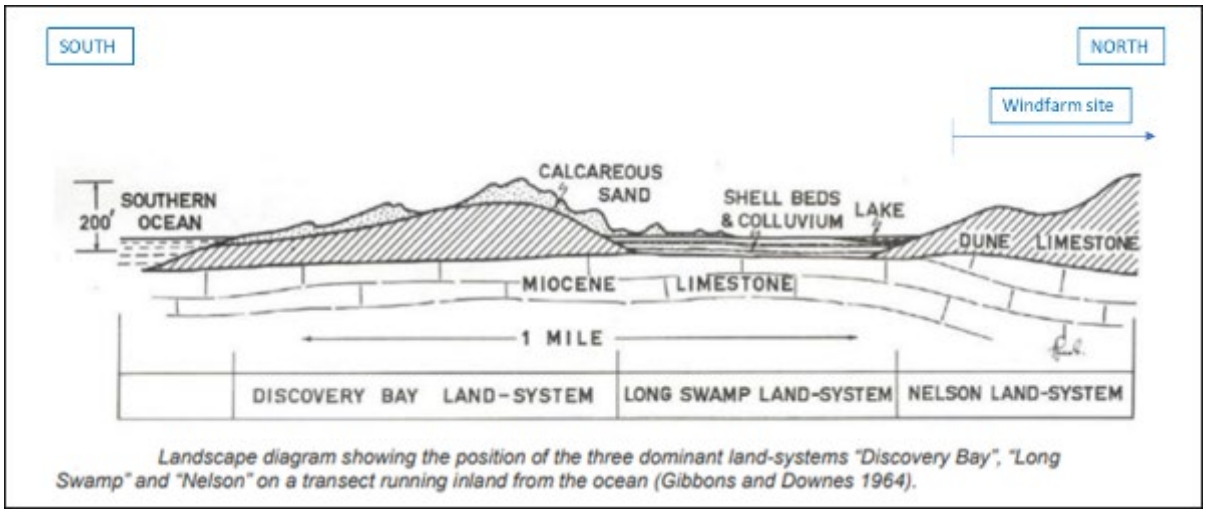


Figure 3 Generalised landform cross section
Source: Adapted from Figure 7.6 AECOM Groundwater Impact Assessment

The proposed quarry is located on a ridgeline of predominantly loose to moderately cemented, fine to coarse grained sand, with occasional interbedded minor limestone layers and occasional shells. The proposed quarry is targeting the cemented “cap rock” layer, that is typically 10–15m thick at the quarry location. The resource is inherently variable, with a typical extraction profile consisting of 150–200mm of soil, 1–2m of overburden and 10–14m of cap rock.

5. Assessment of alternatives

Avoidance and minimisation of potential environmental, heritage and social impacts has been central to the development of the proposed quarry concept. The approach has been to firstly avoid potential impacts, if possible, then to minimise the severity of the impact over space and time.

The preferred option is to source material from within the Project Area. The use of an onsite quarry for the broader Project will reduce construction traffic (particularly tippers) on surrounding local roads, limit subsequent impacts on the local road pavement and minimise the risk of traffic accidents. However, the quarry does introduce a range of other potential impacts including noise and dust generation.

Suitable material for road making is difficult to locate within the Project Area and identifying suitable locations is as much an art as it is a science. Whilst geological map sheets and plantation growth yields provide some insight, site experience and historical knowledge and past attempts are equally important.

Extractive industry consultants were engaged to conduct a desktop assessment, which included discussions with operators of the nearby quarry, and a site visit of the Project Area. This assessment and site investigation considered previous attempts at sourcing a road making material from within the Project Area, a review of plantation timber yields, and an inspection and sampling of the nearby quarry. Additionally nearby quarries were visited (see Figure 9).

This investigation inspected previous quarrying attempts and the general vicinity of these attempts, but all were discarded. Whilst the sites inspected had provided some suitable material in the past, the shallow extent of the of the cap rock (the material most suited to road making) and the highly localised and variable nature of the cap rock would not support the quantities of material required for the project without requiring significantly more area to be disturbed, in the order of 5 to 6 times the current quarry extraction area.

The highly localised geology, the quantity of material required for the Project and the quality, or more accurately the lack of quality, led to the choice of the proposed quarry location. No other quarry locations were considered, as the proposed location was identified a viable source location primarily due to neighbouring quarries, which indicated resource would be available within the Project's quarry location.

The quarry site was selected based on the quality and quantity of an available rock resource (described in Section 6.1) and also due to the fact that it avoids potential environmental, hydrological, cultural, biodiversity and geomorphological constraints as much as possible. The preferred location of the quarry was therefore determined to be within the Project Area, and as such involved a review of an existing quarry adjacent to the proposed site, older workings/quarrying attempts and road cuttings across the Project Area. Plantation growth rate mapping supplied by the plantation owner also assisted in the process.

The stated constraints, volumes of material required, and the variable (localised) geology of the Project Area limit the potential quarry locations. The selected site is on a slight ridgeline, between two existing quarries, WA748 owned by Green Triangle Forest Product and WA755 owned by Hancock Victorian Plantations Pty Limited and was identified as the preferred site due to its proximity to these existing quarries. The proximate location to two existing quarries is considered the best option for an onsite project quarry due to the likelihood for resource to present (see Figure 9).

6. Environmental considerations

6.1. Quarry Hazards

This section identifies the standard quarry hazards and sensitive receptors that could potentially be impacted by the proposed quarry.

For the purposes of a quarry work plan under the MRSD Act, sensitive receptors are considered to be residential dwellings, community and local facilities, public open space and recreation areas, as well as ecological receptors such as flora and fauna, waterways/waterbodies, and conservation areas of statutory significance. The Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2019 (extractive industry regulations) require the quarry work plan must identify quarrying hazards and assess associated risks the proposed quarrying or rehabilitation activities may pose to these sensitive receptors. If the proposed quarry is approved, and a Work Authority granted, the full risk assessment and the detailed controls will be documented in the Work Plan.

In assessing the risks to the environment and sensitive receptors from the proposed quarry, hazards that are typically associated with extractive industries are listed in the table below. Each hazard was considered with regard to the environment and sensitive receptors. Where a standard quarry hazard is not present at the proposed quarry then it is marked as such in the Table 1 below.

A detailed risk assessment and associated risk treatment plan addressing all the hazards on the site must be developed to the satisfaction of ERR before the quarry can be approved. The detailed risk assessment and risk treatment plans is beyond the scope of this document.

A key component of each hazard identification and risk assessment involves identifying the specific objective to be achieved, the standards that apply, the criteria to be met, and the monitoring and reporting program to demonstrate compliance. An assessment of the risk associated with these hazards was assessed with a focus on:

- Identifying all the hazards that may arise from all proposed quarry-based activities that might result in risk events.
- Identifying sensitive receptors within the vicinity of the proposed quarry, in relation to the environment, any member of the public or to land, property or infrastructure; including a review of any previous complaints or feedback received from the community or stakeholders received by the existing, nearby quarry.
- Identifying individual risk events that the identified hazards may pose to the sensitive receptors.
- Reviewing the applicability of standard industry controls.
- Reviewing the proposed controls, including any site-specific controls that might be required.
- The implementation procedure for necessary controls moving forward, and the resultant residual risk of individual events.

Table 1 outlines standard hazards associated with the operation and rehabilitation of the proposed quarry. A discussion of any post closure risks posed by the rehabilitated land to the environment, members of the public, or to land, property or infrastructure will be discussed in detail for each hazard in the Site Closure and Rehabilitation Plan that will form part of the Work Plan submission to ERR. The identification and assessment of post closure relevant risks relating to the rehabilitated quarry is a separate assessment based on the landform handed back to the landowner and any land management activities that are required to ensure the rehabilitated land is safe stable and sustainable in the long term.

Once the Minister's assessment of the EES is released, the risk management plans will need to be finalised to form part of the Work Plan for submission and approval from ERR.

Table 1 Standard quarrying hazards

HAZARD	SECTION	COMMENT	CONSTRUCTION / OPERATIONS	REHABILITATION ACTIVITIES
Altered visual amenity	8.1		YES	YES
Noise	8.2		YES	YES
Dust	8.3		YES	YES
Surface water flows	8.4		YES	YES
Ground disturbance	8.5		YES	YES
Ground instability	8.6		YES	YES
Erosion and sedimentation	8.7		YES	YES
Blasting	-	Not Applicable	NO	NO
Process water and storages	8.8		YES	YES
Slimes storage	-	Not Applicable	NO	NO
Imported materials	8.9		YES	YES
Unauthorised site access	8.10		YES	YES
Fuel, lubricants, other hazardous materials	8.11		YES	YES
Weeds, pests and diseases	8.12		YES	YES
Rubbish / non quarry waste	8.13		YES	YES
Fire	8.14		YES	YES
Vehicle sediment transport	8.15	Not Applicable	NO	NO

It should be noted that this table, or this Quarry Work Plan Requirements Report, does not identify hazards potentially associated with post closure, based on advice from ERR. Hazards potentially associated with the rehabilitated landform (post closure), where they relate to the extractive industry use, that may pose long-term risks to the environment, members of the public, or to land, property or infrastructure will be identified in the Site Closure and Rehabilitation Plan. Assessment of relevant risk post closure must consider if the hazard is a legacy of the extractive industry and if there is a sensitive receptor impacted, and then discuss any potential risks that may require monitoring, maintenance, treatment, or other ongoing land management activities after rehabilitation is complete from the rehabilitated land. These post closure hazards would be discussed in detail in the Rehabilitation Plan.

It is not anticipated that there will be any relevant risks posed by the rehabilitated land post closure that would require monitoring, maintenance, treatment or any other ongoing land management activities.

The risk assessments for these hazards has identified that no site-specific controls would be required, and that standard extractive industry controls would be sufficient to mitigate the risks from Operations / Production and Rehabilitation Activities over the life of the Project.

The individual Risk Treatment Plans required by the MRSD Act will identify specific sensitive receptors and discuss the impacts to these sensitive receptors and document the controls and provide monitoring and reporting requirements to mitigate these risks. It should be noted that for a risk to exist, there must be a receptor.

A general discussion of each of these standard quarrying hazards is presented in the Risk Management section of this report.

6.2. Sensitive Receptors

Sensitive receptors are presented on Figure 4 and Figure 5 below. Figure 4 shows sensitive receptors within 0.5km, 1km, 2km, 5km and 10km buffers from the proposed quarry, and Figure 5 shows receptors within 2km of the proposed quarry. These buffer distances are an ERR requirement for figures. This section identifies sensitive receptors within these distances from the proposed quarry.

Sensitive receptors are considered to be residential dwellings, nearby infrastructure such as roads, community and local facilities, townships, public open space and recreation areas, as well as ecological receptors such as flora and fauna, groundwater, waterways/waterbodies, and conservation areas of statutory significance. Sites of both historic and cultural significant are also considered sensitive receptors.

Apart from the forest plantation tracks which are accessible to the public, there are no dwellings or public meeting places within 4 km of the proposed quarry.

The Portland Nelson Road borders the northeast boundary of the proposed quarry. There are no bridges, powerlines, or any other public infrastructure within 2km of the proposed quarry.

There are no named waterways, DEECA mapped wetlands or unnamed waterways or drainage lines within 2km of the proposed quarry.

