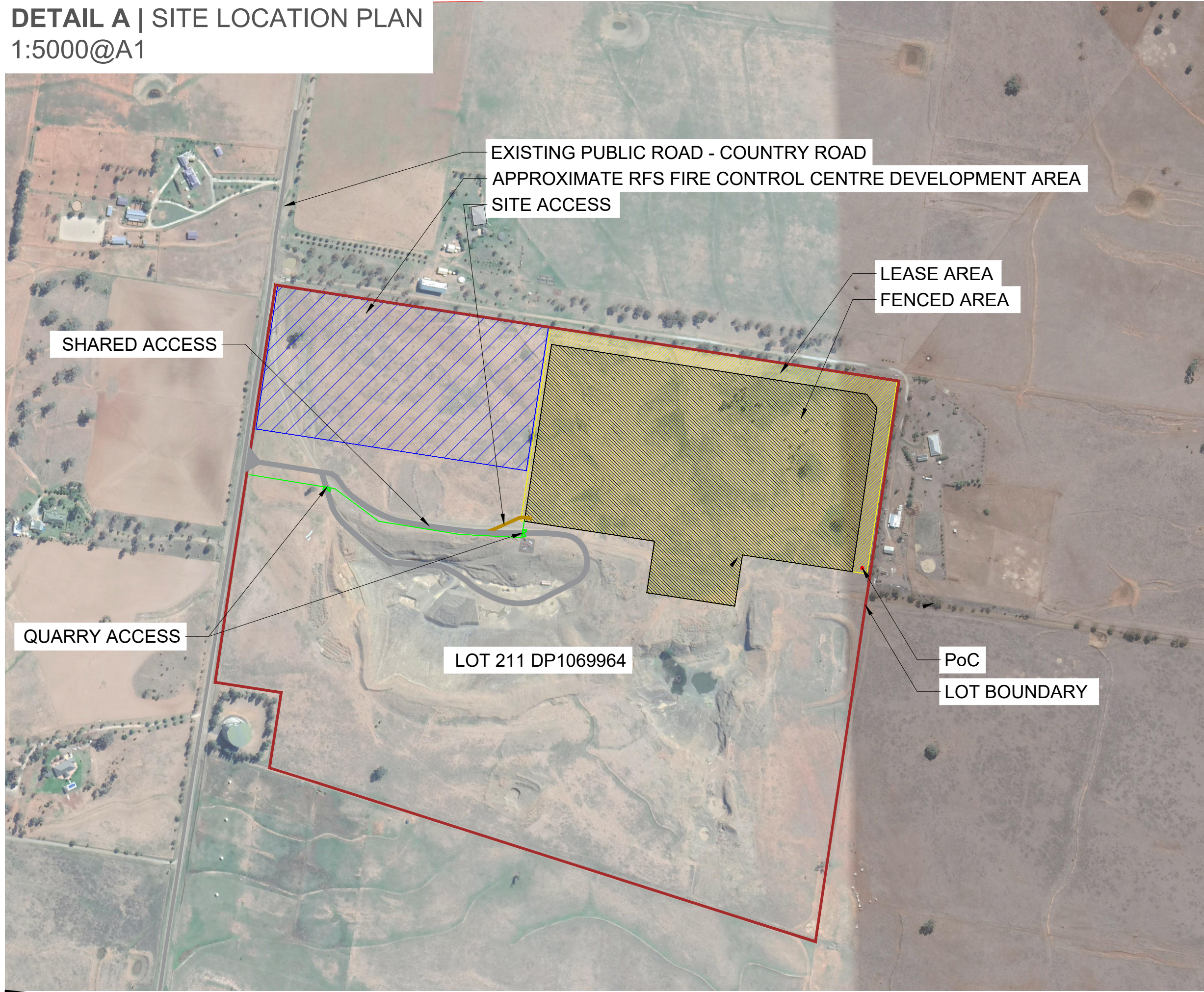
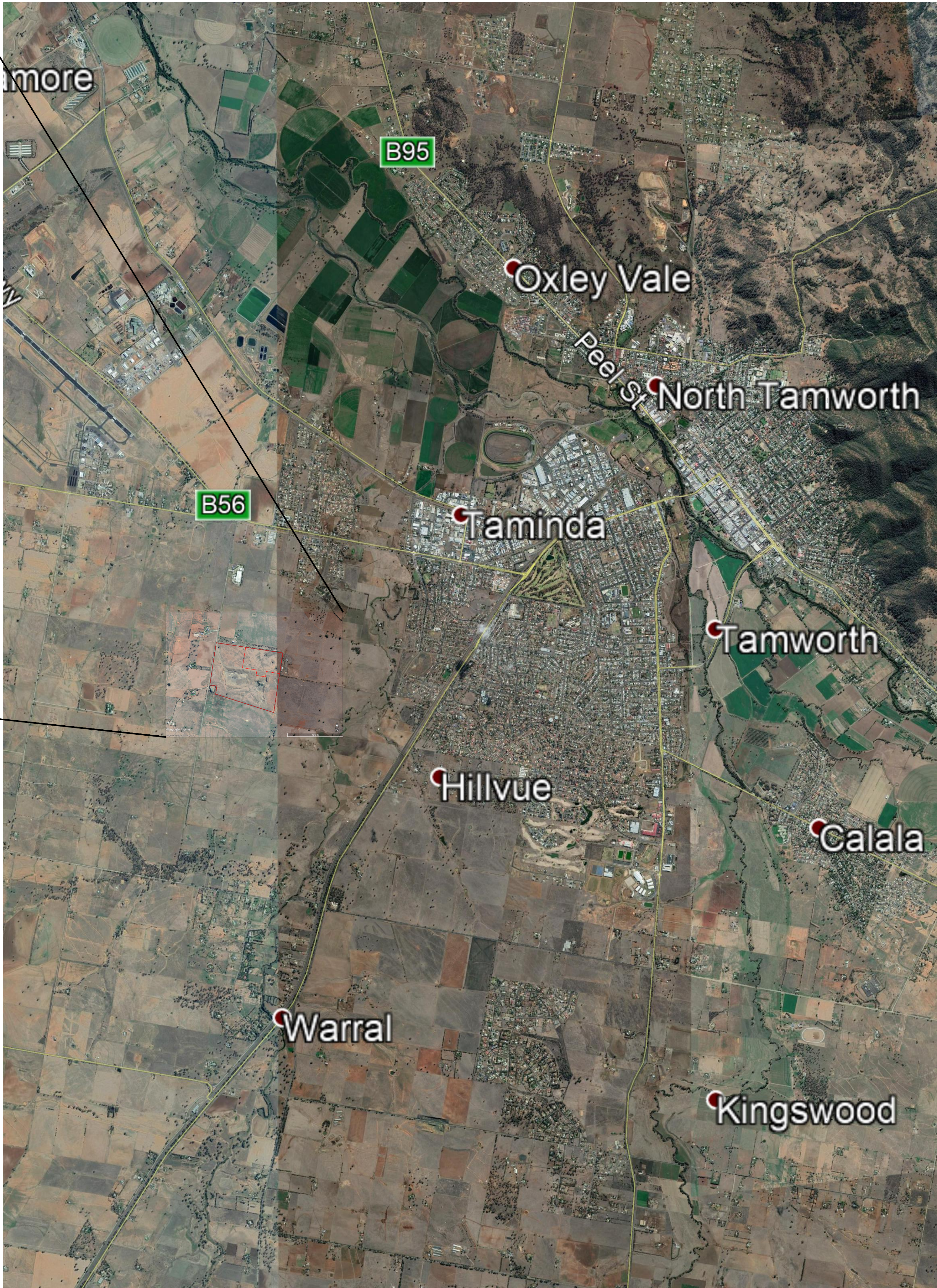


