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MALKIN CONSULTING

PROPOSED ROCK EXTRACTION

OPERATION PLAN

Code of Practice for Small Quarries

Report Reference	FRI01-OPS PLAN
Client Contact	Jim Friday
Client	Friday Orchards
Address	16 Fridays Road, Barwite, VIC 3722
Revision	G – FOR APPROVAL
Review Description	Operation Plan for Rock Removal
Author	Nick Malkin
Date	26th July 2024

Table of Contents

1. Introduction and Background

1.1. Introduction

This Operation Plan has been prepared in order facilitate the removal of mudstone rocks from the property at Soldiers Road, Barwite, Victoria, identified as Council Property Number A6084.

The extraction of the rocks necessitates disturbance of the soil and consequently requires a planning permit in accordance with the requirements of Clause 52.09-2 of the Mansfield Planning Scheme.

To date, small quantities of material have been extracted to evaluate the resource and assess the feasibility of extraction.

Extraction of the rocks will be by mechanical means to a maximum depth of 5m. The total area involved will be less than 5 ha and the extraction will be conducted in 5 no. 1 hectare stages.

It should be noted that this plan includes the rehabilitation of previously disturbed areas outside of the aforementioned 5 ha area.

Site Address:	Soldiers Road Barwite 3722
Plan No(s):	Allot. 3 Sec. 6 PARISH OF GONZAGA
Land Size:	113.13 ha
Clients Name:	James Friday
Clients Address:	c/- Malkin Consulting 0425 701 471
Clients Phone:	/- Malkin Consulting 0425 701 471
Council Area:	Mansfield Shire Council
Zoning:	Farming Zone (FZ)
Overlays (Current)	Significant Landscape Overlay – Schedule 1
	Environmental Significance Overlay – Schedule 2

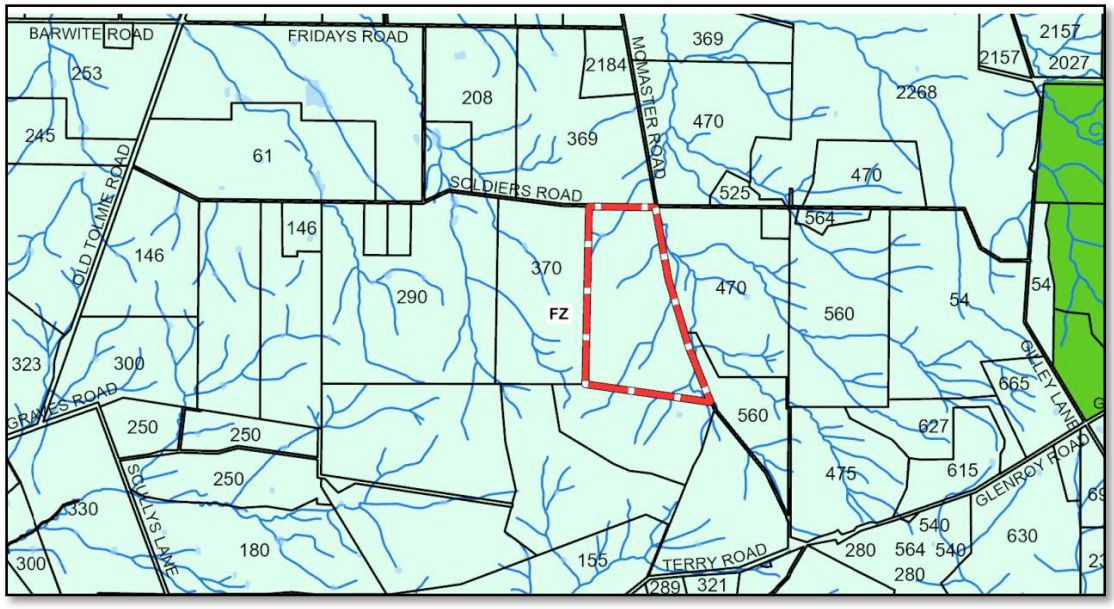

Figure 1 – Location within Farming Zone

1.2. Location & Surrounding Land Use

The proposed worksite is located at Soldiers Road, Barwite, approximately 14 km Northeast of Mansfield. It is accessed via Soldiers Road, approximately 3km west from the intersection with Old Tolmie Road. The site is within undulating country, the surrounds being a mix of light timber with a predominance of pasture. The site is located within a Farming Zone and surrounding land use is predominantly agriculture.

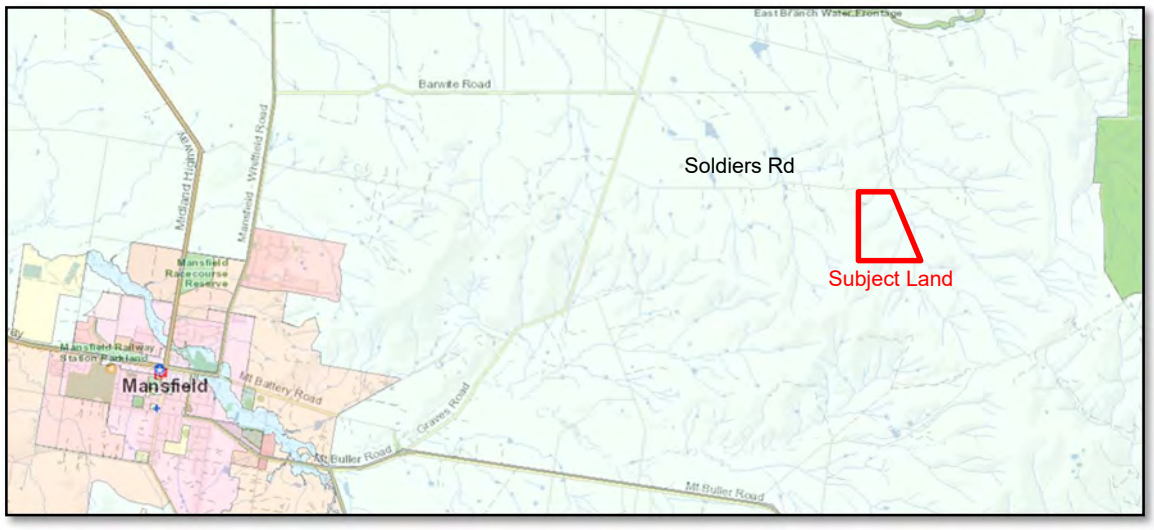

Figure 2 - Locality Plan

1.3. Legislation & Statutory Requirements

Reference has been made in the design of the development plan to the following legislation and guidelines:

- Code of Practice for Small Quarries, Earth Resources/Resources Victoria
- Mineral Resources Development Act 1990 (MRSD Act)
- Preparation of Rehabilitation Plans March 2021 – Earth Resources Regulation
- Occupational Health and Safety Act 2004
- Environment Protection Act 2017
- Mansfield Planning Scheme Cl. 52.09 Extractive Industry and Extractive Industry Interest Areas

1.4. Cultural Heritage Considerations

A review of available data pertaining to cultural heritage sites showed no listed sites in the area of the property. We have sought the advice of registered Heritage Advisor Redgum Environmental Services regarding the Work Area site, and they have reported as follows -

"*My review of ACHRIS (the existing sites online database administered by FSPR) revealed:*

a. *There are NO (zero) recorded Aboriginal places within the Activity area.*
b. *There are NO (zero) Historic References within the Activity area.*
c. *There are NO (zero) preliminary reports or CHMPs that have been prepared within or adjacent to the Activity area.*
d. *Therefore, in this case, NO (zero) cultural heritage permits would be required.*

I don't think that a CHMP is warranted on that site given the position in the landscape (low archaeological potential) in any case. However, it would be a good idea for the Ops Plan to have some contingencies in it at the very least in case an 'unexpected find' presents during the operations."

The Operations Plan incorporates Aboriginal Relics Fact Sheets in Appendix D.

1.5. Overlays

1.6. Extraction Quantities

It is estimated that for each 1Ha stage, 2,000m^3 of topsoil will be stockpiled for revegetation, and 3,000m^3 of rock will be removed for a total of 15,000m^3 over five stages.

1.7. Timeline for Extraction Activities

The proposed extraction plan involves excavating, removal and rehabilitation of each stage to take one year. It is therefore anticipated that the total 5 stages within be completed and fully rehabilitated within 4-5 years considering Stage 1 is mostly complete.

2. Planning Response

2.1. Clause 52.09-4 Decision guidelines

Before deciding on an application to use and develop land for extractive industry, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

Decision Guideline	Applicants Response
The effect of the proposed extractive industry on any native flora and fauna on and near the land.	*The land has been intensively used for agriculture for many decades and the impact of the proposed use on flora and fauna is therefore considered to be low.*
The impact of the proposed extractive industry on sites of cultural and historic significance, including any effects on Aboriginal places.	*The subject works area is outside of designated cultural heritage setbacks and therefore the impact is considered to be low.*
The effect of the proposed extractive industry on the natural and cultural landscape of the surrounding land and the locality generally.	*The proposed disturbed areas are intended to be no more than 1Ha in size at any one time and progressively rehabilitated. The impact on the landscape is therefore considered to be minimal.*
The ability of the proposed extractive industry to contain any emissions within the boundaries of the land in accordance with relevant legislation.	*The emissions are expected to be very low and can wholly be contained within the subject land.*
The effect of vehicular traffic, noise, blasting, dust and vibration on the amenity of the surrounding area.	*There will be no blasting, extraction will be via excavation. Dust will be controlled via water truck in dry conditions. Traffic movements are expected to be minimal with no more than 14 (7 trucks per day) vehicle movements per day at the highest. The annual volume of material to be extracted would result in an overall average of 6 trucks per week over a 52 week year.*
The ability to rehabilitate the affected land to a form or for a use which is compatible with the natural systems or visual appearance of the surrounding area.	*The topsoil will be stripped and stockpiled during each stage and respread and seeded at the completion of each stage. The landscape will thus be returned to its pre-extraction state following the proposed activities.*
The ability to rehabilitate the land so it can be used for a purpose or purposes beneficial to the community.	*The extraction activity is low impact and topsoil will be retained and respread following rock removal. The agricultural carrying capacity will be improved following the proposal.*
The effect of the proposed extractive industry on groundwater quality and the impact on any affected water uses.	*The extraction works are shallow and setback from nearby waterways and drainage lines such that the impact on groundwater quality will be negligible.*
The impact of the proposed extractive industry on surface drainage and surface water quality.	*The proposal is to be conducted in stages limiting open areas of ground disturbance. Small sedimentation ponds will be constructed at the low points of each stage to retain and filter runoff during rain events.*
Any proposed provisions, conditions or requirements in a work plan that has received statutory endorsement under the Mineral Resources (Sustainable Development) Act 1990.	*Not applicable.*

Table 1 – Response to Clause 52.09-4

2.2. Clause 52.09-6 Requirements for extractive industry

The use and development of land for extractive industry must comply with the following requirements, to the satisfaction of the responsible authority:

Decision Guideline	Applicants Response
Except in accordance with a permit, no alteration may be made to the natural condition or topography of the land within 20 metres of the boundary of land. This does not apply to driveways, drains, bund walls or landscaping.	*The subject works area is well in excess of 20 metres from the title boundaries.*
Shrubs and trees must be planted and maintained to screen activity on the land.	*Due to the short timeframe involved for the proposed extraction and rehabilitation, it is submitted that any screening vegetation would not become established in time to provide a screen. Notwithstanding this, the site will be rehabilitated and returned to pasture, providing a landscape more or less identical to that prior to extraction.*
Parking areas must be provided for employees' cars and all vehicles used on the land.	*There is adequate space for car parking, and this is shown on the appended plans.*

2.3. Significant Landscape Overlay – Schedule 1

The following decision guidelines apply to an application for a permit under Clause 42.03, in addition to those specified in Clause 42.03 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

Decision Guideline	Applicants Response
The impact of the proposed buildings and works on the landscape including effect on landscape within and outside the land (due to siting, design, size, and colour and texture of external construction materials), flora and fauna, landform, heritage values, and views to the land from roads, other public viewpoints and private land.	*The small area of disturbance proposed for each stage limits the overall visual impact on neighbouring properties.* *The location is in a sparsely populated area with no significant tourism related activities that would otherwise be impacted.*
The impact of buildings and works on views to the land from any road, public viewpoints and private land.	*As per above, the location is in a sparsely populated area with no significant tourism related activities that would otherwise be impacted.*
Effluent disposal systems and measures to improve water quality.	*The effluent will be generated on site and Section 8.0 of this plan outlines measures to maintain water quality.*

Table 2 – SLO Schedule 1

2.4. Environmental Significance Overlay – Schedule 2

The key statement in the ESO, Schedule 2 that relates to the proposed works is as follows:

"*Environmental objective to be achieved:*
To discourage development and works that contribute to the degradation of water quality and quantity."

In response to the above, Section 8.0 of the operation plan outlines measures that will be put in place to protect water quality during the proposed works.

3. Geology & Geotechnical

3.1. Geotechnical Considerations

The site has only been subjected to shallow excavation and thus there is limited data relating to the geotechnical properties of the host rock. No formal test drilling or geotechnical assessments have been undertaken to date.

Figure 3 – Typical Mudstone Rocks to be removed

The type of material to be extracted will be mudstone hard rock in weathered subsurface blocks, which will be stockpiled onsite and sold for garden landscaping purposes. There will be no blasting. Based on excavation to date the depth profile of the work area is expected to consist of the following:

Topsoil	-	0.0m to 0.2m
Mudstone Rock “Floaters”	-	0.2m to 5.0m

4. Operation Plan Area

4.1. Title Details

The existing worksite area lies within 113.13 ha of privately held land owned by Garmaur Pty Ltd of 16 Fridays Road, Barwite. The address is Soldiers Road, Barwite, VIC 3722 with the lot/plan number being Section 6 Lot 3 TP317197X.

The worksite area is to be no greater than 5.00 ha, which consists of five (5) separate stages of which only Stage 1 has undergone any extractive activity (refer appended development plans).

It is noted that there are areas outside of the proposed 5Ha extraction proposal that have underground disturbance in recent years. It is proposed that these areas will be rehabilitated as part of this plan.