The Project is substantially confined to commercial pine plantations and farmland. The quarry is located within a highly modified landscape (pine plantation) which provides very limited support or habitat for ecological values. There is no native vegetation within the proposed quarry footprint or surrounding area. Native vegetation in this area is limited to road reserves and regrowth of hardy species in previously cleared areas.

The proposed quarry will not intersect groundwater. The existing GTFP quarry adjacent to the proposed Project quarry site has a depth of approximately 18 metres below ground surface (mbgs) (the current base of the quarry is 35.97 mAHD) and has not had any groundwater ingress. This is consistent with the inferred groundwater elevation of approximately 18 mAHD which is 36 mbgs at the current quarry rim. Based on the conditions at the existing quarry, and the maximum depth of 15 mbgs at the proposed Project quarry site, groundwater is not expected to be intersected by the Project's quarry and no dewatering impacts would occur.

Long swamp, part of the Glenelg Estuary and Discovery Bay Ramsar site, is approximately 3.2km to the south of the quarry.

Lake Mombeong Campground is located approximately 4.4km south of the quarry, which is located within the Discovery Bay Coastal Park, managed by Parks Victoria.

In accordance with the ERR Guideline for Preparation of Work Plans and Work Plan Variations - Guideline for Extractive Industry Projects (December 2020), residences within 2km of the proposed quarry should be identified. There are no residences within 2km of the proposed quarry, however there are three known dwellings within 10km of the quarry:

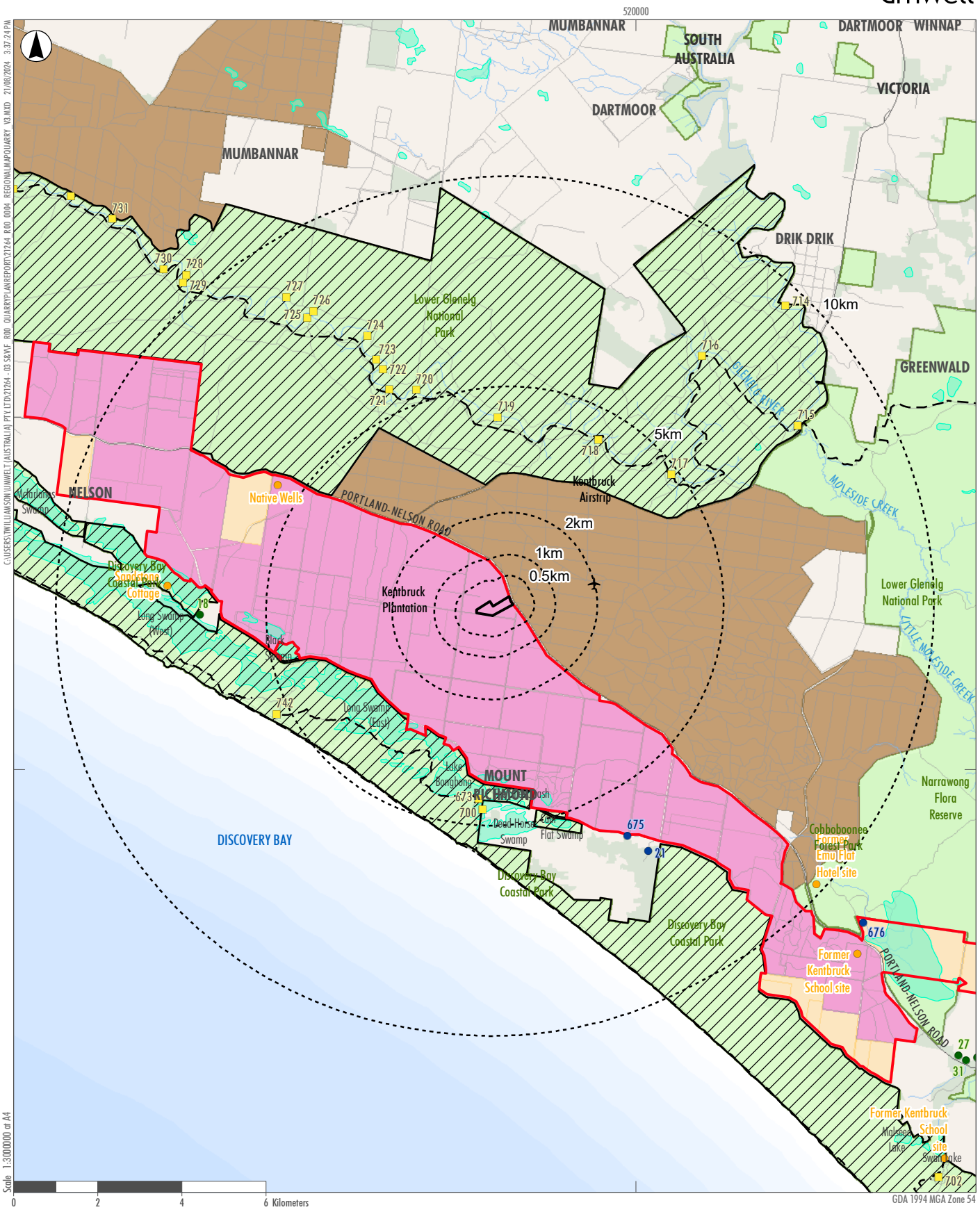
- a dwelling approximately 6.2km to the southeast (dwelling 675).
- a dwelling approximately 6.8km to the west of the quarry (dwelling 21).
- a dwelling approximately 6.8km to the southeast (dwelling 18).

Other sensitive receptors in the area that might be considered include the Lake Mombeong Walking Track approximately 4.5km south of the quarry; the ocean section of the Great South West Walking Track, at least 5km to the south; the inland section of the Great South West Walk Track, 4.2km to the north and the Glenelg River 4.2km to the north

The proposed quarry is located approximately 3km from the Glenelg Estuary and Discovery Bay Ramsar site southern boundary, associated with the Lower Glenelg National Park.

There are no townships within 10km of the quarry. The closest town to the quarry is Nelson, located approximately 17km west of the quarry. Dartmoor is approximately 21km north of the quarry and Portland is approximately 45km to the east.

There are three historic heritage sites within 10km of the quarry, one approximately 6km north-west of the quarry (the Native Wells site), one approximately 7km south-west of the quarry (Sandstone Cottage), and one approximately 10km south-east of the proposed quarry (the Former Emu Hotel Flat Hotel site).



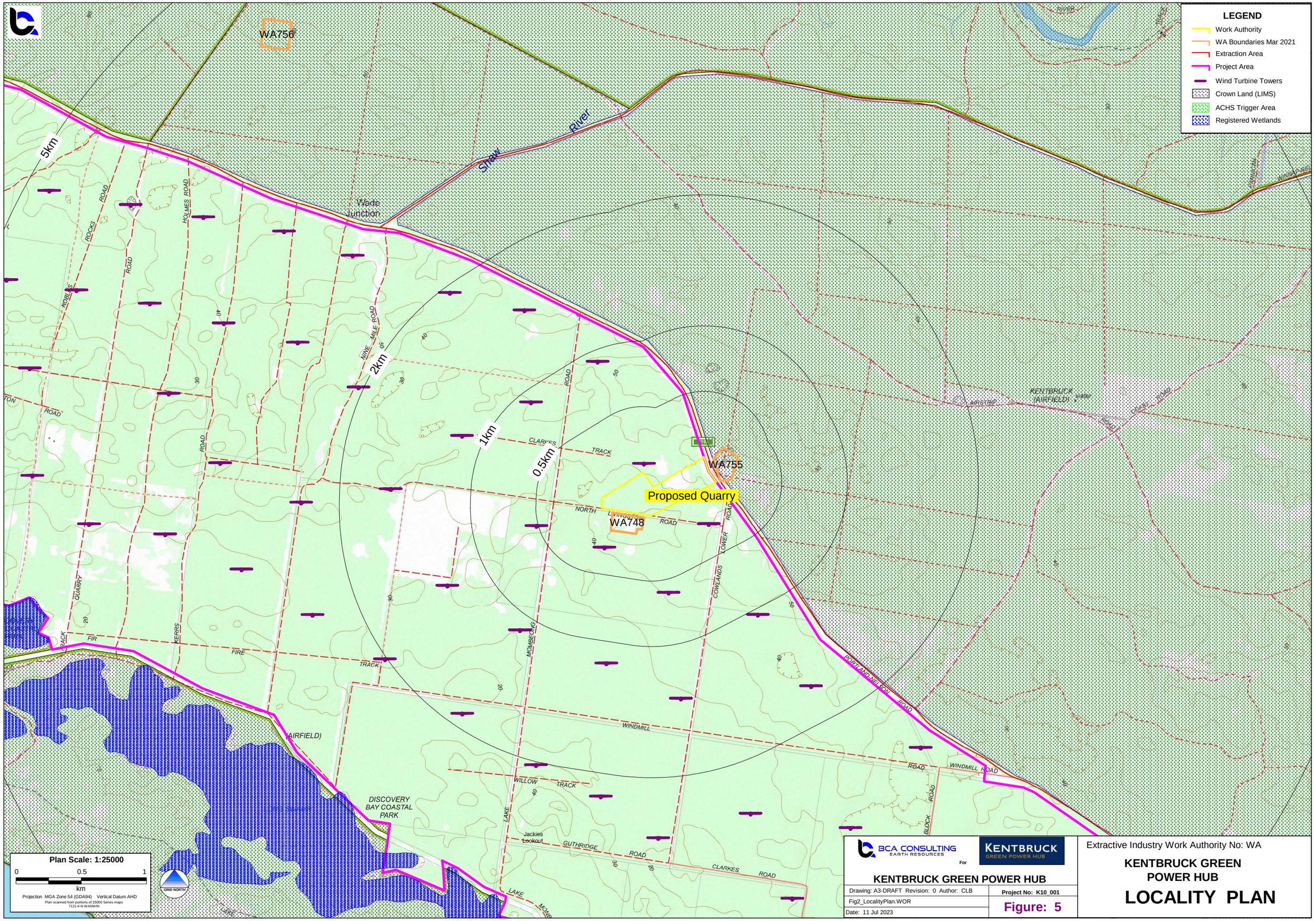
Legend

- Historical Places
- Campground
- Involved Noise Sensitive Locations
- Non-involved Noise Sensitive Locations
- Roads
- Great South West Walk
- Watercourses
- Proposed Quarry Boundary
- Buffers
- Project Area
- Parks and Reserves
- Glenelg Estuary and Discovery Bay Ramsar Wetland
- Plantation Outside the Project Area
- Private Land in the Project Area
- Green Triangle Forestry Products (GTFP) Property
- DEECA Mapped Current Wetlands

FIGURE 4

Regional Map

Image Source: ESRI Basemap (2021) Data source: Geoscience Australia; DELWP (2021)



BCA CONSULTING EARTH RESOURCES For KENTBRUCK GREEN POWER HUB

KENTBRUCK GREEN POWER HUB

Drawing: A3-DRAFT Revision: 0 Author: CLB

Fig2_LocalityPlan.WOR

Date: 11 Jul 2023

Project No: K10_001

Figure: 5

Extractive Industry Work Authority No: WA

KENTBRUCK GREEN POWER HUB

LOCALITY PLAN

7. Quarry description

The proposed quarry would be a traditional soft rock extraction operation employing a dozer or excavator to rip the in-situ material, which is then loaded into trucks for direct use, further processing (sizing), or for stockpiling. No blasting would be involved in the proposed quarry works.