DETAIL A | SITE LOCATION PLAN  
1:5000@A1



DETAIL B | AUSTRALIA STATE MAP  
NTS@A1

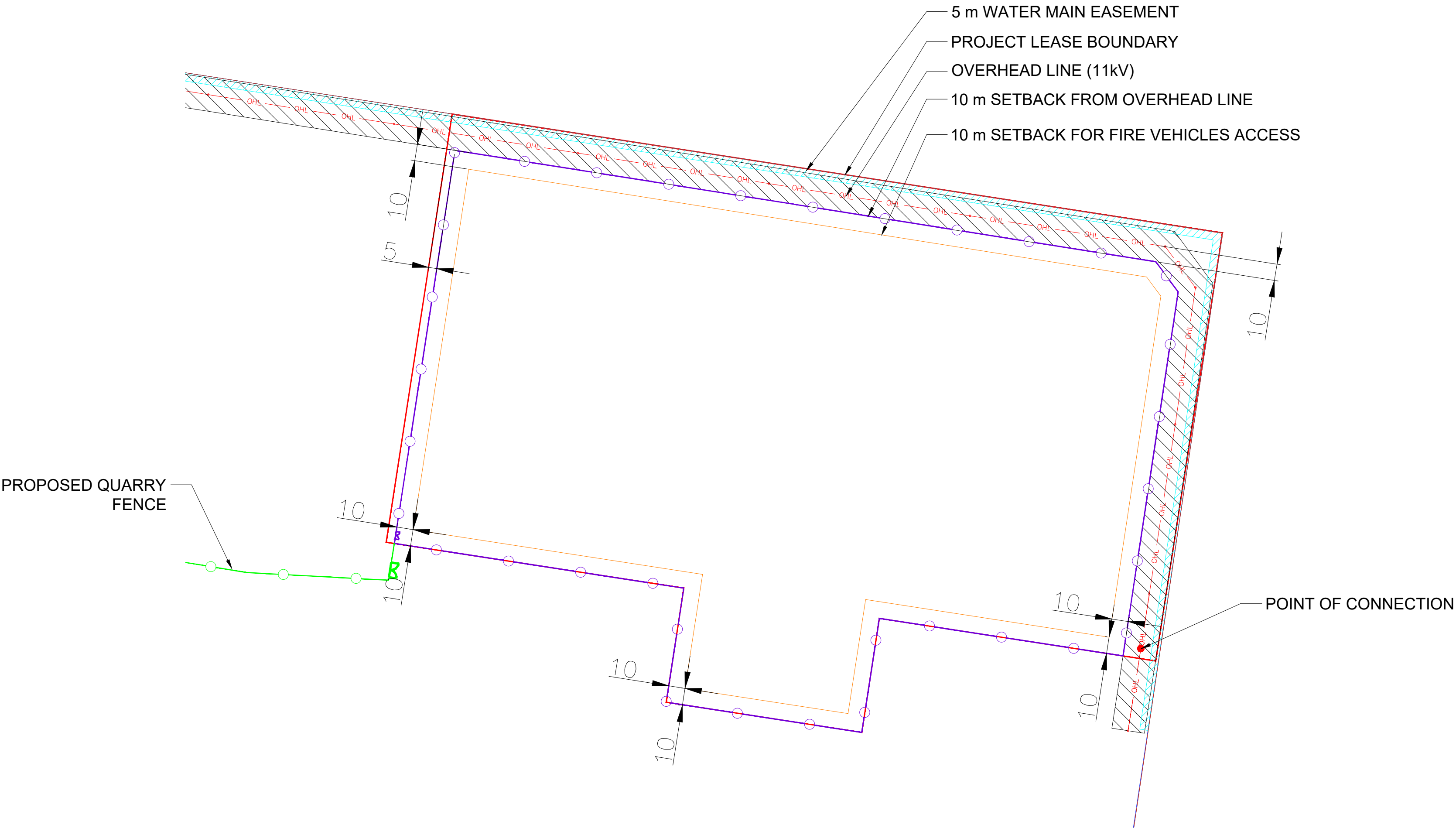


REV	DATE	DESCRIPTION	DWN	CHKD
1	03/03/20	ISSUE FOR INITIAL SUBMITTAL	UZ	JLG
2	11/03/20	ISSUE FOR REVISED INITIAL SUBMITTAL	UZ	JLG
3	14/07/20	SCAR TREE, ACCESS AND WATER MANAGEMENT	UZ	JLG

LATITUDE:  
31.11° S  
LONGITUDE:  
150.871° E  
SCALE  
As shown  
ORIGINAL SIZE: ISO A1



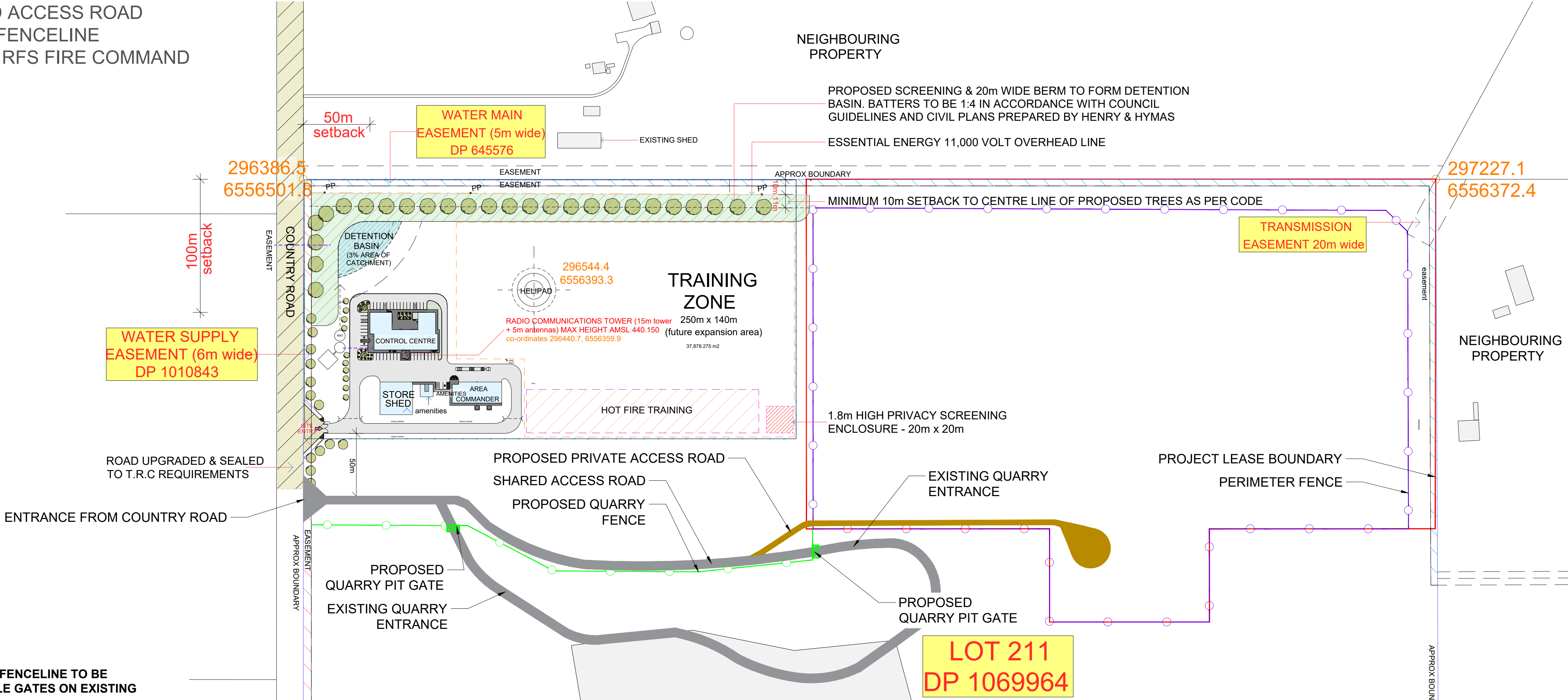
DETAIL A | SETBACK INFORMATION  
1:2000@A1



NOTES:

- 10 m CLEARANCE HAS SET BETWEEN THE EXISTING 11kV OVERHEAD LINE CROSSING THE LEASE AREA AND THE SITE FENCE LINE.
- CLEARANCE HAS SET BETWEEN THE FENCE AND THE PV ARRAY TO ALLOW FOR ACCESS OF FIRE VEHICLES AS INDICATED ON PLAN. SETBACK OF TRACKERS FROM FENCE FOR FIRE SECURITY IS 10 m AND IS TO BE CONFIRMED ACCORDING TO FIRE MANAGEMENT PLAN.
- 5 m CLEARANCE HAS BEEN SET BETWEEN LEASE BOUNDARY AND PERIMETER FENCE FOR LANDSCAPING MITIGATION.

DETAIL B | PROPOSED ACCESS ROAD  
ROUTE AND QUARRY FENCELINE  
(SHOWING ADJACENT RFS FIRE COMMAND  
CENTRE)  
1:2000@A1



NOTES:

- 4-WIRE STAR PICKET QUARRY FENCELINE TO BE CONSTRUCTED WITH LOCKABLE GATES ON EXISTING QUARRY PIT ENTRANCES



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NOT FOR  
CONSTRUCTION

KEY SITE DETAILS

South Tamworth  
Suttons Quarry, Country Road Westdale NSW  
NEW SOUTH WALES, AUSTRALIA

REV	DATE	DESCRIPTION	DWN	CHKD
1	03/03/20	ISSUE FOR INITIAL SUBMITTAL	UZ	JLG
2	11/03/20	ISSUE FOR REVISED INITIAL SUBMITTAL	UZ	JLG
3	14/07/20	SCAR TREE, ACCESS AND WATER MANAGEMENT	UZ	JLG

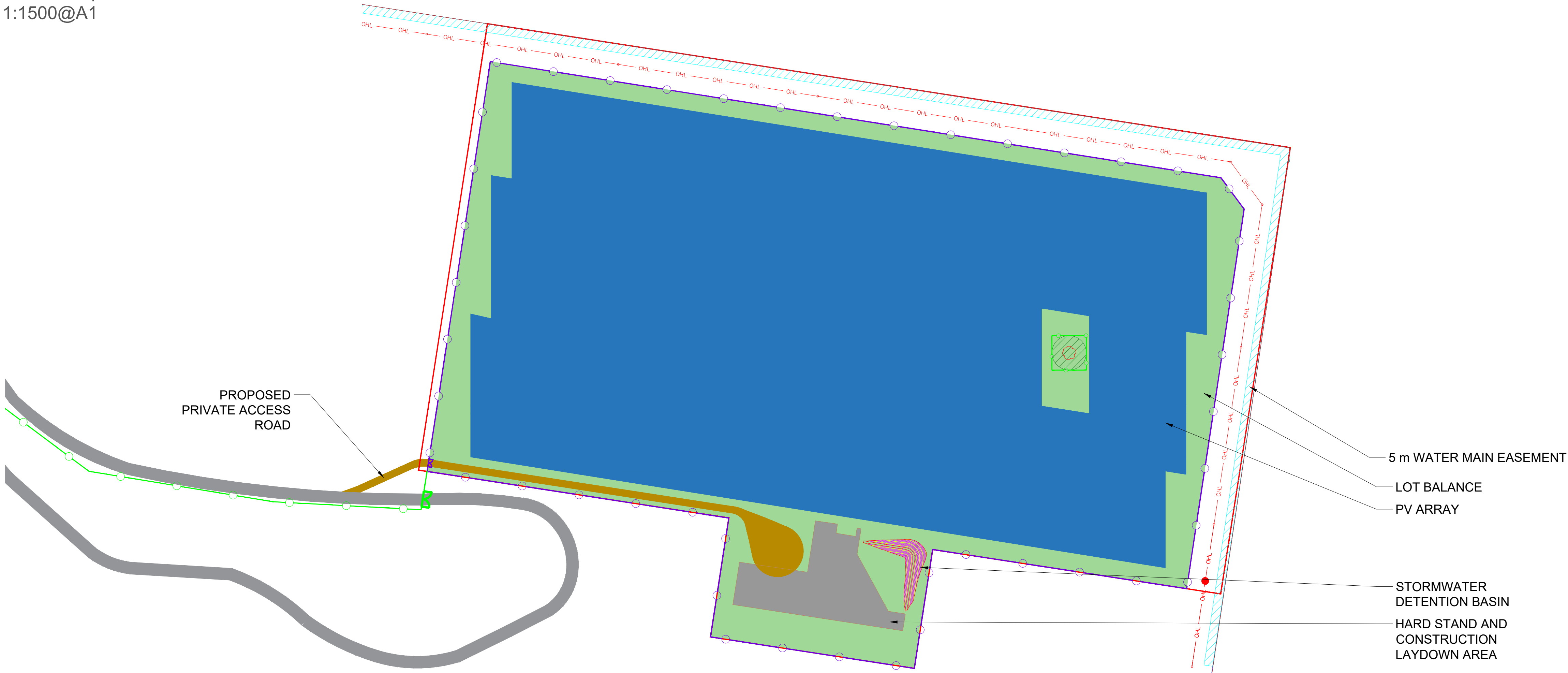
LATITUDE:  
31.11° S  
LONGITUDE:  
150.871° E  
SCALE  
**AS SHOWN**  
ORIGINAL SIZE: ISO A1