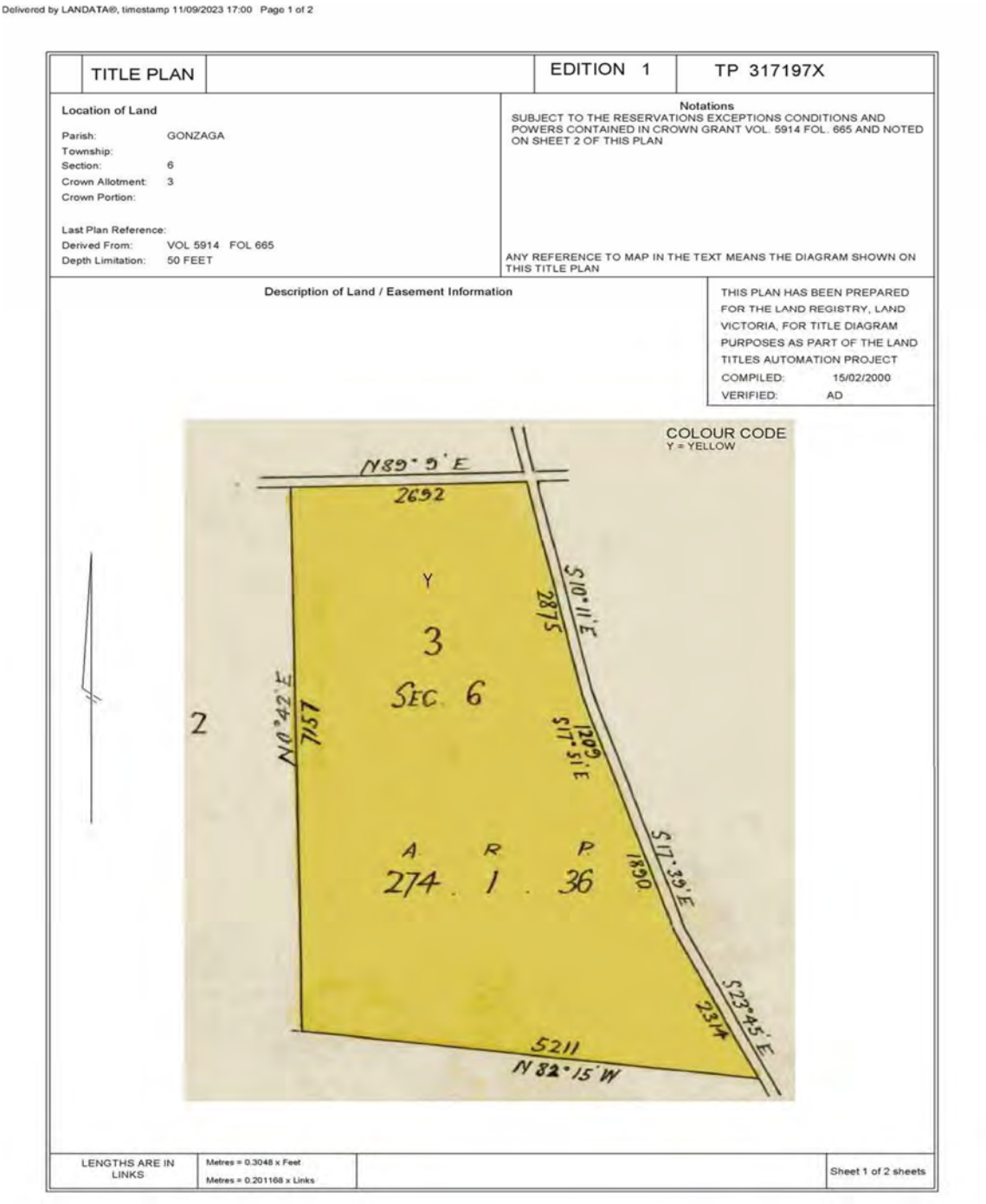

Figure 4 – Title Layout

4.2. Fencing & Site Security

The existing property is surrounded by post and wire fencing, which is regularly maintained due to the constant grazing of livestock.

The only entry point to the site is via Soldiers Road and a locked gate. Signage detailing the nature of quarrying operations and restricted access will be placed on the gate entry point.

4.3. Access Roads

The existing access road into the worksite area from Soldiers Road shall remain in place and continue to be used to access the works area.

4.4. Native Vegetation

The area within the works area boundaries consists of a mixture of native and exotic grasses which has been grazed for many years. The surrounding landscape is similarly grassed pasture and used for grazing.

4.5. Buffer Zones

Noise and dust do not present a problem to the amenity of the surrounding area – there is sufficient unoccupied rural land between the worksite and the property boundaries

4.6. Sensitive Receptors

The works area is located a significant distance away from nearby dwellings with the nearest dwellings being 800m to the west, 900m to the northwest and 800m to the northeast of the extraction limits. There will be no blasting on site and because of the loamy nature of the excavation, no dust generation is expected.

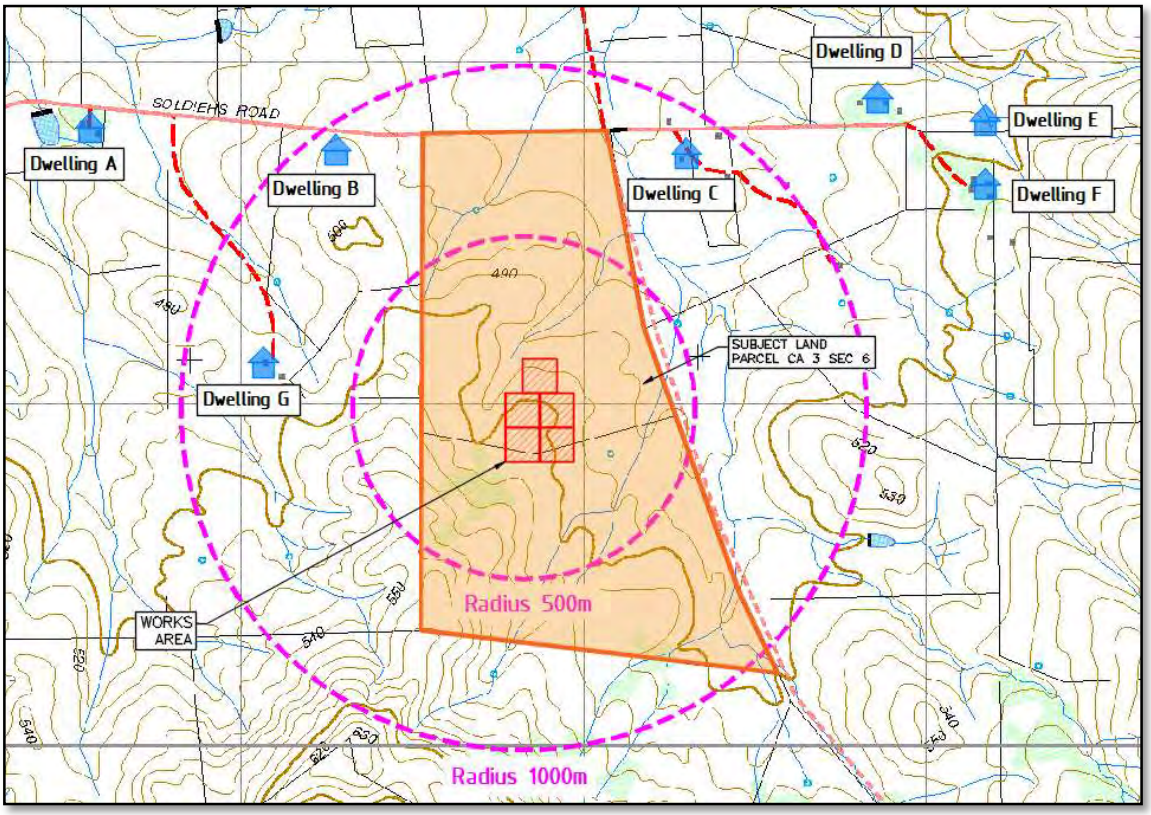

Figure 5 – Plan showing neighbouring dwellings

Other sensitive receptors include water ways which are located 50m to the north of the works area.

The following photographs show the works area from numerous vantage points in the surrounding area.

Figure 6 - Looking south east from "Dwelling B"

Figure 7 - Looking south from "Dwelling C"

Figure 8 - Looking south west from Soldiers Road near "Dwelling D"

Figure 9 - Looking south west from Soldiers Road near "Dwelling E"

Figure 10 - Looking south west from "Dwelling F"

5. Plant & Equipment

5.1. Fixed and Mobile Plant

Due to the restricted usage of the facility in terms of seasonal operation and weather in determining rock extraction, there is no requirement for any permanent plant infrastructure on site.

Mobile plant to be used intermittently will include;

Hydraulic Excavator	For rock excavation and sorting
Loader	For loading of rock onto trucks
Trucks and Trailers	For transport of rock offsite
Water Truck	For dust suppression along access tracks and process areas.

During periods of excavation, plant and equipment will be located and stored on each stage works area where there is sufficient space for these operations to occur. There is adequate area for trucks to turn around and load within the worksite.

5.2. Power Supply/Fuel Storage

All fuel for excavators, rock drills, loaders etc is transported to site on towable trailers. Due to the lack of permanent plant on site, there will be no need for a permanent power supply.

Whilst fuel and hazardous materials are being used on site, they will be located on each stage works area.

5.3. Ancillary Buildings

Due to the seasonal nature of operations, there will be no need for any long term or permanent workshops, offices, or laboratories on site.

5.4. Truck Movements

All trucks will use the existing access track to enter and exit the site via Soldiers Road. It is expected that production will not exceed 3,000m^3 or 300 x 10m^3 trucks per year.

Truck movements are expected to be a maximum of 14 per day (7 trucks per day in/out) in all seasons with the majority of movements completed by midday. Loading will take place at each stage works area.

A small quantity (approximately 20-30 truckloads or 300m^3) of rock from previously disturbed areas will be removed and is to be included in the above overall movements.

5.5. Car Parking

Car parking requirements are expected to be low with no more than 2 light vehicles on site at any one time. The proposed parking location is within each stage works area.

6. Water

6.1. Ground Water Depth and Nearby Waterways

As can be seen from the locality plans, the existing quarry is situated adjacent to a marked waterway, which lies to the west of the works area. A minimum setback of 30m from this waterway will be maintained for all proposed workings.

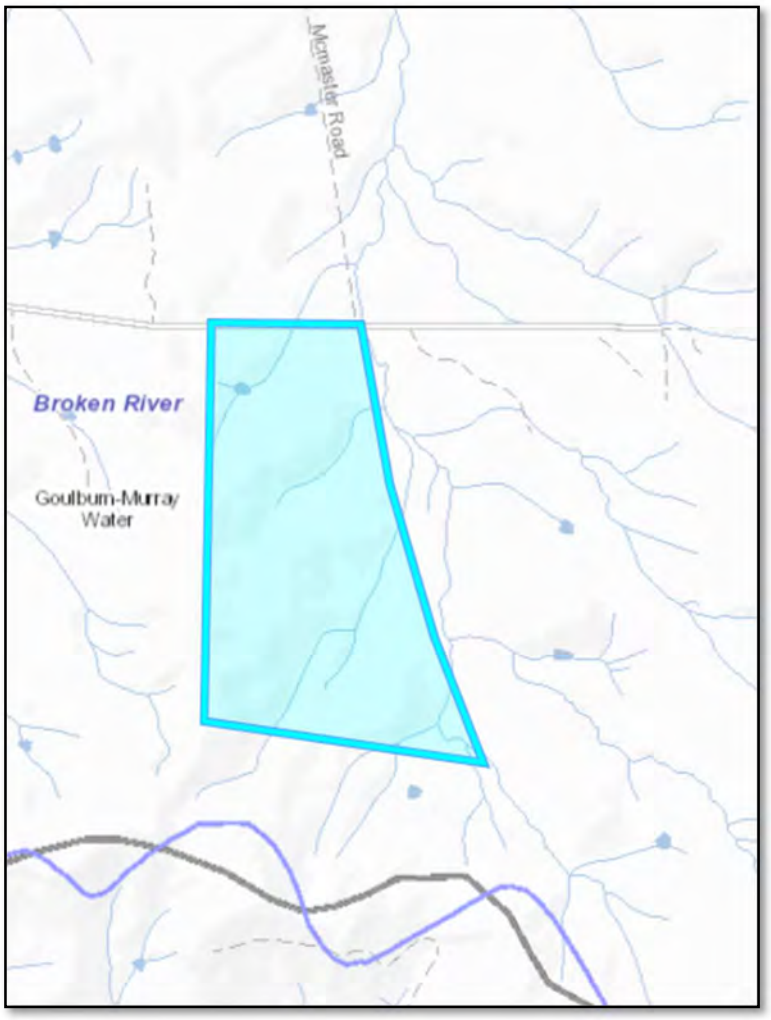

Figure 11 – Waterways shown in relation to Stage 1 extraction limits.

6.2. Usage, Storage and Treatment

Limited amounts of imported water will be used for dust suppression on occasion along the quarry floor and access tracks.

There will be no need for the storage of water on site. Section 8.0 outlines the proposed treatment of runoff water emanating from excavations associated with quarrying.

6.3. Discharges and Drainage

There is no expected water discharge or water runoff beyond the work area. Section 8.0 details the specific treatment measures which shall be applied to water runoff.

7. Method of Working

7.1. Staging of Works

The proposal refers to the excavation of rock in five (5) stages which forms part of the proposed Operation Plan.
The proposed staging sequence is shown on the appended operations plan. It is proposed that each stage will consist of an area of one hectare with approximate dimensions of 100m x 100m.
Extraction will advance in a northerly direction from the Stage 1 location which has almost been worked out at the time of writing.

7.2. Topsoil & Overburden

7.2.1. Topsoil

All stripped topsoil will be stockpiled on site during each stage for ultimate use as rehabilitation of worked out areas as development takes place. The topsoil associated with the local area is typically no deeper than 200mm. The following dimensions and volumes have been calculated for the topsoil stripping and stockpiling:

Area of disturbance for each stage works area:	1 Ha
Estimated depth of topsoil:	200 mm
Estimated volume of topsoil to stockpile:	2,000 m^3
Dimensions of topsoil stockpile:	2 No. 4m high x 50m long x 10m wide

The proposed stockpile area is as shown on the appended plans and within an area clear of significant vegetation.