Figure 6 Typical Limestone Quarry Type Operation

Given the nature of the resource located at the proposed quarry site, there will be no need to crush the material, with most of the extracted material able to be loaded out to stockpiles or directly into trucks for dispatch. However, some basic screening or re sizing may be required to produce specific products, which will be done on self-powered mobile screening units.

Figure 7 Typical 100mm Road Base Material

Figure 8 Typical 30mm Sized Material

In addition to the extraction area, other quarry associated infrastructure would be established in the Work Authority, such as:

- processing area.
- stockpiling areas for topsoil, overburden and various products.
- water storage tanks.
- office / amenity facility with toilets.
- access roads.
- car parking area.

The quarry is expected to be in use for up to 2.5 years during construction (depending on the staged construction approach) and be used for the extraction of around 350,000 cubic meters (about 780,000 tonnes) of limestone for use in the construction of access tracks and hardstand areas. The quarry will remain available for the life of the Project to supply any materials for ongoing road maintenance during operation. The quarry will be rehabilitated when the Project requirements for material has ceased.

The proposed layout of the onsite quarry is shown in Figure 9.

KENTBRUCK GREEN POWER HUB

Extractive Industry Work Authority No: WA000000

KENTBROOK

WA000000
SITE LAYOUT PLAN

Author: CLB, Date: 11 Jul 2023	Drawing: NS-DRAFT Revision: 0
Survey Source: VicMap 10m	Contours: 10metre Vertical Datum: AHD
Orthophoto Date : GoogleEarth Mar 2020	**Project No: K10_001**
Projection: MGA Zone 54 (GDA94)	**Figure: 9**
Fig3_SiteLayoutPlan.WOR	

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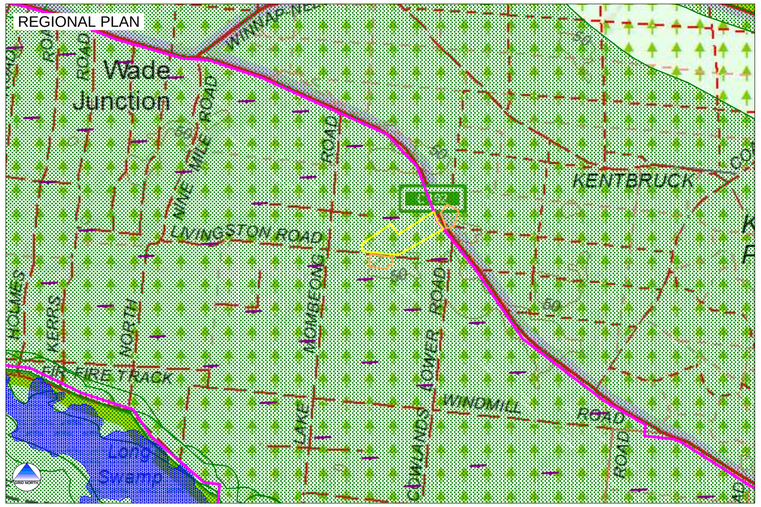
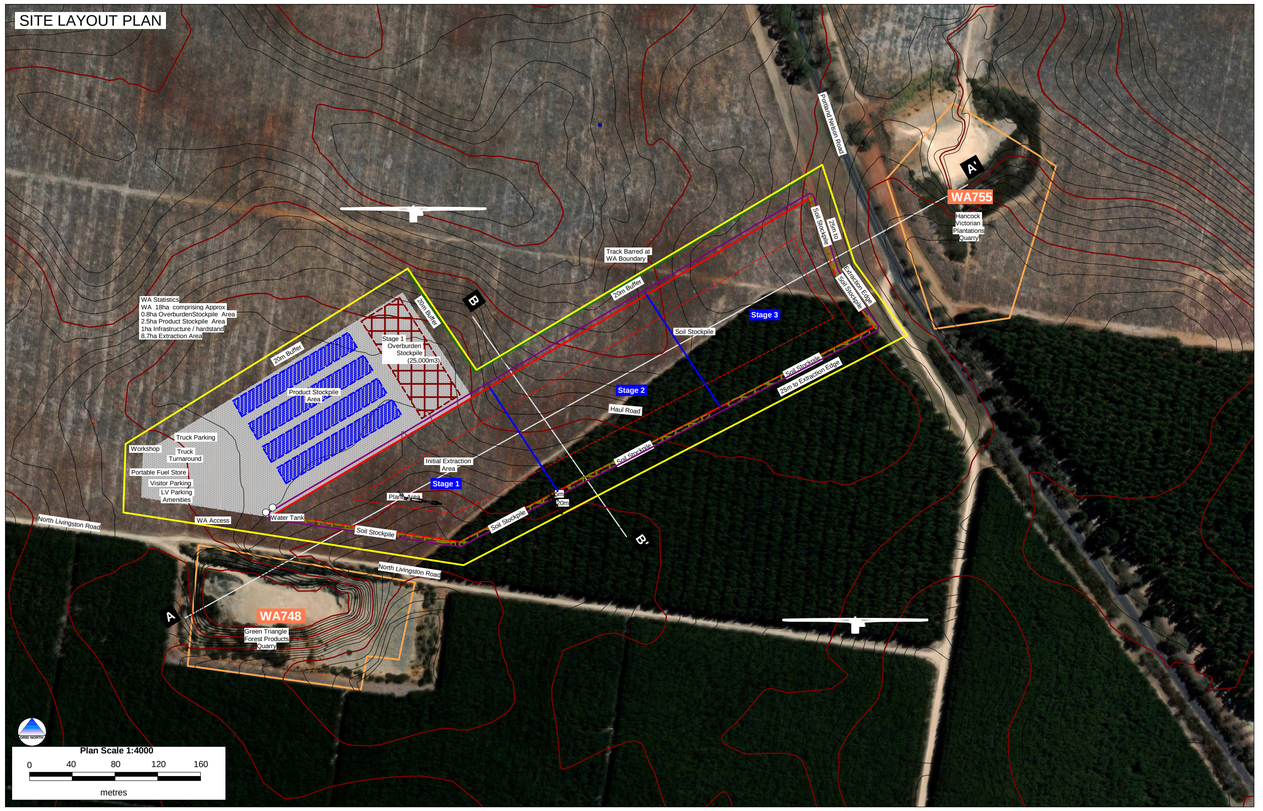
REGIONAL PLAN

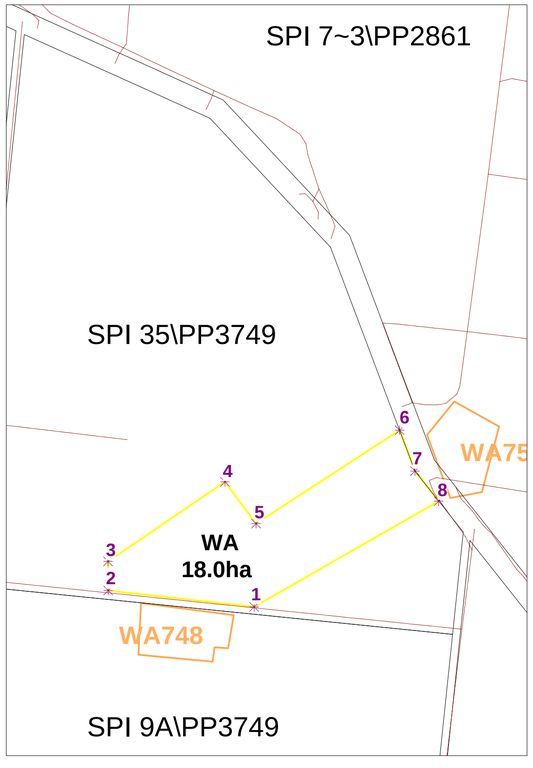


SITE LAYOUT PLAN



LEGEND

- WORK AUTHORITY BOUNDARY
- WINDFARM BOUNDARY
- TITLE BOUNDARY
- EXTRACTION LIMIT
- DISTURBANCE AREA
- INDICITIVE DIRECTION OF WORKING
- WATER WAYS
- BUND
- SWALE DRAIN
- PIPE
- DRILL HOLE (T4)
- GATE
- FENCE
- POWER POLE
- WIND TURBINE
- CONTOUR (Intermediate 120, Major)
- SPOT HEIGHT (+129.7)
- GRID COORDINATES (500N, 300E)
- SURVEYED NATIVE VEGETATION
- SURVEYED HERITAGE AREAS
- DELWP WETLAND

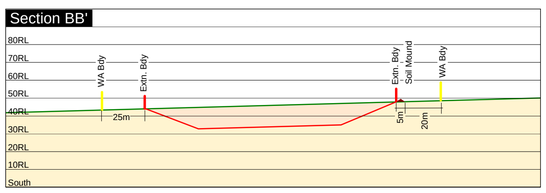


WA Bounary Cordinates

GDA94 z54

ID	Easting	Northing
1	516,589	5,783,659
2	516,209	5,783,717
3	516,211	5,783,794
4	516,527	5,783,990
5	516,604	5,783,877
6	516,990	5,784,106
7	517,026	5,783,997
8	517,085	5,783,916

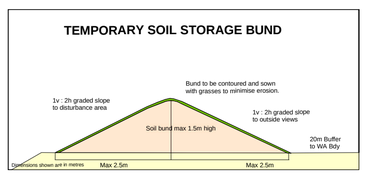
Section BB'



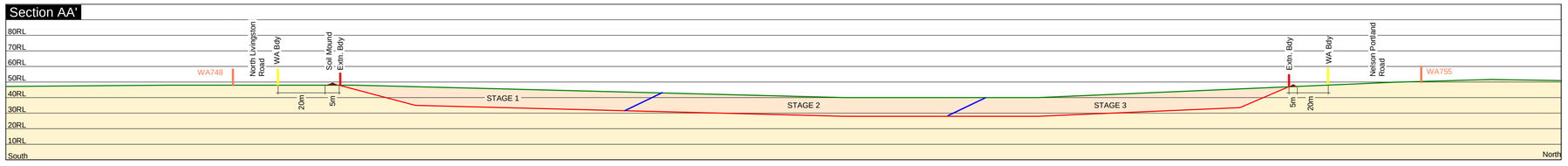
Cross Section Scale 1:2000
Horizontal & Vertical

0 20 40 60 80 100
metres

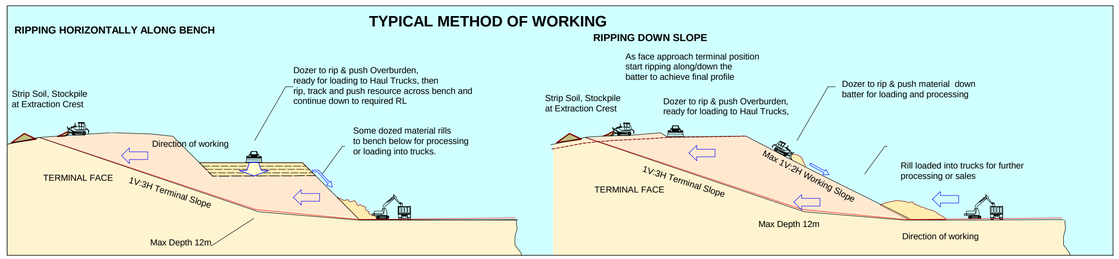
TEMPORARY SOIL STORAGE BUND



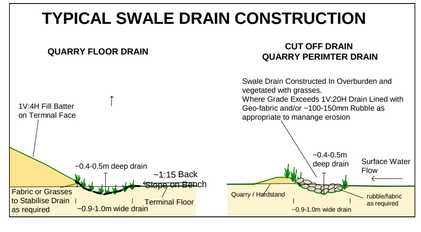
Section AA'



TYPICAL METHOD OF WORKING



TYPICAL SWALE DRAIN CONSTRUCTION



7.1. The resource

The proposed quarry is located on a ridgeline of predominantly loose to moderately cemented, fine to coarse grained sand, with occasional interbedded minor limestone layers and occasional shells. The proposed quarry is targeting the cemented “cap rock” layer, which is typically assumed to be in the order of 10–14m thick at the quarry location. The proposed quarry site has been selected due to its proximity to the existing quarries, WA748 and WA755, the similarity of geological conditions, anecdotal experience from GTFP and the assumption that the limestone cap rock material would continue on the northeast trending ridgeline (WA748 to WA755), through the proposed site.