SHEET

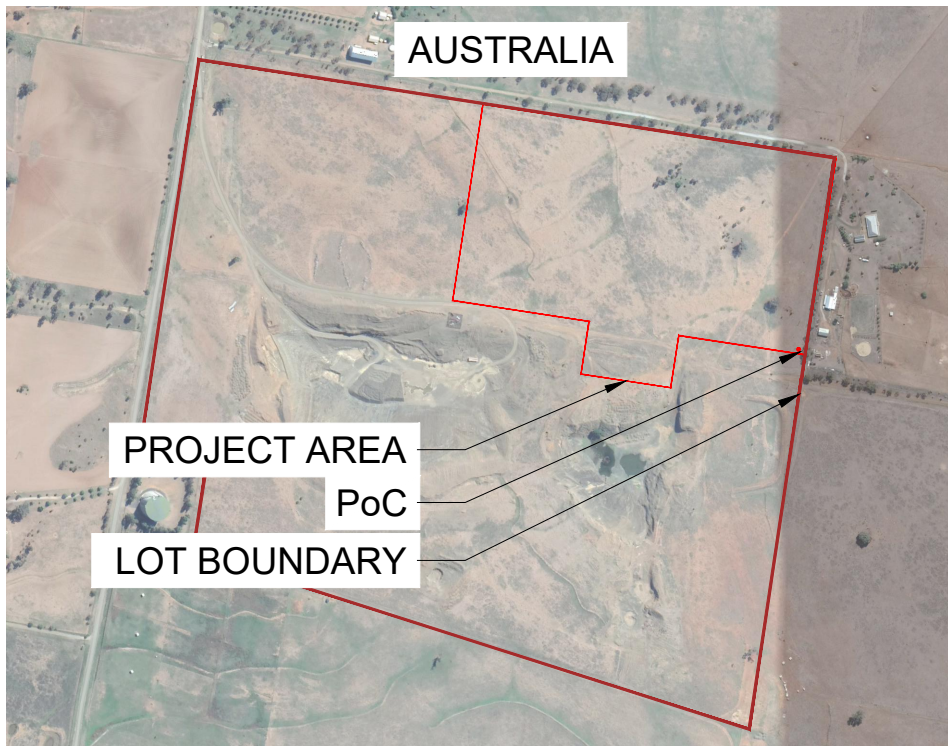
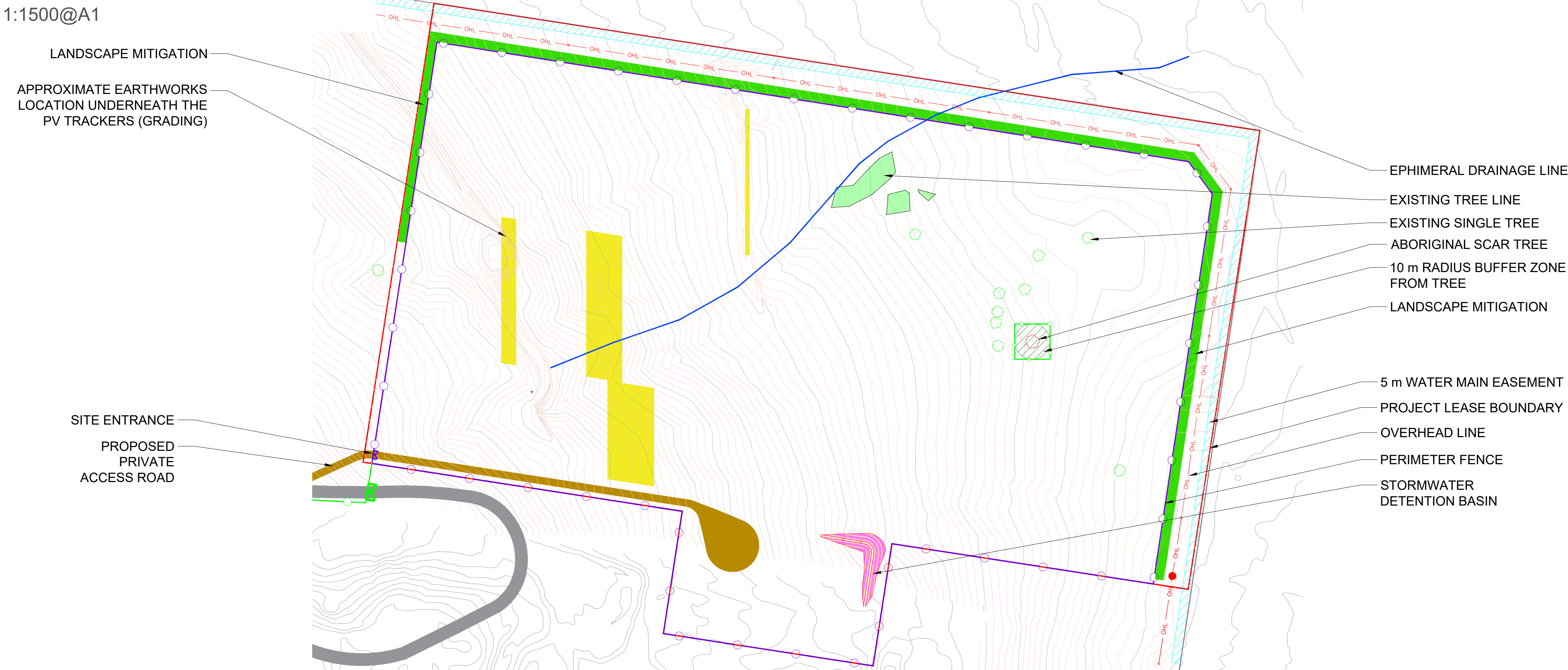
ST-3



DETAIL A | OVERVIEW OF CIVIL WORKS  
1:1500@A1



DETAIL B | EXISTING INFRASTRUCTURE AND EARTHWORKS  
1:1500@A1



LOCATION MAP - SCALE: 1:1,000,000

LEGEND

- PROJECT LEASE BOUNDARY
- EXISTING CONTOUR LINE
- QUARRY/SCAR TREE FENCE
- PERIMETER FENCE
- EXISTING OVERHEAD LINE
- PROPOSED ACCESS/MAINTENANCE ROAD
- HARD STAND AND CONSTRUCTION LAYDOWN AREA
- LOT BALANCE
- PV ARRAY
- APPROXIMATE EARTHWORKS LOCATION UNDERNEATH THE PV TRACKERS (GRADING)
- LANDSCAPE MITIGATION
- PROPOSED GATE
- EXISTING TREE

SYSTEM SUMMARY

ELECTRICAL CONFIGURATION:

TOTAL PV PLANT CAPACITY (DC): 5,967.00 kWp

TOTAL INVERTER CAPACITY (AC): 5,000.00 kVA (@35C)

PV PLANT MAXIMUM EXPORT CAPACITY (AC): 4,990.00 kVA

DC:AC RATIO: 1.20:1 (REFERRED TO MAXIMUM EXPORT CAPACITY)

STRINGS OF 26 MODULES

270 STRINGS PER INVERTER

PV MODULES:

MFR: RISEN SOLAR TECHNOLOGY

MODEL: JAGER PLUS RSM156-6-425M

NAMEPLATE: 425Wp

QUANTITY: 14,040

INVERTERS:

MFR: SMA

MODEL: SUNNY CENTRAL 2500-EV

NAMEPLATE: 2500 kVA@35C; 2250 kVA@50C

QUANTITY: 2

MV POWER STATION:

MFR: SMA

MODEL: MV POWER STATION 5000-S-AU

QUANTITY: 1

TRACKER ARRAY:

MFR: NEXTRACKER

MODEL: NX HORIZON (1P SINGLE-AXIS TRACKER)