7.2.2. Overburden

No overburden is planned as part of the extraction works. Previous experience in the investigation of the Stage 1 area has demonstrated that the mudstone rocks are embedded in a clayey loam from shallow depths and immediately below the topsoil. This overburden will be stockpiled along with the topsoil, for rehabilitation works.

7.2.3. Stockpile Sediment Control

Sediment will be captured by earthen cut-off drains to be located down slope of the temporary stockpiles and direct runoff towards to silt dam(s).

7.3. Extraction Method

The rock that constitutes the economic resource is found in sporadic patches and varies in degrees of consistency and fracture such that it is difficult to anticipate the volume that will be “winnable” within each 100m x 100m x 5m deep Stage. Experience to date has shown that approximately 3,000m^3, or 300 trucks is realistically able to be extracted from a one-hectare paddock or Stage.

Material will be extracted using a hydraulic excavator for removal of rocks generally from a level below the excavator. Rocks will then be moved to stockpiles for loading onto road trucks by excavator and/or front-end loader, depending on size.

The maximum area worked at any one time will be determined by the requirements of the day but due to the limited tonnages historically removed the area is not envisaged to be large.

7.4. Hours of Operation and Personnel

When operations are required, they shall take place between the hours of 7.00 am to 4.00 pm, Monday to Friday. No work will be undertaken on weekends or public holidays.

Maximum staff/operators onsite at any given time would be three (3) – four (4) persons, being excavator operator, loader operator, truck driver/s and supervisor.

It is anticipated that a maximum of 14 truck movements per day (7 trucks per day in/out) will enter and leave the site, with this quantity reducing significantly towards mid winter. On average 6 trucks per week would be expected throughout a 52 week year to achieve the proposed 3,000m^3 per stage.

7.5. Dewatering

Dewatering has never been an issue at the site and is not expected to become one in the future, given that the workings proposed are above creek/waterway levels.

7.6. Dangerous Goods

No dangerous goods will be stored or used on site.

8. Environmental Management Program

8.1. Background & Key Issues

The existing development is located well within the property and is completely secluded from public access. The land has been used for grazing.

8.2. Topsoil Management

As the stripping of work areas takes place all removed topsoil will be stockpiled within the proposed stage boundary. Stockpiles shall not exceed 4.0m in height. Subsoils below 200mm surface level, where applicable, shall be separated and stored separately to topsoils.

Once an area has been worked out, the stockpiled topsoil will be used to fill any depressions to surrounding levels, and will be spread, graded and profiled in accordance with the specifications shown in the rehabilitation plan.

8.3. Protection of Native Vegetation, Flora and Fauna

The increased activity within the area associated with the excavation will not result in any adverse impacts on native vegetation. No trees or significant vegetation will be removed as part of the works. There will be a 30m. buffer zone maintained around any native trees.

Native fauna will for the most part be prevented from entering the work area due to the existence of stock proof fence lines. Fauna inhabiting the work area are at a low risk from operations such as loading trucks and hauling rock. No excessive high excavated cases are anticipated, reducing the risk of injury to wildlife significantly.

8.4. Weed Control

Weed suppression will be performed concurrently with operations.

Monitoring of weeds in the work area will be carried out throughout the life of the excavation. After cessation of operations and rehabilitation of the work areas, the entire work area will be reseeded and returned to pasture for grazing.

8.5. Management of Waterways & Groundwater

As mentioned previously, the worksite is situated well within the property with several ephemeral waterways located to the north and west of the work areas. The impact on the existing waterways from operations is considered to be nil, with all runoff being restricted to the works area and proposed silt dams.

It is proposed that all surface water from workings will be handled as follows:

- All runoff on the site is designed to drain towards the lower elevations, where a silt dam will be constructed to contain excess flows and allow settlement of sediments carried by runoff.
- The silt dam will ensure that sediment is not carried via rainfall runoff into surrounding pasture and waterways.

8.6. Receptor Impacts – Noise, Dust, and Ground Vibrations

The worksite is relatively remote from neighbouring dwellings, and its location is well within the property which forms a natural attenuating barrier. All haulage vehicles and associated plant will be required to comply with road traffic noise standards.

With respect to dust, dust generated by traffic on haul roads will be controlled with a water truck spraying on an as-needs basis.

8.7. Waste Management & Minimisation

The work area will remain clean and tidy at all times. It is expected that only minimum amounts of waste will be generated on site from extraction activities.

Oil and other fuel spills will be cleaned and removed from site immediately and disposed of at an appropriate waste disposal facility.

9. Rehabilitation Proposal

9.1. End Use Objectives – Post Closure Work Site Landform and Use

The excavation work area is located on agricultural land and is currently being grazed.

It is considered that the land be returned to agricultural use at the cessation of quarrying activities.

The proposed plan includes rehabilitating previously disturbed areas of land outside of the 5 Ha extraction area.

9.2. Progressive Rehabilitation

The proposed work site is considered small - progressive rehabilitation only has limited application and shall be carried out as the quarry advances. It will consist of re-profiling the excavation with stockpiled overburden and topsoil, followed by reseeding to pasture.

9.2.1. Re-profiling

Stockpiled topsoil will be spread and levelled back to pre-excavation profile and contours using a grader.

9.2.2. Re-seeding

The post-excavation land use is to be a return to grazing, and as such the re-profiled land will be covered with rye-grass hay and the seeds within the hay will be allowed to germinate through natural actions and re-grass the disturbed areas. Uptake shall be monitored weekly and watering shall occur if required.

9.2.3. De-commissioning of silt dams

Following confirmation that a minimum grass cover of 60% has been established following re-seeding, the remaining silt dams will be decommissioning as follows

- Removal of water contained in the dam;
- Allow dam base to dry out;
- Re-profile silt dam wall material and cover with topsoil;
- Re-seed as per 9.2.2 above.

9.3. Rehabilitation of Previously Disturbed Areas

Several areas outside of the proposed 5 Ha extraction area have undergone disturbance in the past through similar activities and will be rehabilitated as per the methodology set out in Section 9.2 above.
It is estimated that approximately 20-30 loads of rock remain in these areas, and this will be removed as part of the overall truck movements as set out in Section 5.4.
Excavation work has now been completed in Stage 1. The native trees in this area are to be assessed by an arborist, and remedial action taken if they are found to have been impacted by earlier works.

Figure 12 – Previously disturbed areas that will be rehabilitated (looking north from above proposed 5Ha works area).

9.4. Removal of Plant and Equipment

There is minimal equipment to be removed from the site. No permanent plant is currently located on site. The equipment will be removed following rehabilitation works.

9.5. Maintenance and Monitoring

The site, in its present form, is considered safe.

Monitoring of seed germination shall be carried out weekly following the re-seeding of each stage. Where germination isn't successful, further re-seeding shall be carried out as per 9.2.2 above.

With respect to access to the site in general, the existing stock proof boundary fence lines are considered to be adequate to limit public access.

Appendix A – Development Design Plans

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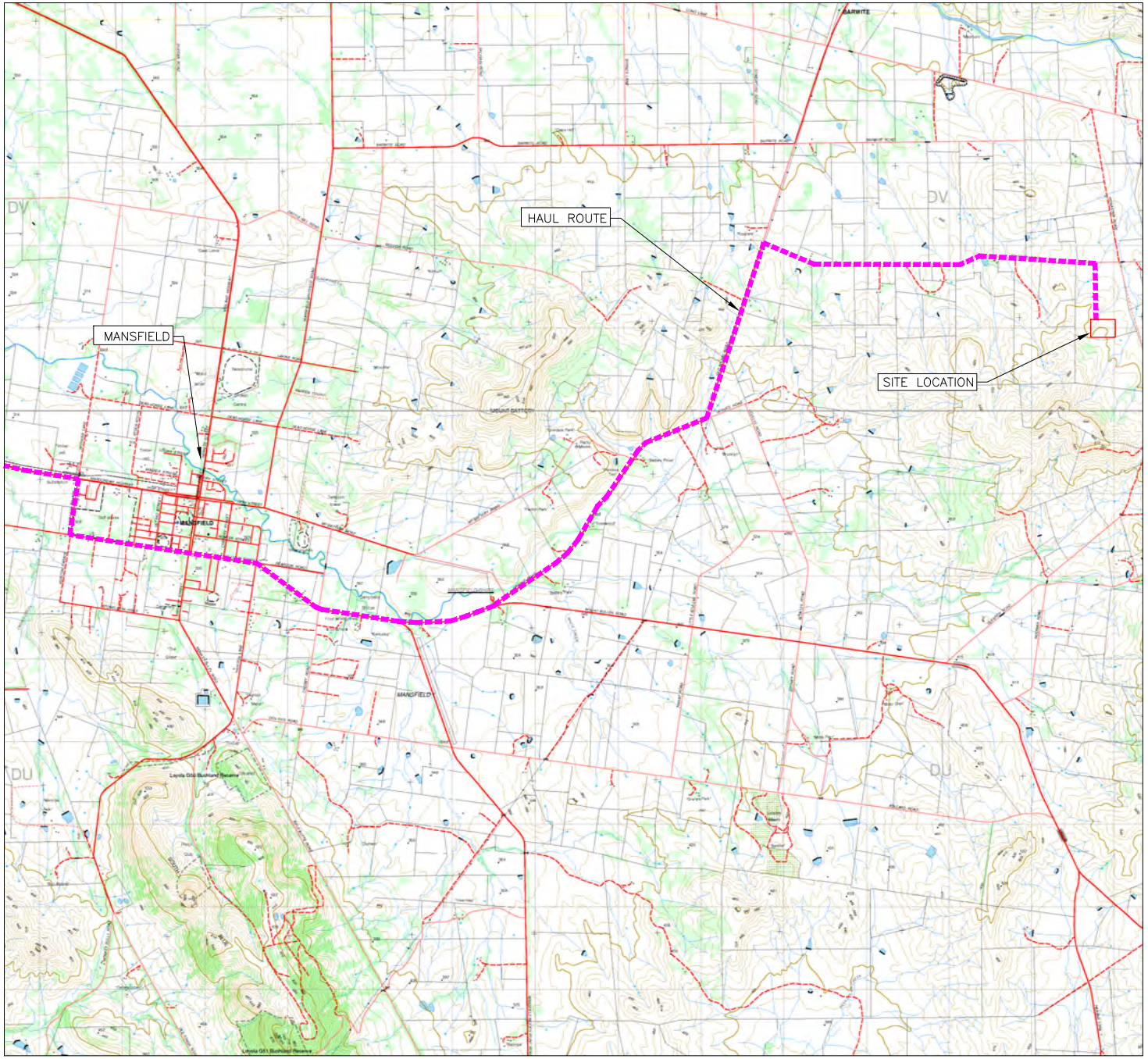
PROPOSED ROCK EXTRACTION

OPERATION PLAN

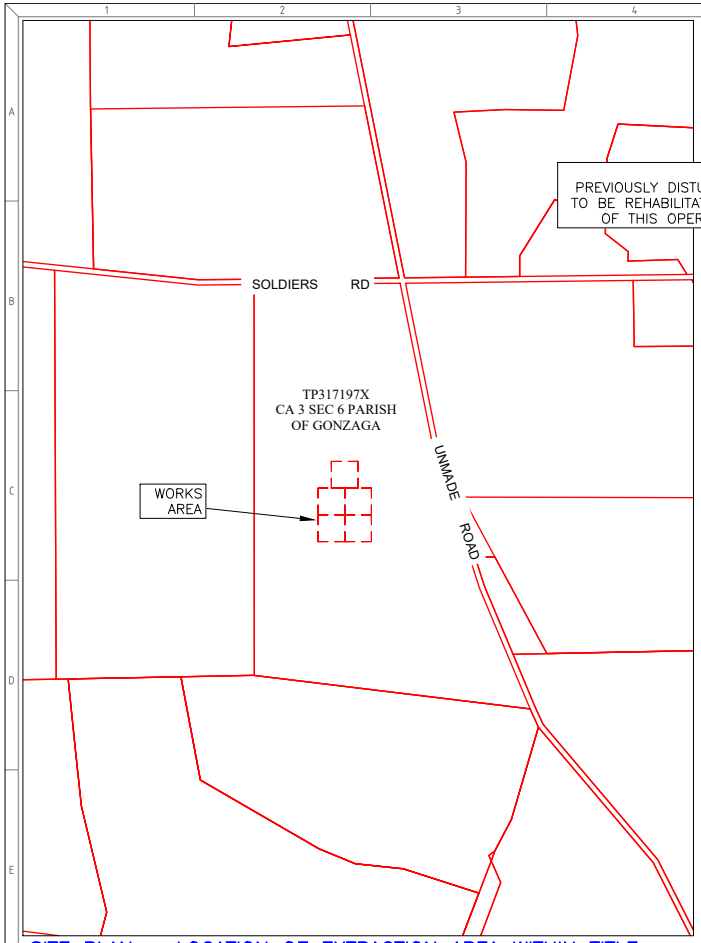
SOLDIERS ROAD
BARWHITE VIC

Client:	JIM FRIDAY
Job:	PROPOSED ROCK EXTRACTION
Job No:	FRID01
Drawing No:	FRID01-100
Revision:	F (For Approval)
Date:	9th July 2024