The resource is quite friable and has a low tensile strength, making it unsuitable for use as a concrete aggregate, but has satisfactory properties for use as a road base / hardstand material. The inherent cementitious properties of the cap stone, when worked appropriately with earthmoving equipment and water, sets up to form a durable and acceptable wearing surface for road and construction equipment.

The resource will be inherently variable, with a typical extraction profile expected to be 150–200mm of soil, 1–2m of overburden and 10–14m of cap rock

The proposed extraction area contains a viable resource in the order of 450,000 m^3 which equates to approximately 150% of the proposed material requirements. This is well in excess of projected requirements to allow for contingencies in the resource variability, the stated material predictions and additional incidental works.

7.2. Method and scale of operation

The maximum depth of the extraction, including overburden, would be approximately 14m and the quarry would operate with either a series of benches, if material is won horizontally or a continuous batter slope depending on rock quality and specific product requirements (Figure 10). The quarry’s sole purpose is to supply the wind farm with construction products such as sub base and base course material for access roads and hardstand areas. The quarry would not be open to the general public for sales of materials.

Regardless of the working face profile the terminal edge design or profile would be a continuous batter, not steeper than 1V:3H (1 vertical:3 horizontal), from the extraction crest to the quarry floor.

To allow for the inherent variability of the resource a maximum design depth of 14 metres at the terminal boundary will be adopted (i.e., 1–2 metres of overburden and 10–12 metres of resource). The pit floor would generally reflect the surface topography, but would vary according to the resource, surface topography and rehabilitation. The base of the excavation will be in sandy material that will not retain any surface water.

Two indicative cross sections of the quarry area are shown in Figure 11 and Figure 12. The location of these cross sections is shown in Figure 9.

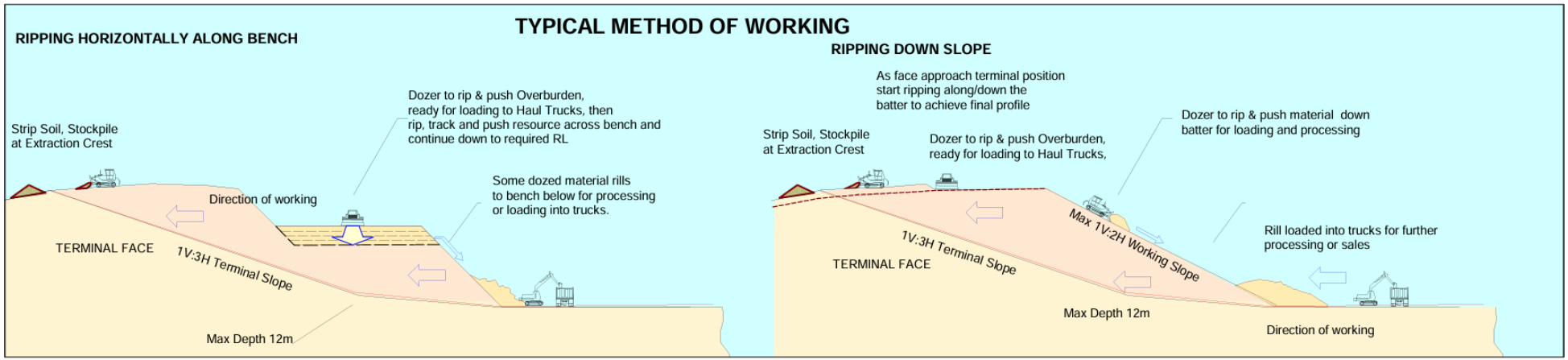


Figure 10 Schematic Representation of Proposed Quarry Operation

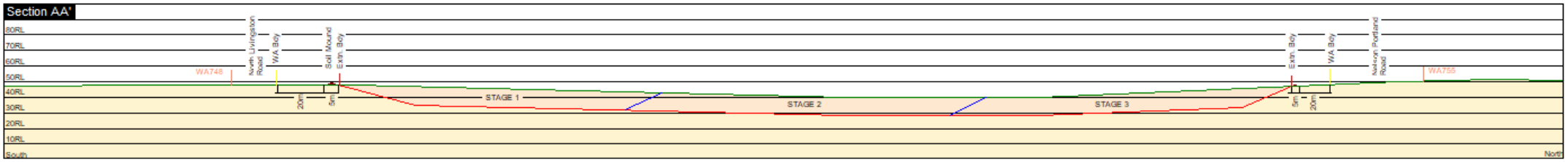


Figure 11 *Cross section running from southwest to northeast through the quarry*

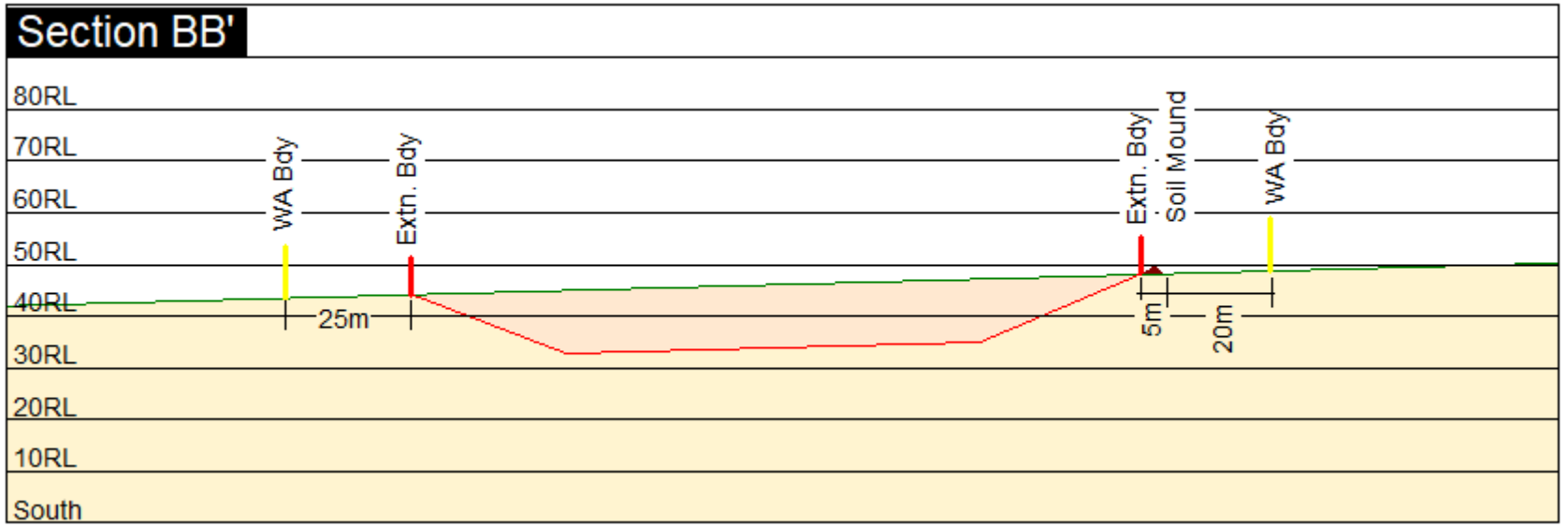


Figure 12 *Cross section running from the northwest to southeast of the quarry*

7.3. Proposed stages of extraction

Quarry development / the extraction process would consist of the following steps:

- Approximately 18,000m^3 of soil removed and stored in mounds along the edge of the disturbance area prior to use in progressive rehabilitation or stored in temporary stockpiles at the edge of the disturbance area.
- Approximately 120,000m^3 of overburden removed and used to create the initial hardstand, plant, and stockpile areas, then placed in storage mounds within the disturbance area, or later on used directly in progressive rehabilitation or backfilling/reprofiling.
- Resource extracted and either loaded directly for despatch or hauled to the mobile processing plant or stockpile area.
- Cut off drains, soil mounds and other surface water management control features would be continually updated and modified to ensure dirty water is directed to the quarry sumps in the excavation and clean water is directed away from the disturbance area.

The basic staging methodology would be to start the quarry at the southwestern end of the extraction area, close to North Livingston Road and opposite the existing quarry used by GTFP. The overburden from this initial area would be used to create the hardstand and stockpile areas. After removal of sufficient overburden extraction of the resource would commence, with the majority of the material being placed into stockpiles to allow for the rapid and unencumbered dispatch when required. If product demand dictates, material may be loaded directly from the working face as well as from the product stockpiles.

Early in the life of the quarry, an office, weighbridge, basic workshop/parts store and associated buildings and services would be established close to the quarry entrance.

The initial excavation would expand to the full width of the extraction area, then progressively develop northeast, cutting terminal faces to a batter not steeper than 1V:3H. This method would allow some limited opportunity to place subsequent overburden onto the terminal batters and quarry floor. Terminal faces would be rehabilitated as soon as practicable after they are established as a permanent place for overburden and for the early re-establishment of pasture.

It must be noted that extraction is a fluid process and that the staging lines as presented on the Site Layout Plan is indicative only to demonstrate the sequence of working.

7.4. Imported material

The Work Authority has the capacity to accept significant volumes of imported materials which typically includes rock, clean fill and / or soil from the Project Area. Whilst the volume of soil and overburden generated by the Work Authority would be sufficient to fulfil the rehabilitation requirements for the quarry, imported material may be used to supplement products, overburden or soil materials to assist in rehabilitation.

Material imported as part of the quarry's operations would be handled in accordance with an Imported Materials Management Plan. Imported material typically includes clean fill, soil, or material suitable for reprocessing (i.e., structural / engineered fill) to be blended with quarry products, such as "paddock rock" from nearby properties, spoil/overburden from the road construction process, and potentially material for the turbine footings.

It is acknowledged that whilst importing "solid inert waste" (hard waste that has a negligible activity or effect on the environment, as defined in the Imported Material Management Plan) for recycling into separate products is encouraged by ERR, the process is outside ERR jurisdiction and if required and undertaken would require separate permission from the EPA.

7.5. Extraction methods

Soil would be stripped and initially stockpiled in windrows at the edge of the disturbance area to assist in surface water diversion, then either used directly in progressive rehabilitation or stockpiled within the disturbance area for later use in rehabilitation.

The depth of overburden varies and is ultimately determined by product requirements / Project demands. Overburden generally consists of diggable clays and extremely weathered material and may be supplemented by highly weathered material and reject material, such as plant oversize, unsellable product and/or out of specification products.

Ripped / broken material would be loaded into trucks and taken to the stockpile area, where it may be further processed / sized if required or stockpiled for dispatch at a later time.

7.6. Stockpiling facilities

Stockpiling of topsoil and overburden would take place when the sequencing of stripping, extraction and progressive rehabilitation does not allow direct placement.