CONFIGURATION: 1 MODULE IN PORTRAIT 3 OR 2 STRINGS PER ROW

RANGE OF MOTION: E-W +/-60°

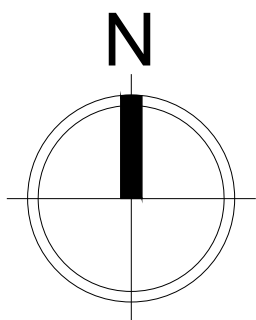
PITCH: 6 M

GCR: 36.3%

QUANTITY: 1P78 - 140 1P52 - 60

FENCE AREA: ~11.57 HA

LEASE AREA: ~13.25 HA



PRELIMINARY  
NOT FOR  
CONSTRUCTION

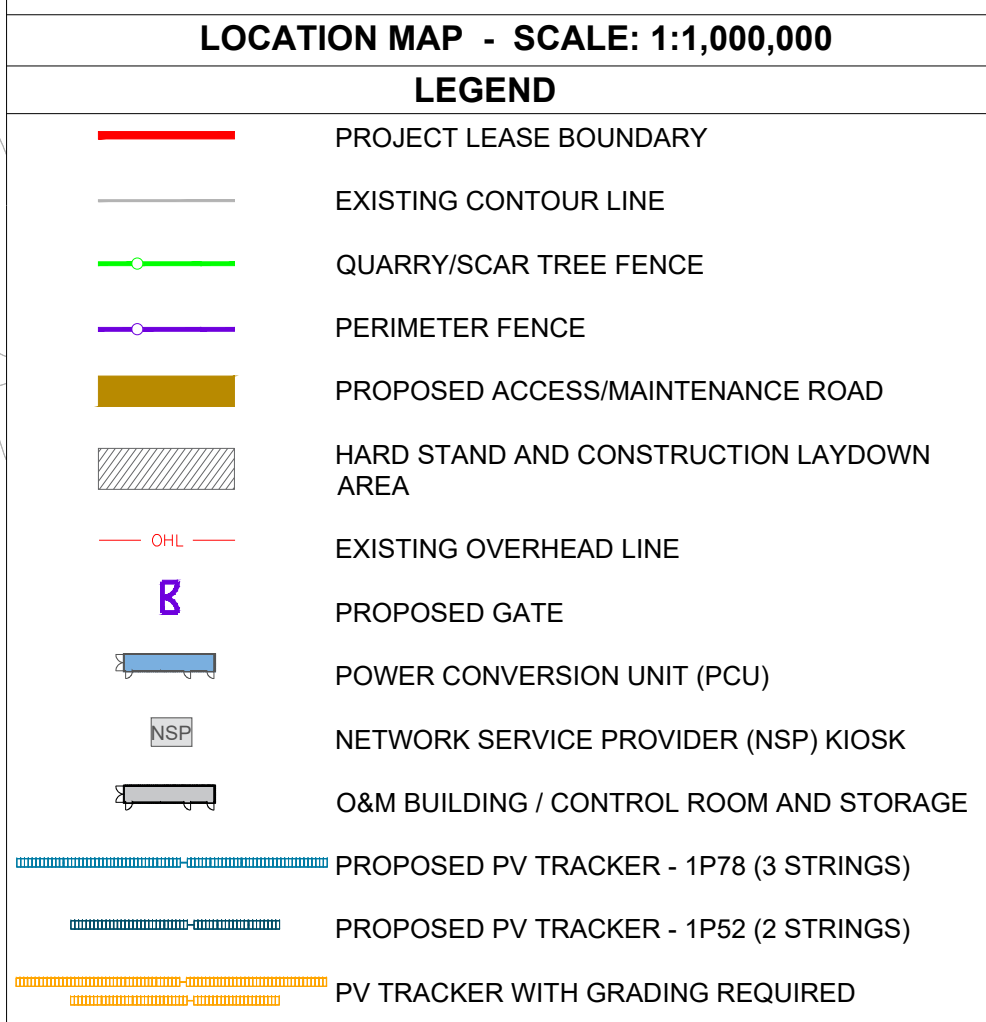
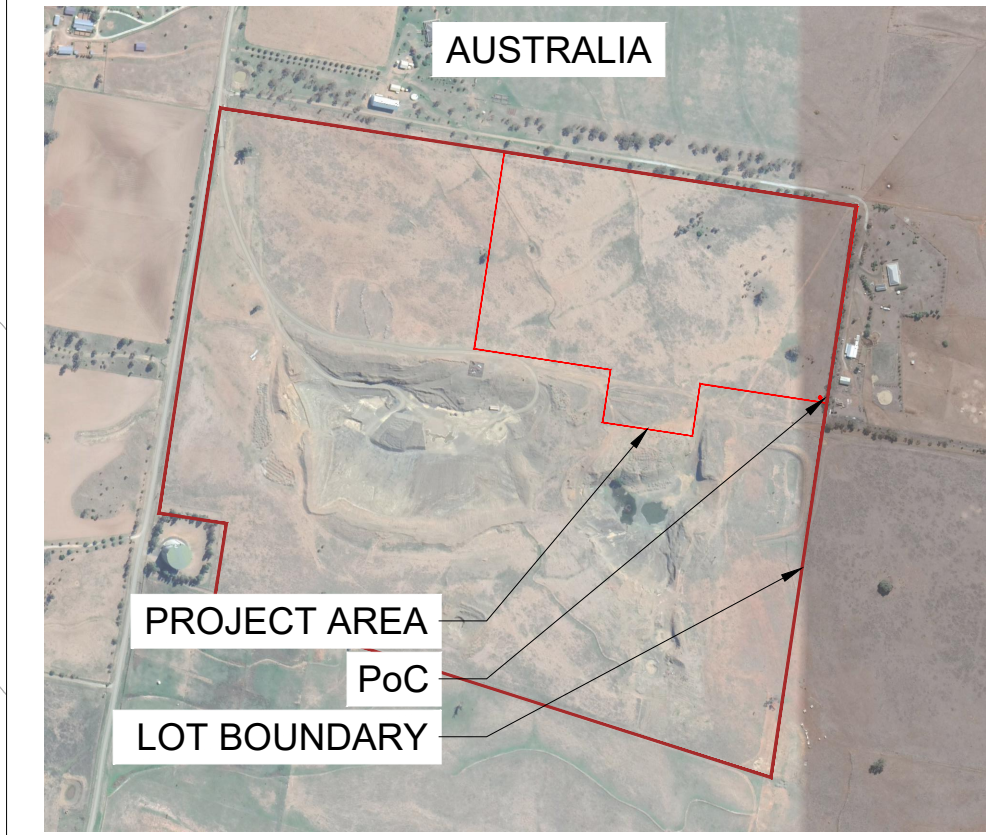
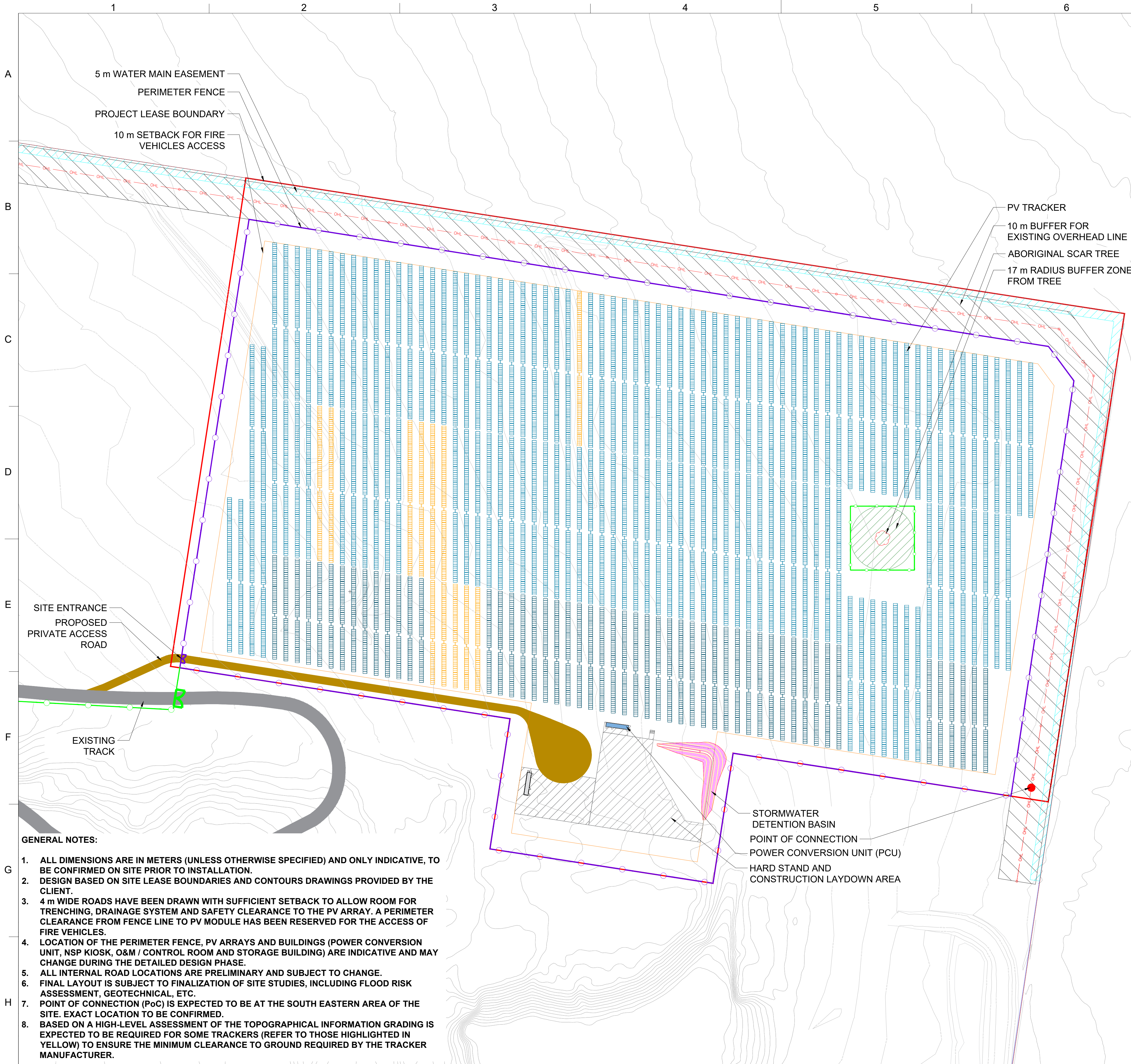
CIVIL PLAN

South Tamworth  
Suttons Quarry, Country Road Westdale NSW  
NEW SOUTH WALES, AUSTRALIA

REV	DATE	DESCRIPTION	CHKD
1	03/03/20	ISSUE FOR INITIAL SUBMITTAL	JLG
2	11/03/20	ISSUE FOR REVISED INITIAL SUBMITTAL	JLG
3	14/07/20	SCAR TREE, ACCESS AND WATER MANAGEMENT	JLG
4	15/07/20	FENCE AROUND TREE, LEGEND	JLG

LATITUDE: 31.11 ° S  
LONGITUDE: 150.871 ° E  
SCALE: AS SHOWN  
ORIGINAL SIZE: ISO A1  
SHEET: ST-4 [1/2]





**SYSTEM SUMMARY**

ELECTRICAL CONFIGURATION:

TOTAL PV PLANT CAPACITY (DC): 5,900.70 kWp  
TOTAL INVERTER CAPACITY (AC): 5,000.00 kVA (@35C)  
PV PLANT MAXIMUM EXPORT CAPACITY (AC): 4,990.00 kVA  
DC:AC RATIO: 1.18:1 (REFERRED TO MAXIMUM EXPORT CAPACITY)  
STRINGS OF 26 MODULES  
267 STRINGS PER INVERTER

PV MODULES:

MFR: RISEN SOLAR TECHNOLOGY  
MODEL: JAGER PLUS RSM156-6-425M  
NAMEPLATE: 425Wp  
QUANTITY: 13,884

INVERTERS:

MFR: SMA  
MODEL: SUNNY CENTRAL 2500-EV  
NAMEPLATE: 2500 kVA@35C; 2250 kVA@50C  
QUANTITY: 2

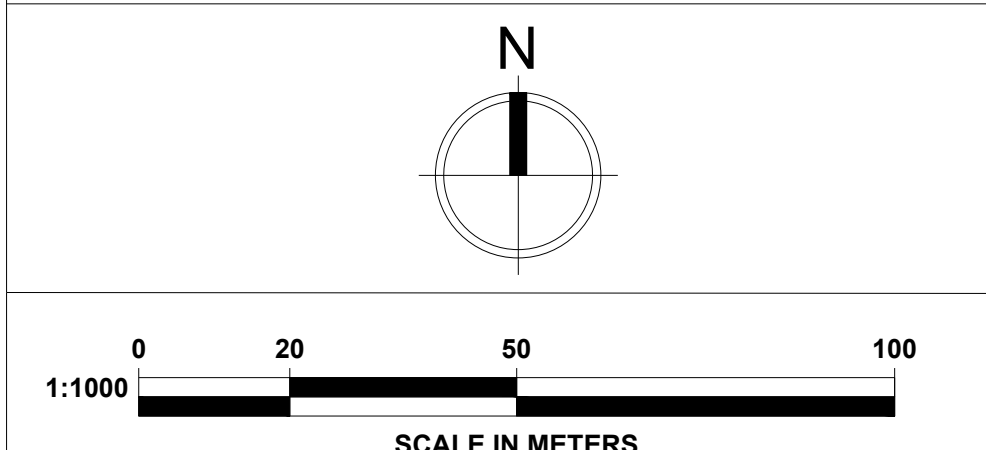
MV POWER STATION:

MFR: SMA  
MODEL: MV POWER STATION 5000-S-AU  
QUANTITY: 1

TRACKER ARRAY:

MFR: NEXTRACKER  
MODEL: NX HORIZON (1P SINGLE-AXIS TRACKER)  
CONFIGURATION: 1 MODULE IN PORTRAIT  
3 OR 2 STRINGS PER ROW  
RANGE OF MOTION: E-W +/-60°  
PITCH: 6 M  
GCR: 36.3%  
QUANTITY: 1P78 - 140  
1P52 - 57

FENCE AREA: ~11.57 HA  
LEASE AREA: ~13.25 HA



**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

**SOLAR FARM GENERAL  
ARRANGEMENT**

**South Tamworth**  
Suttons Quarry, Country Road Westdale NSW  
NEW SOUTH WALES, AUSTRALIA

REV	DATE	DESCRIPTION	DWN	CHKD
1	03/03/20	ISSUE FOR INITIAL SUBMITTAL	JLG	
2	11/03/20	ISSUE FOR REVISED INITIAL SUBMITTAL	JLG	
3	14/07/20	SCAR TREE, ACCESS AND WATER MANAGEMENT	JLG	
4	20/07/20	SCAR TREE BUFFER ZONE INCREASED	JLG	
5	21/07/20	QUARRY/SCAR TREE FENCE ADDED	RU	

LATITUDE: 31.11 ° S  
LONGITUDE: 150.871 ° E  
SCALE  
**1:1000**  
ORIGINAL SIZE: ISO A1

SHEET  
**ST-2**



**DETAIL C | SETBACK INFORMATION**  
1:1200@A1

The site plan illustrates the layout of a photovoltaic (PV) array within a project lease boundary. The array is composed of numerous rectangular modules arranged in rows. Key features include: a perimeter fence (red line) with a 5m water main easement (hatched area); an overhead line (OHL) running along the top boundary; a 10m radius buffer zone around an aboriginal scar tree; a 10m setback for fire vehicles access; a stormwater detention basin; and clearances for drainage and trenching. The plan also shows a 10m setback from existing overhead lines to the fence and a 10m setback from the fence to trackers for fire vehicles. A green box highlights a specific area within the array.

**GENERAL NOTES:**

1. ALL DIMENSIONS ARE IN METERS (UNLESS OTHERWISE SPECIFIED) AND ONLY INDICATIVE, TO BE CONFIRMED ON SITE PRIOR TO INSTALLATION.
2. DESIGN BASED ON SITE LEASE BOUNDARIES AND CONTOURS DRAWINGS PROVIDED BY THE CLIENT.
3. 4 m WIDE ROADS HAVE BEEN DRAWN WITH SUFFICIENT SETBACK TO ALLOW ROOM FOR TRENCHING, DRAINAGE SYSTEM AND SAFETY CLEARANCE TO THE PV ARRAY. A PERIMETER CLEARANCE FROM FENCE LINE TO PV MODULE HAS BEEN RESERVED FOR THE ACCESS OF FIRE VEHICLES.
4. A CLEARANCE OF AT LEAST 3 m HAS BEEN RESERVED ON BOTH SIDES OF THE ROAD FOR DRAINAGE AND TRENCHING PURPOSES. THIS CLEARANCE IS ONLY INDICATIVE. SIZE OF DITCH WILL BE DETERMINED BY DRAINAGE/HYDROLOGICAL CALCULATION FOR FINAL DESIGN. IF WIDER CLEARANCE WERE REQUIRED, LAYOUT DESIGN ASSUMPTIONS (E.G. ROAD ROUTE AND WIDTH, PERIMETER CLEARANCE FOR THE ACCESS OF FIRE VEHICLE, ETC.) SHOULD BE REVIEWED/MODIFIED TO ENSURE THAT THE MINIMUM CLEARANCE FOR DRAINAGE AND/OR TRENCHING IS AVAILABLE
5. LOCATION OF THE PERIMETER FENCE, PV ARRAYS AND BUILDINGS (POWER CONVERSION UNIT, NSP KIOSK, O&M / CONTROL ROOM AND STORAGE BUILDING) ARE INDICATIVE AND MAY CHANGE DURING THE DETAILED DESIGN PHASE.
6. ALL INTERNAL ROAD LOCATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE.
7. FINAL LAYOUT IS SUBJECT TO FINALIZATION OF SITE STUDIES, INCLUDING FLOOD RISK ASSESSMENT, GEOTECHNICAL, ETC.
8. BASED ON A HIGH-LEVEL ASSESSMENT OF THE TOPOGRAPHICAL INFORMATION GRADING IS EXPECTED TO BE REQUIRED FOR SOME TRACKERS (REFER TO THOSE HIGHLIGHTED IN YELLOW) TO ENSURE THE MINIMUM CLEARANCE TO GROUND REQUIRED BY THE TRACKER MANUFACTURER.

AN AERIAL PHOTOGRAPH OF AUSTRALIA WITH A RED LINE OUTLINE INDICATING THE PROJECT AREA. THE PROJECT AREA IS A LARGE, IRREGULARLY SHAPED REGION IN THE CENTRAL PART OF THE COUNTRY. A RED LINE OUTLINE INDICATES THE LOT BOUNDARY. A BLACK LINE WITH AN ARROW POINTS TO THE PROJECT AREA. A BLACK LINE WITH AN ARROW POINTS TO THE LOT BOUNDARY. A BLACK LINE WITH AN ARROW POINTS TO THE PROJECT AREA. A BLACK LINE WITH AN ARROW POINTS TO THE LOT BOUNDARY.

[illegible]

**DETAIL E | SITE ENTRANCE**  
1:200@A1

PROPOSED GATE LOCATION

TURNING RADIUS OF SEMI-TRAILER TRUCK

R20

R15

14'

The diagram illustrates the proposed gate location and the turning radius of a semi-trailer truck. A red line indicates the proposed gate location, which is perpendicular to the main road. A purple line shows the turning path of the truck, with a turning radius of R20. A green line shows the path of the truck's rear end, with a turning radius of R15. A yellow shaded area represents the turning radius of the truck. A dimension of 14' is shown for the width of the road.