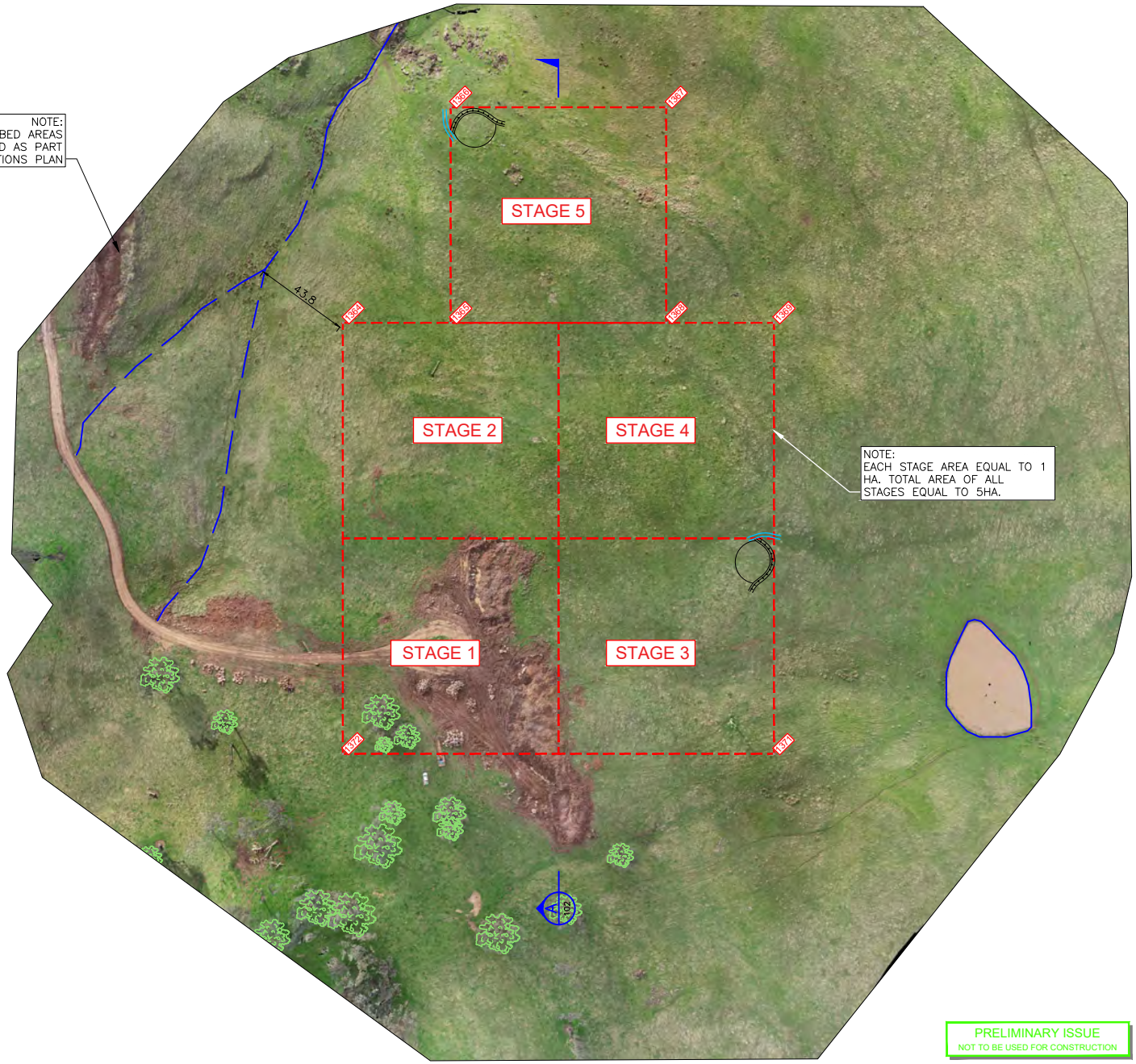
Drawing Index



PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION



NOTE:
PREVIOUSLY DISTURBED AREAS TO BE REHABILITATED AS PART OF THIS OPERATIONS PLAN



NOTE:
EACH STAGE AREA EQUAL TO 1 HA. TOTAL AREA OF ALL STAGES EQUAL TO 5HA.

SITE PLAN – LOCATION OF EXTRACTION AREA WITHIN TITLE
SCALE 1:1000

WORK AUTHORITY CORNER COORDINATES (MGA94-Z55)

Point #	Raw Description	Elevation	Northing	Easting
1372	WA	498.500	5900832.0965	429776.9473
1364	WA	498.500	5901032.0965	429777.1001
1365	WA	498.500	5901032.0965	429826.9473
1366	WA	498.500	5901132.0965	429826.9473
1367	WA	498.500	5901132.0965	429926.9473
1368	WA	498.500	5901032.0965	429926.9473
1369	WA	498.500	5901032.0965	429976.9473
1371	WA	498.500	5900832.0965	429976.9473

PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION

REVISIONS

REV	DETAILS	DATE
A	ISSUED FOR REVIEW	15/09/23
B	ISSUED FOR REVIEW	27/10/23
C	COUNCIL ISSUE FOR APPROVAL	30/10/23
D	AMENDED TO COUNCIL COMMENTS	16/01/24
E	AMENDED TO COUNCIL COMMENTS	05/03/24
F	AMENDED TO ERR COMMENTS	09/07/24

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ABN 71 097 815 166

DESIGNED	NSM	07/24
DRAWN	NSM	07/24
CHECKED	-	07/24
APPROVED		

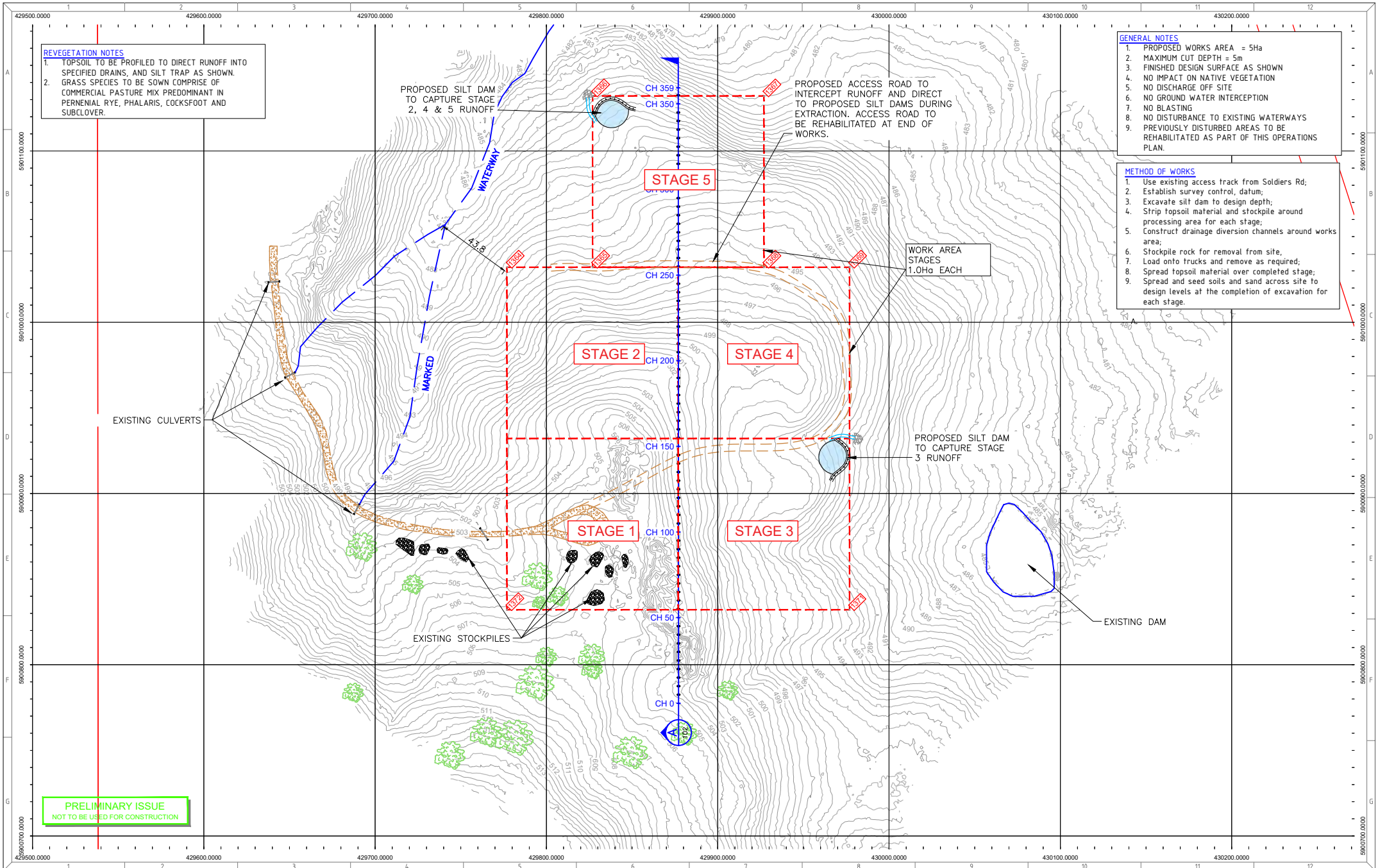
1:1000 (A1) 1:2000 (A3) SCALEBAR (m) 0 25 50m

PROJECT NO: FRID01
DRAWING NO: FRID01-100
DATUM: AHD
GRID: GDA94

JIM FRIDAY

SOLDIERS ROAD, BARWHITE
PROPOSED ROCK EXTRACTION
PLAN VIEW WITH AERIAL

SHEET 1 OF 1 A1



REVISIONS		
REV	DETAILS	DATE
A	ISSUED FOR REVIEW	15/09/23
B	ISSUED FOR REVIEW	27/10/23
C	COUNCIL ISSUE FOR APPROVAL	30/10/23
D	AMENDED TO COUNCIL COMMENTS	16/01/24
E	AMENDED TO COUNCIL COMMENTS	05/03/24
F	AMENDED TO ERR COMMENTS	09/07/24

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ABN 71 097 815 166

DESIGNED	NSM	07/24
DRAWN	NSM	07/24
CHECKED	-	07/24
APPROVED		

1:1000 (A1) 1:2000 (A3) SCALEBAR (m) 0 25 50m

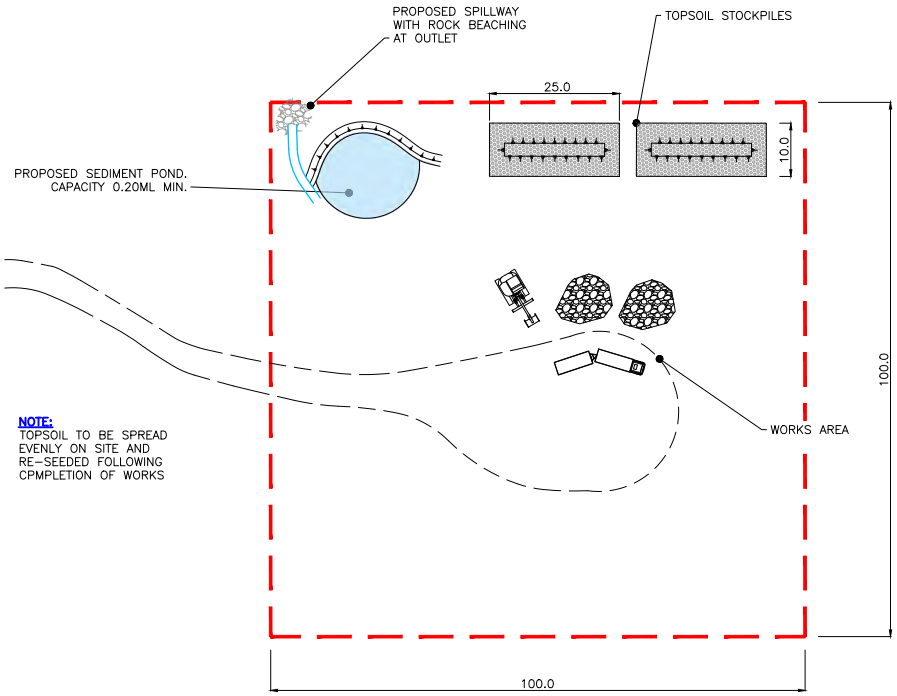
PROJECT NO: FRID01
DRAWING NO: FRID01-101
DATUM: AHD
GRID: GDA94

JIM FRIDAY

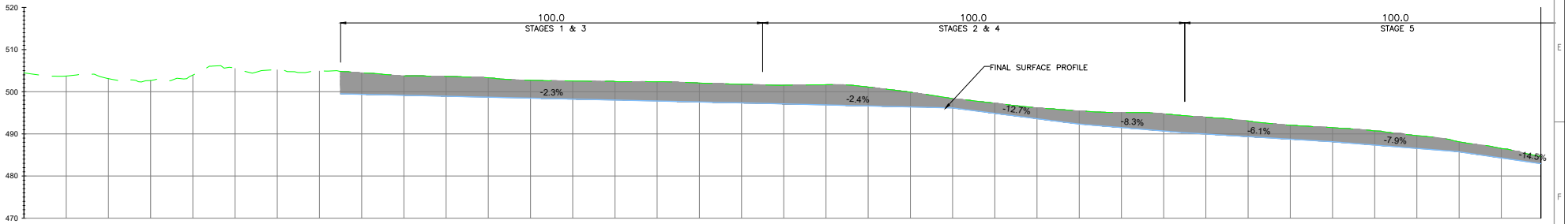
SOLDIERS ROAD, BARWHITE
PROPOSED ROCK EXTRACTION - STAGE PROPOSAL
PLAN VIEW

SHEET 1 OF 1 A1

PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION



PLAN VIEW – TYPICAL STAGE WORKS AREA LAYOUT
SCALE 1:500



CHAINAGE	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	150.00	160.00	170.00	180.00	190.00	200.00	210.00	220.00	230.00	240.00	250.00	260.00	270.00	280.00	290.00	300.00	310.00	320.00	330.00	340.00	350.00
EXISTING LEVELS	503.73	503.11	502.66	503.94	505.51	505.18	504.89	504.47	503.73	503.60	503.30	502.72	502.55	502.42	502.37	502.06	501.75	501.53	501.66	501.08	499.88	498.38	497.31	496.17	495.43	495.06	494.77	493.97	493.06	492.05	491.48	490.69	489.59	488.11	486.53
DESIGN LEVELS								499.37	499.15	498.92	498.69	498.47	498.24	498.02	497.79	497.56	497.34	497.22	497.10	496.86	496.62	496.38	496.15	495.87	495.60	495.50	495.26	494.96	494.35	493.73	493.12	492.33	491.50	490.67	489.79	484.28	482.93
LEVEL DIFFERENCE								-5.10	-4.59	-4.69	-4.61	-4.25	-4.31	-4.41	-4.58	-4.50	-4.42	-4.42	-4.79	-4.48	-3.50	-2.24	-2.44	-2.57	-3.11	-3.56	-4.09	-4.01	-3.72	-3.31	-3.36	-3.35	-3.04	-2.39	-2.25	

A SECTION
101
SCALE 1:500

REVISIONS

REV	DETAILS	DATE
A	ISSUED FOR REVIEW	30/08/23
B	COUNCIL ISSUE FOR APPROVAL	30/10/23
C	AMENDED TO COUNCIL COMMENTS	16/01/24
D	AMENDED TO COUNCIL COMMENTS	05/03/24
E	AMENDED TO ERR COMMENTS	09/07/24