Soil stockpiles would be limited in height to not greater than 2 metres, located at the edge of the disturbance area at a location close to extraction crests or the edge of hardstand areas where they would be ultimately used in rehabilitation. Soil stockpiles would be contoured and grassed. Whilst not required they would assist in shielding the excavation area from outside views. Soil stockpiles would be contoured and stabilised to manage erosion until they are required for use in rehabilitation. There would be no soil stockpiles post closure as all the soil would be used in rehabilitation.

Overburden stockpiles would be limited in height to a maximum of 12 metres when located within the excavation, or 8 metres if placed on natural ground. As much as possible overburden would be placed in worked-out areas of the excavation and located to not impact the overall risk assessment of the Work Authority. Overburden stockpiles would have 1V:2H side slopes with a contour drain at the base of the dump to direct any runoff into the Work Authority drainage control system. Overburden stockpiles would be contoured and vegetated as required or otherwise stabilized to manage erosion.

Product stockpiles would be located close to the mobile processing plant. The maximum height of product stockpiles would be 10 metres. Product stockpiles are dynamic in nature as they are continuously produced and then transported to the construction areas.

Soil and overburden stripping would be avoided on hot, dry, windy days, or as much as possible after extended dry periods where the inherent moisture content is very low, to minimise dust generation and potential air quality impacts.

7.7. Processing

The resource is soft enough that it would not require further crushing, and any additional processing that might be required would typically only involve screening. Material suitable for screening would be processed through mobile screening / stacking plants. The processing plant, if required, would be located within the extraction area, and the product transported to the stockpile area for storage and ultimately, dispatch.

The mobile processing plant(s) would require loaders and/or excavators to feed the self-powered units, and to load out from the stockpiles, which would comprise screen(s), sizing unit(s), stacking conveyors and potentially blending units to produce and stockpile the required end product(s).

7.8. Water management

Process water (which is clean water used in dust suppression and irrigation of rehabilitated areas) could be obtained from incident surface water collected from the disturbed areas of the quarry but given the porous nature of the in-situ ground, is an unreliable source. To ensure an adequate supply of water for dust suppression and product mixing, water tanks will be established on the site and continually topped up from the Project water allowance.

Surface water runoff from the hardstand areas would be directed to a sediment trap then to the quarry sump located in the base of the excavation. The location of the quarry sump would be dynamic as the excavation progresses but would always be at the lowest point of the quarry, inside the excavation and at least 12 metres below the existing or rehabilitated ground level. The capacity of the quarry sumps throughout the life of the quarry would be more than satisfactory to accommodate storm events.

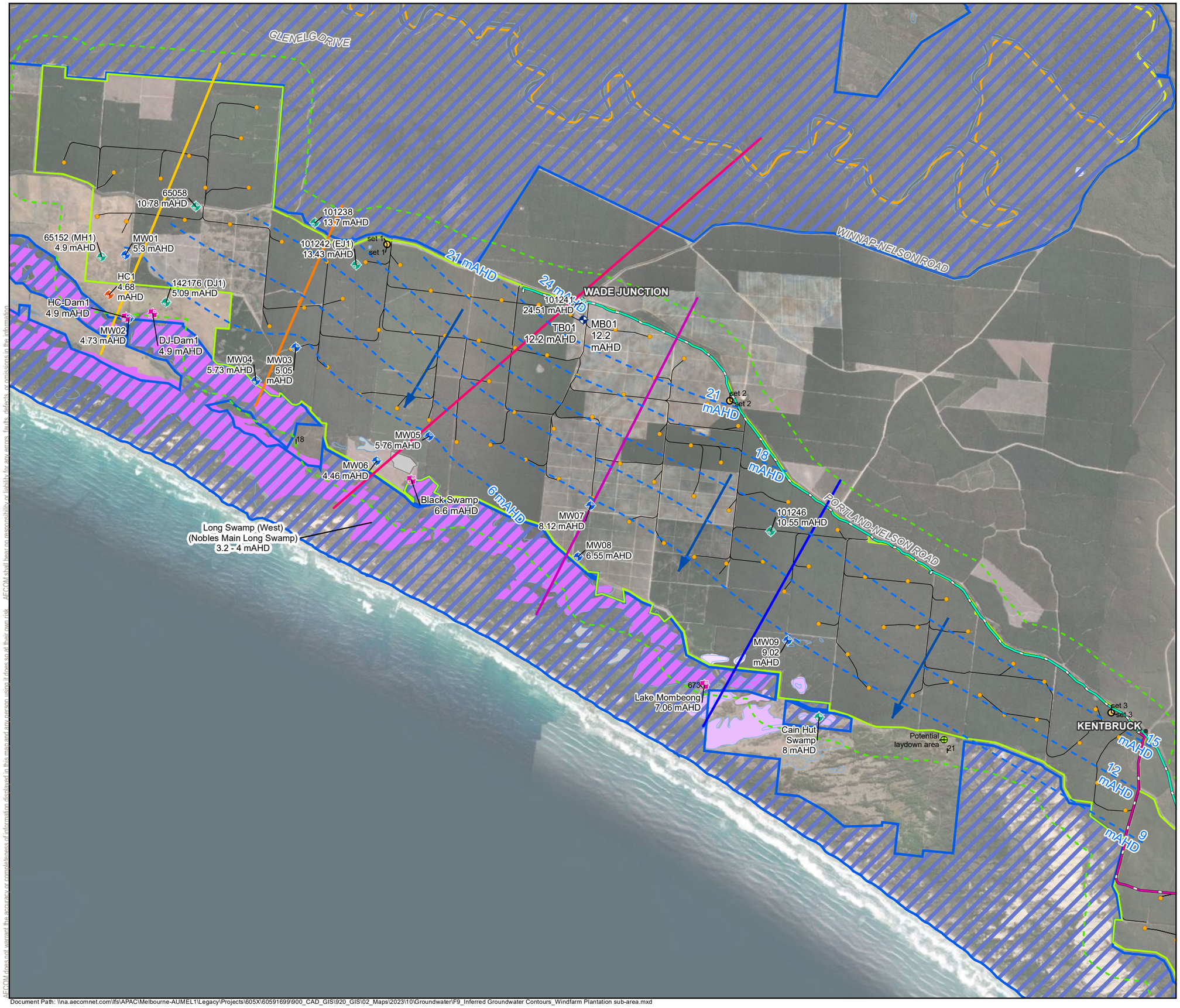
There would be no discharge of water from the quarry.

Water usage on the Work Authority would be estimated to be 10-15 megalitres per year, comprising water for dust suppression on the access roads, around the plant and stockpile areas, on the processing plant and for mixing with road base products. Groundwater supply for the quarry would be covered in the take and use licence application which will be submitted to Southern Rural Water prior to construction.

Due to the dynamic nature of the earthworks around the quarry the detailed location of water tanks, pipes, drains, sumps and pumps changes constantly, but the overriding principal is to direct stormwater runoff to a low point(s) in the disturbance area and then into base of the excavation, the quarry sump(s), and, if possible, use this water for dust suppression.

7.9. Groundwater

Based on investigations undertaken as part of the Project's groundwater impact assessment which indicate that the regional groundwater level is essentially horizontal at approximately 18mAHD, the proposed quarry excavation, which would have a base of approximately 36mAHD is not expected to intersect groundwater (see Figure 13 from the Groundwater Impact Assessment, AECOM 2023). Therefore, dewatering would not be required. A Groundwater management plan for the quarry is therefore not proposed. Refer to Appendix G *Groundwater Impact Assessment* for further information.



NEOEN BOUNDLESS ENERGY

AECOM

DATUM GDA94 VICGRID94

0 0.95 1.9

Kilometers

1:60,000 (when printed at A3)

Legend

- Groundwater Bore

Locations

- AECOM Groundwater Monitoring Wells
- State Observation Bores
- Private Groundwater Bores
- Inferred Groundwater Contour (mAHD)
- Inferred Groundwater Flow Direction

Cross Section Transect Locations

- Cross Section 1
- Cross Section 2
- Cross Section 3b
- Cross Section 4
- Cross Section 5
- Town
- Roads

Proposed Infrastructure

- Crane Pad/Substation
- Potential Laydown
- Turbine location
- Internal access roads
- Wind Farm Site Boundary
- Plantation Study Sub-area 500 m buffer
- 275 kV Powerline - Overhead
- 275 kV Powerline - Underground
- Ramsar Gleneg Estuary and Discovery Bay
- Waterbodies

Groundwater Dependant Ecosystems - Aquatic

- High potential GDE - from regional studies
- Moderate potential GDE - from regional studies
- Low potential GDE - from regional studies
- High potential GDE - from national assessment
- Low potential GDE - from national assessment
- Unclassified potential GDE - from regional studies

Note:

* - CDM Smith (2020) - surface water level data

State observation bore 101246 screened in underlying limestone and not considered representative of water table. Not used in inferred groundwater contours.

Data Sources:

1. Locality, Railway, Drainage Line, Streets, Features © StreetPro 2014
2. State Controlled Roads © (VICMAP) 2018
3. Essential Habitat © (VICMAP) 2018
4. Conservation Areas © (VICMAP) 2018
5. Protected Area © (VICMAP) 2018
6. Regional Ecosystems v6 © (VICMAP) 2018
7. Protected Plants Flora Survey Trigger © (VICMAP) 2018
8. Waterway Barrier Works© (VICMAP) 2018

Disclaimer:

1. StreetPro © 2014 Pitney Bowes Software Pty Ltd. All rights reserved
2. Victoria State Government - Environment, Land, Water and Planning © (VICMAP) 2018
3. © Copyright Commonwealth of Australia (Geoscience Australia) 2016. The Commonwealth gives no warranty regarding the accuracy, completeness, currency or suitability for any particular purpose.

Groundwater Impact Assessment

Kentbruck Green Power Hub EES

INFERRED GROUNDWATER CONTOURS - WINDFARM PLANTATION SUB-AREA

PROJECT #:	60578607
CREATED BY:	JB
LAST MODIFIED:	McCartnb16/11/2023
VERSION:	1

Figure 13

A3 size

Document Path: \\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\605X\60591699\900_CAD_GIS\920_GIS\02_Maps\2023\10\Groundwater\F9_Inferred Groundwater Contours_Windfarm Plantation sub-area.mxd

7.10. Potable water

There would be no access to mains water supply for the quarry. Amenities would be serviced by rainwater tanks and non-potable water transported to the quarry. Additional bottled water for consumption would be supplied as required.

7.11. Waste disposal

The only “waste” products produced by the quarry would be overburden, plant rejects, plant oversize, out of specification products and / or unusable products, and only then when it could not be blended with other material for use as a lower-grade product. It is likely this material would not be contaminated and would be used in quarry rehabilitation, either directly or following temporary stockpiling inside the extraction area. However, in the unlikely event that unknown contaminated material is encountered, the material would be assessed by an experienced environmental, health and safety practitioner and treated, or disposed of, appropriately and in accordance with EPA guidelines (see mitigation measures in EES technical report *Environmental Site Investigation*).

No slimes would be produced by the quarry, and no slimes dam would be constructed.

The quarry would generate a small amount of domestic and industrial rubbish. Domestic rubbish includes toilet waste, general office waste and food and paper waste from the office and amenities. Industrial waste includes redundant / discarded plant and equipment, discarded conveyor belting, discarded screen decks, discarded tyres, discarded grease cartridges, discarded oil drums, and oily rags. These materials would be removed and disposed of appropriately by licenced contractors, and/or, as in the case of tyres and conveyor belting, by the supplier of the replacement items.