**South Iamworth**  
Suttons Quarry, Country Road Westdale NSW  
NEW SOUTH WALES, AUSTRALIA

**LATITUDE:**  
31.11 ° S

**LONGITUDE:**  
150.871 ° E

**SCALE**

**AS SHOWN**

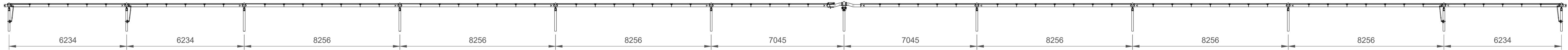
**ORIGINAL SIZE:** ISO A1

**SHEET**

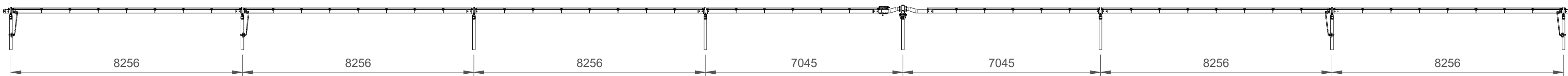
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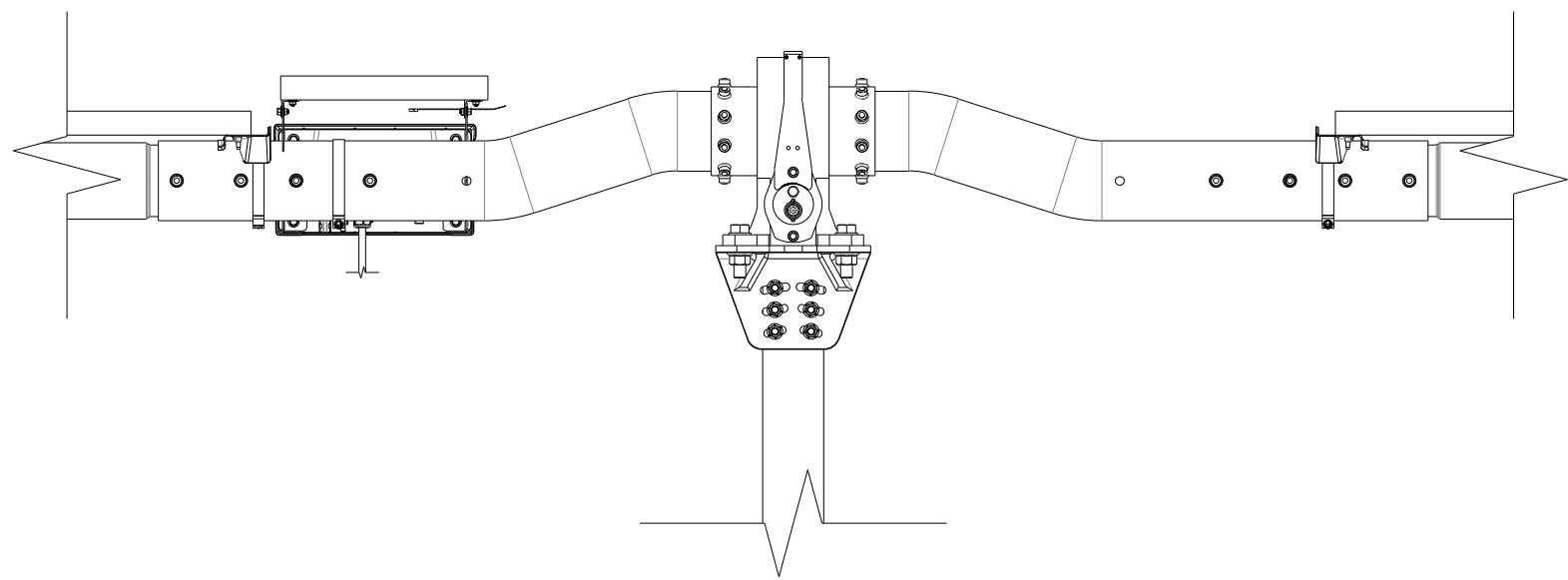
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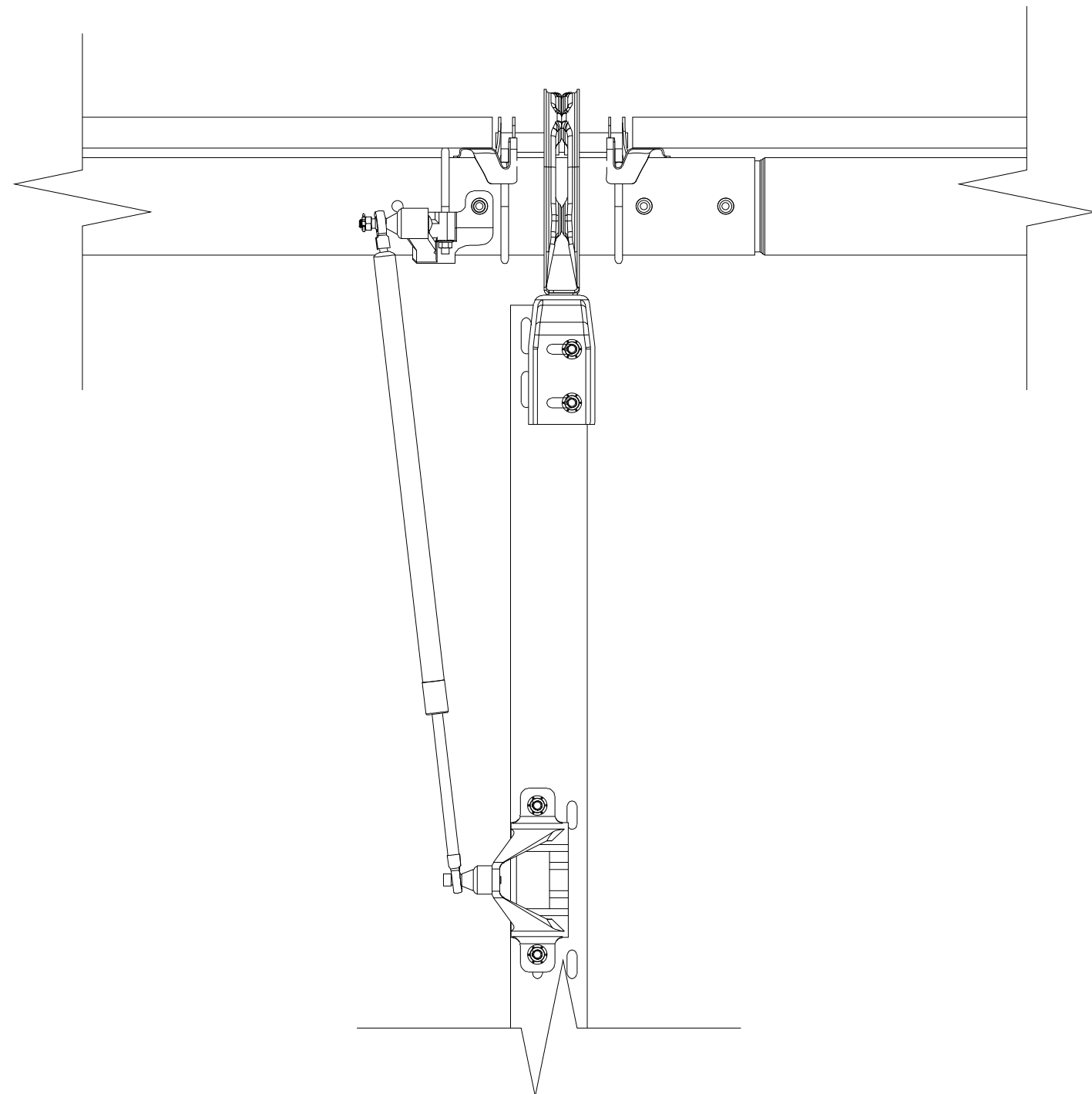
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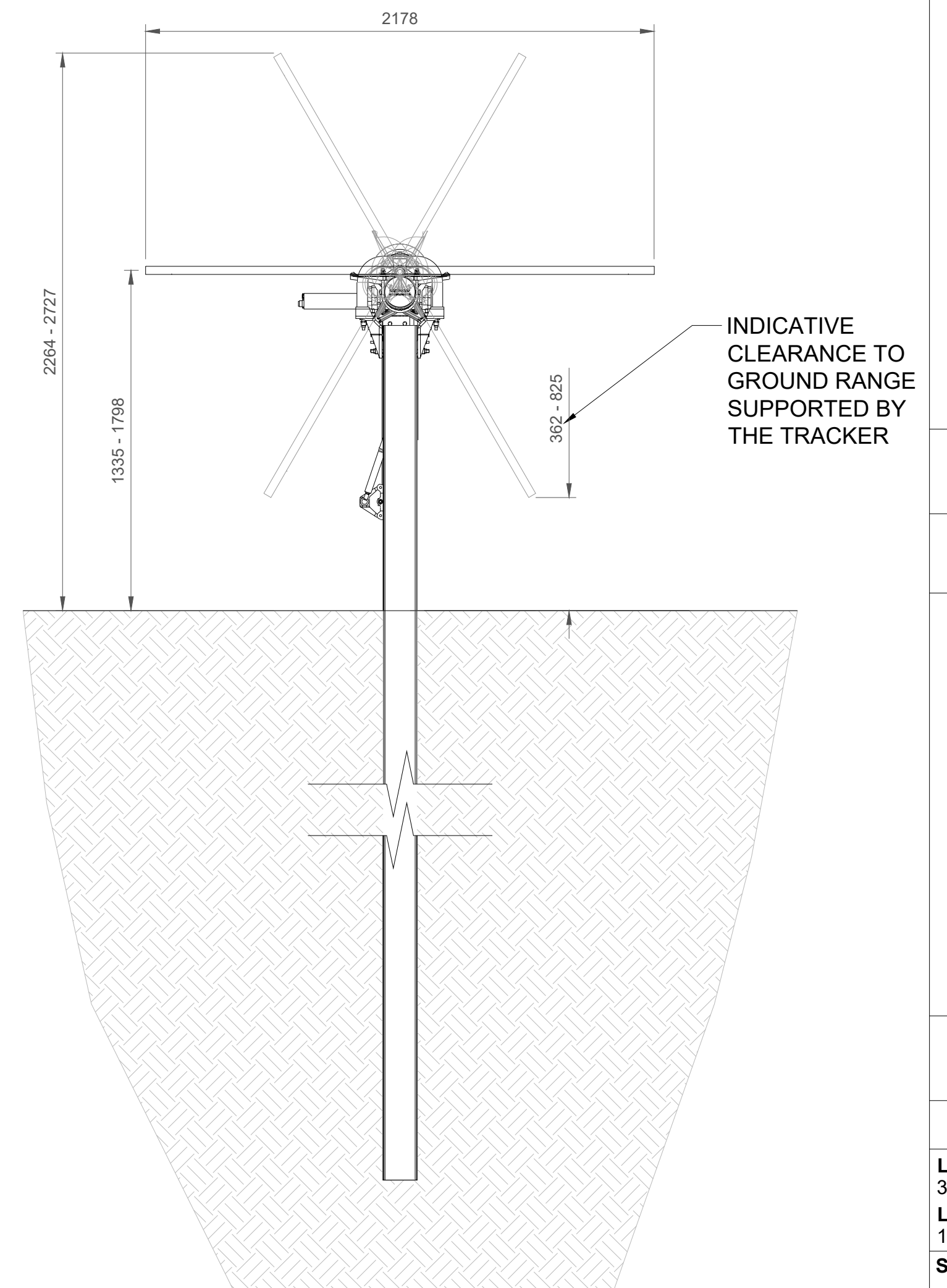
## NTS@A1



## NTS@A1



1:20@A1



## TRACKER DETAILS

**Suttons Quarry, Country Road Westdale NSW  
NEW SOUTH WALES, AUSTRALIA**

REV	DATE	DESCRIPTION	DWN	CHKD
1	03/03/20	ISSUE FOR INITIAL SUBMITTAL	UZ	JLG
2	11/03/20	ISSUE FOR REVISED INITIAL SUBMITTAL	UZ	JLG
3				

**LATITUDE:**  
1.11 ° S

**LONGITUDE:**  
50.871 ° E

AS SHOWN

ORIGINAL SIZE:	ISO A1
----------------	--------

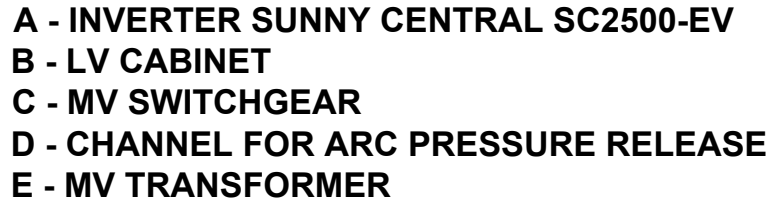
ST-5

**GENERAL NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS (UNLESS OTHERWISE SPECIFIED) AND ONLY INDICATIVE, TO BE CONFIRMED ON SITE PRIOR TO INSTALLATION.
2. A TYPICAL MODULES GROUND CLEARANCE OF 600 mm (WHERE POSSIBLE) IS EXPECTED TO MINIMIZE RISK ON DC CABLES DUE TO LIVESTOCK. GROUND CLEARANCE MAY VARY DEPENDING ON SITE TOPOGRAPHY AND REQUIRED EARTHWORKS FOR EACH CASE