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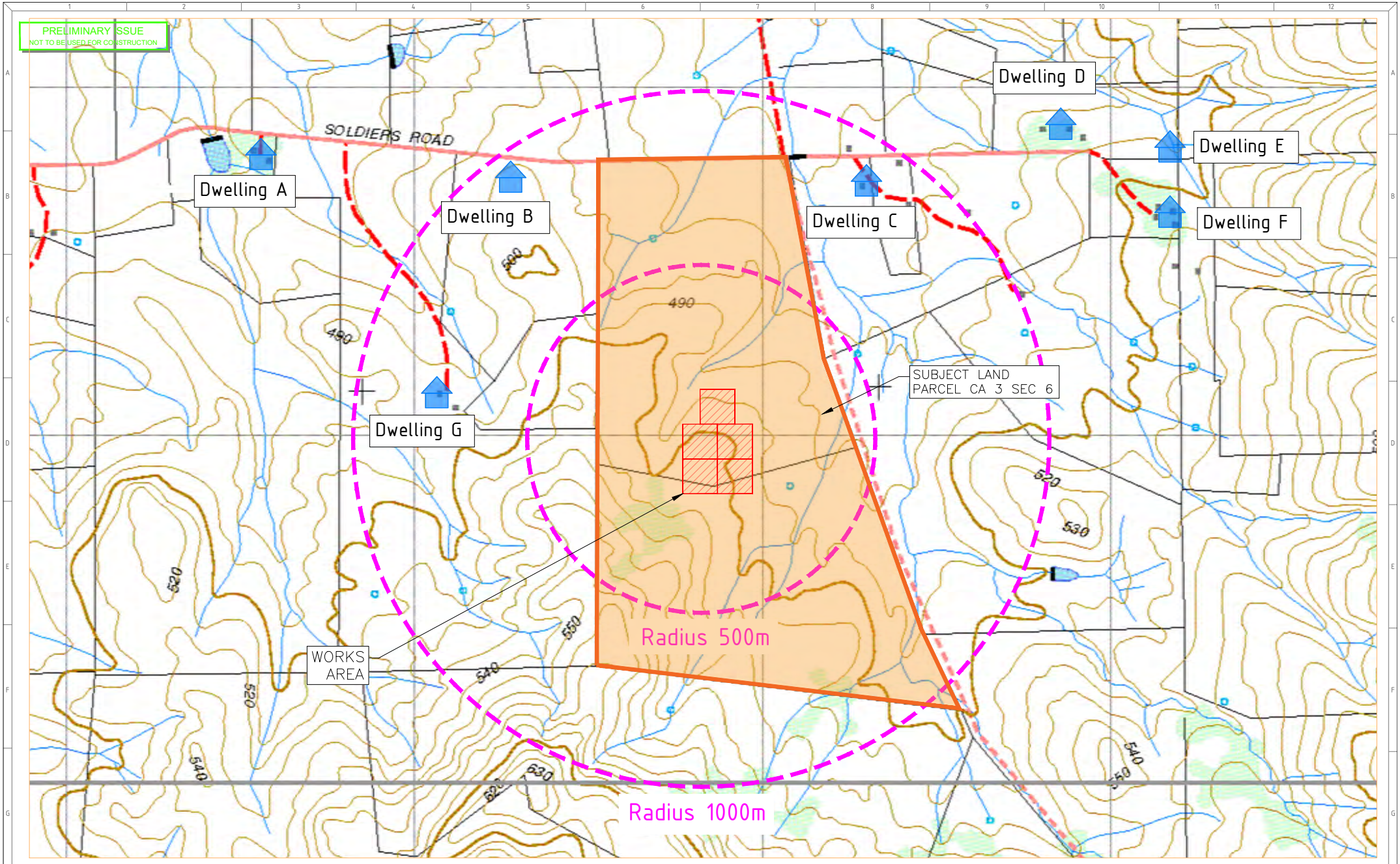
DESIGNED	NSM	07/24
DRAWN	NSM	07/24
CHECKED	-	07/24
APPROVED		

1:1000 (A1) 1:2000 (A3) SCALEBAR (m) 0 25 50m

PROJECT NO: FRID01
DRAWING NO: FRID01-102
DATUM: ARB
GRID: ARB

JIM FRIDAY
SOLDIERS ROAD, BARWHITE
PROPOSED ROCK EXTRACTION
SECTION A & TYP. STAGE LAYOUT

SHEET 1 OF 1 A1



REVISIONS		
REV	DETAILS	DATE
A	ISSUED FOR REVIEW	16/01/24
B	AMENDED TO COUNCIL COMMENTS	16/01/24
C	AMENDED TO COUNCIL COMMENTS	05/03/24
D	AMENDED TO ERR COMMENTS	09/07/24

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DESIGNED	NSM	07/24
DRAWN	NSM	07/24
CHECKED	-	07/24
APPROVED		

1:1000 (A1) 1:2000 (A3) SCALEBAR (m) 0 25 50m

PROJECT NO: FRID01
DRAWING NO: FRID01-103
DATUM: AHD
GRID: GDA94

JIM FRIDAY

SOLDIERS ROAD, BARWHITE
PROPOSED ROCK EXTRACTION
LOCALITY PLAN & RECEPTORS

SHEET 1 OF 1 A1

Appendix B – Title Plan

Imaged Document Cover Sheet

The document following this cover sheet is an imaged document supplied by LANDATA®, Secure Electronic Registries Victoria.

Document Type	**Plan**
Document Identification	**TP317197X**
Number of Pages (excluding this cover sheet)	**2**
Document Assembled	**11/09/2023 17:00**

TITLE PLAN		EDITION 1	TP 317197X

Location of Land

Parish: GONZAGA
Township:
Section: 6
Crown Allotment: 3
Crown Portion:

Last Plan Reference:
Derived From: VOL 5914 FOL 665
Depth Limitation: 50 FEET

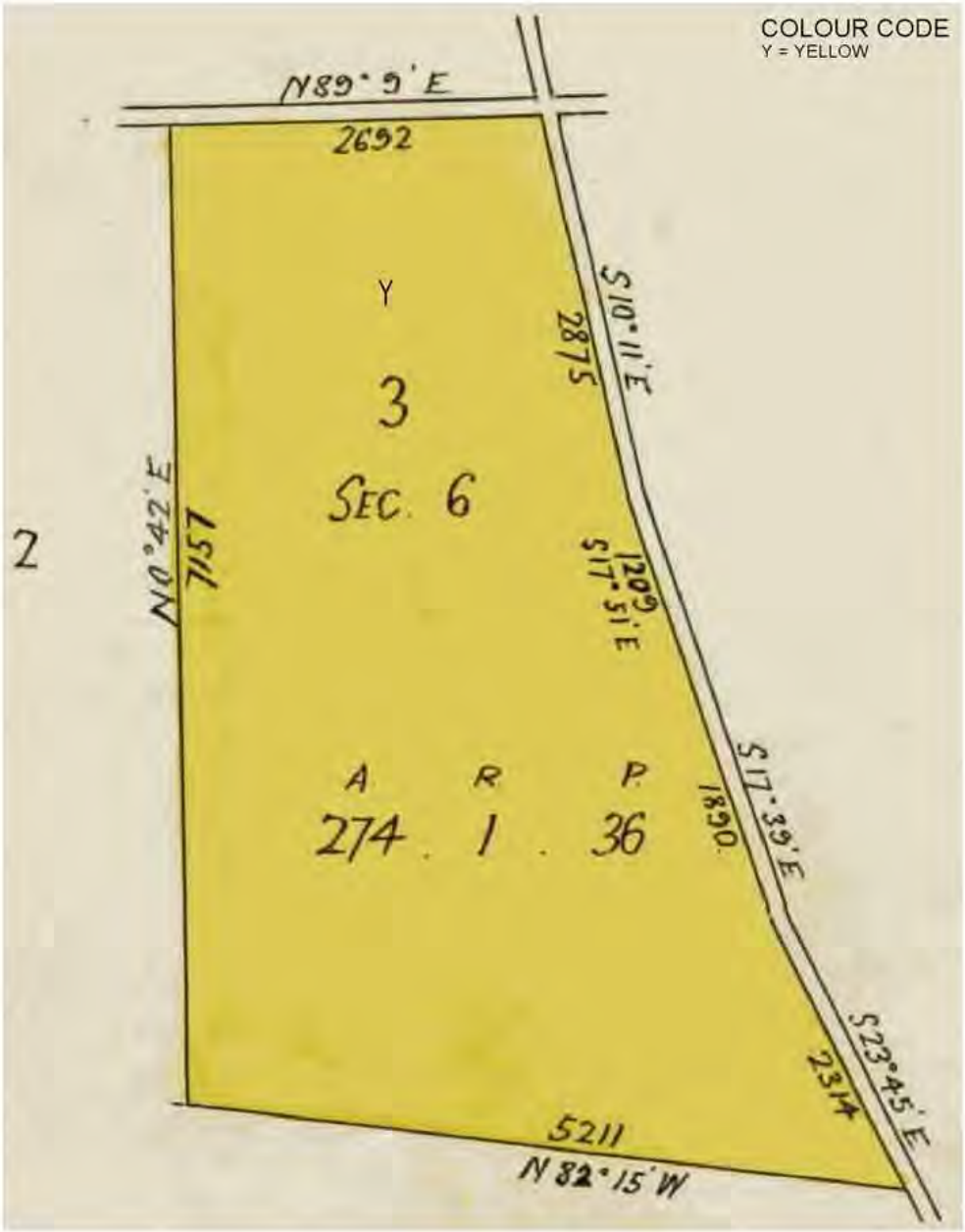
Notations

SUBJECT TO THE RESERVATIONS EXCEPTIONS CONDITIONS AND POWERS CONTAINED IN CROWN GRANT VOL. 5914 FOL. 665 AND NOTED ON SHEET 2 OF THIS PLAN

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 15/02/2000
VERIFIED: AD



LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 2 sheets

	TITLE PLAN		TP 317197X

LAND DESCRIPTION INCLUDING RESERVATIONS EXCEPTIONS CONDITIONS AND POWERS SHOWN ON THE CROWN GRANT

ALL THAT PIECE OF LAND in the said State containing *Five hundred and Seventy four acres one rood and thirty six perches more or less being Allotment three of Section Six in the Parish of Gowrzaga County of Delatite*

delineated with the measurements and abuttals thereof in the map drawn in the margin of these presents and therein colored yellow PROVIDED nevertheless that the grantee shall be entitled to sink wells for water and to the use and enjoyment of any wells or springs of water upon or within the boundaries of the said land for any and for all purposes as though he held the land without limitation as to depth EXCEPTING nevertheless unto Us Our heirs and successors all gold and silver and minerals as defined in the *Mines Act* 1928 in upon or under or within the boundaries of the land hereby granted AND ALSO reserving to Us Our heirs and successors free liberty and authority for Us Our heirs and successors and Our and their licensees agents and servants at any time or times hereafter to enter upon the said land and to search and mine therein for gold silver and minerals as aforesaid and to extract and remove therefrom any such gold silver and minerals and to search for and work dispose of and carry away the said gold silver and minerals lying in upon or under the land hereby granted and for the purposes aforesaid to sink shafts make drives erect machinery and to carry on any works and do any other things which may be necessary or usual in mining and with all other incidents that are necessary to be used for the getting of the said gold silver and minerals and the working of all mines seams lodes and deposits containing such gold silver and minerals in upon or under the land hereby granted

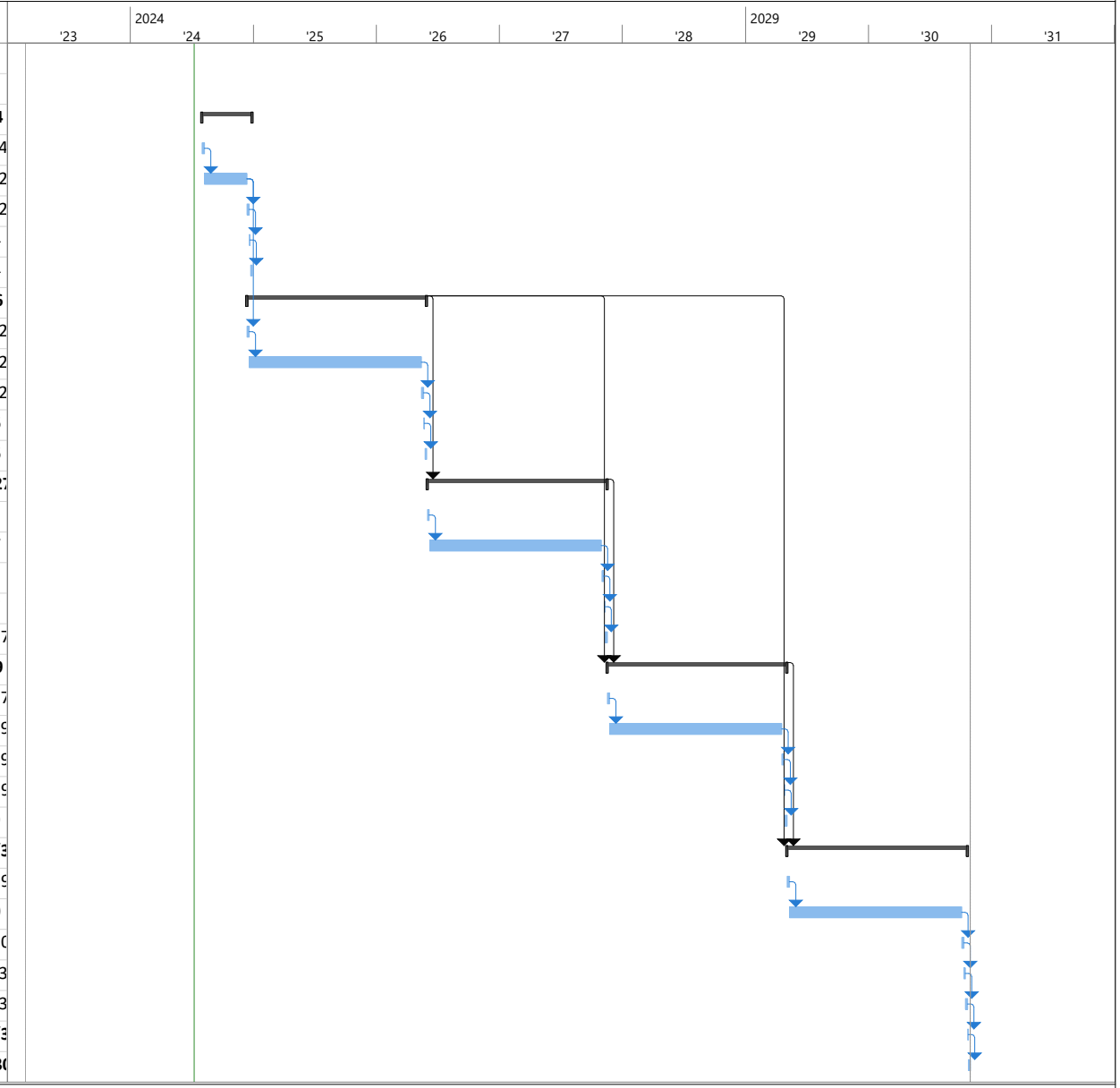
PROVIDED ALWAYS that the said land is and shall be subject to be resumed for mining purposes under Section 168 of the *Land Act* 1928.
AND PROVIDED ALSO that the said land is and shall be subject to the right of any person being the holder of a miner's right or of a mining lease or mineral lease under the *Mines Act* 1928 or any corresponding previous enactment to enter therein and to mine for gold silver or minerals within the meaning of the said Act and to erect and occupy mining plant or machinery thereon in the same manner and under the same conditions and provisions as those to which such person would for the time being be entitled to mine for gold and silver in and upon Crown lands. PROVIDED that compensation shall be paid to the said GRANTEE

his heirs executors administrators assigns or transferees by such person for surface damage to be done to such land by reason of mining thereon such compensation to be determined as provided for the time being by law and the payment thereof to be a condition precedent to such right of entry.

LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 2 of 2 sheets

Appendix C – Schedule – GANTT Chart

ID	Task Mode	Task Name	Duration	Start	Finish
1					
2					
3		**Stage 1 - Processing Area**	**107 days**	**Thu 1/08/24**	**Fri 27/12/24**
4		Remove and stockpile topsoil - 2,000cu.n	5 days	Thu 1/08/24	Wed 7/08/24
5		Extraction operations - 1000cu.m, 3 mon	90 days	Thu 8/08/24	Wed 11/12/2
6		Spread and level topsoil	5 days	Thu 12/12/24	Wed 18/12/2
7		Preparation of seedbeds	2 days	Thu 19/12/24	Fri 20/12/24
8		Revegetation	5 days	Mon 23/12/2	Fri 27/12/24
9		**Stage 2 - Extraction Area**	**382 days**	**Thu 12/12/2**	**Fri 29/05/26**
10		Remove and stockpile topsoil - 2,000cu.n	5 days	Thu 12/12/24	Wed 18/12/2
11		Extraction operations - 3,000cu.m, 1 yea	365 days	Thu 19/12/24	Wed 13/05/2
12		Spread and level topsoil	5 days	Thu 14/05/26	Wed 20/05/2
13		Preparation of seedbeds	2 days	Thu 21/05/26	Fri 22/05/26
14		Revegetation	5 days	Mon 25/05/2	Fri 29/05/26
15		**Stage 3 - Extraction Area**	**382 days**	**Mon 1/06/26**	**Tue 16/11/27**
16		Remove and stockpile topsoil - 2,000cu.n	5 days	Mon 1/06/26	Fri 5/06/26
17		Extraction operations - 3,000cu.m, 1 yea	365 days	Mon 8/06/26	Fri 29/10/27
18		Spread and level topsoil	5 days	Mon 1/11/27	Fri 5/11/27
19		Preparation of seedbeds	2 days	Mon 8/11/27	Tue 9/11/27
20		Revegetation	5 days	Wed 10/11/2	Tue 16/11/27
21		**Stage 4 - Extraction Area**	**382 days**	**Wed 17/11/2**	**Thu 3/05/29**
22		Remove and stockpile topsoil - 2,000cu.n	5 days	Wed 17/11/2	Tue 23/11/27
23		Extraction operations - 3,000cu.m, 1 yea	365 days	Wed 24/11/2	Tue 17/04/29
24		Spread and level topsoil	5 days	Wed 18/04/2	Tue 24/04/29
25		Preparation of seedbeds	2 days	Wed 25/04/2	Thu 26/04/29
26		Revegetation	5 days	Fri 27/04/29	Thu 3/05/29
27		**Stage 5 - Extraction Area**	**382 days**	**Fri 4/05/29**	**Mon 21/10/3**
28		Remove and stockpile topsoil - 2,000cu.n	5 days	Fri 4/05/29	Thu 10/05/29
29		Extraction operations - 3,000cu.m, 1 yea	365 days	Fri 11/05/29	Thu 3/10/30
30		Spread and level topsoil	5 days	Fri 4/10/30	Thu 10/10/30
31		Preparation of seedbeds	2 days	Fri 11/10/30	Mon 14/10/3
32		Revegetation	5 days	Tue 15/10/30	Mon 21/10/3
33		**Rehabilitation of Silt Dam(s)**	**2 days**	**Tue 22/10/30**	**Wed 23/10/3**
34		**Rehabilitation of Access Road**	**4 days**	**Thu 24/10/30**	**Tue 29/10/30**



Project: FRID01 - Rehabilitation
Date: Tue 9/07/24

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Progress
Manual Progress

Appendix D – Aboriginal Relics Fact Sheets

ABORIGINAL FLAKED STONE TOOLS

Place Identification
Mini Poster 4

A group of artefacts of different size, shape and material

What are Aboriginal Flaked Stone Tools?

Flaked stone tools were made by hitting a piece of stone, called a core, with a 'hammerstone', often a pebble. This would remove a sharp fragment of stone called a flake.

Both cores and flakes could be used as stone tools. New flakes were very sharp, but quickly became blunt during use and had to be sharpened again by further flaking, a process called 'retouch'. A tool that was retouched has a row of small flake scars along one or more edges. Retouch was also used to shape a tool.

Not all types of stone could be used for making tools. The best types of stone are rich in silica, hard and brittle. These include quartzite, chert, flint, silcrete and quartz. Aboriginal people quarried such stone from outcrops of bedrock, or collected it as pebbles from stream beds and beaches. Many flaked stone artefacts found on Aboriginal places are made from stone types that do not occur naturally in the area. This means they must have been carried long distances.

Where are Stone Tools Found?

Stone tools are the most common evidence of past Aboriginal activities in Australia. They occur in many places and are often found with other remains from Aboriginal occupation, such as shell middens and cooking hearths. They are most common near rivers and creeks. It is easier to find them where there is not much vegetation or where the ground surface has been disturbed, for example by erosion.

Characteristics

General

- Sharp edges.
- Retouch along one or more edges.
- Stone rich in silica.
- Stone type often different to the natural rock in the area.

Flakes

- Usually less than 50 mm long.
- A 'striking platform' (see diagram) visible.
- Impact point often present on the striking platform.
- A 'bulb of percussion' often present below the striking platform.
- May have been shaped into a recognisable tool form, such as a point or scraper.

Cores

- May be fist-sized or smaller.
- May have one or more scars where flakes have been removed.

Not all of these features can be seen on each stone tool and some require an experienced eye to identify them. Breakage can remove some key features.

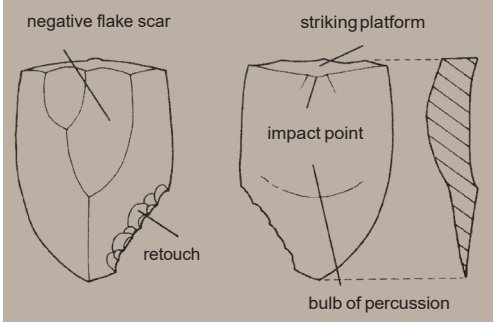
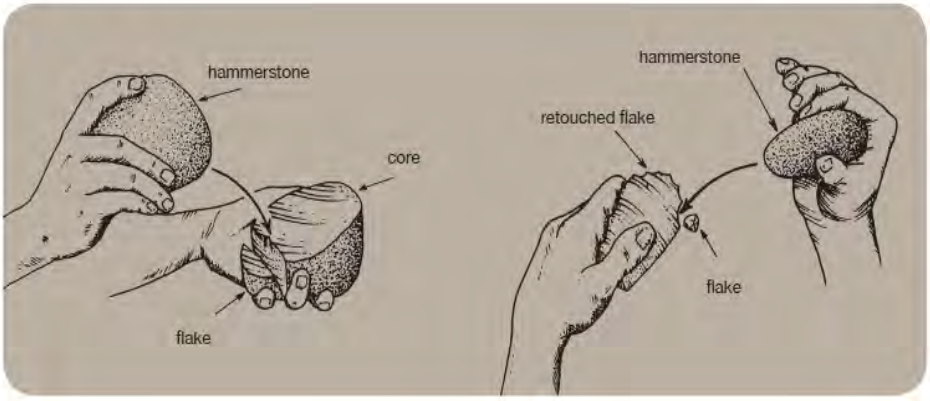


Diagram showing basic flake characteristics



How flaked stone tools were made

What to Do if You Find a Flaked Stone Tool

Do not remove any material from the area. If you pick up a stone to examine it, make sure that you put it back where it came from. Check whether it has some of the key characteristics. Record the location, noting roughly how many stones there are. Note whether the area is under threat of disturbance.

What Were Flaked Stone Tools Used For?

Flaked stone tools could be made quickly, and were used for many everyday tasks, including shaping objects made of wood, bark and bone. They were used as spear-tips in hunting weapons and as knives to butcher game. They were also used to scrape and prepare animal skins for making cloaks, containers and decorative items.

How Else can Stone be Flaked?

Many natural processes can break stone. These include rockfall and extreme changes in temperature. Modern machines, such as ploughs, can also fracture stone. It is important to be able to distinguish stone that has been naturally or accidentally fractured from stone that was deliberately flaked by Aboriginal people. Some of the characteristics of Aboriginal flaked stone artefacts may occasionally occur on naturally fractured stone. However, it is very rare for two or more of these characteristics to occur on the same piece of stone as the result of a natural process.

Why are Flaked Stone Tools Important?

Because stone artefacts do not rot or rust, they are often the only evidence of Aboriginal occupation in a particular area. Stone artefacts can provide information about where Aboriginal people lived, how they made other tools, hunted and prepared food. Sometimes traces of wood, plant food, or animal blood can survive on the edges of flaked stone tools. Specific marks and damage on a tool from use can help tell us what it was used for. This is because different tasks, such as wood carving or scraping animal skins, damaged the edge in different ways.

By finding the original source of stone that was used to make tools, it is sometimes possible to trace the movement of stone within an area. This tells us about Aboriginal systems of trade, exchange and social alliances.

There were a number of changes to the stone tools used by Aboriginal people over time. Because of this, stone tools can help provide an approximate age for the Aboriginal occupation of an area. Flaked stone tools are one of a range of artefacts that provide Aboriginal people today with an important link to their culture and past.

Threats to Aboriginal Stone Tools

Because stone artefacts are found in many different places, and are usually small, they can be difficult to protect. They are sometimes collected by people who do not understand the importance of leaving Aboriginal cultural materials where they are found. Erosion and weathering and activities such as ditch digging and ploughing can disturb flaked stone artefacts. They can also be broken when trampled by animals such as cows, or when run over by vehicles.

Aboriginal Victoria records flaked stone artefacts so that we will have a permanent photographic and written record of this important part of the heritage of all Australians. Some particularly good examples of places containing flaked stone artefacts may require active conservation so that they can be preserved for future generations.

Are Flaked Stone Artefacts Protected?

All Aboriginal cultural places in Victoria are protected by law. Aboriginal artefacts are also protected.

It is against the law to disturb or destroy an Aboriginal place. Artefacts should not be removed from site.

Please help to preserve Aboriginal cultural places by reporting their presence to Aboriginal Victoria.

Contact:
Heritage Services
Aboriginal Victoria
Department of Premier & Cabinet
1 Treasury Place, Melbourne VIC, 3002
Telephone: 1800 762 003
Aboriginal.Heritage@dpc.vic.gov.au

June 2008

ISBN 978-1-921331-55-8

https://www.vic.gov.au/aboriginalvictoria/heritage.html

ABORIGINAL VICTORIA

ABORIGINAL GROUND-EDGE AXES

Place Identification
Mini Poster 8

Greenstone Axe blank (left) and Ground-edge Axe (right)

What are Aboriginal Ground-edge Axes?

Ground-edge axes are stone chopping tools with cutting edges that were formed by grinding. They were often designed to have a handle.

Aboriginal ground-edge axes are usually rounded or oval in shape, but may be slightly elongated with a straighter, sharpened end.

Where are They Found?

Ground-edge axes can be found almost anywhere where Aboriginal people camped or lived in Victoria. They may be found near axe-grinding grooves, axe quarries or burial sites.

How Did Aboriginal People Make Ground-edge Axes?

Aboriginal people made 'axe blanks' by striking large flakes of stone from rocky outcrops (see Mini Poster 7), then roughly shaping them. They carried axe blanks across great distances for trading.

The axes were often finished away from the quarry. The tool maker would complete an axe by grinding to make a sharp cutting edge. This edge, while not as sharp as a chipped stone tool, was much more durable. When the edge was broken or chipped, the axe could be sharpened again and again.

Grinding was usually done on sandstone outcrops, often leaving deep grooves. Sometimes the whole axe was ground to a smooth glossy finish.

Characteristics

- Ground-edge axes come in different shapes, but they are usually either round or oval. They are sometimes rounded and narrow at one end, and slightly broader and straighter at the cutting edge.
- Most are 50–200 millimetres long, 40–100 millimetres wide and 20–60 millimetres thick.
- Typically they are 'lens shaped' when viewed from the side.
- They were made from hard types of stone, particularly basalt or greenstone, and worn river pebbles.
- They may have one or more ground cutting edges, and they may be polished smooth all over. The ground surfaces are usually highly polished.
- They may have a groove pecked around their 'waist' so it is easier to attach a handle.
- Complete axes are rare. It is more common to find smaller, broken, polished fragments.

Ground-edge Axes with wooden hafts

Aboriginal people often used natural resin and plant fibre or kangaroo sinew to attach the axe to a short wooden handle.

How Did Aboriginal People Use Ground-edge Axes?