7.12. Hydrocarbons

Quarry activities would be contracted out, with the relevant contractor responsible for the refuelling, servicing, and general maintenance of their equipment. Initially there would be no fuel stored on site, however individual contractors may locate an AS1940 compliant oil / grease store for daily servicing needs or choose AS1940 compliant vehicle-mounted oil and grease stores.

Fuel would initially be supplied via AS1940 compliant vehicle-mounted fuel tanks with refuelling undertaken on the hardstand areas. An AS1940 compliant, portable, fully containerised type, fuel store (approximately 4500L in volume) may be supplied if required. If adopted, this fuel store, along with any portable oil and grease stores, would be located in the south of the site, close to the site entrance in the processing / stockpile area off North Livingstone Road.

All refuelling and minor servicing would be conducted on the hardstand area or the processing plant / stockpile area, and not in the excavation area to minimise potential interaction with groundwater.

7.13. Amenities and quarry infrastructure

Basic temporary facilities would be established at the quarry that would include a weighbridge, office, amenities, workshop, and fuel store. This infrastructure is proposed to be located to the southwest of the Work Authority, close to the quarry access point off North Livingstone Road. Quarry infrastructure would be installed progressively as the quarry develops, initially starting with some basic amenities, then expanding to equipment stores, fuel stores, workshop and oil and grease stores as the quarry develops and more mobile equipment is delivered to the quarry, culminating in the weighbridge.

Additional activities that typically occur on the quarry include accepting, sizing, sorting, mixing and blending of imported and processed materials; product mixing or blending and stockpiling, as well as quality control and quality assurance testing, loading and dispatching loaded materials from the quarry.

Other activities that might occur at the quarry include:

- maintenance of access roads, haul roads and tracks.
- accepting, sorting and placing inward material and soils.
- accepting, sorting and placing clean fill into stockpiles or batters.
- maintenance, servicing and upgrading of mobile equipment, mobile plant and the sand processing plant.

7.14. Site Access

The quarry is located on North Livingston Road and would be accessed via the wind farm site access point at Cowlands Lower Road off Portland Nelson Road. Traffic generation associated with the quarry would be restricted to internal access tracks where practicable. During construction of the wind farm, 6,875 one-way trips by truck and dog trailers are estimated to be generated from the onsite quarry. Refer to Section 8.1.1 of the Transport Impact Assessment for further details.

7.15. Workforce

The quarry will typically employ approximately 6–8 people on a full-time basis, with contractors engaged for specific activities such as, but not limited to, stripping and maintenance. The number of employees during operation of the Project, when demand for quarry supply is not as high is likely to be less.

8. Risk Identification

The *Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2019* require proponents to include a risk management plan as part of the Work Plan documentation. The risk management plan must:

- Identify the control measures to eliminate or minimise, as far as reasonably practicable, the risks associated with mining hazards.
- Specify the objectives, standards or acceptance criteria that each control measure or a combination of control measures will achieve.
- Include a monitoring program that will measure performance against all the specified objectives, standards and acceptance criteria.
- Describe arrangements for reporting on performance against all the specified objectives, standards and acceptance criteria.

A detailed risk assessment and associated risk treatment plan addressing all the hazards on the site must be developed to the satisfaction of ERR before the quarry can be approved. The risk management plan will be developed in accordance with the Guideline for Preparation of Work Plans and Work Plan Variations - Guideline for Extractive Industry Projects (DJPR, 2020) following the Minister's assessment of the EES. The methodology adopted in this report, which would be used to inform the risk management plan, involves the identification of quarrying hazards (see Table 1) and associated risks with the site in two distinct phases, the operational phase of the proposed quarry (i.e. major works including construction, production and rehabilitation of the quarry), and the post rehabilitation phase.

8.1. Visual amenity

Sensitive receptors typically associated with visual amenity impacts as a result of a quarry include nearby residences with a view to the operations, as well as views from publicly accessible roads.

There are no residences within at least 4km of the quarry, and no residences that have a view to the quarry. As the quarry is situated within the plantation, views toward the existing and proposed adjoining quarry would be screened from the road corridor. Views toward the proposed quarry post harvesting would continue to be partially screened by the undulating landform south of the Portland Nelson Road corridor.

As there are no residences with a view into the quarry, there is no risk of the quarry impacting their visual amenity. The overall risk of the quarry adversely impacting the local amenity of the general public using the immediate roads in the vicinity of the quarry, is considered low as views will be screened.

8.2. Noise

Sensitive receptors typically associated with noise impacts generated by a quarry include nearby residences and publicly accessible areas in the vicinity of the quarry, (e.g. roads, tracks, public meeting places or parking areas).

There are no residences within at least 4km of the quarry, and no residences that would be impacted by any noise generated by the quarry (as determined in the EES technical report *Environmental Noise Assessment*). There are no public parking or viewing areas within the vicinity of the quarry that could be impacted by noise. The only potential sensitive receptors are the publicly accessible roads. There would be no crushing, drilling or blasting, which are typical quarry activities that generate significant noise. The mobile earth moving machinery employed at the quarry would be consistent with the equipment used to harvest the timber and prepare the site for replanting after harvesting. The quarry would not operate at night.

The key noise generating activities associated with the proposed temporary quarry include excavation (mechanical extraction processes), material handling operations, and heavy goods vehicle movements. While no sensitive receptors are located within 4km of the proposed quarry, predicted noise levels for 15 sensitive receivers located within 4 to 8 km of the quarry are outlined in Table 2.

Table 2 Estimated noise levels - quarry

Receiver	Separating distance (m)	Estimated noise level, dB L_{eff}
18	6,773	26
21 (S)	6,765	25
673 (C)	4,290	31
675 (S)	6,192	26
700 (C)	4,557	30
717 (C)	5,588	27
718 (C)	5,018	29
719 (C)	4,768	30
720 (C)	5,660	27
721 (C)	5,884	27
722 (C)	6,386	25
723 (C)	6,662	25
724 (C)	7,256	24
742 (C)	5,456	29

(s) involved receiver | (c) Camping ground

The noise of the temporary quarry is assessed against requirements which apply to permanent extractive operations. Noise modelling indicates that estimated noise levels are lower than the most stringent Noise Protocol noise limit of 36 dB by at least 5dB. This indicates that noise from the Project's quarry comply with the Noise Protocol noise limits and, as such, are not prescribed to be unreasonable in accordance with the EP Regulations.

The risk of noise generated by the quarry adversely impacting sensitive receptors using the immediate roads in the vicinity of the quarry (when compared to the plantation cycle) is considered low due to the lack of sensitive receptors within vicinity of the quarry and that noise levels associated with the quarry are modelled to comply with noise limits.

8.3. Dust

Sensitive receptors typically associated with dust impacts generated by a quarry include nearby residences and publicly accessible areas in the vicinity of the quarry, (e.g. roads, tracks and parking areas etc).

There are no residences within at least 4km of the quarry, and no residences that could be impacted by any dust generated by the quarry. There are no public parking or viewing areas within the vicinity of the quarry that could be impacted by dust generated from quarrying activities. The only potential sensitive receptors are the publicly accessible roads. There will be no crushing, drilling or blasting, which are typical quarry activities that generate significant amounts of dust.

The inherent moisture content of the in-situ diggable material aids in reducing dust generated during stripping and extractive operations. Soil and overburden stripping would be avoided on hot, windy days, or as much as possible after extended dry periods where the inherent moisture content is very low. Standard extractive industry dust suppression measures should be implemented to manage potential dust impacts, including the use of water sprays and water carts (see EES Appendix N *Air Quality Impact Assessment* for dust suppression mitigation measures).

Although the limestone resource may contain quartz grains, there is minimal potential for the resource to generate any respirable crystalline silica. Respirable crystalline silica is minus 2.5 micron in size and may be produced from the crushing and grinding of quartz grains in a resource, which requires significant amounts of energy. The quarry would not crush or grind the resource, and the operation of ripping and pushing does not impart enough energy to grind the quartz grains fine enough, therefore the potential to generate respirable crystalline silica is negligible.

8.4. Storm water

Sensitive receptors typically associated with stormwater run-off impacts from a quarry include any local drainage lines or waterways. There are no waterways or drainage lines within the vicinity of the quarry, and none would be impacted by the quarry. The closest waterbody is Long Swamp, some 3.2km to the south, Lake Mombeong approximately 4.2km to the south or the Glenelg River 4.2km to the north. As described in the EES technical report *Surface Water Impact Assessment*, there is minimal risk of stormwater run-off impacting any waterways.

Surface water runoff from the western and central areas of the proposed wind farm site generally flows toward the Discovery Bay Ramsar site, however, the vegetated plantation and sandy soils ensure much of the rainfall occurring across these areas infiltrate into the ground. This potential reduction in runoff was evident where drainage channels and waterways were less prominent in the vicinity of the proposed quarry location (AECOM, 2023). Potential surface water or stormwater runoff impacts would be managed through the Sediment, Erosion and Water Quality Management Plan. See EES Appendix F *Surface Water Impact Assessment* for surface water runoff mitigation measures.

There are no waterways or wetlands that would be impacted by the proposed quarry...

8.5. Ground disturbance

Sensitive receptors typically associated with ground disturbance impacts include objects or places of Aboriginal or historical heritage, biodiversity values (e.g. native vegetation, fauna and flora), groundwater, and nearby infrastructure or other assets in the vicinity of the quarry.

Aboriginal Heritage: A Cultural Heritage Management Plan is currently being prepared by Andrew Long and Associates Pty Ltd (ALA) for the Project. Assessments undertaken to date, include a desktop assessment and standard assessment to assess potential of the Project Area to contain concealed Aboriginal cultural

heritage (sub-surface cultural deposits). The standard assessment involved an inspection of the proposed locations for the wind turbine hardstands and some other infrastructure but did not include the proposed quarry site. The desktop assessment determined that the proposed quarry site has a low archaeological potential compared to more coastal regions of the Project Area. The closest known Aboriginal place to the quarry site is a shell midden and artefact scatter located approximately 3.8 km to the south, adjacent to Lake Mombeong in the Glenelg Estuary and Discovery Bay Ramsar site. This place is listed on the Victorian Aboriginal Heritage Register.

A complex assessment will be undertaken as part of the CHMP process to investigate sub-surface condition in areas of archaeological potential identified during the standard assessment. This will allow for a full impact assessment to be completed and the identification of measures for avoiding harm to Aboriginal cultural heritage within the Project Area. If any Aboriginal cultural heritage is found within the proposed quarry site, the CHMP will investigate the extent of these deposits and the findings will be used to inform preparation of the Work Plan.

As there are no records of Aboriginal places located in the vicinity of the proposed quarry site, therefore there is minimal risk of the quarry impacting Aboriginal cultural heritage.

As described in the EES technical report *Aboriginal Cultural Heritage Technical Report*, management measures for Aboriginal cultural heritage include the preparation of a range of contingency plans in accordance with Part 4 of the AH Act. This includes a contingency plan if Aboriginal cultural heritage is discovered unexpectedly during the Project.

Historical Heritage: As described in the EES technical report *Historical Heritage Assessment, Kentbruck Green Power Hub, Kentbruck Southwestern Victoria*, no areas of historical heritage have been identified within the vicinity of the Quarry. There are three historic heritage sites within 10km of the quarry, one approximately 6km north-west of the quarry (the Native Wells site), one approximately 7km south-west of the quarry (Sandstone Cottage), and one approximately10km south-east of the proposed quarry (the Former Emu Hotel Flat Hotel site).

Biodiversity: The EES technical report *Flora and Fauna Existing Conditions and Impact Assessment* found no accessible native vegetation on the quarry site and determined that the plantation timber generally provides lower value habitat for native fauna, compared to adjacent areas of natural habitats. The following threatened fauna species were recorded within the pine plantation part of the Project Area:

- Blue-winged Parrot (*Neophema chrysostoma*)
- White-throated Needletail (*Hirundapus caudacutus*)
- Rufous Bristlebird (Coorong) (*Dasyornis broadbenti broadbenti*)
- Gang-gang Cockatoo (Callocephalon fimbriatum)
- White-footed Dunnart (*Sminthopsis leucopus*)
- Southern Bent-wing Bat (Miniopterus orianae bassanii)
- Striped Worm-Lizard (*Aprasia striolata*)
- Bearded Dragon (*Pogona barbata*)

The proposed quarry is on a subtle ridgeline that has demonstrated a poor plantation volume yield. The proposed Work Authority area is in an area partially covered by standing pines to the east, and partially in an area that has been felled to the west, see Figure 14. No native vegetation was identified in the vicinity of the proposed quarry during field surveys for the *Flora and Fauna Existing Conditions and Impact Assessment*. There are also no mapped wetlands or other topographic features within the vicinity of the proposed quarry that might support or encourage native flora or fauna within this area

Figure 14 Proposed quarry location looking northeast to Portland-Nelson Road in the distance

Groundwater: Groundwater studies to date show the regional groundwater level is essentially horizontal at approximately 18 mAHD whilst the base of the excavation will be approximately 36 mAHD. The base of the quarry will therefore be at least 18 m above the water table and the risk of the quarry impacting the groundwater is considered minimal.

Infrastructure: Assets and infrastructure near the proposed quarry include the surrounding pine plantation, North Livingston Road, Clarkes Track, Portland-Nelson Road and three wind turbine generators within 500m of the excavation. The shallow nature of the quarry, the absence of blasting and the implementation of standard management controls for dust and noise would effectively manage any potential risk to these assets.

The main impact of the proposed quarry would be on the temporary loss of the existing land use (removal of plantation availability). This impact would only last for the life of the quarry, as the land will be returned to plantation at the completion of rehabilitation.

The overall risk of ground disturbance on the vicinity of the proposed quarry is considered minimal due to the lack of any sensitive receptors and the low level of impact from the quarry. Therefore, standard quarrying controls, such as fencing, demarcation of no-go zones, extraction and work authority boundary mark out, should be more than adequate to manage the risk.

8.6. Ground instability

Sensitive receptors typically associated with ground instability impacts include private and public land, waterways, infrastructure and other assets immediately adjacent to the quarry. The absence of groundwater, the free draining nature of the quarry resource, the shallow (less than 15m) excavation and the relatively flat (1V:3H) terminal batters, will help ensure the long-term stability of the final landform and minimise the potential for any ground instability to impact beyond the Work Authority boundary or the closest wind turbine (approx. 220m).

The risks associated with this hazard are considered very low due to the lack of any sensitive receptors and the shallow and flat nature of the excavation and the low level of impact from the quarry. Therefore, standard quarrying controls, such fencing and surface water diversion should be more than adequate to manage the risk.

8.7. Erosion and sedimentation

Sensitive receptors typically associated with erosion and sedimentation impacts include waterways and sensitive ecosystems adjacent to or near the quarry site. Uncontrolled surface water flows may cause erosion from extraction areas, stockpiles, constructed embankments, natural slopes and rehabilitated landforms. Sediment deposition may affect the Work Authority area or neighbouring lands, vegetation and waterways. There are no waterways or drain lines within 2km of the proposed quarry. Surface water flowing across undisturbed ground and into the proposed quarry site would be collected and diverted around the works, with incident rainfall and surface water flows over disturbed ground within the proposed quarry collected and directed into sediment traps and sumps in the base of the excavation, below natural ground. There would be no discharge of water from the Work Authority (see EES Appendix F *Surface Water Impact Assessment* for details on erosion and sedimentation mitigation measures).

The risks associated with this hazard are considered very low due to the lack of any sensitive receptors and the gentle nature and vegetation of the surrounding land use. Therefore, standard earthmoving / quarrying sedimentation controls, such drains, sumps, pasture establishment, revegetation and surface water diversion should be more than adequate to manage the risk.

8.8. Water storage

Sensitive receptors typically associated with water storage include adjacent or nearby waterways. Failure of water storages might result in sediment laden water affecting sensitive receptors. The porous nature of the quarry material makes water storage difficult, and there are no plans to have any constructed dams at the quarry. Water storage for dust suppression will be achieved through an on-site water tank, which will be removed at closure. The water tanks should be positioned so that any failure of the tank would result in water discharge entering the excavation and being retained in the Work Authority.

8.9. Imported Material

Sensitive receptors associated with imported material typically include groundwater, adjacent waterways and adjacent soils. Imported material may be used at the quarry to assist in rehabilitation, which would typically include soil, or “clean fill” sourced from the construction activity within the Project Area. All material imported to the quarry will be in accordance with EPA regulations, as documented by an Imported Materials Management Plan. Solid inert waste and plastic concrete should not be accepted at the quarry (see management control MM-QU01).

8.10. Unauthorised site access

Sensitive receptors typically associated with unauthorised site access impacts include the general public and forestry workers. The proposed extraction methodology does not involve steep, near vertical faces, and the potential for injury from a fall is minimal. There is potential for unauthorised visitors to fall from parked up machinery or injure themselves in acts of vandalism. The quarry would be included in the overall Project Area which would be a designated construction site. Appropriate signage at the quarry access point and adjacent to Portland-Nelson Road should be installed, as well as appropriate signage to the immediate Work Authority, warning the public of high cliff faces and fall hazards (see management control MM-QU02).

8.11. Fuel, lubricants and other hazardous materials

Sensitive receptors typically associated with impacts from fuel, lubricants and other hazardous materials include groundwater, surface water and the general environment. There should be no permanent fuel stored on the quarry site, with all machinery refuelled from mobile, vehicle mounted compliant fuel tanks. All refuelling vehicles should carry spill kits (see EES technical report *Surface Water Impact Assessment* for fuel and chemical storage mitigation measures). If containerised fuel tanks are supplied by any contractors, they should be fully compliant with AS1940 *Storage and Handling of Flammable and Combustible Liquids*, and spill kit(s) will be readily available. There would be no other chemicals or hazardous materials used in the processing or extraction of the resource.

8.12. Pests, weeds and diseases

Sensitive receptors typically associated with impacts from pests, weeds and diseases include sensitive ecosystems and the general environment. All equipment brought onto the quarry site should clear the Project’s hygiene requirements which will ensure they are cleaned and disinfected before entering the quarry. These requirements should be documented in the Construction Environmental Management Plan to be implemented in collaboration with relevant landholders (see EES Appendix C *Flora and Fauna Existing Conditions and Impact Assessment* for pest plant and animal mitigation measures). The quarrying activity itself does not alter or introduce any activity that would encourage pests and weeds, and the generally accepted land management actions of inspection, weed spraying and feral animal control are considered satisfactory.

8.13. Rubbish / non quarry waste

Sensitive receptors typically associated with rubbish and non-quarry waste impacts include sensitive ecosystems and the general environment. The site would generate a small amount of domestic and industrial rubbish. Domestic rubbish includes toilet waste, office waste and food and paper waste from the office and amenities. Industrial waste includes redundant / discarded plant and equipment, discarded conveyor belting, discarded screen decks, discarded tyres, discarded grease cartridges, discarded oil drums, and oily rags. Domestic and industrial waste materials should be removed by licenced contractors (see management control MM-QU03).

8.14. Fire

Sensitive receptors typically associated with fire risk include the general environment, public safety and private property. The quarry site is surrounded by plantation timber and bushfire can be an issue in the warmer months. Hot works or poorly maintained equipment are typical examples of a source of fire at a quarry.

The plantation companies within the Project Area and surrounds participate in joint planning and mutual dispatch arrangements for managing bushfire risk. GTFP has a manual that outlines the fire management procedures and policies applicable to the GTFP plantation (on which the Project would be partially located) and areas beyond the plantation that are of strategic importance to GTFP in protecting their asset from fire.

An active Fire Management Plan consistent with the fire control manuals of GTFP and other relevant stakeholders should be prepared and maintained by the Project, including controls for managing fire risk of the quarry. To ensure integration with existing bushfire operations, measures should be implemented to support bushfire suppression operations, including specific strategies to assist firefighters with understanding risks associated fires within an operating quarry. The Project will also have a dedicated liaison person to support incident management during bushfires (see EES Appendix V Bushfire Risk Assessment and Mitigation Plan for bushfire management and prevention mitigation measures). The quarry extraction areas and stockpile areas are well protected from fire and provide good emergency assembly areas for employees, contractors and the general public in an extreme fire event.

8.15. Vehicle sediment transport

Sensitive receptors typically associated with vehicle sediment transport impacts include public roads and the general amenity. Roads immediately used to access the quarry are all unsealed, with the most appropriate control for managing sediment transport of vehicles being to limit speed and cover loads where applicable (see EES Appendix N *Air Quality Impact Assessment* for dust and sediment control mitigation measures) There will be no direct access to the quarry from Portland-Nelson Road, with the vast majority of Project traffic traversing the unseal roading network.

9. Stakeholder and community engagement

The Project quarry will meet its duty to consult with the community under the MRSD Act by sharing relevant information about the quarry's activities that may affect the local community and by providing reasonable opportunities for the community to express their views about activities at the quarry. This consultation is required over the life of the quarry.

A Community Engagement Plan (CEP) would be prepared for the quarry to share relevant information about the Work Authority that may affect the community and key stakeholders. Key stakeholders for the Project quarry include the plantation owner (GTFP), Glenelg Shire Council, and ERR. Typical information that is shared includes any proposed changes in operating practices/activities that could potentially result in impacts to the local community.

The name and contact details of the quarry manager will be displayed on a sign at the Work Authority entrance for any members of the general public to use for providing feedback. Additionally, feedback may be sent to Neoen via the published email address or by calling the Project phone line. [1]

The CEP will document the opportunities for the community to express their views about activities at the Work Authority, including the establishment and maintenance of a complaints register with the following information to be recorded:

- the date and time of the complaint.
- who the complaint was from.
- the specific issue/s raised in the complaint.
- the actions taken to address the specific issue/s raised in the complaint.
- notifying complainant with outcome.
- A CEP will be part of the final approved Work Plan for the quarry.

[1] https://kentbruckgreenpowerhub.com.au/contact/

10. Rehabilitation

A Rehabilitation Plan will be required for the proposed quarry that will address all the requirements under Part 2 the *Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2019* and ERR's *Preparation of Rehabilitation Plans: Guideline for Extractive Industry Projects 2021*. The Rehabilitation Plan will form part of the Work Plan for the purposes of the MRSD Act.

10.1. Closure objectives and end land use

The Rehabilitation Plan should clearly state the rehabilitation objective(s) of the quarry and list the criteria and monitoring for determining the success or otherwise of rehabilitation.

The rehabilitation objective should be to return the site to a landform that is safe, stable, non-polluting and sustainable as an ongoing source of plantation timber (Figure 15). The final landform design and all associated closure criteria and monitoring should reflect this objective.

Given the relatively small scale of the proposed quarry, there is limited opportunity for progressive rehabilitation. The terminal working face should be cut to the final landform batter and spread with available overburden and soil then planted out with grasses or appropriate ground cover to initially manage erosion whist being prepared for plantation planting.

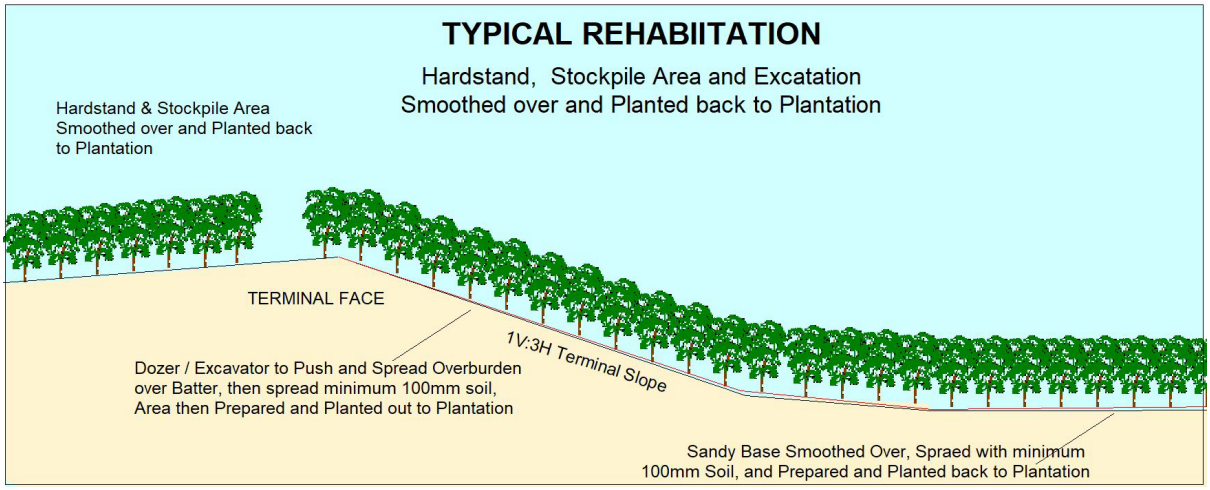


Figure 15 Typical rehabilitation of a quarry

At site closure, all quarry infrastructure and mobile equipment would be removed from the site and all hardstand areas, stockpiles, overburden and any other material would be removed, and the areas rehabilitated to a suitable landform.

11. Management controls

Table 3 outlines the management controls recommended to manage potential impacts associated with construction, operation, and rehabilitation of the quarry. Management controls that relate to each of the environmental risks discussed in Section 8 are covered in the relevant EES technical report and summarised in the EES Environmental Management Framework (Chapter 19). The following management plans proposed for the Project, would also manage potential quarry related impacts:

- Construction Environmental Management Plan (CEMP), including the following sub-plans:
  - Native Vegetation Plan (NVP)
  - Flora and Fauna Management Plan (FFMP)
  - Cultural Heritage Management Plan (CHMP)
  - Dewatering Plan (DP)
  - Sediment Erosion and Water Quality Management Plan (SEWQMP)
  - Acid Sulfate Soil Management Plan (ASSMP)
  - Construction Noise and Vibration Management Plan (CNVMP)
  - Traffic Management Plan (TMP)
  - Construction Emergency Management Plan
  - Fire Management Plan
- Operational Environmental Management Plan (OEMP), including the following sub-plans:
  - Operational Emergency Management Plan

Table 3 Recommended quarry management controls

Control ID	Control	Relevant work area	Project phase
MM-QU01	**Quarry Supply** The onsite quarry is proposed to supply road base material required for the construction of the Project which would incorporate hardstand areas, construction pads, upgrades and extensions to the existing roading network. The quarry will only operate to supply material for the Project and will remain available for the life of the Project to supply any materials for ongoing road maintenance during operation. The quarry will be rehabilitated when the Project requirements for material has ceased.	Quarry	All phases
MM-QU02	**Imported Materials Management Plan** Imported material may be used at the quarry to assist in rehabilitation. Material would typically include soil, or “clean fill” sourced from the construction activity within the Project Area. Importing of material will be undertaken in accordance with EPA regulations and guidance. All material imported to the quarry should be managed by an Imported Materials Management Plan. Solid inert waste and plastic concrete should not be accepted at the quarry.	Quarry	Rehabilitation
MM-QU03	**Site access** Appropriate signage at the quarry access point and adjacent to Portland-Nelson Road should be installed, as well as appropriate signage to the immediate Work Authority, warning the public of high cliff faces and fall hazards.	Quarry	Construction Operation
MM-QU04	**Waste** Domestic and industrial waste materials generated by the quarry should be removed by licenced contractors. Where required,	Quarry	Construction

Control ID	Control	Relevant work area	Project phase
	waste will be disposed of at an appropriately licenced facility, or similar.		
MM-QU05	**Site Closure and Rehabilitation Plan** A Site closure and Rehabilitation Plan will be developed for the proposed quarry that address all the requirements under Part 2 the *Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2019.* The Rehabilitation Plan will clearly state the rehabilitation objective(s) of the quarry and list the criteria and monitoring for determining the success or otherwise of rehabilitation.	Quarry	Rehabilitation
MM-QU06	**Stockpile heights** Soil stockpiles would be limited in height to no greater than 2 metres and would be located at the edge of the disturbance area at a location close to extraction crests or the edge of hardstand areas where they would be ultimately used in rehabilitation. Soil stockpiles would be contoured, grassed and stabilised to manage erosion until they are required for use in rehabilitation. There would be no soil stockpiles post closure as all the soil would be used in rehabilitation. Overburden stockpiles would be limited in height to a maximum of 12 metres when located within the excavation, or 8 metres if placed on natural ground. As much as possible overburden would be placed in worked-out areas of the excavation and located to not impact the overall risk assessment of the Work Authority. Overburden stockpiles would have 1V:2H side slopes with a contour drain at the base of the dump to direct any runoff into the Work Authority drainage control system. Overburden stockpiles would be contoured and vegetated as required or otherwise stabilized to manage erosion. Product stockpiles would be located close to the mobile processing plant and have a maximum height of 10 metres. Soil and overburden stripping would be avoided on hot, dry, windy days, or as much as possible after extended dry periods where the inherent moisture content is very low, to minimise dust generation and potential air quality impacts.	Quarry	Construction Operation
MM-QU07	**Community Engagement Plan** A Community Engagement Plan (CEP) would be prepared for the quarry to share relevant information about the Work Authority that may affect the community and key stakeholders. Key stakeholders for the Project quarry include the plantation owner (GTFP), Glenelg Shire Council, and ERR. Typical information that is shared includes any proposed changes in operating practices/activities that could potentially result in impacts to the local community. The CEP will be part of the final approved Work Plan for the quarry.	Quarry	Construction Operation
MM-QU08	**Risk Treatment Plans** A detailed risk assessment and associated risk treatment plan addressing all the hazards on the site must be developed to the satisfaction of ERR before the quarry can be approved.	Quarry	Construction Operation

Control ID	Control	Relevant work area	Project phase
	The individual risk treatment plans required by the MRSD Act will identify specific sensitive receptors and discuss the impacts to these sensitive receptors and document the controls and provide monitoring and reporting requirements to mitigate these risks.		

12. Next Steps

This Quarry Work Plan Requirements report aims to provide sufficient detail of the proposed quarry for the Project's EES to allow the Minster and regulators to understand the potential environmental impacts of the quarry and to make any recommendations deemed appropriate.

If a successful outcome from the EES process is achieved, and it is considered appropriate to operate a quarry within the Project Area then before quarrying can commence, a formal application to ERR for a Work Authority would be required. The Work Authority and Work Plan application will be required to be approved and would address any recommendations made by the Minster for Planning with regards to the quarry operation.

The requirements for a Work Plan are specified in the MRSD Act and MRSDA Regulations. To assist in developing the required documentation to an acceptable standard ERR have published comprehensive guidelines for each of the key documents, but very briefly this includes a detailed Quarry Description, a detailed Risk Management Plan, a comprehensive Rehabilitation Plan and a quarry specific Community Engagement Plan. Collectively these documents are referred to as the "Work Plan".

The Work Plan would be submitted to the ERR Assessments Team which would conduct a legislative and technical review to ensure all aspects of the legislative requirements are met and that the risks are adequately managed. Once the Assessments Team is satisfied that the Work Plan meets the requirements, the Work Plan would be "Approved", and passed to the Rehabilitation Liability and Bonds Team to determine an appropriate bond. The bond assessment is undertaken in consultation with the Work Authority Holder. After agreeing on the bond amount, and on successfully posting of the bond with the Licencing Team, the final step in the process can occur, that is the Granting of the Work Authority.

13. Conclusion

The aim of the Quarry Work Plan Requirements report is to provide sufficient detail to enable an informed reader to understand the activities proposed to be undertaken at the quarry site, their potential impacts, and the control or management actions required. It outlines the nature and scale of the proposed extractive industry activities and provides an overview of technical aspects of the quarry.

This chapter describes a relatively small, low volume site, operating in a remote (to sensitive receptors) environment, with minimal sensitive receptors and no / minimal impact on any ecological or heritage (Indigenous or historic) values.

The following quarrying hazards were considered in this report:

- Altered visual amenity
- Noise
- Dust
- Surface water flows
- Erosion and sedimentation
- Ground disturbance
- Ground instability
- Process water and storages
- Slime storage
- Imported material
- Unauthorised access
- Fuel, lubricants and other hazardous materials
- Pests, weeds and diseases
- Rubbish / non quarry waste
- Fire
- Vehicle sediment transport

Quarrying hazards identified in this report have been assessed as either not present or easily managed with standard industry controls.

The site would readily be capable of operating within all legislative requirements.

14. References

AECOM (2023a) *Air Quality Impact Assessment, Kentbruck Green Power Hub*, prepared for Neoen Australia Pty Ltd, 2023

AECOM (2023b) *Surface Water Impact Assessment, Kentbruck Green Power Hub*, prepared for Neoen Australia Pty Ltd, 2023

AECOM (2023c) *Groundwater Impact Assessment, Kentbruck Green Power Hub*, prepared for Neoen Australia Pty Ltd, 2023

Biosis (2023) *Kentbruck Green Power Hub, Flora and Fauna Existing Conditions and Impact Assessment*, prepared for Neoen Australia Pty Ltd, 2023

DJPR (2020a) *Geotechnical Guideline for Terminal and Rehabilitated Slopes - Extractive Industry Projects* (September 2020), Department of Jobs, Precincts and Regions

DJPR (2020b) *Preparation of Work Plans and Work Plan Variations - Guideline for Extractive Industry Projects* (December 2020), Department of Jobs, Precincts and Regions

DJPR (2021) *Preparation of Rehabilitation Plans - Guideline for Extractive Industry Projects* (March 2021), Department of Jobs, Precincts and Regions

Green Bean Design (2023), *Kentbruck Green Power Hub, Landscape and Visual Impact Assessment*, prepared for Neoen Australia Pty Ltd, 2023

Marshall Day Acoustics (2023), *Kentbruck Green Power Hub, Environmental Noise & Vibration Assessment*, prepared for Neoen Australia Pty Ltd, 2023

Mineral Resources (Sustainable Development) Act 1990

Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2019