A  
—  
B  
—  
C  
—  
D  
—  
E  
—  
F  
—  
G  
—  
H



□



6

L

- 



**POWER CONVERSION  
UNIT (PCU) DETAILS**

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**South Tamworth**  
Suttons Quarry, Country Road Westdale NSW  
NEW SOUTH WALES, AUSTRALIA

**ATITUDE:**  
1.11 ° S

**ONGITUDE:**  
60.871 ° E

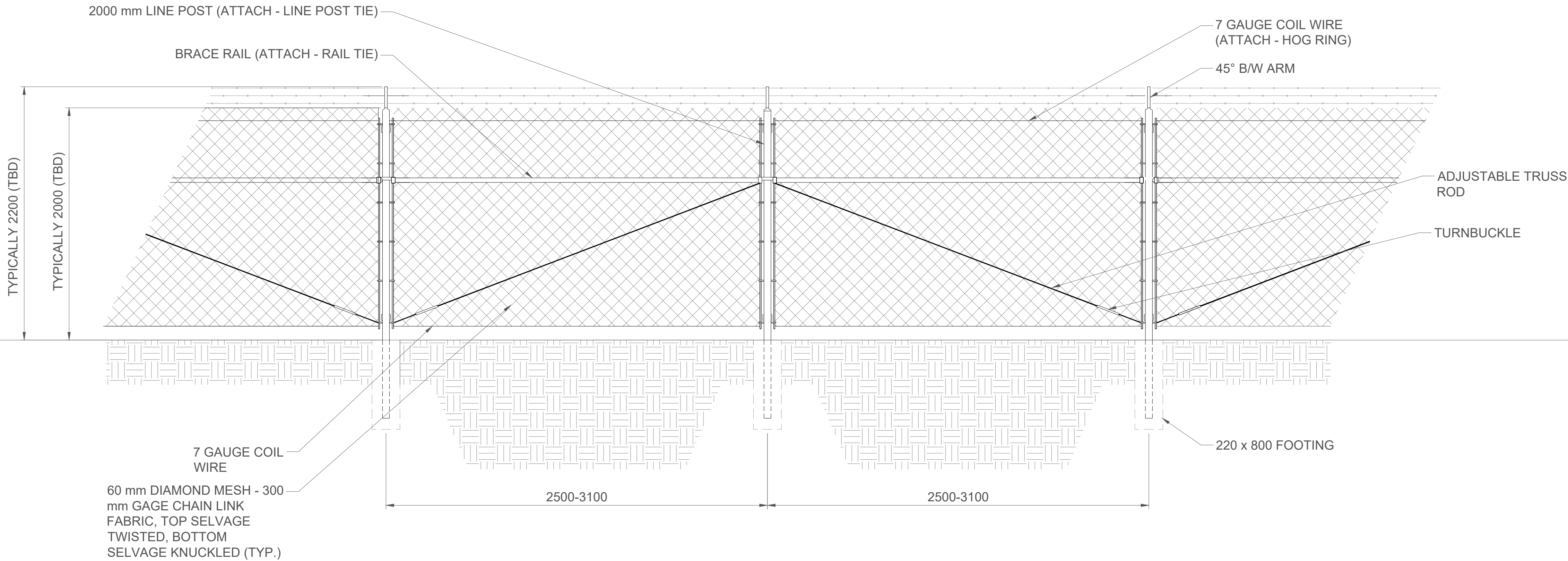
ST-6



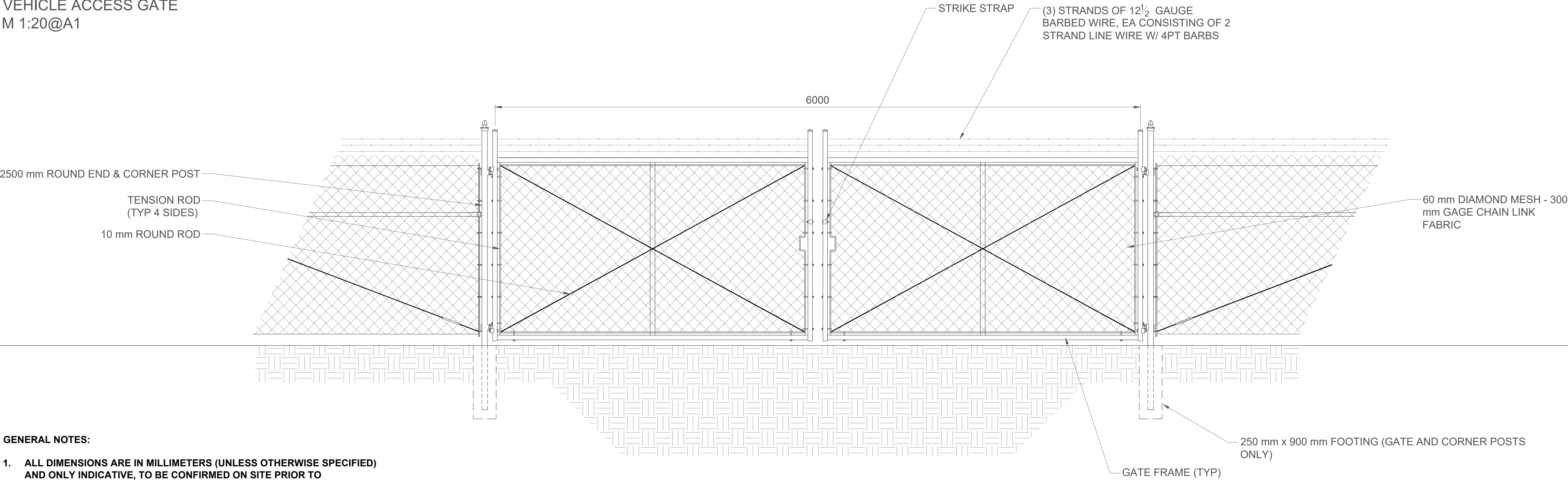




DETAIL A | INDICATIVE FRONT VIEW OF THE PERIMETER FENCE  
1:20@A1



DETAIL B | INDICATIVE FRONT VIEW OF THE VEHICLE ACCESS GATE  
M 1:20@A1



GENERAL NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS (UNLESS OTHERWISE SPECIFIED) AND ONLY INDICATIVE, TO BE CONFIRMED ON SITE PRIOR TO INSTALLATION.
- FENCE TYPE AND DIMENSIONS SHOULD BE DEFINED DURING THE DETAILED DESIGN PHASE BASED ON CLIENT REQUIREMENTS AND SITE CONSTRAINTS.
- ACCESS GATE TYPE AND DIMENSIONS SHOULD BE DEFINED DURING THE DETAILED DESIGN PHASE BASED ON CLIENT REQUIREMENTS AND SITE CONSTRAINTS. PEDESTRIAN GATES MAY BE REQUIRED (TBD)



PROVIDENCE  
ASSET GROUP



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PRELIMINARY  
NOT FOR  
CONSTRUCTION

SECURITY  
FENCING DETAILS

South Tamworth  
Suttons Quarry, Country Road Westdale NSW  
NEW SOUTH WALES, AUSTRALIA

REV	DATE	DESCRIPTION	DWN	CHKD			
					JLG	JLG	JLG
1	03/03/20	ISSUE FOR INITIAL SUBMITTAL	UZ				
2	11/03/20	ISSUE FOR REVISED INITIAL SUBMITTAL	UZ				
3							

LATITUDE:  
31.11 ° S  
LONGITUDE:  
150.871 ° E  
SCALE  
**AS SHOWN**  
ORIGINAL SIZE: ISO A1

SHEET  
**ST-8**



Site - General Description

This landscape design report has been prepared in accordance with the requirements of Tamworth Regional Councils Development Control Plan 2010. The subject site is located at Lot 221 DP 1069964, Suttons Quarry, Country Road, Westdale NSW.

The site is located within the northeastern portion of the lot, west of the township of Tamworth. The topography of the site runs from the southwest down to the northeast and falls approximately seventeen metres. The surrounding landscape character is rural consisting of open grazing land and scattered trees. Rural homesteads are located adjacent to the the northern and eastern boundaries with others scattered throughout the rural landscape. Existing tree planting is located along the shared boundaries on adjoining properties to the north and east. The outskirts of South Tamworth are located approximately 1.5 kilometres to the east of the site and the outskirts of Westdale are approximately 1 kilometre to the north of the site.

Proposed Development

The proposed development is a solar farm which includes solar panel trackers, off load area, 10m wide perimeter fire truck access and entry road. Ground treatment under the panels will remain as pasture.

Proposed Landscape Works and Objectives

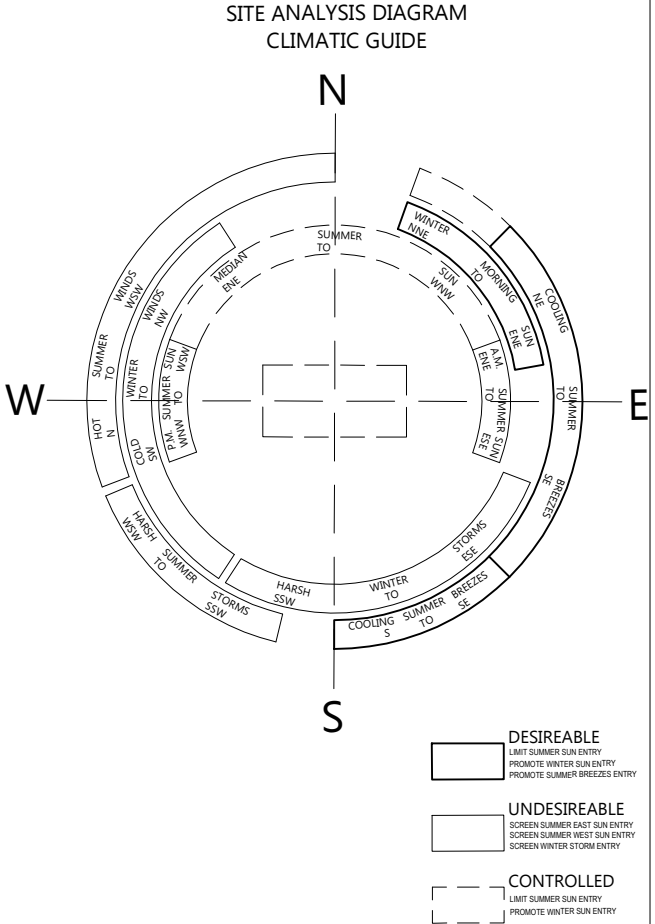
- The proposed landscape works and objectives are to screen the site from nearby residences and reduce any visual impacts to be had when viewed from further afield. This will involve screening the eastern and northern boundaries.
- A plant selection of hardy native species suitable to the local environment to enhance the local urban ecology
- Design which is responsive to the bulk and scale of the development.