Aboriginal people used axes to cut down small trees, chop wood, remove tree bark for canoes and shelters, butcher larger animals and undertake many other tasks. They also used axes as weapons, ceremonial objects and valuable trade items.

Many axes come from a large greenstone quarry at Mount William, near Lancefield. Axes from this quarry have been found up to 800 kilometres from Mount William, but not in the eastern half of Victoria. The Gunai/Kurnai people in the east had their own quarries and system of trade. Studies of the distribution of Mount William axes have demonstrated that this trade boundary existed for a long time, possibly several thousand years.

What Natural Rocks Look Similar to Ground-edge Axes?

Ground-edge axes are easy to distinguish from natural rocks. Smooth, hard, river pebbles may look like the axes, but they do not have the sharp edges.

Why are Ground-edge Axes Important?

Aboriginal ground-stone axes are an important link for Aboriginal people today with their culture and their past. We know of the custodians of some quarries where stone axes were made, and their descendants are still alive today.

The axes are a valuable source of information about the past way of life of Aboriginal people.

Are Aboriginal Ground-edge Axes under Threat?

Ground-edge axes are strong and durable. Unfortunately, because they are obviously Aboriginal artefacts, many have been taken by artefact collectors and the general public. We know little about these collected axes: information about their age, original location and links with other artefacts has been lost forever.

Natural processes such as wind and water erosion may disturb axes, but human interference such as ploughing and development (and particularly souvenir collecting) poses the greatest threat to these artefacts.

Aboriginal Victoria records the location, dimensions and condition of Aboriginal ground-edge axes. The aim is to have a permanent written and photographic record of this important part of the heritage of all Australians.

Are Aboriginal Ground-edge Axes Protected?

The law protects all Aboriginal cultural places and artefacts in Victoria. It is illegal to disturb or destroy an Aboriginal place. Ground-edge axes and other artefacts should not be removed from site.

It is also illegal to sell artefacts without a cultural heritage permit. Information about permits may be obtained from Aboriginal Victoria.

What to Do If You Find a Ground-edge Axe?

Do not disturb or remove it. Check whether the object has the typical characteristics of an Aboriginal ground-edge axe. If it does, record its location and write a brief description of its condition. Note whether it is under threat of disturbance.

Please help to preserve Aboriginal cultural places by reporting their presence to Aboriginal Victoria.

Contact:

Heritage Services
Aboriginal Victoria
Department of Premier & Cabinet
1 Treasury Place, Melbourne VIC, 3002
Telephone: 1800 762 003
Aboriginal.Heritage@dpc.vic.gov.au

June 2008

ISBN 978-1-921331-59-6

https://www.vic.gov.au/aboriginalvictoria/heritage.html

ABORIGINAL VICTORIA

ABORIGINAL QUARRIES

Place Identification
Mini Poster 7

A Greenstone Quarry Surrounded by Debris from Quarrying and Tool Making

What is an Aboriginal Quarry?

Aboriginal quarries are places where Aboriginal people took stone from rocky outcrops to makechipped or ground stone tools for many different purposes. Not all types of stone were suitable for making tools, so an outcrop of good stone that could be easily quarried was a valuable resource.

Aboriginal people quarried different types of stone, each with its own special value and use. Stone tools were made from greenstone, silcrete, quartz, quartzite, basalt and chert. Pigments were made from quarried ochre, and grinding tools were made from sandstone.

Some quarries are small, consisting of just a single protruding boulder. Other quarries incorporate many outcrops and areas of broken stone that cover thousands of square metres.

What to Do if You Find an Aboriginal Quarry

Do not disturb the place or remove any material. Check whether the place has the typical characteristics of an Aboriginal quarry. If it does, record its location and write a brief description of its condition. Note whether it is under threat of disturbance.

Please help to preserve Aboriginal cultural places by reporting their presence to Aboriginal Victoria

Contact:

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Department of Premier & Cabinet
1 Treasury Place, Melbourne VIC, 3002
Telephone: 1800 762 003
Aboriginal.Heritage@dpc.vic.gov.au

Characteristics

- The rock is a type that can be made into stone tools, such as greenstone, silcrete and quartzite.
- The outcrop bears scars from flaking, crushing and battering.
- Pits and trenches are found around the base of the outcrop.
- Large amounts of broken stone, particularly flakes (see Mini Poster 4), are the same type of stone as the outcrop.
- Identifiable stone artefacts, such as unfinished tools, hammerstones, anvils and grinding stones may be around the site.


A Diorama showing Aboriginal People Quarrying Greenstone and Making Stone Tools

Where are Quarries Found?

Aboriginal quarries are generally found on slopes where erosion has exposed the stone, for example, the slopes above creeks and rivers, on the sides of old volcanoes and on ridges.

How did Aboriginal People Quarry Stone?

Aboriginal people used at least two methods of stone quarrying. One method was to strike the surface of the outcrop at an angle with a hammerstone. Manageable pieces of stone broke off with minimum effort. This method scarred the rock face and left scattered broken fragments around the outcrop. The hammerstone was sometimes left at the quarry site.

The other method involved digging around and under outcrops to find buried stone. The purpose was to find manageable chunks of stone that were unweathered. Such digging created pits and trenches.

The early stages of stone tool making often occurred at the quarry. Tool manufacture added to the debris produced by quarrying. Aboriginal people used hammerstones, anvils and grinding stones, which were often left at the quarry because they were heavy. Sometimes, unfinished tools such as 'axe blanks' (see Mini Poster 8) were also left behind.

What Else Looks Like Aboriginal Quarrying?

Natural weathering can create outcrops that appear similar to Aboriginal quarries. Uneven fractures and splintering on the outcrop face can resemble flaking scars. Weathering also produces large quantities of angular pieces of stone that look like stone tools. Aboriginal Victoria can provide an expert assessment of your discovery.

Why are Aboriginal Quarries Important?

Aboriginal quarries tell us a lot about Aboriginal stone tools, such as the types of stone used, how stone was obtained, and how the tools were made.

Aboriginal quarries also provide a rare glimpse into the fabric of past Aboriginal society. Quarried stone was often traded. Stone axes from one of the most important quarries in Victoria, at Mount William near Lancefield, have been found right across south east Australia. Knowing where stone was quarried, we can learn more about the networks that existed between different groups of Aboriginal people.

Most importantly, quarries are an important link for Aboriginal people today with their culture and their past.

Are Aboriginal Quarries under Threat?

Human activities such as mining, road building, damming, clearing and construction can disturb or destroy Aboriginal quarries. Natural processes such as weathering and erosion can also cause the gradual breakdown of stone outcrops.

The Office of Aboriginal Affairs Victoria records the location, dimensions and condition of Aboriginal quarries. The aim is to have a permanent record of this important part of the heritage of all Australians.
Management works around Aboriginal quarries, such as stock and erosion control, help preserve the sites for future generations.

Are Aboriginal Quarries Protected?

All Aboriginal cultural places in Victoria are protected by law. Aboriginal artefacts are also protected.

It is illegal to disturb or destroy an Aboriginal place. Artefacts should not be removed from site.

Quarrying Scars on the Surface of a Silcrete Outcrop

June 2008

ISBN 978-1-921331-58-9

https://www.vic.gov.au/aboriginalvictoria/heritage.html

ABORIGINAL VICTORIA

ABORIGINAL STONE ARRANGEMENTS

Place Identification
Mini Poster 10

Lake bolac Stone Arrangement

What are Aboriginal Stone Arrangements?

Aboriginal stone arrangements are places where Aboriginal people have positioned stones deliberately to form shapes or patterns. The purpose of these arrangements is unknown because their traditional use ceased when European settlement disrupted Aboriginal society. They were probably related to ceremonial activities.

Where are They Found?

Stone arrangements occur where there are plenty of boulders, such as volcanic areas, and where the land could support large bands of people. Surviving stone arrangements are rare in Victoria, and most are in the western part of the State.

Why did Aboriginal People Arrange Stones?

We do not know much about the function of stone arrangements. The traditions linked with the places may have been lost when Aboriginal people were driven from their lands during colonial settlement. It is also possible that stone arrangements are so old that their purpose had been forgotten even before colonial times.

The age of stone arrangements is difficult to guess. Some may be many thousands of years old. The boulders are arranged in shapes or patterns such as natural features, animals and birds, implements, and supernatural figures or events. Most stones and boulders were set into the ground surface, or soil has built up around them over the years.

Characteristics

- The stones and boulders are arranged in patterns or shapes such as large circles, animal shapes, boomerangs and mazes.
- Stone arrangements are usually large, measuring many metres across their width. They use stones in a range of sizes.
- The boulders have been moved to the site.
- Stone tools, animal bones, ochre, pipe clay and charcoal may be found in sediment from the arrangements.
- There may be information about the significance of such places that has been passed down to contemporary tribes.
- Places may be difficult to identify without clearing vegetation.

Plan of Mt Rothwell Stone Arrangement

If the boulders are moved or disturbed, a depression may be left in the ground.

Such places were probably used for ceremonies and rituals. These may have involved initiations and the passing on of secret lore about the spiritual life of Aboriginal people. Stone arrangements in other parts of Australia, including Tasmania, are known to have been ceremonial.

Large numbers of people could have gathered for ceremonies, but only when there was plenty of food. Daisy yams on the volcanic plains of western Victoria, or the eel runs in the rivers and wetlands of coastal Victoria, may have provided good places for large seasonal gatherings.

What about Other Stone Structures?

Both colonial settlers and Aboriginal people made stone structures. Settlers built hunting blinds, fish traps, houses, cairns and walls. Colonial structures were generally made from dressed stone and contain European artefacts Aboriginal people also made stone shelters, traps for fish and eels, and hunting blinds. All these stone structures have obvious practical functions, unlike Aboriginal stone arrangements.

Why are Aboriginal Stone Arrangements Important?

Aboriginal stone arrangements provide a rare glimpse into the fabric of past Aboriginal society. They are an important link for Aboriginal people today with their culture and their past, particularly with the spiritual and ceremonial aspects of Aboriginal societies.

Are Aboriginal Stone Arrangements under Threat?

The stones are long lasting, but their arrangements can be damaged or destroyed. If stones are disturbed, the pattern and its significance may be lost.

Stone arrangements may be quite large and at least one example has been partly destroyed where it lay across the route of a roadway.

Ploughing, brush cutting, logging and large grazing animals can also cause disturbance.

Aboriginal Victoria records the location, dimensions and condition of Aboriginal stone arrangements. The aim is to have a permanent written and photographic record of this important part of the heritage of all Australians. Management works around Aboriginal stone arrangements, such as stock, weed and erosion control, help preserve the sites for future generations.

Are Aboriginal Stone Arrangements Protected?

All Aboriginal cultural places in Victoria are protected by law. Aboriginal artefacts are also protected.

It is illegal to disturb or destroy an Aboriginal place. Artefacts should not be removed from site.

The arrangement places have a high spiritual value to Aboriginal people, so access to some places may require permission from the local Aboriginal community.

What If You Find a Stone Arrangement?

Do not disturb the place or remove any material. Check whether the place has the typical characteristics of an Aboriginal stone arrangement. If it does, record its location and write a brief description of its condition. Note whether it is under threat of disturbance.

Please help to preserve Aboriginal cultural places by reporting their presence to Aboriginal Victoria.

Contact:

Heritage Services
Aboriginal Victoria
Department of Premier & Cabinet
1 Treasury Place, Melbourne VIC, 3002

Telephone: 1800 762 003
Aboriginal.Heritage@dpc.vic.gov.au

June 2008

ISBN 978-1-921331-61-9

https://www.vic.gov.au/aboriginalvictoria/heritage.html

ABORIGINAL VICTORIA

ABORIGINAL SURFACE SCATTERS

Place Identification
Mini Poster 6

A typical surface scatter found when an older land surface has been exposed

What are Aboriginal Surface Scatters?

Surface artefact scatters are the material remains of past Aboriginal people's activities. Scatter sites usually contain stone artefacts, but other material such as charcoal, animal bone, shell and ochre may also be present. No two surface scatters are exactly the same.

Where are They Found?

Surface scatters can be found wherever Aboriginal occupation has occurred in the past.

Aboriginal campsites were most frequently located near a reliable source of fresh water, so surface scatters are often found near rivers or streams where erosion or disturbance has exposed an older land surface.

What to do if You Find an Aboriginal Surface Scatter?

Do not disturb the place or remove any material. Check whether the place has the characteristics of an Aboriginal surface scatter. If it does, record its location and write a brief description of its condition. Note whether it is under threat of disturbance.

Please help to preserve Aboriginal cultural places by reporting their presence to Aboriginal Victoria.

Contact:

Heritage Services
Aboriginal Victoria
Department of Premier & Cabinet
1 Treasury Place, Melbourne VIC, 3002

Telephone: 1800 762 003
Aboriginal.Heritage@dpc.vic.gov.au

Characteristics

- The size of scatters may vary from one square metre to one hectare.
- Scatters may contain a few artefacts or many thousands.
- They generally consist of chipped stone artefacts (see Mini Poster 4), but sometimes contain animal bone, shell, charcoal, hearth stones, clay balls and ochre.
- Surface scatters are most visible where erosion, roadwork, ploughing or earthworks have disturbed the ground.
- They can be exposed as a concentration of material on the ground, or as a thin layer (or layers) of material in the side of a bank or

This Aboriginal camp shows how surface scatters were created
State Library of Victoria

What Produced Surface Scatters?

Surface scatters are the remains of past Aboriginal campsites and other activities. Aboriginal people produced and left the scatter material in the course of their daily life. Activities that produced surface scatters include:

- manufacture of stone implements for a range of everyday tasks;
- production and maintenance of weapons, tools and other items made of wood and bone;
- construction of shelters and huts;
- preparation and consumption of meals;
- preparation of clothes and blankets from animal skins;
- social and spiritual activities.

Away from the camp, activities that produced surface scatters include:

- wood chopping and the removal of bark from trees;
- preparation of large items such as canoes;
- hunting and game processing;
- gathering and processing fruit and vegetables.

Scatters may be the remains from a number of activities in a camp, or from just one activity away from the main camp site.

Large surface scatters with many types of artefacts indicate favoured camping areas. These were often resource-rich areas such as swamps, lakes or riverine environments. Aboriginal people returned to these locations repeatedly, stayed for longer periods, and undertook a wider range of activities. A large scatter may have many thousands of artefacts and cover more than a hectare. The repeated use of an area may have left a dense deposit that is many layers thick, or a huge scatter consisting of artefacts from many overlapping occupations.

Smaller places generally resulted from single, short occupations such as overnight camps and dinner camps. Some consist of debris at an activity area away from the main camp. Small scatters may cover only a few square metres, consist of only one layer and comprise only a few artefacts. They can be found anywhere, whereas larger scatters are rarer in resource-poor areas such as coastal plains, highlands and deserts.

What Other Factors Produce Surface Scatters?

Scatters of naturally occurring gravel, particularly quartz, may be mistaken for Aboriginal surface scatters. Gravel usually has rounded edges and originates in the immediate area. Imported gravel, particularly from roadwork or building construction, can also be mistaken for surface scatters. Imported gravel has sharp edges and a narrow size range, and it is usually found around earthworks.

Why are Aboriginal Surface Scatters Important?

Surface scatters of artefacts are one of the most common types of Aboriginal places. They provide important information about past Aboriginal people's settlement patterns and lifestyles.

Some organic materials (such as charcoal, bone and shell) found in scatters can be dated by radiocarbon dating. These dates tell us when people were living in a particular area. Artefacts in the surface scatters can show how Aboriginal culture changed over time. The presence of stone from other areas can indicate trade, exchange and contact between different groups that lived many kilometres apart.

Surface scatters are an important link for Aboriginal people today with their culture and past.

Are Aboriginal Surface Scatters under Threat?

Aboriginal surface scatters can be disturbed or destroyed by people or natural processes such as wind and water. Weathering and erosion can damage or disperse artefacts,

Stone Artefacts like these are commonly found in Victorian surface scatters

as can trampling by hard-hoofed animals and rabbit burrowing. Human activities such as mining, road building, damming, clearing and construction can disturb and destroy artefact sites.

Aboriginal Victoria records the location, dimensions and condition of Aboriginal scatters. The aim is to have a permanent photographic and written record of this important part of the heritage of all Australians. Management works around Aboriginal surface scatters, such as the eradication of rabbits and erosion control, help preserve the places for future generations.

Are Aboriginal Surface Scatters Protected?

All Aboriginal cultural places in Victoria are protected by law. Aboriginal artefacts are also protected.

It is illegal to disturb or destroy an Aboriginal place. Artefacts should not be removed from site.

June 2008

ISBN 978-1-921331-57-2

https://www.vic.gov.au/aboriginalvictoria/heritage.html

ABORIGINAL VICTORIA

ABORIGINAL GRINDING STONES

Large grinding stone damaged by agricultural equipment

What are Aboriginal Grinding Stones?

Grinding stones are slabs of stone that Aboriginal people used to grind and crush different materials. Bulbs, berries, seeds, insects and many other things were ground between a large lower stone and a smaller upper stone.

Where are They Found?

Grinding stones are usually found where Aboriginal people lived and camped. For example, they have been found in shell middens and rock shelters, and at open camp sites and rock art sites. They are common in museum and private collections.

How Did Aboriginal People Use Grinding Stones?

Grinding stones were among the largest stone implements of Aboriginal people. They were used to crush, grind or pound different materials.

A main function of grinding stones was to process many types of food for cooking. Bracken fern roots, bulbs, tubers and berries, as well as insects, small mammals and reptiles, were crushed and pulped on grinding stones before cooking. Some types of food are poisonous in their natural state, and could only be eaten after being crushed and washed.

Place Identification
Mini Poster 9

Characteristics

- Grinding stones are usually made from abrasive rocks such as sandstone or coarse-grained basalt or quartzite.
- The stones are sometimes found upside down, with the grinding surface facing the ground to preserve it from the weather. Upper and lower grinding stones will not necessarily be found together.
- Smooth river pebbles sometimes resemble grinding stones. If you look closely, the surface of a river pebble has tiny impact marks caused by collisions with other pebbles in the river. The surface of a grinding stone has many scratches caused by abrasion but feels smooth.

Lower Stones

- Stones range in size, from very small (150 millimetres across) to very large (700 millimetres across). They can weigh several kilograms.

continued 2nd side

Milling seeds on large flat grinding stones was common in the drier areas of Australia, but less common in Victoria. Leaves and bark were crushed on grinding stones to make medicines.

Aboriginal people also used small grinding stones to crush soft rocks and clays (such as ochre) to make pigments. The pigments were used to decorate bodies for ceremonies, to paint rock art, and to decorate objects such as possum skin cloaks and weapons.

Rocky outcrops are rare in some regions, so the Aboriginal people imported slabs of suitable stone. But large grinding stones were rarely moved. Aboriginal people carried as little as possible when they moved camp, and they often left heavy items such as grinding stones as permanent camp 'furniture' to be used on the next visit.

Why are Aboriginal Grinding Stones Important?

Grinding stones were developed in south east Australia during the last Ice Age, about 15,000 years ago. Conditions were much drier then, and grinding stones allowed people to live in areas where food was limited.

Grinding stones help us learn about the size of past Aboriginal

populations in different regions, their foods, and their reactions to great changes in climate. The origin of some stones is known, which helps us trace the movements of people and their social connections with other regions.

Grinding stones are an important link for Aboriginal people today with their culture and their past.

Are Aboriginal Grinding Stones under Threat?

Natural processes such as wind and water erosion may disturb grinding stones, but human interference poses the greatest threat. Ploughing, development and any earthworks may disturb Aboriginal places Ploughing in particular can break or cut stones.

Grinding stones are unmistakable Aboriginal artefacts, and many have been collected as souvenirs. Flat stones have even been used for

dry stone walls, paths and house foundations. Once the stones are moved, important information about them is lost.

Aboriginal Victoria records the location, dimensions and condition of Aboriginal grinding stones. The aim is to have a permanent written and photographic record of this important part of the heritage of all Australians.

Are Aboriginal Grinding Stones Protected?

The law protects all Aboriginal cultural places and artefacts in Victoria. It is illegal to disturb or destroy an Aboriginal place. Grinding stones and other artefacts should not be removed from site.

It is also illegal to sell Aboriginal artefacts without a permit. Information about cultural heritage permits may be obtained from Aboriginal Victoria.

What If You Find an Aboriginal Grinding Stone?

Do not disturb it or remove it from the site. Check whether the stone has the typical characteristics of an Aboriginal grinding stone. If it does, record its location and write a brief description of its condition. Note whether it is under threat of disturbance.

Please help to preserve Aboriginal cultural places by reporting their presence to Aboriginal Victoria.

Contact:

Heritage Services

Aboriginal Victoria

Department of Premier & Cabinet

1 Treasury Place, Melbourne VIC, 3002

Telephone: 1800 762 003

Aboriginal.Heritage@dpc.vic.gov.au

Characteristics cont.

- They can be any shape: oval, round, rectangular or irregular.
- Grinding stones made from sandstone or quartzite are usually flat. Basalt stones can be more rounded.
- Grinding stones have a worn depression, varying in shape from a circle to a long thin groove.
- The depth of the grinding area will vary, and a hole may have formed where the stone is completely worn away.
- There may be traces of food or pigments on the stone. Fats may leave glossy stains.
- Depressions or grooves may occur on different sides of the same stone.
- Some grinding surfaces have carved lines.

Upper Stones

- The smaller upper stones (or pestles) can be flat or rounded. They may have more than one smooth surface.
- They are usually small enough to hold in one hand.
- They may be damaged on the working edge if they were used as a pounder.

June 2008

ISBN 978-1-921331-60-2

https://www.vic.gov.au/aboriginalvictoria/heritage.html

ABORIGINAL VICTORIA

Cultural Heritage Management Contingencies

Contingency 1 – The discovery of Human Remains

If any suspected human remains are found during any activity, works must cease. The Victoria Police and the State Coroner's Office must be notified immediately. If there are reasonable grounds to believe the remains are Aboriginal, the Coronial Admissions and Enquiries hotline must be contacted immediately on 1300 309 519. This advice has been developed further and is described in the following 5-step contingency plan. Any such discovery at the activity area must follow these steps.

1) Discovery:

a) If suspected human remains are discovered, all activity within at least 30 metres must stop

b) The remains must be left in place and protected from harm or damage, and

c) Do not contact the media; do not take any photographs of the remains other than those requested by the relevant authorities below.

2) Notification:

a) If suspected human remains have been found, the State Coroner's Office and the Victoria Police must be notified immediately

b) If there are reasonable grounds to believe the remains are Aboriginal Ancestral Remains, the Coronial Admissions and Enquiries hotline must be immediately notified on 1300 309 519

c) All details of the location and nature of the human remains must be provided to the relevant authorities

d) If it is confirmed by State Coroner's Office that the discovered remains are Aboriginal Ancestral Remains, the person responsible for the activity must report the existence of them to the Victorian Aboriginal Heritage Council in accordance with section 17 of the *Aboriginal Heritage Act 2006*.

3) Impact Mitigation or Salvage:

a) The Victorian Aboriginal Heritage Council, after taking reasonable steps to consult with any Aboriginal person or body with an interest in the Aboriginal Ancestral Remains, will determine the appropriate course of action as required by section 18(2)(b) of the *Aboriginal Heritage Act 2006*

b) An appropriate impact mitigation or salvage strategy as determined by the Victorian Aboriginal Heritage Council must be implemented by the Sponsor. All costs associated with this will be the responsibility of the Sponsor.

4) Curation and further analysis:

a) The treatment of salvaged Aboriginal Ancestral Remains must be in accordance with the direction of the Victorian Aboriginal Heritage Council.

5) Reburial:

a) Any reburial site(s) must be fully documented by an experienced and qualified archaeologist and all relevant details provided to the Registrar

b) Appropriate management measures must be implemented to ensure the Aboriginal Ancestral Remains are not disturbed in the future.

Contingency 2 – Aboriginal cultural heritage (excluding Aboriginal Ancestral Remains)

1) Secret / sacred objects

a) Any suspected Secret / Sacred Objects must be reported to the Victorian Aboriginal Heritage Council, as per Part 2, Division 3 (sections 21-2) of the *Aboriginal Heritage Act 2006*.

b) All works must stop within at least 10 metres of the objects

c) The Victorian Aboriginal Heritage Council will transfer the object/s to an Aboriginal person that the Victorian Aboriginal Heritage Council is satisfied is entitled to and willing to take possession, custody or control of the object/s, or otherwise deals with the object/s as the Victorian Aboriginal Heritage Council thinks appropriate, as per section 21B of the *Aboriginal Heritage Act 2006*.

2) Discovery

If any other suspected Aboriginal cultural heritage, excluding Aboriginal Ancestral Remains and suspected Secret / Sacred Objects, is uncovered or identified:

i) All works must stop within at least 10 metres of the suspected Aboriginal cultural heritage

ii) The 'stop works' area around the suspected Aboriginal cultural heritage must be fenced off using appropriate temporary fencing and protected from further disturbance; "no-go zone" signage must be attached to the fencing at all times to prevent the area being disturbed further

iii) An appropriately qualified Heritage Advisor must be notified within two working days

iv) An appropriately qualified Heritage Advisor must inspect the suspected Aboriginal cultural heritage within three working days of notification

v) Relevant Traditional Owner groups must be provided the opportunity to participate in the inspection.

3) Notification

The Department of Premier and cabinet (vahr@dpc.vic.gov.au) must be notified of the discovery of any Aboriginal cultural heritage excluding Aboriginal Ancestral Remains by the Sponsor within five working days.

4) Unexpected discoveries of Aboriginal cultural heritage

If the Heritage Advisor determines that the discovery is Aboriginal cultural heritage, and is not Aboriginal cultural heritage as described in Example Contingency 2.5:

- **i)** the Sponsor must consider whether it is possible to avoid harm to the Aboriginal cultural heritage, and if harm cannot be avoided, whether harm can be minimised, and salvage excavation of the Aboriginal cultural heritage undertaken to mitigate impact
- **ii)** if harm cannot be avoided, the Sponsor must arrange a meeting between the Heritage Advisor, relevant Traditional Owner groups (should they wish to attend) and the Department of Premier and Cabinet, as soon as practicable, to discuss and agree an appropriate way of managing the Aboriginal cultural heritage
- **iii)** all reasonable costs arising from the meeting and any agreed management actions must be borne by the Sponsor
- **iv)** the temporary fencing around the suspected or identified Aboriginal cultural heritage may be removed, and works re-commence in the "no-go zone", when the suspected or identified Aboriginal cultural heritage has been investigated and managed appropriately, in accordance with *the Aboriginal Heritage Act 2006* and as agreed in discussions with the Department of Premier and Cabinet
- **v)** the Heritage Advisor must record the Aboriginal cultural heritage in accordance with VAHR standards and relevant forms must be submitted to the Victorian Aboriginal Heritage Register as soon as practical.

5) Not unexpected Aboriginal cultural heritage and low density artefact distributions

If the Heritage Advisor determines that the discovery is a low density artefact distribution or other expected Aboriginal cultural heritage:

- **i)** the Heritage Advisor must record the Aboriginal cultural heritage in accordance with Victorian Aboriginal Heritage Register (VAHR) recording standards, and relevant forms must be submitted to the VAHR as soon as practical
- **ii)** works can continue once the Aboriginal cultural heritage has been recorded and all temporary fencing is removed.

Department of Premier and Cabinet

Process List

Project Name: Rock Extraction Proposal

Project Location: 16 Fridays Road, Barwite, VIC 3722

Date: 23-Jul-2024

	QUESTION	ANSWER
Question 1	Is the proposed activity , or all the proposed activities, exempt?	No
Question 2	Are you undertaking a High Impact Activity as listed in the Aboriginal Heritage Regulations?	Yes
Question 3	Does your activity include significant ground disturbance?	Yes
Question 4	Does your activity area include areas of a registered cultural heritage place (regardless of significant ground disturbance) or cultural heritage sensitivity that have not previously been subject to significant ground disturbance?	No
Answer:	ON THE BASIS OF THE ANSWERS YOU HAVE ENTERED YOU ARE NOT REQUIRED BY THE REGULATIONS TO PREPARE A CULTURAL HERITAGE MANAGEMENT PLAN FOR THIS PROJECT	
	This process list is for information purposes only; the result must not be relied upon by a statutory authority in deciding whether a cultural heritage management plan is required for a proposed activity.	