Landscape Themes

The planting palette is based mainly on durable native species which enhance the local ecology and complement the rural character of the surrounding landscape. Large shrubs and small trees will be used along the northern boundary for screening purposes while large shrubs will be used along the eastern boundary due to the close proximity of overhead power lines.

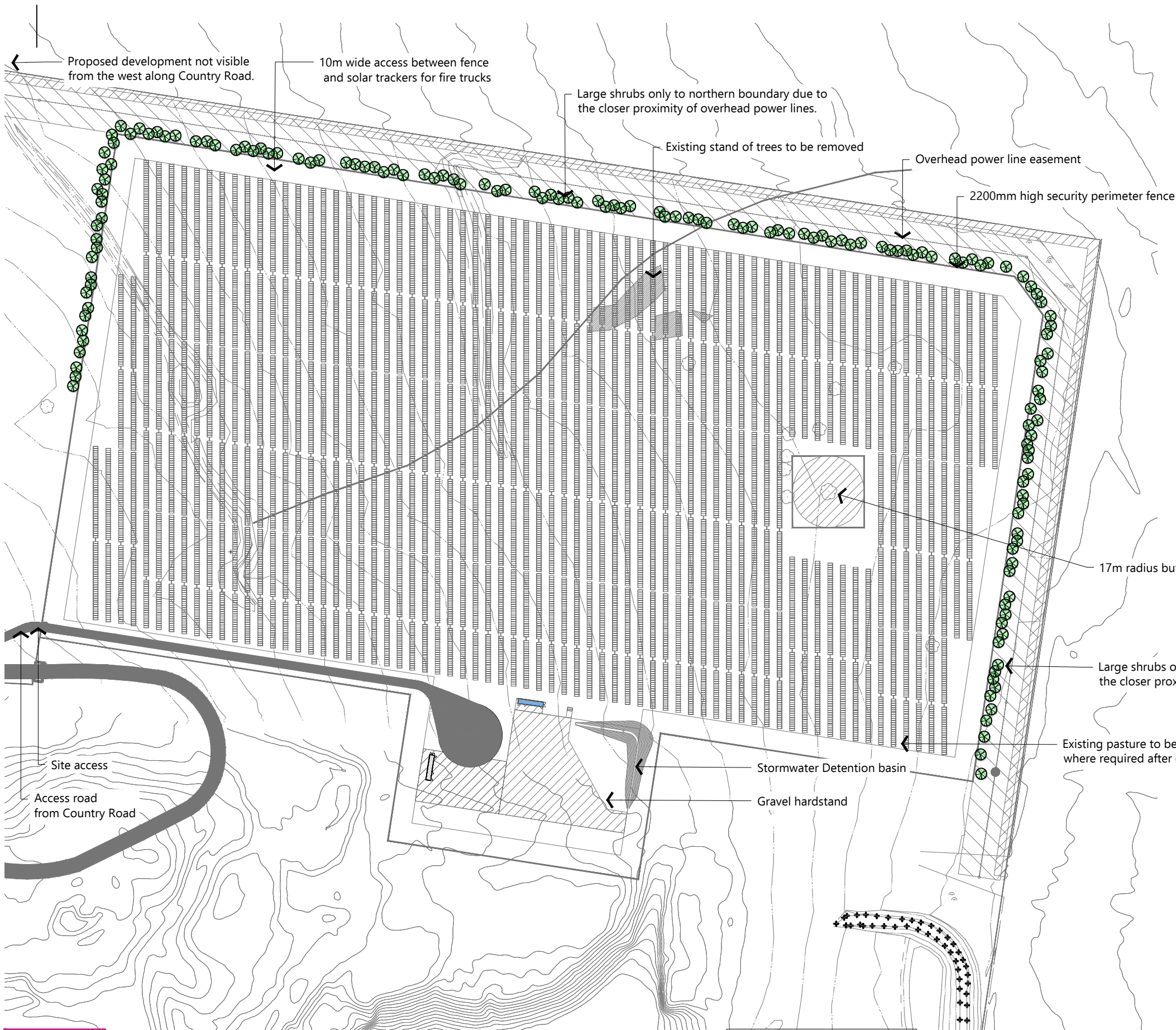
Hardworks and surface treatments

The hardstand areas are limited to the car park and off load area. The access road will be formed with gravel. As previously mentioned the ground treatment under and around the trackers will be pasture. A perimeter security fence is to be installed around the boundary of the site.



Revisions		
Issue	Details	Date
A	Draft Issue	30.03.20
B	DA Issue	03.04.20
C	Revised DA Issue	23.07.20





PLANTING LEGEND  
Refer to Planting Schedule

Proposed small trees/large shrubs

PLANTING SCHEDULE

Botanical Name	Common Name	Pot Size	Height	Spacing m
Small Trees / Large Shrubs				
Acacia deanii	Green Wattle	2.5 litre	5	As shown
Acacia decora	Western Silver Wattle	2.5 litre	4	As shown
Acacia pendula	Weeping Myall	2.5 litre	13	As shown
Acacia salicina	Native Willow	2.5 litre	13	As shown
Melaleuca armillaris	Honey Myrtle	2.5 litre	5	As shown
Melaleuca bracteata	Black Tea Tree	2.5 litre	15	As shown

Notes:  
1. Contractor to make good of any disturbance made to existing pasture

MARA Consulting Pty Ltd  
Consultation + Urban Design  
5 Griffith Avenue, Stockton NSW 2295  
t: 02 4965 4317  
e: mara@maraconsulting.com.au  
w: maraconsulting.com.au

Scale 1:2000 @ A3

Revisions		
Issue	Details	Date
A	Draft Issue	30.03.20
B	DA Issue	03.04.20
C	Revised DA Issue	23.07.20

Client:  
KDC Pty Ltd

Project:  
Tamworth Solar Farm

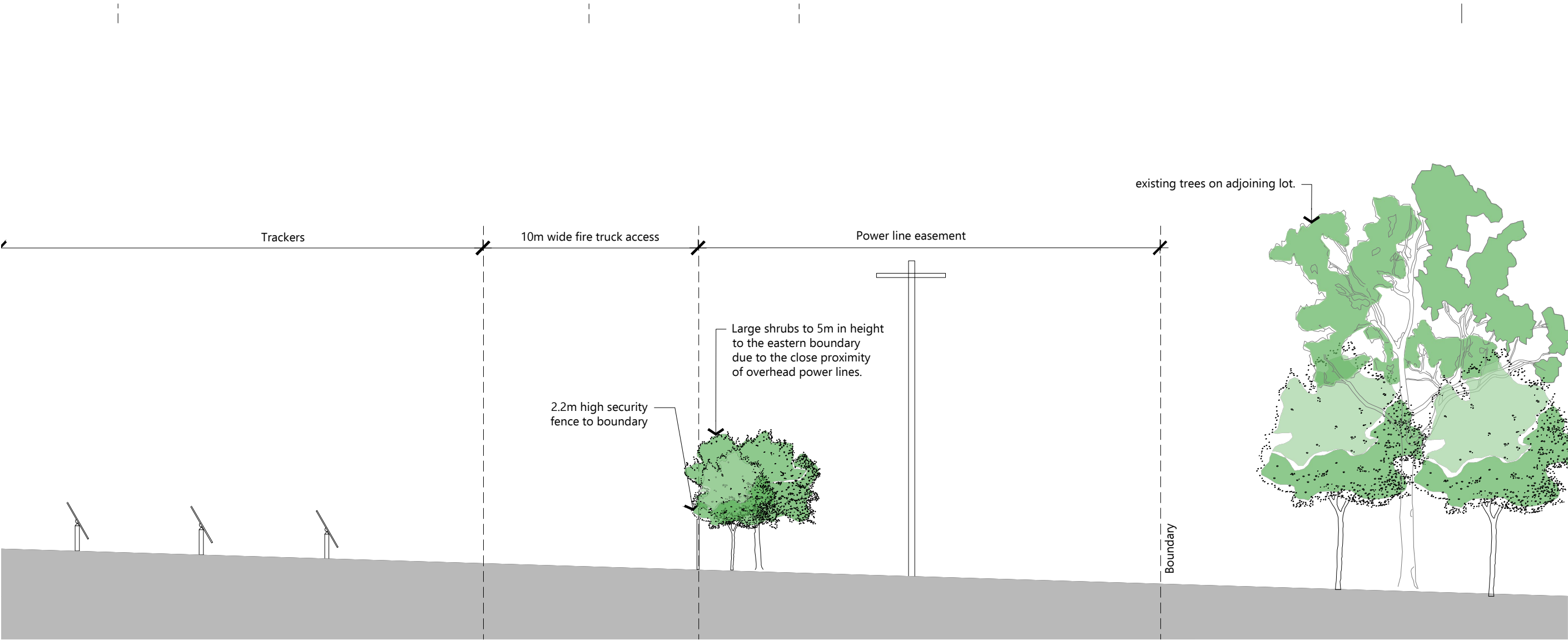
Title:

Landscape Plan

Site: Suttons Quarry Country Road,  
Westdale NSW  
Date: 23 July 2020  
Job No: 2016

Revision: C Sheet:





A. Typical treatment to northern & eastern boundaries

Section

Scale 1 : 200 @ A3



MARA Consulting Pty Ltd  
Consultation + Urban Design  
5 Griffith Avenue, Stockton NSW 2295  
t: 02 4965 4317  
e: mara@maraconsulting.com.au  
w: maraconsulting.com.au

Revisions		
Issue	Details	Date
A	Draft Issue	30.03.20
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C	Revised DA Issue	23.07.20

Client:  
KDC Pty Ltd

Project:  
Tamworth Solar Farm

Title:

Section

Site: Suttons Quarry Country Road,  
Westdale NSW  
Date: 23 July 2020  
Job No: 2016

Revision: C      Sheet: