

BUSHFIRE ASSESSMENT REPORT (BAR)

PLANNING PROPOSAL (REZONING) TO ENABLE A RESIDENTIAL SUBDIVISION (19 INTO 374 LOTS) (PBP, 2019, PART 4 – STRATEGIC PLANNING AND PART 5 – RESIDENTIAL AND RURAL RESIDENTIAL SUBDIVISIONS)

GINGERS LANE, SAWYERS GULLY, NSW, 2326



Above: Photo of the corner of Frame Drive and Gingers Lane at Sawyers Gully

18 May 2021

Table 1 – Document Version and Disclaimer

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No:	Reference:	Author:	Reviewer:
Version 1	21/03/10_BAR_ Gingers Lane Preinct_V1	JB	JB
Version 2	21/03/18_BAR_ Gingers Lane Preinct_V2	JB	Client
Version 3	21/05/18_BAR_ Gingers Lane Preinct_V3	JB	MB
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Charitable Donation: Please note that a donation of \$10.00 will be made by Perception Planning to the NSW Rural Fire Service. The donation is made at the end of the financial year and is intended to assist the NSW RFS with community activities.			

EXECUTIVE SUMMARY

Perception Planning Pty Ltd has been engaged by New Quest Property Pty Ltd (the client) to prepare a Bushfire Assessment Report (this Report) for a planning proposal to enable a residential subdivision (the development) at Gingers Lane, Sawyers Gully (the site).

This Report is required to inform the Planning Proposal to be lodged with Cessnock Council because the site is mapped as Bushfire Prone Land (BPL) under the Environmental Planning & Assessment Act 1979 (s10.3 – Bush fire prone land).

The development is defined as a planning proposal (i.e., rezoning) to amend the Cessnock Local Environmental Plan (the LEP) under the Environmental Planning and Assessment Act 1979 (EP&A) (Division 3.2). This amendment will enable residential subdivision and subsequent the construction of houses, which will then need to demonstrate compliance with the National Construction Code (PS.7.5 – Buildings in Bushfire Prone Areas). Because of this, it is to be demonstrated that future houses can be sited to achieve 29KW/m² or less.

The development is required to satisfy EP&A Act 1979 (Section 9.1 – Ministerial Direction, 4.4 – Planning for Bushfire Protection) for the planning proposal and EP&A Act 1979 (Section 4.46 – What is Integrated Development) for the residential subdivision. Council will refer the BAR to the NSW RFS to satisfy the gateway determination for the proposal and then need to satisfy the Rural Fire Act 1997 (s100B) for the subdivision.

This Report demonstrates how the development conforms with the document titled 'Planning for Bushfire Protection' (PBP). The aim of PBP is to provide for the protection of human life and minimise the impacts on property from the threat of bush fire, while having due regard to development potential, site characteristics and protection of the environment (p.10).

Council and the NSW RFS must be satisfied that the development conforms to the Bushfire Protection Measures (BPM)s listed within PBP under the EP&A ACT 1979 (s4.14 – Consultation and development consent – certain bush fire prone land). The BPMs identified for the development are:

1. **Asset Protection Zone (APZ)** – The APZ provides space and reduced fuel loads to ensure radiant heat levels at the buildings are below critical limits and to prevent direct flame contact.

The APZ is the distance from the external wall of the habitable building or building envelope to the unmanaged vegetation line to the north, east, south, and west. The shortest distance from the building or building envelope to the unmanaged vegetation line has been identified to be 29m from the north, east, south, and west.

In order for future houses to achieve a Bushfire Attack Level (BAL) of BAL-29, 29m from the unmanaged vegetation to the dwelling houses is to be managed as an Inner Protection Area (IPA) as described under 'Planning for Bushfire Protection (Appendix 4 – Asset Protect Zone Requirements)' and the document titled 'Standards for Asset Protection Zones'.

The APZ is entirely within the boundaries of the site. The removal of native flora will be required to achieve the development and so a Preliminary Ecological Assessment has been prepared, which quantifies the ecological impact.

2. **Property Access Roads** – Access standards provide for emergency evacuation and firefighting operations.

An assessment of the future access roads through the Subdivision Plan has identified no specific access requirements because the site is in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency firefighting vehicles.

3. **Perimeter Roads** - Access standards provide for emergency evacuation and firefighting operations.

The development is for three or more allotments and therefore requires perimeter roads. The perimeter roads identified on the subdivision plan need to be:

- a. Traffic management devices are constructed to not prohibit access by emergency services vehicles;
- b. Where access/egress can only be achieved through forest, woodland and have heath vegetation, secondary access shall be provided to an alternate point on the existing public road system;
- c. Where kerb and guttering are provided on perimeter roads, roll top kerbing should be used to the hazard side of the road;
- d. Two-way sealed roads;
- e. Minimum 8m carriageway with kerb to kerb;
- f. Parking is provided outside of the carriageway width;
- g. Hydrants are located clear of parking areas;
- h. Are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
- i. Dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporated a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end;
- j. Curves of roads have a minimum inner radius of 6m;
- k. The maximum grade road is 15 degrees and average grade of not more than 10 degrees;
- l. The road crossfall does not exceed 3 degrees; and
- m. A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.
- n. Bridges and Causeways are designed sufficiently to carry a fully loaded firefighting vehicle (up to 23 tonnes) and signage is put in place to clearly indicate the maximum load rating of 23 tonnes,
- o. Hydrants are:
 - Located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression, and
 - Provided in accordance with the relevant clauses of AS 2419.1:2005.

4. **Non-Perimeter Roads** - Access standards provide for emergency evacuation and firefighting operations.

The non-perimeter roads identified on the subdivision plan need to be:

- a. Traffic management devices are constructed to not prohibit access by emergency services vehicles;
- b. Where access/egress can only be achieved through forest, woodland and have heath vegetation, secondary access shall be provided to an alternate point on the existing public road system;
- c. One way only public access roads are not less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression;
- d. Minimum 5.5m carriageway with kerb to kerb;
- e. Parking is provided outside of the carriageway width;
- f. Hydrants are located clear of parking areas;
- g. Are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
- h. Dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporated a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end;
- i. Curves of roads have a minimum inner radius of 6m;
- j. The maximum grade road is 15 degrees and average grade of not more than 10 degrees;
- k. The road crossfall does not exceed 3 degrees; and
- l. A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.
- m. Bridges and Causeways are designed sufficiently to carry a fully loaded firefighting vehicle (up to 23 tonnes) and signage is put in place to clearly indicate the maximum load rating of 23 tonnes,
- n. Hydrants are:
 - Located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression, and
 - Provided in accordance with the relevant clauses of AS 2419.1:2005.

5. Water Supplies – A water supply is required for firefighting operations.

An assessment of the site and proposed subdivision plans have identified that a reticulated water supply is required to be constructed. This reticulated water supply is to be consistent with the following requirements:

- a. Reticulated water is to be provided to the development where available;
- b. A static water and hydrant supply is provided for non-reticulated developments or where reticulated water supply cannot be guaranteed;
- c. Static water supplies shall comply with Table 5.3dl;
- d. Fire hydrant, spacing, design and sizing complies with the relevant clauses of the Australian Standard AS 2419.1:2005;
- e. Hydrants are not located within any road carriageway; and
- f. Reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads;

- g. Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005.
 - h. All above-ground water service pipes are metal, including and up to any taps; and
 - i. Above-ground water storage tanks shall be concrete or metal.
6. **Electricity Services** – The installation of new electricity seeks to limit the possibility of igniting the surrounding bushland. Transmission lines are to be placed underground. If placing them underground is not practical, then overhead transmission lines are to:
- a. Be installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas, and
 - b. No part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 – Guideline for Managing Vegetation Near Power Lines.
7. **Gas Services** – The location and design of gas services will not lead to the ignition of surrounding buildings or the fabric of buildings. The provision of gas requires that:
- a. Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities,
 - b. Metal piping is used,
 - c. All fixed gas cylinders are kept clear of all flammable materials to 10m and shielded on the hazard side,
 - d. Connections to and from gas cylinders are metal,
 - e. Polymer-sheathed flexible gas supply lines are not used, and
 - f. Above-gas service pipes are metal including and up to any outlets.
8. **Construction Standards** – Construction standards seek to increase the protection of the habitable buildings from bushfire. The shorter the APZ (distance between the external wall of the habitable building and the unmanaged vegetation), then the higher the construction standard, which is referred to as the BAL.

Based on the APZ provided above, we understand that future dwellings may be sited to achieve 29kW/m², which would result in BAL-29. However, all future buildings will be subject to a separate Bushfire Assessment Report (BAR) at a future point in time and so different variables (e.g., Fire Danger Index, vegetation classification, data available on slope, etc). may be used that mean the dwelling house may not be able to achieve 29kW/m².

The BAL is less than BAL-29 and therefore the fencing and gates are to be hard-wood or non-combustible material in accordance with PBP (7.6 – Fences and gates).

9. **Landscaping** – The type, location and ongoing maintenance of landscaping is considered a necessary BPM.

A landscape plan will be prepared as part of a future Development Application (DA) for subdivision which identifies the following:

- a. The identified APZ is to be managed in accordance with accordance with PBP (Appendix 4);
- b. A clear area of low-cut lawn or pavement is maintained adjacent to the dwellings;
- c. Fencing details in accordance with PBP (7.6 – Fences and gates);
- d. The branches will not overhang the roof;
- e. The tree canopy is not continuous; and
- f. Any proposed windbreak is located on the elevation from which fires are likely to approach.

10. Emergency Evacuation – A emergency management plan prepares the occupants for a bushfire.

The development is located in a bushfire prone area and therefore it is recommended that the current and future occupants of dwellings prepare a Bushfire Survival Plan. A Guide to prepare this plan is available from the NSW RFS Website < www.rfs.nsw.gov.au>.

Notwithstanding the precautions adopted, it should always be remembered that bushfires burn under a wide range of conditions and an element of risk, no matter how small, always remains and although the standard is designed to improve the performance of such buildings, there can be no guarantee because of the variable nature of bushfires that any one building will withstand bushfire attack on every occasion.

This report provides the above required information to assist Council and the RFS in determining compliance in accordance with the PBP and AS 3959-2018. Council is the final consenting authority and the future construction works must comply with the recommendations included in the Council's Notice of Determination for the development.

TERMS & ABBREVIATIONS

APZ	Asset Protection Zone
AS3959	Australian Standard 3959
BAL	Bushfire Attack Level
BAR	Bushfire Assessment Report
BFSA	Bush Fire Safety Authority
BPAD	Bushfire Planning and Design
BPL	Bushfire Prone Land
BPM	Bushfire Protection Measures
DA	Development Application
DBYD	Dial Before You Dig
DP	Deposited Plan
DSF	Dry Sclerophyll Forest
EP&A Act	Environmental Planning and Assessment Act 1979
FDI	Fire Danger Index
FPAA	Fire Protection Association of Australia
IPA	Inner Protection Area
LEP	Local Environmental Plan
LGA	Local Government Area
NCC	National Construction Code
OPA	Outer Protection Area
PBP	Planning for Bushfire Protection
RFS	NSW Rural Fire Service
RoW	Right of Way
SEED	Sharing and Enabling Environmental Data
SFPP	Special Fire Protection Purpose
URA	Urban Release Area
WSF	Wet Sclerophyll Forest

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1.0 INTRODUCTION

1.1 SITE PARTICULARS

Address:	156 Frame Drive; 19, 59, 71, 101, 107, 131 & 133 Metclafe Lane; 15, 27, 37 & 43 Sawyers Gully Lane; 40, 52, 60, 72, 102, 152 & 176 Gingers Lane; Sawyers Gully, NSW, 2326 (the site) (FIGURES 1 & 2).
Legal Description:	A table is provided as (ATTACHMENT 7) .
Total Area:	96 hectares (Approximate)
Local Government Area:	Cessnock
Significant Features:	Sawyers Gully is characterised by detached residential housing and agricultural operations. The site has direct access via Frame Drive, Metclafe Land and Gingers Lane, which are currently public roads. Frame Drive and Gingers Lane are sealed, while Metclafe Lane is unsealed. The development will involve the construction of new roads for access.
Bushfire Prone Land Map:	The site is identified as BPL, being Vegetation Category 1 and 2 (FIGURE 3) .
Environmental Features:	The site is mapped as containing Biodiversity Values under the Biodiversity Conservation Act 2016.
Climate/Fire History:	<p>The Hunter Risk Management Committee, 2009, 'Bushfire Risk Management Plan' (the Plan) identifies several assets in the Cessnock Local Government Area. This Plan does not map the site as an 'Asset – Human -Residential'.</p> <p>The Fire History Map that is available from the Sharing and Enabling Environmental Data (SEED) Portal on 10 March 2021 has not identified a recorded history of fires in proximity to the site.</p>
Fire Trails:	The Plan does not identify any fire trails that exist on the property that are on the Rural Fire Act (s.620 - Register of Certified Fire Trails).
Deposited Plan:	Deposited Plan (DP)s were also obtained from 'NSW Land Registry Services', which identified two easements in

relation to building envelopes and power lines. These are detailed in a table that is provided as **(ATTACHMENT 7)**.

Previous Approvals:

The most relevant development approval for each property is listed below have been sourced from the Development Application Tracker on the Cessnock Council Website on 10 March 2021 .

Table 2 – Development Application History

Address	Date Lodged	Description
156 Frame Dr	07/12/2005	Two Lot Subdivision
19 Metclafe Ln	-	-
59 Metclafe Ln	27/02/2018	Dual Occupancy
71 Metclafe Ln	10/09/1999	Pre-2000 - No Details
101 Metclafe Ln	12/09/2000	Pre-2000 - No Details
107 Metclafe Ln	15/10/1999	Pre-2000 - No Details
131 Metclafe Ln	-	-
133 Metclafe Ln	-	-
15 Gingers Ln	-	-
27 Gingers Ln	-	-
37 Gingers Ln	-	-
40 Gingers Ln	07/08/1995	Pre-2000 - No Details
43 Gingers Ln	-	-
52 Gingers Ln	23/09/2003	Transportable Dwelling
60 Gingers Ln	-	-
72 Gingers Ln	-	-
102 Gingers Ln	-	-
152 Gingers Ln	13/08/1990	Pre-2000 - No Details
176 Gingers Ln	11/08/2003	Machinery Shed

From the above table, it can be seen that these development approvals pre-date the introduction of the PBP on 1 August 2002 and therefore no consideration has previously been provided to planning for bushfire with the exception of the Dual Occupancy at 59 Metclafe Street.

Previous Assessments:

A review of the Cessnock Council Development Application Tracker identified no previous BAR or General Terms of Approval (GTA) issued by the RFS that were publicly.

However, Council a BAR should have been prepared for the Dual Occupancy at 59 Metclafe Street and so Council should reference this BAR for consistencies in variables, such as slope, vegetation classification and so forth.

1.2 SCOPE

The scope of this BAR is to identify the bush fire hazard and provide measures to assist Council and the RFS that the identified fire hazard would be reduced to a level that is considered necessary to provide adequate protection to life and property.

This BAR provides the required information to assist Council and the RFS in determining compliance in accordance with the PBP and AS3959-2018. Council is the final consenting authority and the future construction works must comply with the conditions listed in the Notice of Determination issued by Council.

1.3 PROPOSAL

The proposal is for a planning proposal to enable residential subdivision (the development).

Under the Environmental Planning and Assessment Act 1979, 'subdivision' is defined as 'the division of land into two or more parts that, after the division, would be adopted for separate occupation, use or disposition', which includes boundary adjustments (PBP, 2019, p.40).

The planning proposal that will amend the land-use zone from RU2 – Rural Landscape to R5 – Large Lot Residential and E2 – Environmental Conservation and change the Minimum Lot Size from 40 ha to 1,500sqm, which has the potential to enable the subdivision of the 19 existing lots into 374 lots in accordance with the Subdivision Plan (**ATTACHMENT 6**).

It has been assumed that none of the existing dwelling houses or ancillary structures will be retained in accordance with the Subdivision Plan. Future subdivision is likely to be staged, which will be determined as part of a future DA for subdivision.

Future dwelling houses located on building envelopes will be classified as Class 1 buildings under the National Construction Code (NCC) (Part 3.7.4) and therefore will be subject to a separate BAR through future development approvals and construction processes.

An illustration of the proposed siting of the development is provided as (**FIGURES 1 & 2**).

1.4 ASSUMPTIONS OF THIS REPORT

The following assumptions have informed this BAR:

1. Zoning Plans and a Subdivision Plan are provided as (**ATTACHMENT 6**).
2. Access to private properties, other than the site was not provided, so photos taken during the site inspection are from public areas, such as the road reserve.
3. The BAR will be referred to the RFS post gateway determination.

Figure 1 - Locality Map



- Site Boundary
- Roads
- Cadastre
- Slope Buffer - 100m
- Vege Buffer - 140m
- Watercourses
- Waterbodies



0 250 500 m



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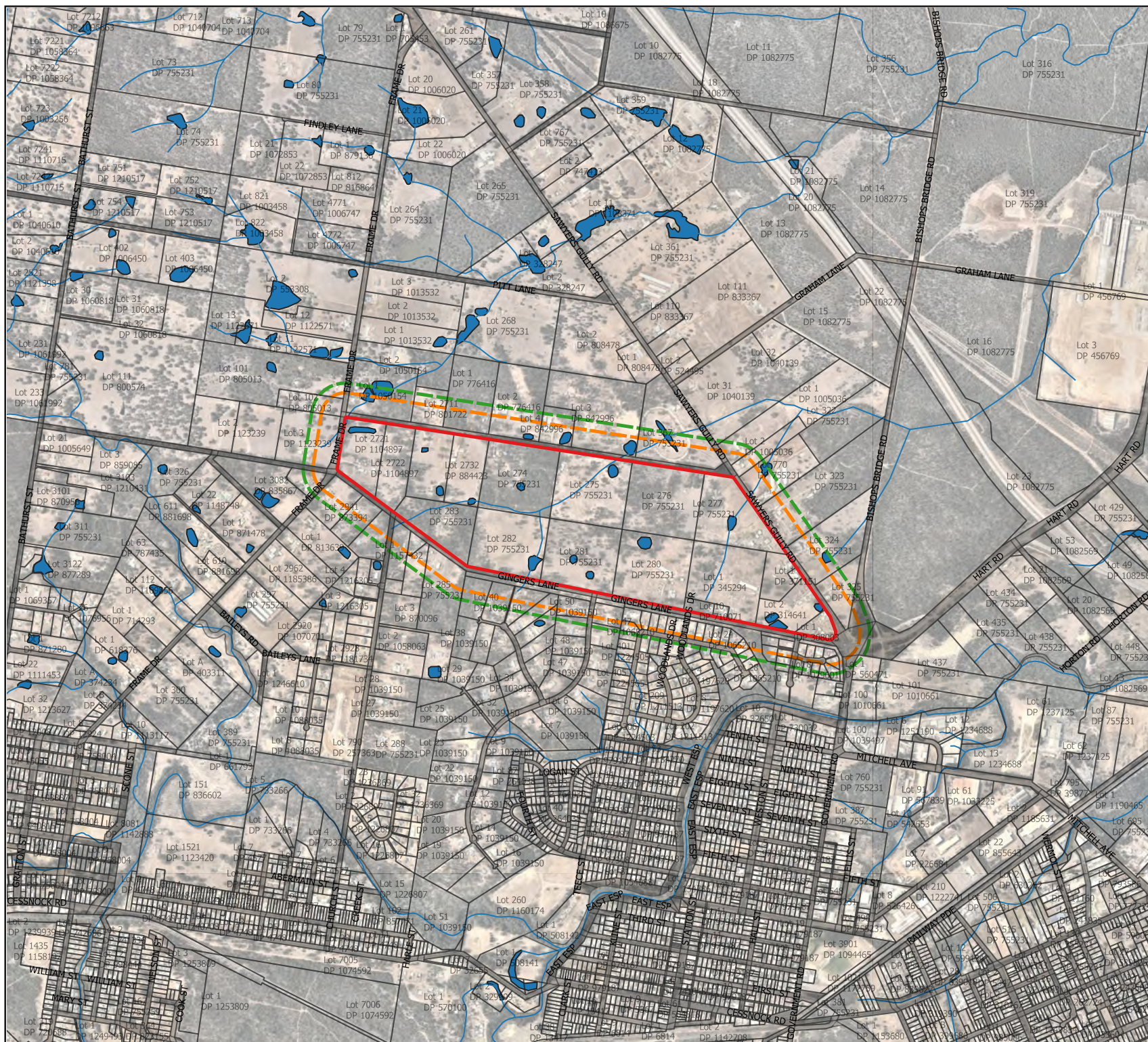
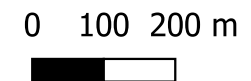
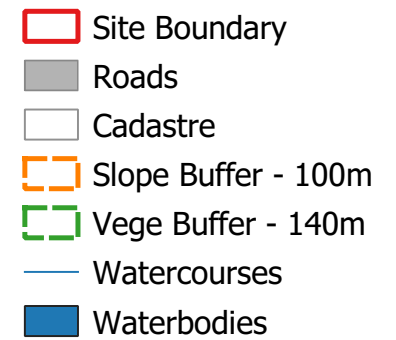


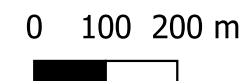
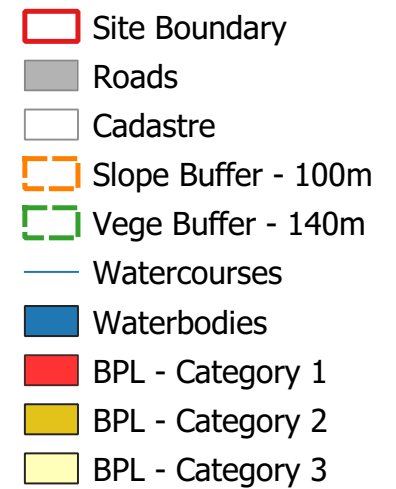
Figure 2 - Site Map



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Figure 3 - Bushfire Prone Land Map



Job No: J000909

Date: 10/03/2021

2.0 ASSESSMENT

2.1 VEGETATION ASSESSMENT

The vegetation was determined by the following methods:

1. NearMap to identify vegetation cover;
2. Sharing and Enabling Environmental Data (SEED) Portal to identify Vegetation Classification, Fire History, Biodiversity Value and Bushfire Prone Land Map;
3. Site inspection on 10 March 2021 to assess vegetation formation in accordance with PBP (A1.2) (p.81) and Keith 'Ocean Shores to Desert Dunes'; and
4. A Iphone with Location Tracking enabled to photograph vegetation and site features;
5. A Garmin GPSMap64s to plot the unmanaged vegetation line and site features; and

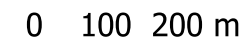
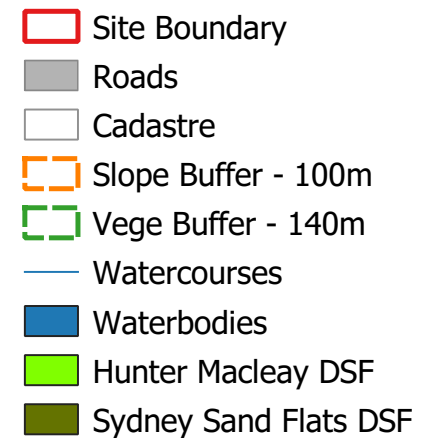
The vegetation formation in all directions around the building to 140 metres is:

Table 3– Vegetation

Plot	PBP-2019	AS3959-2018	NSW Comprehensive Fuel Loads	Ecological Report
Plot 1	Dry Sclerophyll Forest	Forest	Sydney Sand Flats DSF	-
Plot 2	Dry Sclerophyll Forest	Forest	Sydney Sand Flats DSF	-
Plot 3	Dry Sclerophyll Forest	Forest	Sydney Sand Flats DSF	-
Plot 4	Dry Sclerophyll Forest	Forest	Sydney Sand Flats DSF	-
Plot 5	Dry Sclerophyll Forest	Forest	Sydney Sand Flats DSF	-
Plot 6	Dry Sclerophyll Forest	Forest	Sydney Sand Flats DSF	-
Plot 7	Dry Sclerophyll Forest	Forest	Sydney Sand Flats DSF	-

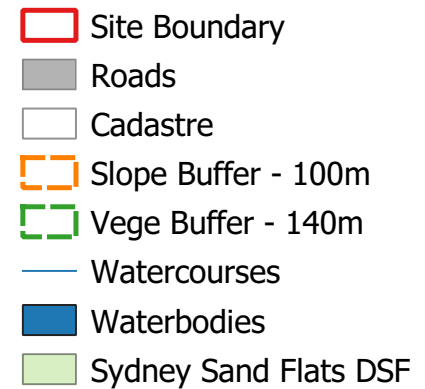
Vegetation mapping provided by the SEED Portal is provided as **(FIGURE 4)** and vegetation formation based on the site inspection provided as **(FIGURE 5)**. Photos of the vegetation plots are provided below.

**Figure 4 -
Greater Hunter
Vegetation Map**



Job No: J000909

Date: 10/03/2021



0 100 200 m

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Photo 1 – Plot 3 – Forest



Photo 2 – Plot 1 – Forest



Photo 3 – Frame Drive



Photo 4 – Plot 8 – Forest



Photo 5 – Plot 7 - Forest



Photo 6 – Plot 7 – Forest



Photo 7 – Managed Land - Exclusion



Photo 8 – Plot 3



2.2 SLOPE ASSESSMENT

The effective and site slope was determined by the following methods:

1. Elevation and Depth – Foundation Spatial Data (ELVIS) to identify:
 - a. 10m Contours; and
 - b. 2m Contours.
2. Site Inspection on 10 March 2021 to observe slope;
3. A Iphone with Location Tracking enabled to photograph vegetation and site features;
4. A Garmin GPSMap64s to determine elevation; and

The effective slope of the land from the building to 100m is:

Table 4– Slope

Transect	Rise (m)	Run (m)	Direction	Slope (%)	Slope (o)
T1 - North	4	126	Downslope	3.50	2.00
T2- North	2	74	Downslope	3.00	2.00
T3 – West	4	325	Downslope	1.50	1.00
T4 - East	10	296	Downslope	3.50	2.00
T5 - North	10	277	Downslope	4.00	2.50
T6 – East	4	319	Downslope	1.50	1.00
T7 – West	4	303	Downslope	1.50	1.00
T8 - South	6	160	Downslope	4.00	2.50
T9 - South	12	145	Downslope	8.50	5.00
T10 - South	2	129	Downslope	2.00	1.50
T11 - South	0	129	Flat	0	0

Slope is illustrated by contours extracted from a Digital Elevation Model (DEM) (**FIGURE 6**).

Figure 6 - Slope Map



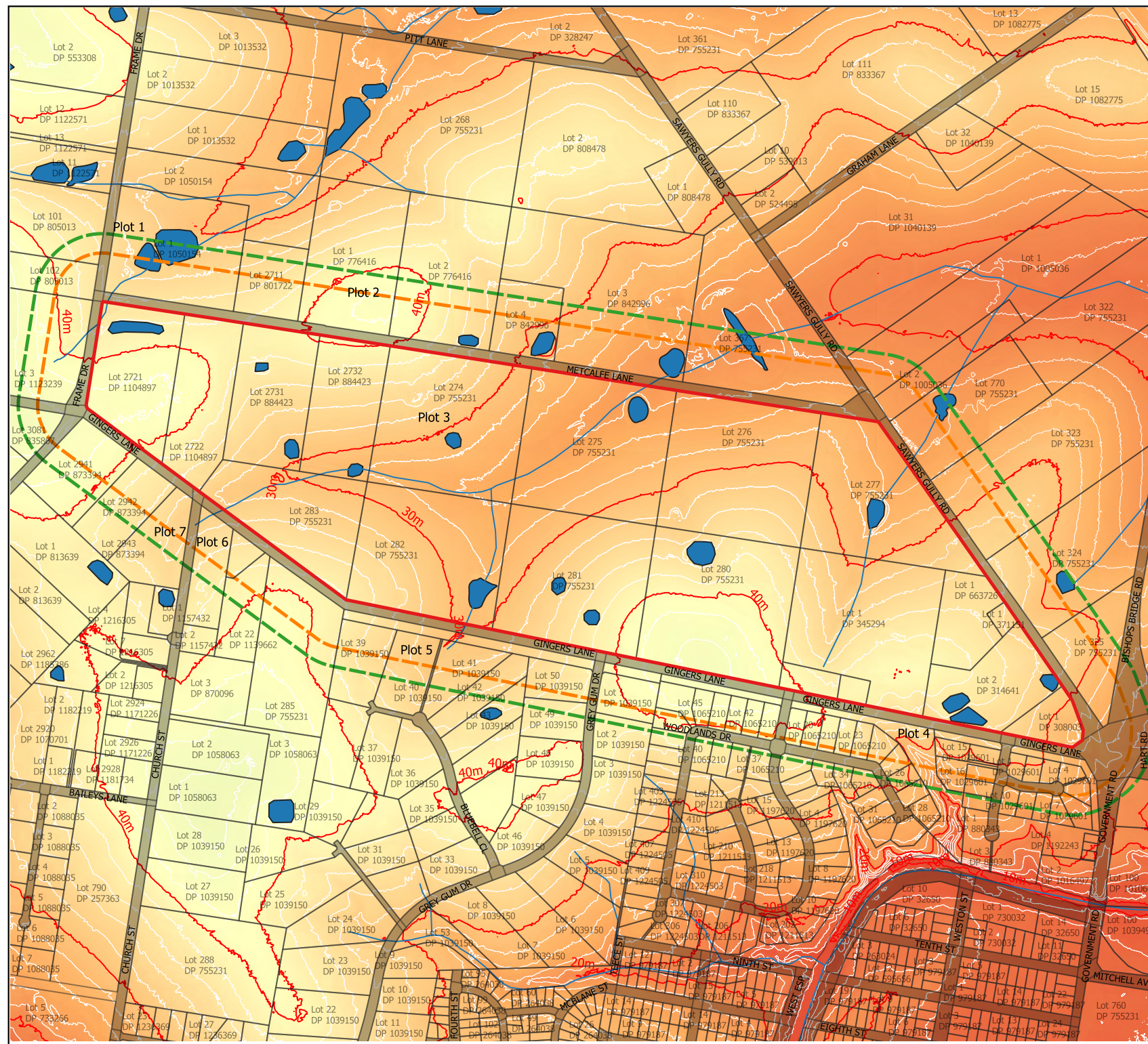
- Site Boundary
- Roads
- Cadastre
- Slope Buffer - 100m
- Vege Buffer - 140m
- Watercourses
- Waterbodies
- Contours - 10m
- Contours - 2m



0 100 200 m



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2.3 DETERMINATION OF FIRE DANGER INDEX (FDI)

The FFDI was determined by referring to the RFS, 2020, 'Building in Bushfire Prone Areas Single Dwelling Application Kit' (p.9). The NSW Local Government Areas (LGA) Fire Danger Index (FDI) is repeated below for quick reference.

The LGA is Cessnock in accordance with the NSW Planning Portal, which was viewed on 10 March 2021 and therefore the FDI is Greater Hunter (100) in accordance with the table below.

Table 5– NSW Local Government Areas (LGA) Fire Danger Index (FDI)

Far North Coast (80) Ballina Byron Clarence Valley Kyogle Lismore Richmond Valley Tweed	Illawarra/Shoalhaven (100) Kiama Shellharbour Shoalhaven Wingecaribee Wollondilly Wollongong	Northern Slopes (80) Gunnedah Gwydir Inverell Liverpool Plains Tamworth Regional	Eastern Riverina (80) Albury Coolamon Greater Hume Junee Lockhart Wagga Wagga
North Coast (80) Bellingen Coffs Harbour Mid-Coast Port Macquarie-Hastings Kempsey Nambucca	Far South Coast (100) Bega Valley Eurobodalla	North Western (80) Moree Plains Narrabri Walgett Warrumbungle	Southern Riverina (80) Berrigan Edward River Federation Murray River
Greater Hunter (100) Cessnock Dungog Lake Macquarie Maitland Muswellbrook Newcastle Port Stephens Singleton Upper Hunter	Monaro Alpine (80) Snowy Monaro	Upper Centre West Plains (80) Bogan Coonamble Gilgandra Warren	Northern Riverina (80) Carrathool Griffith Hay Leeton Narrandera Murrumbidgee
Greater Sydney Region (100) All Sydney Metropolitan Councils	Southern Ranges (100) Queanbeyan-Palerang	Lower Central West Plains (80) Bland Dubbo Regional	South Western (80) Balranald Wentworth

Plus, Blue Mountains, Hawkesbury, and Central Coast	Goulburn Mulwaree Upper Lachlan Yass Valley	Forbes Lachlan Narromine Parkes Temora Weddin	
	Central Ranges (100) Bathurst Blayney Cabonne Cowra Lithgow Mid-Western Regional Oberon Orange	Southern Slopes (80) Hilltops Cootamundra-Gundagai Snowy Valleys	Far Western (80) Bourke Brewarrina Broken Hill Central Darling Cobar Unincorporated NSW
	New England (80) Armidale Regional Glenn Innes Severn Tenterfield Uralla Walcha		

The above table was taken from the NSW RFS, 2020, 'Single Dwelling Application Kit'.

2.4 DETERMINATION OF BUSHFIRE ATTACK LEVEL (BAL)

The assessment of vegetation and slope has been used to calculate the following BALs:

Table 6 – Bushfire Attack Level (BAL)

Plot/ Transect	Vegetation Formation	Surface Fuel (t/ha)	Overall Fuel (t/ha)	Rise (m)	Run (m)	Direction	Slope (%)	Slope (°)	Current Separation(m)	Proposed Separation (m)	BAL
T1 - North	Sydney Sand Flats DSF	20.5	29.5	4	126	Downslope	3.50	2.00	-	29	BAL-29
T2- North	Sydney Sand Flats DSF	20.5	29.5	2	74	Downslope	3.00	2.00	-	29	BAL-29
T3 – West	Sydney Sand Flats DSF	20.5	29.5	4	325	Downslope	1.50	1.00	-	29	BAL-29
T4 - East	Sydney Sand Flats DSF	20.5	29.5	10	296	Downslope	3.50	2.00	-	29	BAL-29
T5 - North	Sydney Sand Flats DSF	20.5	29.5	10	277	Downslope	4.00	2.50	-	29	BAL-29
T6 – East	Sydney Sand Flats DSF	20.5	29.5	4	319	Downslope	1.50	1.00	-	29	BAL-29
T7 – West	Sydney Sand Flats DSF	20.5	29.5	4	303	Downslope	1.50	1.00	-	29	BAL-29
T8 - South	Sydney Sand Flats DSF	20.5	29.5	6	160	Downslope	4.00	2.50	-	29	BAL-29
T9 - South	Sydney Sand Flats DSF	20.5	29.5	12	145	Downslope	8.50	5.00	-	29	BAL-29
T10 - South	Sydney Sand Flats DSF	20.5	29.5	2	129	Downslope	2.00	1.50	-	29	BAL-29

Plot/ Transect	Vegetation Formation	Surface Fuel (t/ha)	Overall Fuel (t/ha)	Rise (m)	Run (m)	Direction	Slope (%)	Slope (°)	Current Separation(m)	Proposed Separation (m)	BAL
T11 - South	Sydney Sand Flats DSF	20.5	29.5	0	129	Flat	0	0	-	29	BAL-29

The removal of native flora or fauna will be required to achieve the development, including the establishment of APZs. The removal of native flora will be required to achieve the development and so a Preliminary Ecological Assessment has been prepared, which quantifies the ecological impact.

Future dwellings houses are able to be setback 29m from the unmanaged vegetation line and therefore is required to be constructed to BAL-29 in accordance with the National Construction Code (NCC) except for the construction requirements of the RFS, 2019, 'Planning for Bushfire Protection' (Clause 7.5.2 – NSW State Variations).

Vegetation, Slope and Site Photos are illustrated by **(FIGURE 7)**.

Figure 7 - Site Assessment Map



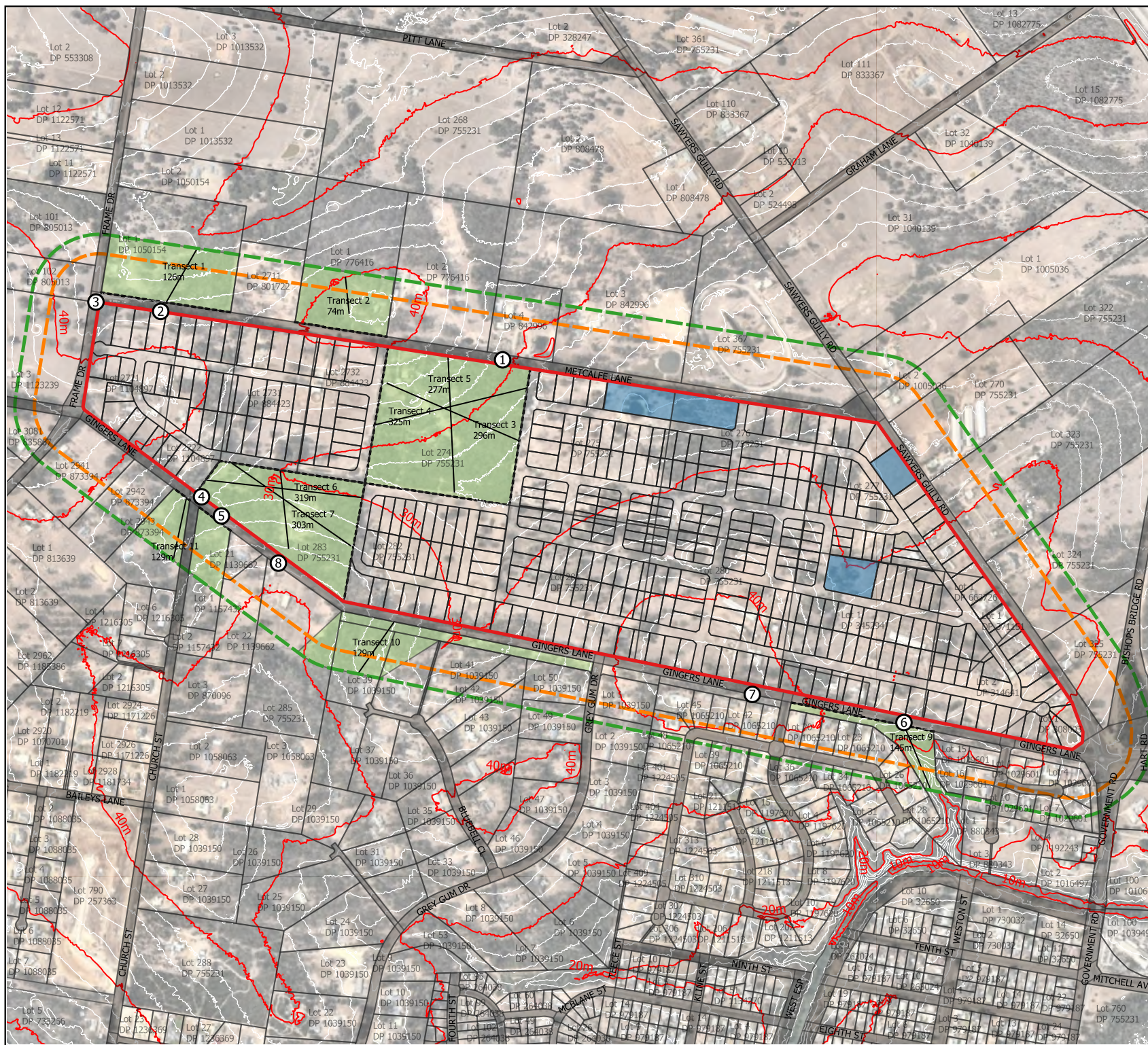
- Site Boundary
- Roads
- Cadastre
- Slope Buffer - 100m
- Vege Buffer - 140m
- Proposed Lots
- Proposed Basins
- Unmng Vege Line
- Sydney Sand Flats DSF
- Transects
- Site Photos
- Contours - 10m
- Contours - 2m



0 100 200 m



Disclaimer: While every effort is made to ensure this map is free of errors, there is no warranty that the map or its features are either spatially or temporally accurate or fit for a particular use. This map is provided without any warranty of any kind whatsoever, either express or implied. Reference should always be made to the Architectural Plans for site features, such as the building footprint.



3.0 BUSHFIRE PROTECTION MEASURES

3.1 ASSET PROTECTION ZONES

The RFS, 2019, PBP states that the intent of an APZ is 'to provide sufficient space and maintain reduced fuel loads, so as to ensure radiant heat levels at buildings are below critical limits and to prevent direct flame contact.' (p.43).

Compliance with Table 5.3a – Performance criteria and acceptable solutions for APZs for residential and rural residential subdivisions in relation to APZs is demonstrated below.

Table 7 - Compliance with PBP for Asset Protection Zones

No	Performance Criteria	Complies	Acceptable Solution	Complies	Response
Asset Protection Zones					
1	Potential building footprints must not be exposed to radiant heat levels exceeding 29kW/m ² on each proposed lot.	Yes	APZs are provided in accordance with tables A1.12.2 and A1.12.3 based on FFDI.	Yes	This BAR identifies that the APZ has been calculated in accordance with tables A1.12.2 or A1.12.3 (p.90) to determine the minimum distances required for the building envelopes to the unmanaged vegetation for radiant heat levels to not exceed 29kW/m ² .
2	APZs are managed and maintained to prevent the spread of a fire to the building.	Yes	APZs are managed in accordance with the requirements of Appendix 4 of PBP.	Yes	The BAR recommends that the APZ managed in accordance with PBP (Appendix 4 – Asset Protection Zones) (pp.106-108).
3	<ul style="list-style-type: none"> The APZ is provided in perpetuity. APZ maintenance 	Yes	APZs are wholly within the boundaries of the development site.	Yes	The APZ is entirely within the boundaries of the site.

No	Performance Criteria	Complies	Acceptable Solution	Complies	Response
	is practical, soil stability is not compromised and the potential for crown fires is minimised.				
4		Yes	APZs are located on lands with a slope less than 18 degrees.	Yes	The slope of lands on which APZs are located are no greater than 18 degrees.
Landscaping					
5	Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.	Yes	<ul style="list-style-type: none"> Landscaping is in accordance with Appendix 4; and Fencing is constructed in accordance with section 7.6 	Yes	<p>The BAR identifies that the identified APZ is to be managed in accordance with PBP (Appendix 4).</p> <p>The requirements of Appendix 4 are repeated in the recommendations of this Report.</p>

Guidance on landscaping can be found within 'The Complete Bushfire Safety Book (Part 10 – Planting for bushfire protection) (pp.154-178).

3.2 ACCESS

The RFS, 2019, Planning for Bushfire Protection states that the intent of these Bushfire Protection Measures is 'to provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area' (p.44).

Compliance with Table 5.3a – Performance criteria and acceptable solutions for access for residential and rural residential subdivision is demonstrated below.

Table 8 – Compliance with PBP for Access

No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
Access (General Requirements)					
1	Firefighting vehicles are provided with safe, all-weather access to structures.	Able to Comply	Property access roads are two-wheel, all weather roads.	Able to Comply	The property access road will be 250mm gravel well graded with a maximum 75mm aggregate minimum California Beading Ratio (CBR) > 15% compared to 100% Standard to ensure two-wheel drive, all weather access.
2		Yes	Perimeter roads are provided for residential subdivisions of 3 or more allotments.	Yes	Perimeter roads are identified on the Subdivision Plan.
3		Yes	Subdivisions of three or more allotments have more than one access in and out of the development.	Yes	More than one access is provided in and out of the development because it is for three or more allotments.
4		Able to Comply	Traffic management devices are constructed to not prohibit access by	Able to Comply	Traffic management devices can be constructed to not

No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
			emergency services vehicles.		prohibit emergency services vehicles.
		Able to Comply	Maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient.	Able to Comply	Maximum grades for sealed roads are not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient.
5		Yes	All roads are through roads.	Yes	The Subdivision Plan identifies that all roads are through roads with the exception of two cul-de-sacs, which are less than 200m long and incorporate a minimum 12 metres outer radius turning circle and are clearly sign posted as a dead end.
6		Able to Comply	Dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end.	Able to Comply	Please see pervious response.
7		Able to Comply	Where kerb and guttering are provided on perimeter roads,	Able to Comply	Roll top kerbing is required on the

No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
			roll top kerbing should be used to the hazard side of the road.		hazard side of perimeter roads.
8		Yes	Where access/egress can only be achieved through forest, woodland and heath vegetation, secondary access shall be provided to an alternate point on the existing public road system.	Yes	Access/egress is not considered to be through forest, woodland and/or heath vegetation.
9		Not Applicable	One way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression.	Not Applicable	No one way public access roads are proposed.
10	The capacity of access roads is adequate for firefighting vehicles.	Able to Comply	The capacity of road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes), bridges and causeways are to clearly indicate load rating.	Able to Comply	The capacity of road surfaces and any bridges/causeways are to be designed to carry fully loaded firefighting vehicles (up to 23 tonnes).
11	There is appropriate	Able to Comply	Hydrants are located outside of parking reserves	Able to Comply	Existing water hydrants are located in public road

No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
	access to water supply.		and road carriageways to ensure accessibility to reticulated water for fire suppression.		reserve, which are identified on (FIGURE 8) . Water hydrants are also to be incorporated into the proposed roads that are to be constructed.
12		Able to Comply	Hydrants are provided in accordance with the relevant clauses of AS2419.1:2005.	Able to Comply	Hydrants are to be provided in accordance with the relevant clauses of AS2419.1:2005.
13		Not Applicable	There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.	Not Applicable	Reticulated supply is available and therefore no static water supply is proposed.
Perimeter Roads					
14	Access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating as well as providing a safe operational environment for	Able to Comply	Are two-way sealed roads.	Able to Comply	Perimeter roads are to be two-way sealed roads.
15		Able to Comply	Minimum 8 m carriageway width kerb to kerb.	Able to Comply	Perimeter roads are to have a minimum carriageway width of 8m kerb to kerb.
16		Able to Comply	Parking is provided outside of the carriageway width.	Able to Comply	Parking is to be provided outside of the carriageway width for perimeter roads.

No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
17	emergency service personnel during firefighting and	Able to Comply	Hydrants are located clear of parking areas.	Able to Comply	Hydrants are to be located clear of parking areas for perimeter roads.
18	emergency management on the interface.	Able to Comply	Are through roads, and these are linked to the internal road system at an interval of no greater than 500m.	Able to Comply	Perimeter roads are to be through roads that are linked to the internal road system at an interval of no greater than 500m.
19		Able to Comply	Curves of roads have a minimum inner radius of 6m.	Able to Comply	Perimeter roads are to have curves with a minimum inner radius of 6m.
20		Able to Comply	The maximum grade road is 15 degrees and average grade of not more than 10 degrees.	Able to Comply	Perimeter roads are to have a maximum grade road of 15 degrees and an average grade of not more than 10 degrees.
21		Able to Comply	The road crossfall does not exceed 3 degrees.	Able to Comply	The crossfall of perimeter roads is to not exceed 3 degrees.
22		Able to Comply	A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.	Able to Comply	A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches is to be provided for perimeter roads.
Non-Perimeter Roads					
23	Access roads are designed to allow safe	Able to Comply	Minimum 5.5m carriageway width kerb to kerb.	Able to Comply	Non-perimeter roads are to have a minimum

No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
	access and egress for firefighting vehicles while residents are evacuating.				carriageway width of 5.5m kerb to kerb.
24		Able to Comply	Parking is provided outside of the carriageway width.	Able to Comply	Parking is to be provided outside of the carriageway width for non-perimeter roads.
25		Able to Comply	Hydrants are located clear of parking areas.	Able to Comply	Hydrants are to be located clear of parking areas for non-perimeter roads.
26		Able to Comply	Roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m.	Able to Comply	Non-perimeter roads are to be through roads that are linked to the internal road system at an interval of no greater than 500m.
27		Able to Comply	Curves of roads have a minimum inner radius of 6m.	Able to Comply	Non-perimeter roads are to have curves with a minimum inner radius of 6m.
28		Able to Comply	The road crossfall does not exceed 3 degrees.	Able to Comply	The crossfall of perimeter roads is to not exceed 3 degrees.
29		Able to Comply	A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.	Able to Comply	A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches is to be provided for non-perimeter roads.
Property Access					

No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
30	Firefighting vehicles can access the dwelling and exit the property safely.	Able to Comply	<p>There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70 kph) that supports the operational use of emergency firefighting vehicles.</p> <p>In circumstances where this cannot occur, the following requirements apply:</p>	Able to Comply	An assessment of the future access points in accordance with the Subdivision Plan has identified no specific access requirements because the site is in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency firefighting vehicles.
31		Not Applicable	Minimum 4m carriageway width	Not Applicable	No specific access requirements apply because the site is an urban area.
32		Not Applicable	In forest, woodland and health situations, rural property roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m, at the passing bay	Not Applicable	No specific access requirements apply because the site is an urban area.

No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
33		Not Applicable	A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches.	Not Applicable	No specific access requirements apply because the site is an urban area.
34		Not Applicable	Property access must provide a suitable turning head in accordance with Appendix 3.	Not Applicable	No specific access requirements apply because the site is an urban area.
35		Not Applicable	Curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress.	Not Applicable	No specific access requirements apply because the site is an urban area.
36		Not Applicable	The minimum distance between inner and outer curves is 6m.	Not Applicable	No specific access requirements apply because the site is an urban area.
37		Not Applicable	The crossfall is not more than 10 degrees.	Not Applicable	No specific access requirements apply because the site is an urban area.
38		Not Applicable	Maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads.	Not Applicable	No specific access requirements apply because the site is an urban area.
39		Not Applicable	A development compromising more than three dwellings has formalised access by dedication of a road and not a right of way.	Not Applicable	No specific access requirements apply because the site is an urban area.

No	Performance Criteria	Complies	Acceptable Solutions	Complies	Response
40		Not Applicable	Note: Some short constrictions in the access may be accepted where they are not less than 3.5m wide, extent for no more than 30m and where the obstruction cannot be reasonably avoided or removed. The gradients applicable to public roads also apply to community style development property access roads in addition to the above.	Not Applicable	Prior to the issue of an Occupation Certificate for the dwelling/s, some short constrictions in regard to access may be accepted where they are not less than 3.5m wide, extent for no more than 30m and where the obstruction cannot be reasonably avoided or removed.

3.3 SERVICES – WATER, ELECTRICITY AND GAS

The RFS, 2019, Planning for Bushfire Protection states that the intent of these Bushfire Protection Measures is ‘to provide adequate services of water for the protection of buildings during and after the passage of bushfire, and to located gas and electricity so as not to contribute to the risk of fire to a building’ (p.47).

Compliance with Table 5.3c – Performance criteria and acceptable solutions for residential infill development in relation to water, electricity and gas is demonstrated below.

Table 9 – Compliance with PBP for Water Supplies

No	Performance Solutions	Complies	Acceptable Solutions	Complies	Response
Water Supplies					
1	An adequate water supply is provided for firefighting purposes.	Able to Comply	Reticulated water is provided to the development, where available, and	Able to Comply	Existing water hydrants are located in public road reserve, which are identified on (FIGURE 8) . Water hydrants are also to be incorporated into the proposed roads that are to be constructed.
2		Not Applicable	A static water supply is provided where no reticulated water is available.	Not Applicable	A static water supply is required because a reticulated water supply is not available.
4		Not Applicable	Static water supplies shall comply with Table 5.3d.	Not Applicable	No static water supplies are proposed.
3	<ul style="list-style-type: none"> Water supplies are located at regular intervals. 	Able to Comply	Fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2005.	Able to Comply	Fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2005.

No	Performance Solutions	Complies	Acceptable Solutions	Complies	Response
4	<ul style="list-style-type: none"> The water supply is accessible and reliable for firefighting purposes 	Able to Comply	Hydrants are not located within any road carriageway.	Able to Comply	Proposed hydrants are not to be located within the road carriageway.
5		Able to Comply	Reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.	Able to Comply	Proposed hydrants are to use a ring main system for areas with perimeter roads.
6	Flows and pressure are appropriate.	Able to Comply	Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005.	Able to Comply	Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005.
7	The integrity of the water supply is maintained.	Able to Comply	All above-ground water service pipes external to the building are metal, including and up to any taps.	Able to Comply	The above-ground water service pipes external to the building are to be metal, including and up to any taps.
Electricity Services					
1	Location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.	Able to Comply	Where practicable, electrical transmission lines are underground.	Able to Comply	Where practicable, electrical transmission lines are underground.
2		Able to Comply	Where overhead, electrical transmission lines are proposed as follows: <ul style="list-style-type: none"> Lines are installed with short pole spacing (30m), unless crossing gullies, gorges, or riparian areas; and No part of a tree is closer to a 	Able to Comply	Where overhead, electrical transmission lines are proposed as follows: <ul style="list-style-type: none"> Lines are installed with short pole spacing (30m), unless crossing gullies, gorges, or riparian areas; and

No	Performance Solutions	Complies	Acceptable Solutions	Complies	Response
			power line than the distance set out in accordance with the specifications in ISSC3 Guidelines for Managing Vegetation Near Power Lines.		<ul style="list-style-type: none"> No part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guidelines for Managing Vegetation Near Power Lines.
Gas Services					
1	Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	Able to Comply	Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used.	Able to Comply	Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used.
2		Able to Comply	All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.	Able to Comply	All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.
3		Able to Comply	Connections to and from gas cylinders are metal.	Able to Comply	Connections to and from gas cylinders are metal.
4		Able to Comply	Polymer-sheathed flexible gas supply lines are not used.	Able to Comply	Polymer-sheathed flexible gas supply lines are not used.

No	Performance Solutions	Complies	Acceptable Solutions	Complies	Response
5		Able to Comply	Above-ground gas service pipes are metal, including and up to any outlets.	Able to Comply	Above-ground gas service pipes are metal, including and up to any outlets.

3.4 CONSTRUCTION

The NSW RFS, 2019, 'Planning for Bushfire Protection' states that:

'The NCC contains Performance Requirements and Deemed-to-Satisfy provisions relating to the construction of buildings in bush fire prone areas. In NSW, these provisions apply to Class 1, 2 and 3 buildings, Class 4 parts of a building, Class 9 buildings that are SFPP, and associated class 10a buildings and decks' (p.21).

The National Construction Code 2019 (NCC) (P2.7.5 – Buildings in bushfire prone areas) identifies that 'A Class 1 building or Class 10a building or deck associated with a Class 1 building that is constructed in a designated bushfire prone area must, to the degree necessary, be designed and constructed to reduce the risk of ignition from a bushfire, appropriate to the: a) potential for ignition caused by burning embers, radiant heat or flame generated by a bushfire; and b) intensity of the bushfire attack of the building' (p.73).

Compliance with Table 7.4a – Performance criteria and acceptable solutions for residential infill development in relation to Construction Standards is not demonstrated because the development does not involve an existing dwelling. All future dwellings to be located on the proposed lots are to be the subject of a separate BAR in accordance with the Environmental Planning and Assessment Act 1979 (s4.14 – Consultation and development consent – certain bush fire prone land).

3.6 STRATEGIC MATTERS

The following table lists the matters to be addressed by a Bush Fire Strategic Study under the NSW RFS, 2019, 'Planning for Bushfire Protection' (p.35) in order to demonstrate that strategic consideration has been provided to the site from a bushfire perspective.

Table 10 – Compliance with PBP for Strategic Matters

No	Issue	Complies	Assessment Considerations	Complies	Assessment
1	A bushfire landscape assessment considers the likelihood of a bush fire, its potential severity and intensity and the potential impact on life and property in the context of the broader surrounding landscape.	Yes	The bush fire hazard in the surrounding area, including: <ul style="list-style-type: none"> • Vegetation • Topography • Weather 	Yes	Please refer to 2.0 – Assessment.
2		Yes	The potential fire behaviour that might be generated based on the above.	Yes	Please refer to 1.0 – Introduction.
3		Yes	Any history of bush fire in the area.	Yes	Please refer to 1.0 – Introduction.
4		Yes	Potential fire runs into the site and intensity of such fire runs.	Yes	Please refer to 1.0 – Introduction.
5	The land use assessment will identify the most appropriate locations within the masterplan area or site layout for the proposed land uses.	Yes	The risk profile of different areas of the development layout based on the above landscape study.	Yes	Please refer to 1.0 – Introduction.
		Yes	The proposed land use zones and the resultant permitted land uses.	Yes	Please refer to 1.0 – Introduction.
6		Yes	The most appropriate siting of different uses based on risk profiles	Yes	Please refer to 1.0 – Introduction.

			within the site (i.e. not locating development on ridge tops, SFPP development to be in lower risk areas of the site); and		
7		Yes	The impact of the siting of these uses on APZ provision.	Yes	Please refer to 2.0 – Assessment.
8	A study of the existing and proposed road networks both within and external to the masterplan area or site layout.	Yes	The capacity for the proposed road network to deal with evacuating residents and responding emergency services, based on the existing and proposed community profile.	Yes	Please refer to the Traffic Assessment Report.
9		Yes	The location of key access routes and direction of travel.	Yes	Please refer to the Traffic Assessment Report.
10		Yes	The potential for development to be isolated in the event of a bush fire.	Yes	Please refer to the Traffic Assessment Report.
11	An assessment of the future impact of new development on emergency service provision.	Yes	Consideration of the increase in demand for emergency services responding to a bush fire emergency (including the need for new stations/bridges); and	Yes	The planning proposal will be referred to the NSW RFS post-gateway for comment.
12		Yes	Impact on the ability of emergency services to carry out fire suppression in a bush fire emergency.	Yes	The planning proposal will be referred to the NSW RFS post-gateway for comment.

13	An assessment of the issues associated with infrastructure provision.	Yes	The ability of the reticulated water system to deal with a major bush fire event (particularly in terms of water pressure); and	Yes	Please refer to the Servicing Strategy.
14		Yes	Life safety issues associated with fire and proximity to high voltage power lines, natural gas supply lines, etc.	Yes	Powerlines will be placed underground as a part of future subdivision works.
15	The impact of new development on adjoining landowners and their ability to undertake bush fire management.	Yes	<p>Consideration of the implications of a change in land use on adjoining land including:</p> <ul style="list-style-type: none"> • The ability of adjoining and nearby land to carry a bush fire; and • Consideration of increased pressure on adjoining landowners to introduce or increase BPMs through the implementation of Bush Fire Management Plans as a result of the changes in land use. 	Yes	The planning proposal will result in an improved bushfire outcome for surrounding lands because it will involve the removal of vegetation and the incorporation of BPMs, such as perimeter roads and water hydrants.

3.7 MINISTERIAL DIRECTION (4.4 – PLANNING FOR BUSHFIRE)

The Environmental Planning and Assessment Act 1979 (Section 9.1, Ministerial Direction, 4.4 – Planning for Bush Fire Protection) identifies that a planning proposal must, where development is proposed, comply with the appropriate provisions.

These provisions and an appropriate response are provided in the following table.

Table 11 – Ministerial Direction (4.4 – Planning for Bushfire)

No	Assessment Considerations	Complies	Assessment
1	Provide an APZ incorporating: <ul style="list-style-type: none"> An Inner Protection Area (IPA) bounded by a perimeter road or reserve, which circumstanced the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the property. An Outer Protection Area (OPA) managed for hazard reduction and located on the bushland side of the perimeter road. 	Yes	Please refer to 2.0 – Assessment.
2	For infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide an appropriate performance standard, in consultation with the NSW Rural Fire Service. If the provisions of the planning proposal permit Special Fire Protection Purposes (as defined under section 100B of the Rural Fires Act 1997), the APZ provisions must be complied with.	Yes	The proposal is not for infill development, rather it is for greenfield development.
3	Contain provisions for adequate water supply for firefighting purposes,	Yes	Please refer to 3.0 – Bushfire Protection Measures.
4	Minimise the perimeter of the area of land interfacing the hazard, which may be developed, and	Yes	Please refer to 3.0 – Bushfire Protection Measures.
5	Introduce controls on the placement of combustible materials in the IPA.	Yes	Please refer to 3.0 – Bushfire Protection Measures.

4.0 RECOMMENDATIONS

This Report provides a series of responses to demonstrate how the development complies with PBP. These recommendations have been compiled and written in a specific format below whereby they can be utilised by the consent authority in their development of Conditions of Consent, which would be listed on the Notice of Determination (NoD).

General

1. The BAR will be referred to the RFS post gateway determination.

Asset Protection Zones

2. To achieve a Bushfire Attack Level (BAL) of BAL-29 or less the land from the unmanaged vegetation line is to be managed as an Inner Protection Area (IPA):
 - North for a minimum distance of 29m or to the property boundary, whichever occurs first,
 - East for a minimum distance of 29m or to the property boundary, whichever occurs first,
 - South for a minimum distance of 29m or to the property boundary, whichever occurs first,
 - West for a minimum distance of 29m or to the property boundary, whichever occurs first,

These distances are to be managed as described under 'Planning for Bushfire Protection (Appendix 4 – Asset Protect Zone Requirements)' and the document titled 'Standards for Asset Protection Zones'.

Access

3. Property access roads must comply with the following requirements of Table 7.4a of *Planning for Bush Fire Protection 2019*:
 - a. property access roads are two-wheel drive, all weather roads;
 - b. the capacity of road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes), bridges and causeways are to clearly indicate load rating.
 - c. hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005;
 - d. there is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available;
 - e. at least one alternative property access road is provided for individual dwellings or groups of dwellings that are located more than 200 metres from a public through road;
 - f. minimum 4m carriageway width;
 - g. in forest, woodland and heath situations, rural property roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m, at the passing bay;

- h. a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches;
- i. property access must provide a suitable turning area in accordance with Appendix 3;
- j. curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;
- k. the minimum distance between inner and outer curves is 6m;
- l. the crossfall is not more than 10 degrees;
- m. maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and
- n. a development comprising more than three dwellings has formalised access by dedication of a road and not by right of way.

Note: Some short constrictions in the access may be accepted where they are not less than 3.5m wide, extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed. The gradients applicable to public roads also apply to community style development property access roads in addition to the above.

4. Perimeter roads must comply with the relevant general access and perimeter road requirements of Table 7.4a of *Planning for Bush Fire Protection 2019* and the following:
 - a. Traffic management devices are constructed to not prohibit access by emergency services vehicles;
 - b. Where access/egress can only be achieved through forest, woodland and have heath vegetation, secondary access shall be provided to an alternate point on the existing public road system;
 - c. Where kerb and guttering are provided on perimeter roads, roll top kerbing should be used to the hazard side of the road;
 - d. Two-way sealed roads;
 - e. Minimum 8m carriageway with kerb to kerb;
 - f. Parking is provided outside of the carriageway width;
 - g. Hydrants are located clear of parking areas;
 - h. Are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
 - i. Dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporated a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end;
 - j. Curves of roads have a minimum inner radius of 6m;
 - k. The maximum grade road is 15 degrees and average grade of not more than 10 degrees;
 - l. The road crossfall does not exceed 3 degrees; and
 - m. A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.
 - n. Bridges and Causeways are designed sufficiently to carry a fully loaded firefighting vehicle (up to 23 tonnes) and signage is put in place to clearly indicate the maximum load rating of 23 tonnes,

- o. Hydrants are:
 - Located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression, and
 - Provided in accordance with the relevant clauses of AS 2419.1:2005.
5. Non-perimeter roads must comply with the relevant general requirements and non-perimeter road requirements of Table 7.4a of *Planning for Bush Fire Protection 2019* and the following:
- a. Traffic management devices are constructed to not prohibit access by emergency services vehicles;
 - b. Where access/egress can only be achieved through forest, woodland and have heath vegetation, secondary access shall be provided to an alternate point on the existing public road system;
 - c. One way only public access roads are not less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression;
 - d. Minimum 5.5m carriageway with kerb to kerb;
 - e. Parking is provided outside of the carriageway width;
 - f. Hydrants are located clear of parking areas;
 - g. Are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
 - h. Dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporated a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end;
 - i. Curves of roads have a minimum inner radius of 6m;
 - j. The maximum grade road is 15 degrees and average grade of not more than 10 degrees;
 - k. The road crossfall does not exceed 3 degrees; and
 - l. A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.
 - m. Bridges and Causeways are designed sufficiently to carry a fully loaded firefighting vehicle (up to 23 tonnes) and signage is put in place to clearly indicate the maximum load rating of 23 tonnes,
 - n. Hydrants are:
 - Located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression, and
 - Provided in accordance with the relevant clauses of AS 2419.1:2005.

Services - Water

6. The development is to be linked to a reliable water supply network and suitable fire hydrants are clearly marked and provided for the purposes of bushfire protection. Fire hydrant spacing, fixing and pressure shall comply with AS2419.1 – 2005 and the NSW RFS, 2019, 'Planning for Bushfire Protection' (Table 7.4a – Performance criteria and acceptable solutions for residential infill development).

Services – Power

7. The provision of electricity must comply the following in accordance with Table 7.4a of *Planning for Bush Fire Protection 2019*:
 - a. where practicable, electrical transmission lines are underground;
 - b. where overhead, electrical transmission lines are proposed as follows:
 - i. lines are installed with short pole spacing (30m), unless crossing gullies, gorges, or riparian areas; and
 - ii. no part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 *Guideline for Managing Vegetation Near Power Lines*.

Services – Gas

8. The provision of gas must comply the following in accordance with Table 7.4a of *Planning for Bush Fire Protection 2019*:
 - a. reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used;
 - b. all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;
 - c. connections to and from gas cylinders are metal;
 - d. polymer-sheathed flexible gas supply lines are not used; and
 - e. above-ground gas service pipes are metal, including and up to any outlets; and
 - f. Any gas cylinders that are within 10m of a dwelling:
 - i. Have their release valves directed away from the dwelling, and
 - ii. Are enclosed on the hazard side of the installation, and
 - iii. Have metal connections to and from the cylinders.

Construction

9. All future dwellings to be located on the proposed lots are to be the subject of a separate BAR in accordance with the Environmental Planning and Assessment Act 1979 (s4.14 – Consultation and development consent – certain bush fire prone land).

Landscaping

10. Landscaping is to be consistent with the requirements of NSW RFS, 2019, 'Planning for Bushfire Protection' (Appendix 4 – Asset Protection Zone Requirements)

Emergency Management

Note: The above are recommendations of the BAR. Any development approval is to comply with the Conditions listed on the Council Notice of Determination, not the above recommendations. The above recommendations are only intended to assist Council in their assessment of the DA.

The above listed BPMS are illustrated by **(FIGURE 8)**, where relevant.

Gingers Lane Preinct

Figure 8 - Bushfire Protection Measures Map



- Site Boundary
- Roads
- Cadastre
- Slope Buffer - 100m
- Vege Buffer - 140m
- Proposed Lots
- Proposed Basins
- Unmng Vege Line
- Sydney Sand Flats DSF
- 29KW/sqm - 29m



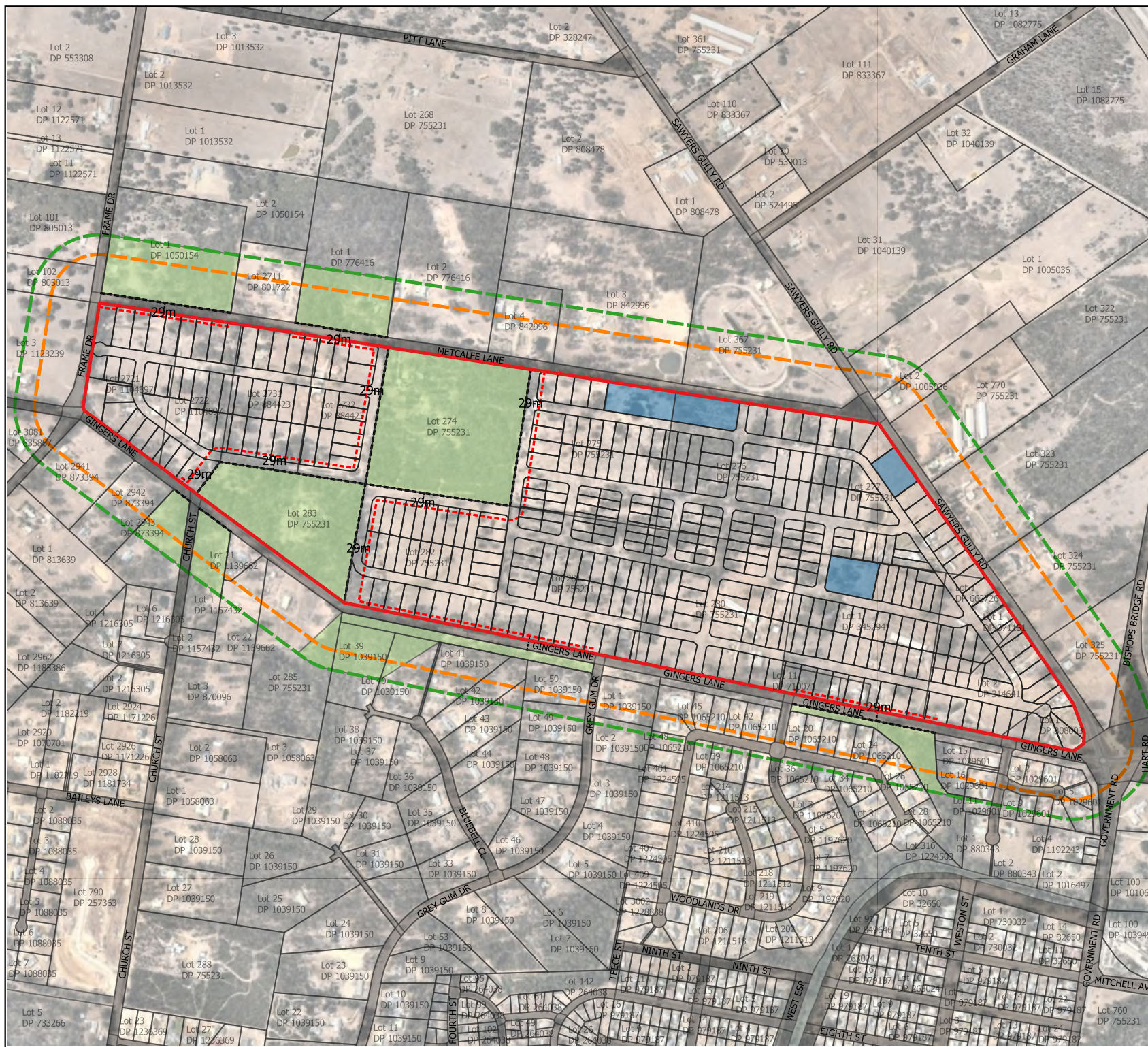
0 100 200 m



Disclaimer: While every effort is made to ensure this map is free of errors, there is no warranty that the map or its features are either spatially or temporally accurate or fit for a particular use. This map is provided without any warranty of any kind whatsoever, either express or implied. Reference should always be made to the Architectural Plans for site features, such as the building footprint.

Job No: J000909

Date: 19/05/2021



REFERENCE LIST

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Webster, Joan, 2000, 'The Complete Bushfire Safety Book', Random House

ATTACHMENT 1 – AHMS RESULTS

A basic search of the AHIMS database identified zero sites and/or places.



AHIMS Web Services (AWS) Search Result

Purchase Order/Reference : Gingers Lane

Client Service ID : 575175

Jeffrey Bretag
108 Fortheringay Road
Clarence Town New South Wales 2324
Attention: Jeffrey Bretag
Email: jeffrey.bretag@gmail.com

Date: 10 March 2021

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 281, DP:DP755231 with a Buffer of 1000 meters, conducted by Jeffrey Bretag on 10 March 2021.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location.*

ATTACHMENT 2 – BAR INFORMATION

The checklist below demonstrates that this BAR is in accordance with PBP (Appendix 2) (p.96).

Table 15 – Information to be provided in a BAR

No	General	Response
1	A description (including the address) of the property on which the development the subject of the application is proposed to be carried out.	Please refer to Part 1 – Introduction.
2	A classification of the vegetation on and surrounding the property (out to a distance of 140 metres from the boundaries of the property) in accordance with the system of classification of vegetation contained within Planning for Bushfire Protection.	Please refer to Part 2 – Assessment.
3	An assessment of the slope of the land on and surrounding the property (out to a distance of 100 metres from the boundaries of the property).	Please refer to Part 2 – Assessment.
4	Identification of any significant environmental features of the property.	Please refer to Part 1 – Introduction.
5	The details of any threatened species, population or ecological community identified under the Threatened Species Conservation Act 1995 that is known to the applicant to exist on the property.	Please refer to Part 1 – Introduction.
6	The details and location of any Aboriginal object (within the meaning of the National Parks and Wildlife Act 1974) or Aboriginal place (within the meaning of that Act) that is known to the applicant to be situated on the property.	Please refer to Part 1 – Introduction.
7	A bushfire assessment for the proposed development (including the methodology used in the assessment) that addresses the following matters:	
	a The extent to which the development is to provide setbacks, including Assessment Protection Zones.	Please refer to Part 3 – Bushfire Protection Measures.

	b	The siting and adequacy of water supplies for firefighting.	Please refer to Part 3 – Bushfire Protection Measures.
	c	The capacity of public roads in the vicinity to handle increased volumes of traffic in the event of a bush fire emergency.	Please refer to Part 3 – Bushfire Protection Measures.
	d	Whether or not public roads in the vicinity that link the fire trail network have two-way access.	Please refer to Part 3 – Bushfire Protection Measures.
	e	The adequacy of arrangements for access to and egress from the development site for the purposes of emergency response.	Please refer to Part 3 – Bushfire Protection Measures.
	f	The adequacy of bush fire maintenance plans and fire emergency procedures for the development site.	Please refer to Part 3 – Bushfire Protection Measures.
	g	The construction standards to be used for building elements in the development.	Please refer to Part 3 – Bushfire Protection Measures.
	h	The adequacy of sprinkler systems and other fire protection measures to be incorporated into the development.	Please refer to Part 3 – Bushfire Protection Measures.
	i	An assessment of the extent to which the proposed development conforms with or deviates from the standards, specific objections, performance criteria and acceptable solutions set out in Chapters 5-8 of PBP.	Please refer to Part 3 – Bushfire Protection Measures.
	j	Identify any fire trails that exist on the property that are on the Register of Certified Fire Trails under the RF Act s.620.	Please refer to Part 1 – Introduction.

No	General	Response
1	A statement that the site is Bush Fire Prone Land (BFPL).	Please refer to Part 1 – Introduction.
2	The location, extent, and vegetation formation of any bushland on or within 140 metres of the site.	Please refer to Part 2 – Assessment.
3	The slope and aspect of the site and of any BFPL within 100 metres of the site.	Please refer to Part 2 – Assessment.
4	Any features on or adjoining the site that may mitigate the impact of a bush fire on the proposed development.	Please refer to Part 1 – Introduction.
5	A statement assessing the likely environmental impact of any proposed Bushfire Protection Measures (BPM)s.	Please refer to Part 1 – Introduction.
6	A site plan showing access, water supplies, APZs, BAL requirements and building footprint in relation to the bush fire hazards.	Please refer to Figures.
7	Calculated BAL construction levels.	Please refer to Part 2 – Assessment.

ATTACHMENT 3 – AIMS AND OBJECTIVES OF PBP

The below table demonstrates consistency with the aims and objectives of PBP.

Table 16 – Aims and Objectives of PBP

Aims and Objectives – General (p.10)		
No	Objective	Bushfire Assessment Report (BAR)
1	Afford occupants of any building adequate protection from exposure to bush fire.	Please refer to Part 4 – Recommendations.
2	Provide for defensible space to be located around buildings.	Please refer to Part 4 – Recommendations.
3	Provide appropriate separation between a hazard and buildings, which, in combination with other measures, prevent the likely spread to buildings.	Please refer to Part 4 – Recommendations.
4	Ensure that safe operational access and egress for emergency service personnel and residents is available.	Please refer to Part 4 – Recommendations.
5	Provide for ongoing management and maintenance of bush fire protection measures.	Please refer to Part 4 – Recommendations.
6	Ensure utility services are adequate to meet the needs of firefighters.	Please refer to Part 4 – Recommendations.
Specific Objectives – Infill Development (p.64)		
No	Objective	Bushfire Assessment Report (BAR)
1	Minimise perimeters of the subjective exposed to the bush fire hazard (hourglass shapes, which maximise perimeters and create bottlenecks should be avoided).	Please refer to Part 4 – Recommendations.
2	Minimise vegetated corridors that permit the passage of bush fire towards buildings.	Please refer to Part 4 – Recommendations.
3	Provide for the siting of future dwellings away from ridge-tops and	Please refer to Part 4 – Recommendations.

	steep slopes, within saddles and narrow ridge crests.	
4	Ensure that APZs between bush fire hazard and future dwellings are effectively designed to address the relevant bush fire attack mechanisms.	Please refer to Part 4 – Recommendations.
5	Ensure the ongoing maintenance of APZs.	Please refer to Part 4 – Recommendations.
6	Provide adequate access from all properties to the wider road networks for residents and emergency services.	Please refer to Part 4 – Recommendations.
7	Provide access to hazard vegetation to facilitate bush fire mitigation works and fire suppression.	Please refer to Part 4 – Recommendations.
8	Ensure the provision of an adequate supply of water and other services to facilitate effective firefighting.	Please refer to Part 4 – Recommendations.

ATTACHMENT 4 – SITING AND DESIGN CHECKLIST

The RFS, 2019, PBP does not include siting and design principles. In turn, the siting and design principles from the RFS, 2006, PBP (Section 4.3.5 – Specifications and Requirements for Bush Fire Protection Measures for Infill Development) and those discussed in 'The Complete Bushfire Safety Book' are listed below as a checklist against the development.

Compliance with these principles is not required to achieve compliance with PBP, however the protection of human life and impacts on property from the threat of bushfire would be improved by having regard to those principles listed in the following table.

Table 17– Siting and Design Checklist

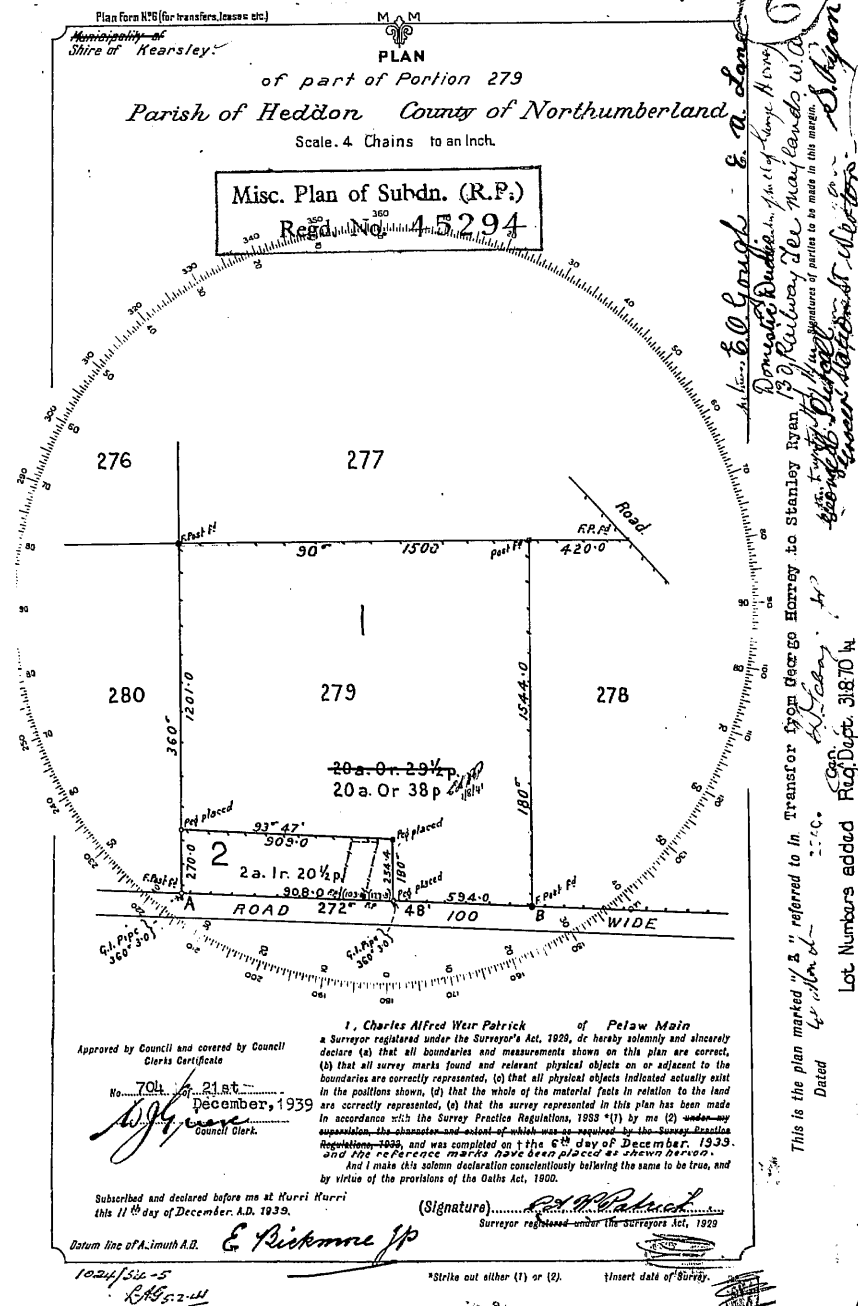
No	Principles	Comment
1	The subdivision enables future buildings to not be constructed on a ridge top or saddle (steep slope). Build on level ground wherever possible.	Buildings can be built on level ground subject to earthworks.
2	The subdivision enables future buildings whereby the bulk of the building (height and width) facing the bushfire hazard.	The subdivision enables the bulk of the buildings is not facing the bushfire hazard.
3	The subdivision enables future buildings that avoid raised floors and utilise concrete slabs (raft construction).	Buildings can be built on concrete slabs subject to earthworks.
4	The subdivision enables future buildings that are not located on the fireward-facing slopes, rather, place them on the leeward side.	Buildings can be built on level ground subject to earthworks.

ATTACHMENT 5 – DEPOSITED PLANS, EXCLUDING CROWN PLAN

C982557 ~~1~~ F.P. 345294
~~200-1000~~



CONVERSION TABLE ADDED IN
DEPARTMENT OF LANDS



DP 345294	
LINKS	METRES
3	0.604
100	20.117
103	20.720
127. ⁵	25.649
254. ⁴	51.177
270	54.315
420	84.491
594	119.494
908	182.661
909	182.862
1201	241.603
1500	301.752
1544	310.603

AC	RD	P	SQ	M
2	1	20	1/2	9624
AC	RD	P	HA	
20	-	29	1/2	8.168
20	-	38		8.19

This is the plan marked "A" referred to in Transfer from George Horrey
 Dated 4/21/06
 22-C. Gen. H. C. Day. 43
 Lot Numbers added Recd. Dept. 31870 W.

Lot Numbers added ^{Gen.} Reg. Dept. 31:8-70 W.

I, Bruce Richard Davies, Registrar General for New South Wales, certify that this negative is a photograph made as a permanent record of a document in my custody this 12th day of July, 1978

**INSTRUMENT SETTING OUT TERMS OF EASEMENTS INTENDED TO BE CREATED OR RELEASED
AND OF RESTRICTIONS ON THE USE OF LAND AND POSITIVE COVENANTS INTENDED TO BE
CREATED PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919**

(Sheet 1 of 2 sheets)

DP1104897

Plan of Subdivision of Lot 272, D.P.755231
Covered by Subdivision Certificate No.14/2004/145/1

Full name and address
of proprietor of Land:

William Frances Partington
156 Frame Drive
SAWYERS GULLY NSW 2326

Part 1 (Creation)

Number of item shown in the intention panel on the plan	Identity of easement, profit a prendre, restriction or positive covenant to be created and referred to in the plan.	Burdened lot(s) or parcel(s):	Benefited lot(s), Road(s), bodies or Prescribed Authorities.
1.	Restriction(s) On The Use Of Land	Lot 2722	The Council of the City of Cessnock

Part 2 (Terms)

- 1. Terms of easement, profit a prendre, restrictions, or positive covenant firstly referred to in the plan:**

No dwelling house(s) shall be permitted to be constructed unless such construction is located within the area denoted (b) building envelope on the plan. This restriction does not apply to other types of structures i.e. sheds, which may be approved by Council.

Name of Authority having the power to release, vary or modify the terms of Restriction(s) firstly referred to in the plan:

The Council of the City of Cessnock

(Sheet 2 of 2 sheets)

DP1104897

Plan of Subdivision of Lot 272, D.P.755231
Covered by Subdivision Certificate No.14/2004/145/1

Signed in my presence by William Frances Partington }
who is personally known to me }

W. F. Partington
Registered Proprietor

[Signature]

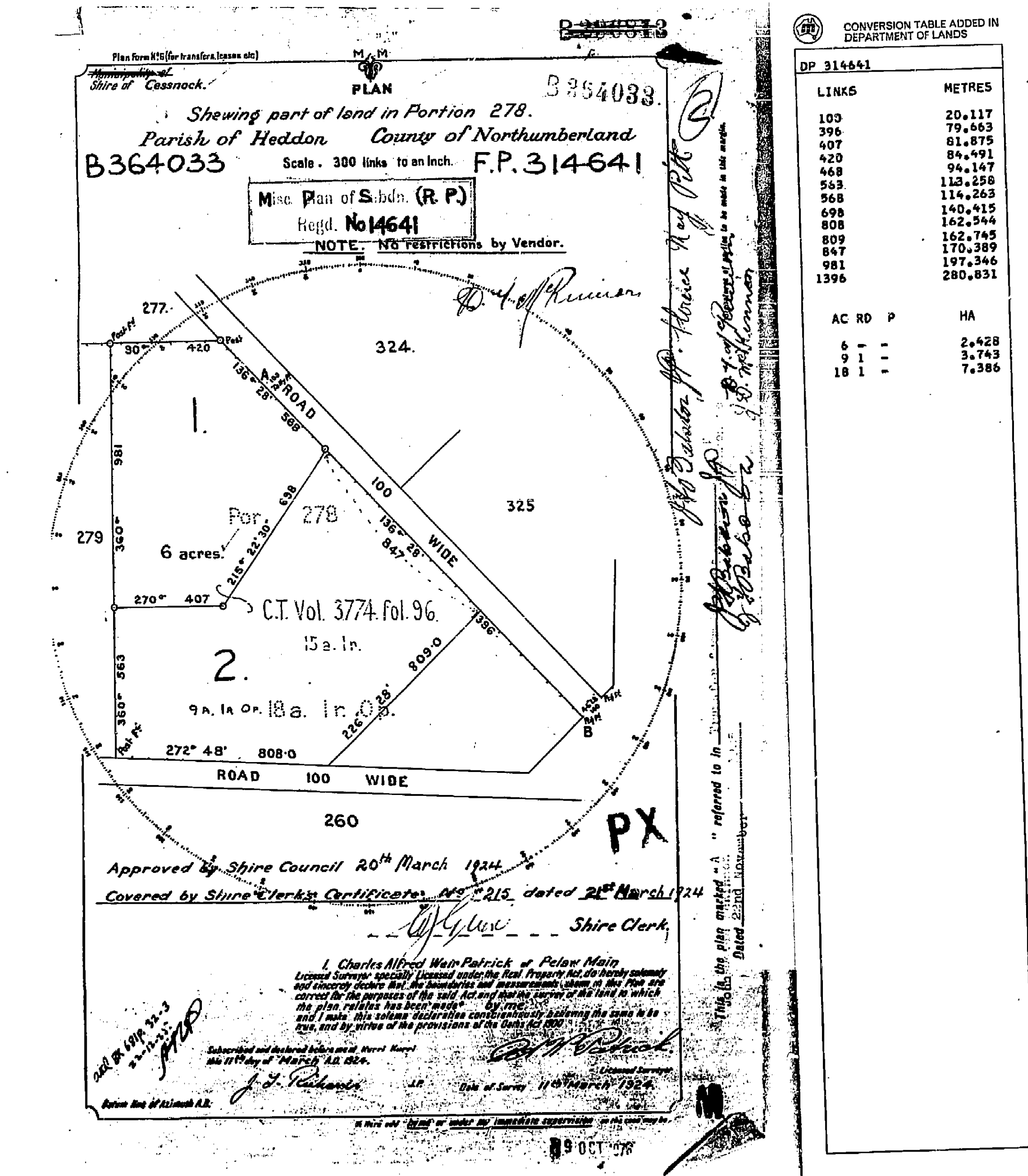
Signature of Witness
Name (printed):

50 Vincent St Cessnock
Address and Occupation of Witness Solicitor

Signed on behalf of Cessnock City Council by: }

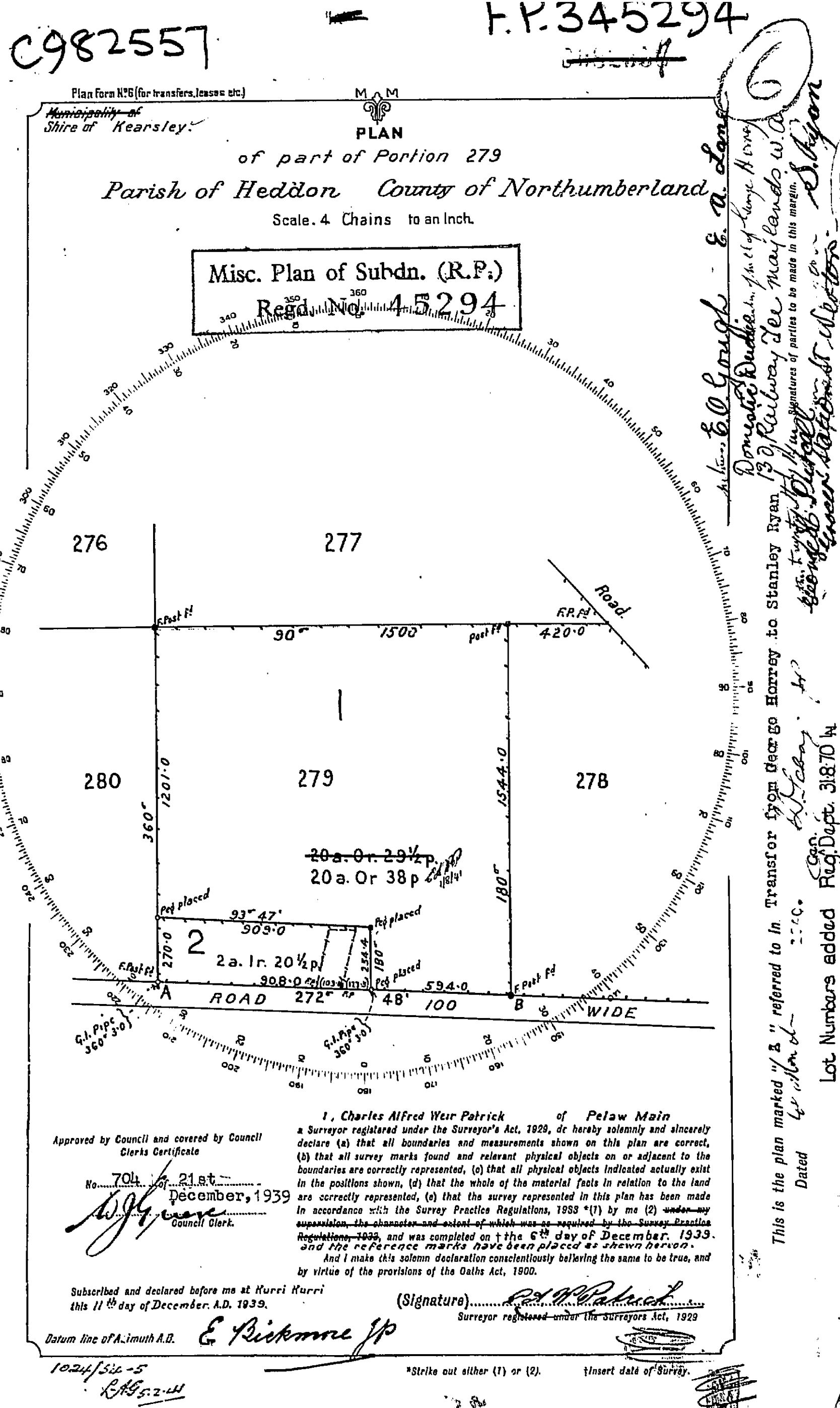
[Signature]
Authorised Person

REGISTERED  4/4/11/2006



LOT NUMBERS ADDED IN REGISTRAR GENERAL'S OFFICE.

1, Bruce Richard Davies, Registrar General for New South Wales, certify
that this negative is a photograph made as a permanent record of a
document in my custody this 14th day of April, 1978



CONVERSION TABLE ADDED IN
DEPARTMENT OF LANDS

DP 345294

LINKS	METRES
3	0.604
100	20.117
103	20.720
127.5	25.649
254.4	51.177
270	54.315
420	84.491
594	119.494
908	182.661
909	182.862
1201	241.603
1500	301.752
1544	310.603

AC RD P SQ M

2 1 20 1/2 9624

AC RD P HA

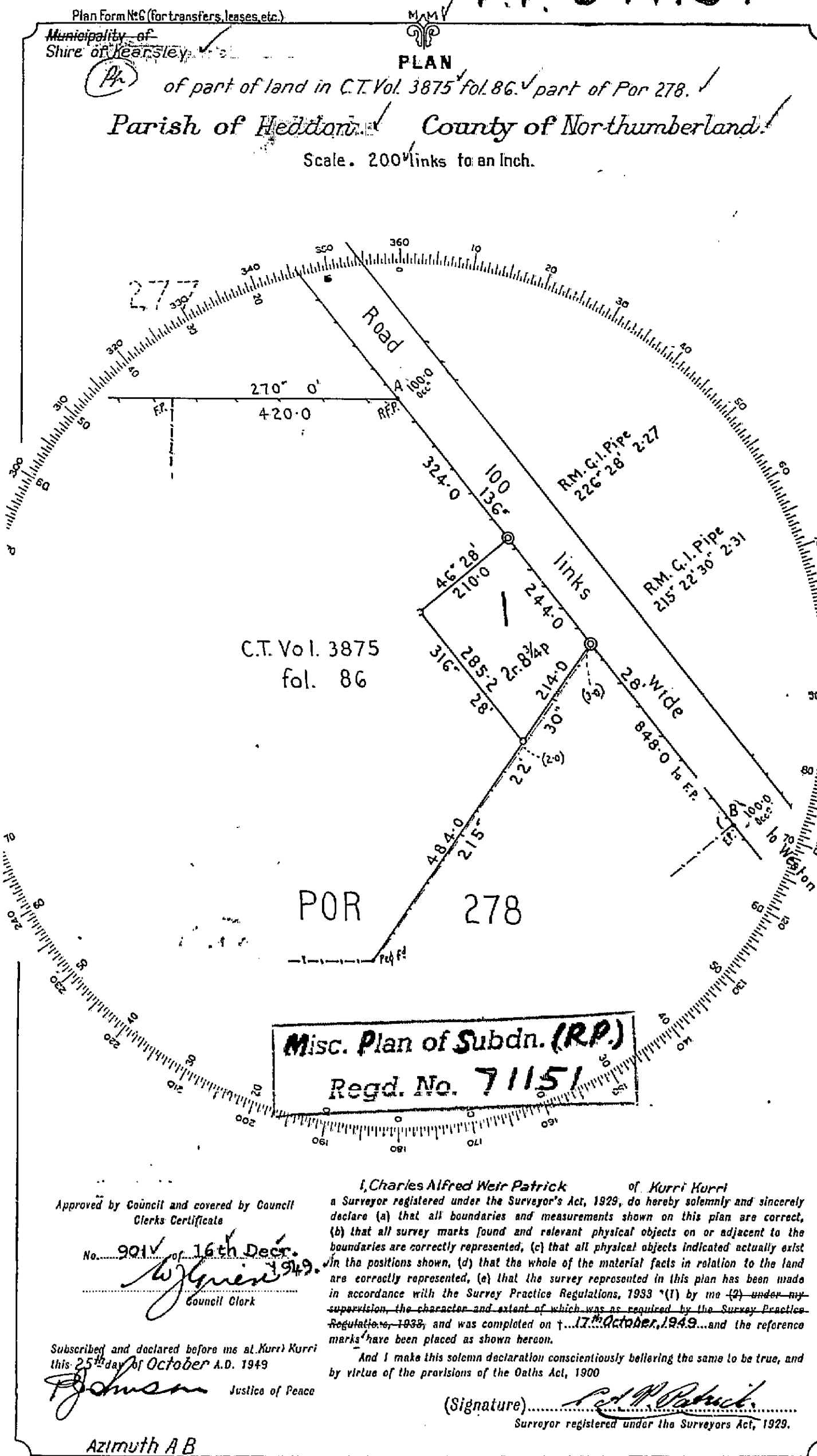
20 - 29 1/2 8.168
20 - 38 8.19

I, Bruce Richard Davies, Registrar General for New South Wales, certify
that this negative is a photograph made as a permanent record of a
document in my custody this 12th day of July, 1978

1

F350429

FP 371151



CONVERSION TABLE ADDED IN DEPARTMENT OF LANDS

DP 371151

LINKS	METRES
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2.27	0.457
2.31	0.465
3	0.604
100	20.117
210	42.245
214	43.050
244	49.085
285.2	57.373
324	65.178
420	84.491
484	97.365
848	170.590

AC RD P SQ M
- 2 8 3/4 2245

This is the plan marked "A" referred to in Chapter 10 of the Land and Environment Act, 1960.

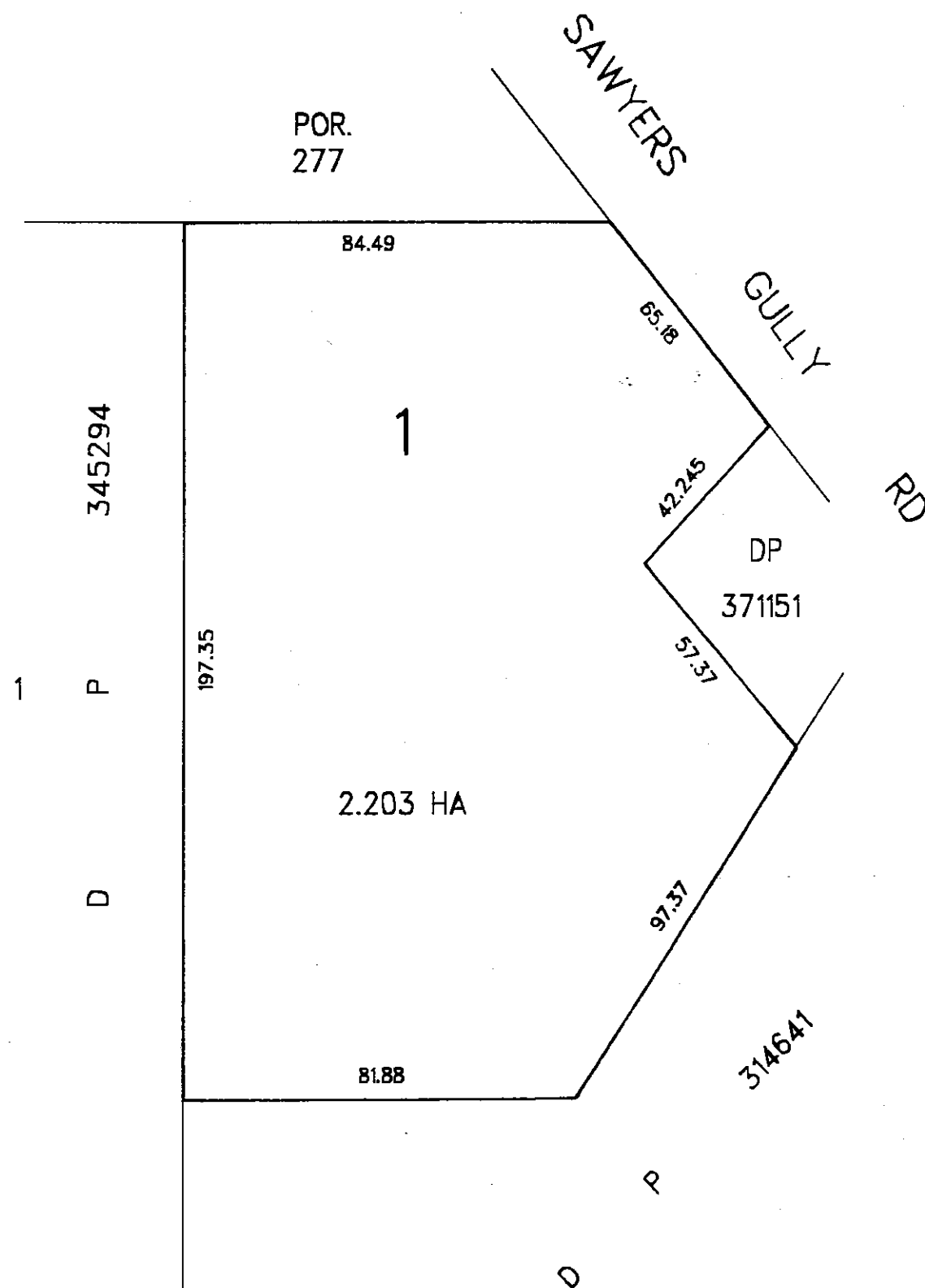
Dated

12965(4)

I, Bruce Richard Davies, Registrar General for New South Wales, certify that this negative is a photograph made as a permanent record of a document in my custody this 17th day of January, 1979

[Signature]

10	20	30	40	50	60	70	80	90	100	110	120	130	140
Table of mm													



D P 6 6 3 7 2 6

Registered:  24.10.1996

Title System: TORRENS

Purpose: DEPARTMENTAL

Ref. Map: U3665-6#

Last Plan: DP314641

THIS PLAN HAS BEEN CREATED
TO PROVIDE A UNIQUE IDENTIFIER
TO ENABLE THE ISSUE OF AN
AUTOMATED TORRENS TITLE
FOR THE LAND COMPRISED IN
FOLIO OF THE REGISTER
VOLUME 6271 FOLIO 95
FORMERLY KNOWN AS PART
OF PORTION 278

Lengths are in metres.

Reduction Ratio : NOT TO SCALE

L.G.A.: CESSNOCK

LOCALITY: .

PARISH: HEDDON

COUNTY: NORTHUMBERLAND

G.D.B. U3665-6

N O O 1 D 1 B

PLAN FORM 2

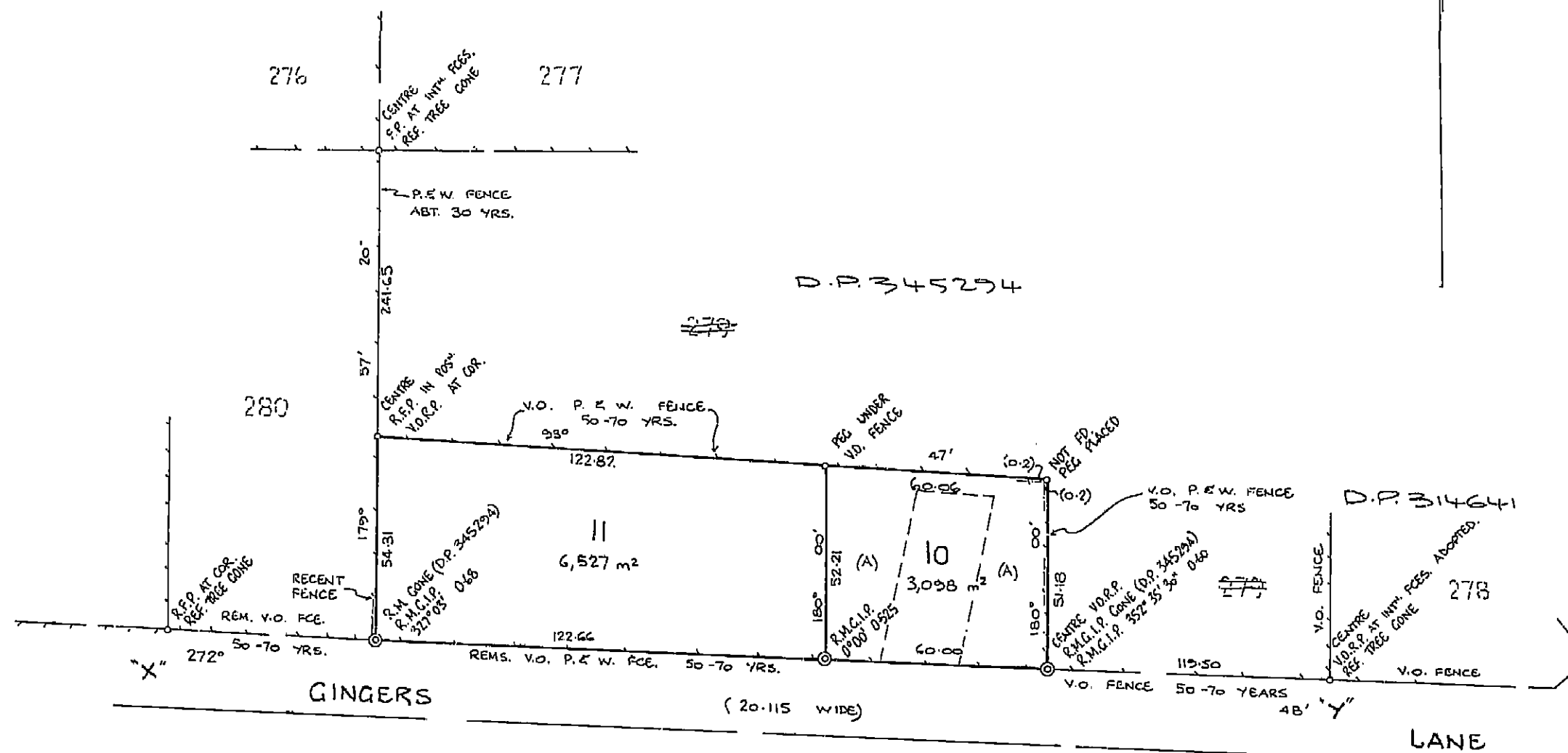
Plan Drawing only to appear in this space

1371 OFFICE USE ONLY

Signatures and seals only.

Douglas Kevin Williams.
Robyn Elizabeth Williams
owners of indicated lots 10 & 11,
parts of portion 279, as
shown on this plan.

Douglas Williams.
R.E. Williams



(A) SEC. 272 CROWN LANDS CONSOLIDATION ACT, 1913.

Council Clerk's Certificate

I hereby certify that -

- (a) the requirements of the Local Government Act, 1919
(other than the requirements for the registration of
plans), and
(b) the requirements of section 34D of the Metropolitan
Water Sewerage and Drainage Act, 1924, as amended,
Hunter District Water, Sewerage, and Drainage Act,
1938, as amended

have been complied with by the applicant in relation to the

proposed SUBDIVISION

(Insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No. 42/1984

Date 29th NOVEMBER 1984

(Signature) [Signature]

Council Clerk

*This part of certificate to be deleted where the application is only
for a consolidated lot or the opening of a new road or where the land
to be subdivided is wholly outside the areas of operation of the
Metropolitan Water Sewerage and Drainage Board and the Hunter
District Water Board.
Delete if inapplicable.

M.P.D.

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

SURVEYOR'S REFERENCE (51394) HD/7

D.P. 710071

Registered: 17-1-1985

C.A. N° 42/1984 OF 27-11-1984

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: U3665 - 6#

Last Plan: D.P. 314896, D.P. 3145294

PLAN OF SUBDIVISION OF LAND IN
CERTIFICATES OF TITLE VOL. 5265
FOL. 209 & VOL. 3889 FOL. 134

Reduction Ratio 1: 1250
Lengths are in metres.

Municipality:
City: CRESSNOCK

Locality: WESTON

Parish: HEDDON

County: NORTHUMBERLAND

This is sheet 1 of my plan in
(Delete if inapplicable).

I, RAYMOND PAUL DALEY,
SCOTT CRISP CASHMORE & PARTNERS PTY LTD,
of 13 CHURCH STREET, MATELAND,
a surveyor registered under the Surveyors Act, 1929, as
amended, hereby certify that the survey represented in this
plan is accurate and has been made (1) by me (2) under my
immediate supervision in accordance with the Survey
Practice Regulations, 1933, and was completed on 1
8th November 1984

Signature [Signature]
Surveyor registered under Surveyors Act, 1929, as amended.
Datum Line of Azimuth.
*Strike out either (1) or (2). (Insert date of survey.)

Panel for use only for statements of intention
to dedicate public roads or to create public res-
ervoirs, drainage reserves, easements or restrictions
as to user.

This negative is a photograph made as a permanent
record of a document in the custody of the
Registrar General this day.



Date 18th January, 1985

SIGNATURE AND SEALS ONLY.

Dee Marshall

DP 884423

(E)

Registered: *4.6.1999*
C.A. No 21/98 OF 15.2.1999
Title System: TORRENS
Purpose: SUBDIVISION
Ref. Map: U 3665-2*, 5*, 6*
Last Plan: 4104.2111

PLAN OF SUBDIVISION OF
LOT 273, DP 755231

Lengths are in metres. Reduction Ratio 1:3000

LGA CESSNOCK
Suburb/Locality: SAWYERS GULLY
Parish: HEDDON
County: NORTHUMBERLAND

This is sheet 1 of my plan in *1* sheets.
(Delete if inapplicable).

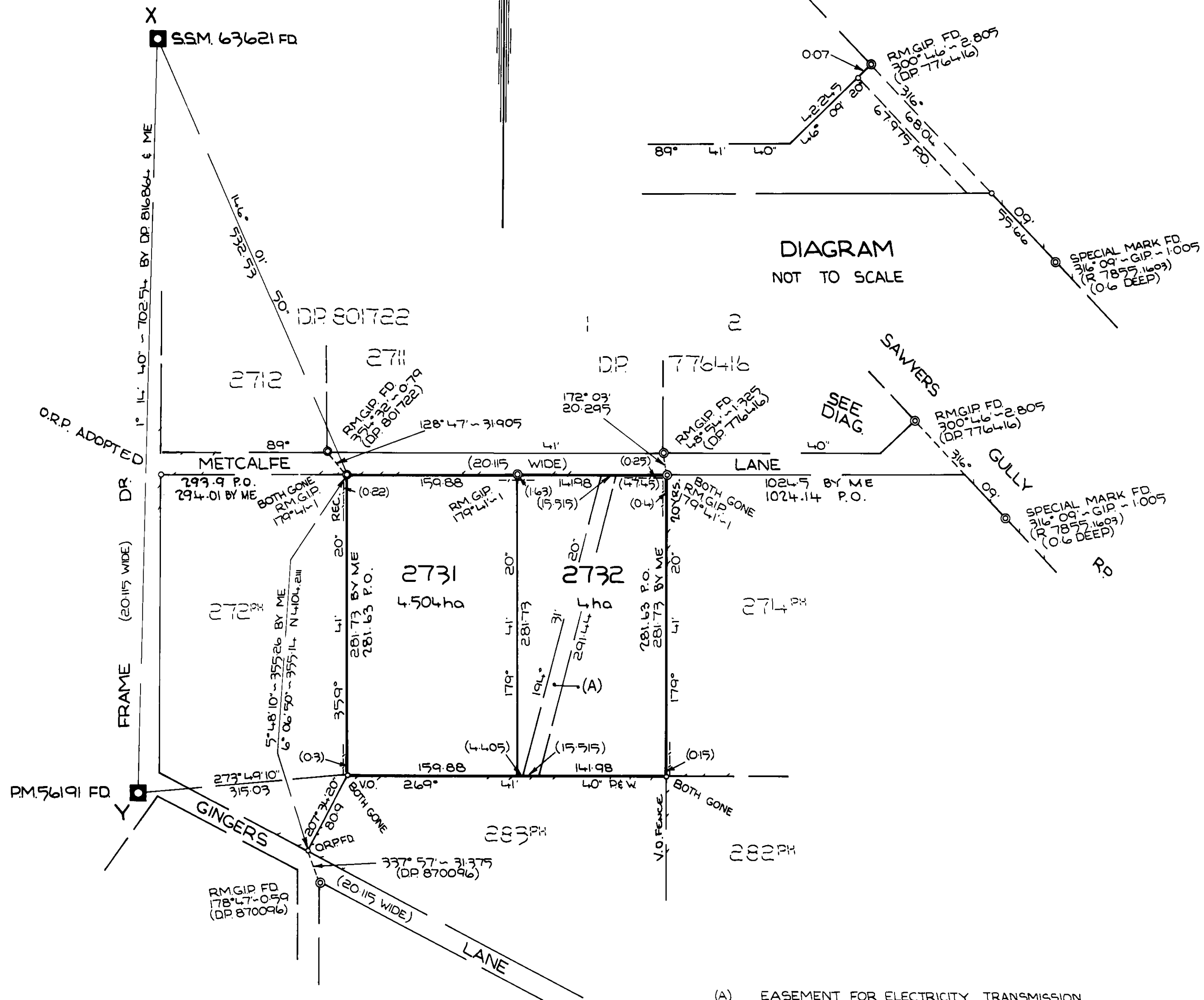
IAN HAROLD MARSHALL
MARSHALL SCOTT
PO BOX 165 CESSNOCK 2325
a surveyor registered under the Surveyors Act 1929, hereby
certify that the survey represented in this plan is accurate, has been
made in accordance with the Surveyors (Practice) Regulation 1996
and was completed on *27th MAY 1998*

The survey relates to
(here specify the land actually surveyed, or specify any land shown
in the plan that is not the subject of the survey)

(Signature) *Ian Marshall*
Datum Line: X-Y
Zone: *Suburban* Country: *the Surveyors Act 1929*

Plans used in preparation of survey/compilation.

DP 776416 DP 870096
DP 801722 N4104.2111
DP 816864 R 7855.1603

PANEL FOR USE ONLY for statements of intention
to dedicate public roads, to create public reserves,
drainage reserves, easements, restrictions on the
use of land or positive covenants.PURSUANT TO SECTION 88B
OF THE CONVEYANCING
ACT 1919, IT IS INTENDED
TO CREATE :-1. EASEMENT FOR
ELECTRICITY TRANSMISSION
LINES 15 WIDE(A) EASEMENT FOR ELECTRICITY TRANSMISSION
LINES 15 WIDE

Crown Lands Office Approval

PLAN APPROVED
Authorised Officer
Land District
Paper No.
Field Book pages

Council's Certificate

I hereby certify that -
(a) the requirements of the Local Government Act, 1919 (other
than the requirements for the registration of plans), and
(b) the requirements of Part 5 Division 2 of the Water Board Act
1987 or Part 5 Division 7 of the Hunter Water Board
(Incorporation) Act 1991.

have been complied with by the applicant in relation to the
proposed **SUBDIVISION**
(Insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No. *21/98*
Date *FEBRUARY 15, 1999*

(Signature) *I. Marshall*
General Manager/Authorised Person

Council File No. *150/598/21*


*This part of certificate to be deleted where the application is only for
a consolidated lot or the opening of a new road or where the land to be
subdivided is wholly outside the areas of operations of the Water
Board and the Hunter Water Corporation Ltd.

†Delete if inapplicable

SURVEYOR'S REFERENCE: 15061 DB - CHECKLIST

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

DP1104897

Registered:  14/11/2006 *

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: U3665-2#5#

Last Plan: 4104-2111

PLAN OF SUBDIVISION OF
LOT 272, D.P.755231

Lengths are in metres. Reduction Ratio 1: 1500

L G A CESSNOCK

Locality: SAWYERS GULLY

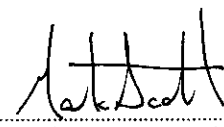
Parish: HEDDON

County: NORTHUMBERLAND

This is sheet 1 of my plan in _____ sheets.
(Delete if inapplicable)

Surveying Regulation 2001

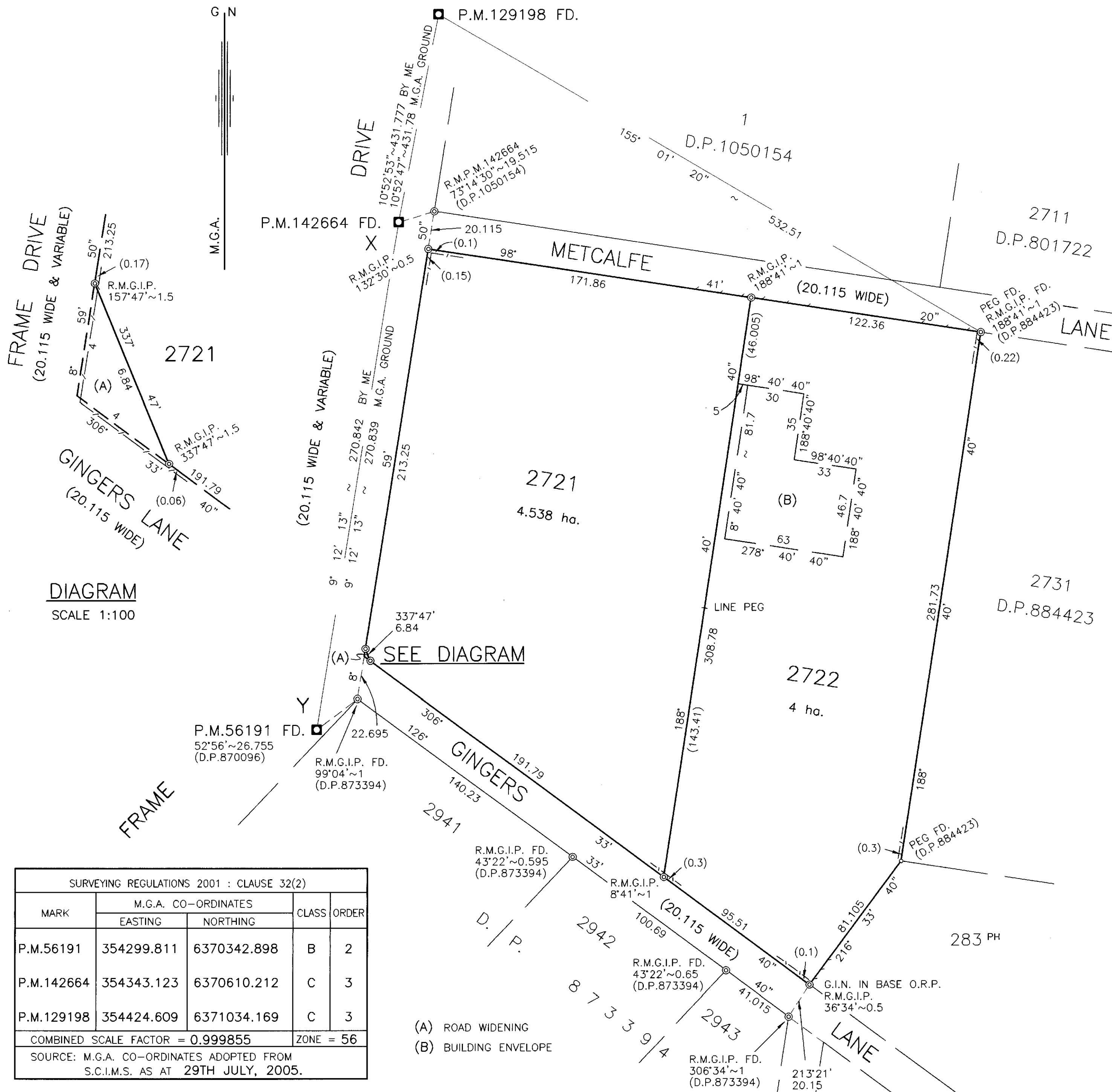
I, ANDREW MARK SCOTT
of MARSHALL SCOTT PTY LTD
PO BOX 165 CESSNOCK 2325
a land surveyor registered under the Surveying Act, 2002,
certify that the survey represented in this plan is accurate,
has been made in accordance with the Surveying
Regulation 2001 and was completed
on 29TH JULY, 2005.
Datum Line: X - Y
Zone: Urban

(Signature) 
Land Surveyor registered under
the Surveying Act 2002

Plans used in preparation of survey/compilation.
D.P.873394 D.P.870096
D.P.884423
D.P.1050154
N4104.2111

PANEL FOR USE ONLY for statements of intention
to dedicate public roads, to create public reserves,
drainage reserves, easements, restrictions on the
use of land or positive covenants.

PURSUANT TO SECTION 88B
OF THE CONVEYANCING ACT
1919, IT IS INTENDED
TO CREATE:

1. RESTRICTION(S) ON THE
USE OF LANDIT IS INTENDED TO DEDICATE
THE ROAD WIDENING TO THE
PUBLIC AS ROAD

DIAGRAM

SCALE 1:100

Crown Land Office Approval

PLAN APPROVED
Authorised OfficerLand District
Paper No
Field Book pages

Subdivision Certificate

I hereby certify that the provisions of s.109J of the Environmental Planning
and Assessment Act 1979 have been satisfied in relation to the
proposedSUBDIVISION set out herein
* (insert 'subdivision' or 'new road')

* Authorised Person General Manager / Accredited Certifier

Consent Authority CESSNOCK CITY COUNCIL

Date of endorsement NOVEMBER 25, 2005

Accreditation no.

Subdivision Certificate no. 14/2004/145/1

File no. 8/2004/1456/1

Note:
When the plan is to be lodged electronically in the Land Titles Office,
it should include a signature in an electronic or digital format
approved by the Registrar-General.

* Delete whichever is inapplicable

SURVEYING REGULATIONS 2001 : CLAUSE 32(2)				
MARK	M.G.A. CO-ORDINATES		CLASS	ORDER
	EASTING	NORTHING		
P.M.56191	354299.811	6370342.898	B	2
P.M.142664	354343.123	6370610.212	C	3
P.M.129198	354424.609	6371034.169	C	3
COMBINED SCALE FACTOR = 0.999855			ZONE = 56	
SOURCE: M.G.A. CO-ORDINATES ADOPTED FROM S.C.I.M.S. AS AT 29TH JULY, 2005.				

(A) ROAD WIDENING
(B) BUILDING ENVELOPE

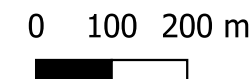
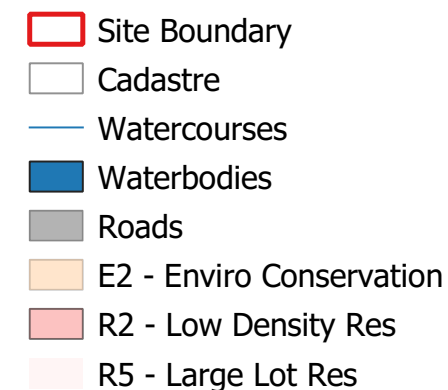
10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

SURVEYOR'S REFERENCE: 17873

ATTACHMENT 6 – SUBDIVISION PLAN, ARCHITECTURAL PLANS OR ZONING PLANS

**Figure A -
Proposed
Land-Use Zone**



Job No: J000909 Date: 17/05/2021

Gingers Lane Precinct

Figure B - Proposed Minimum Lot Size

- Site Boundary
- Cadastre
- Watercourses
- Waterbodies
- Roads
- MLS - 450sqm
- MLS - 1,500sqm
- MLS - 40ha

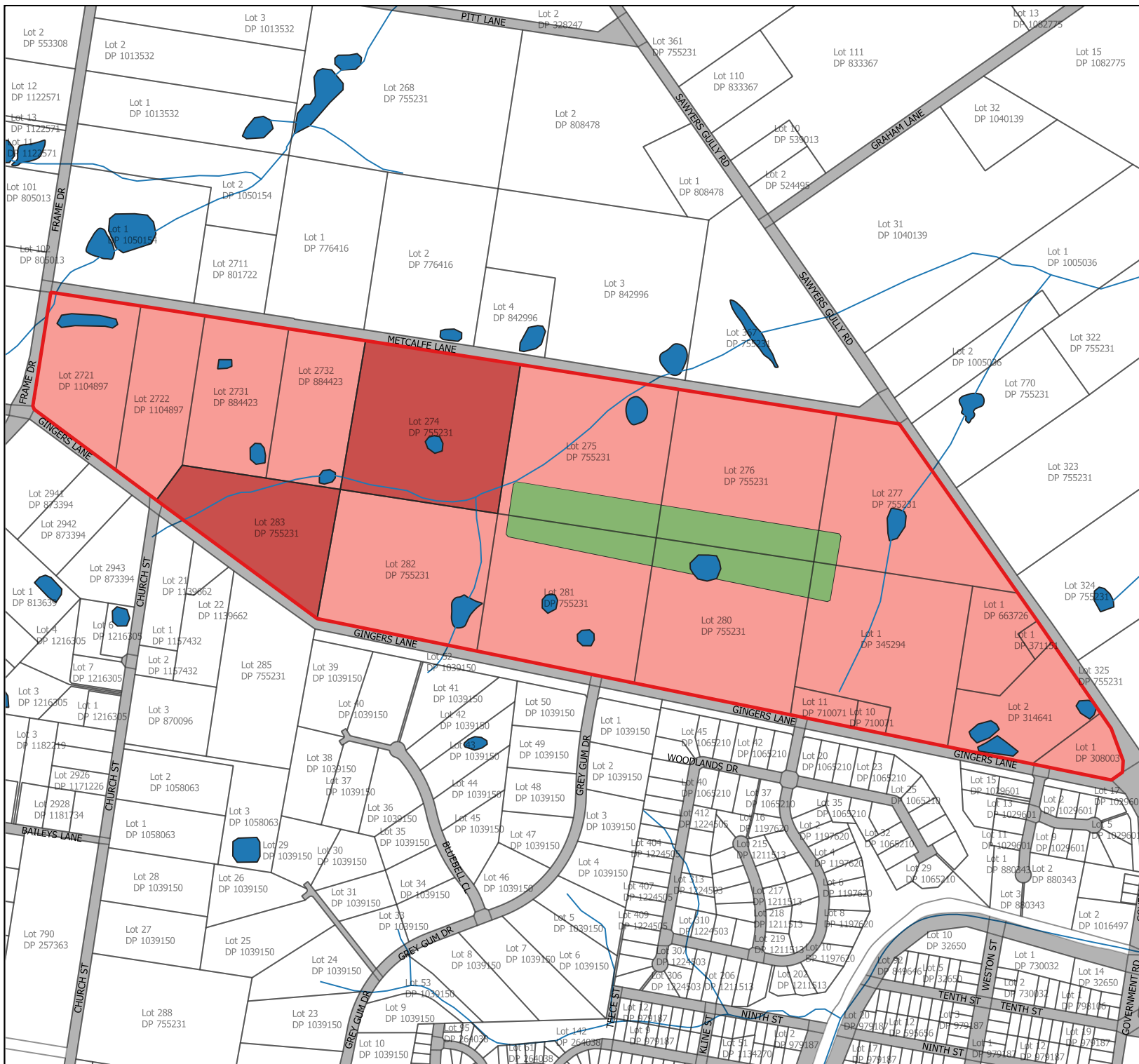


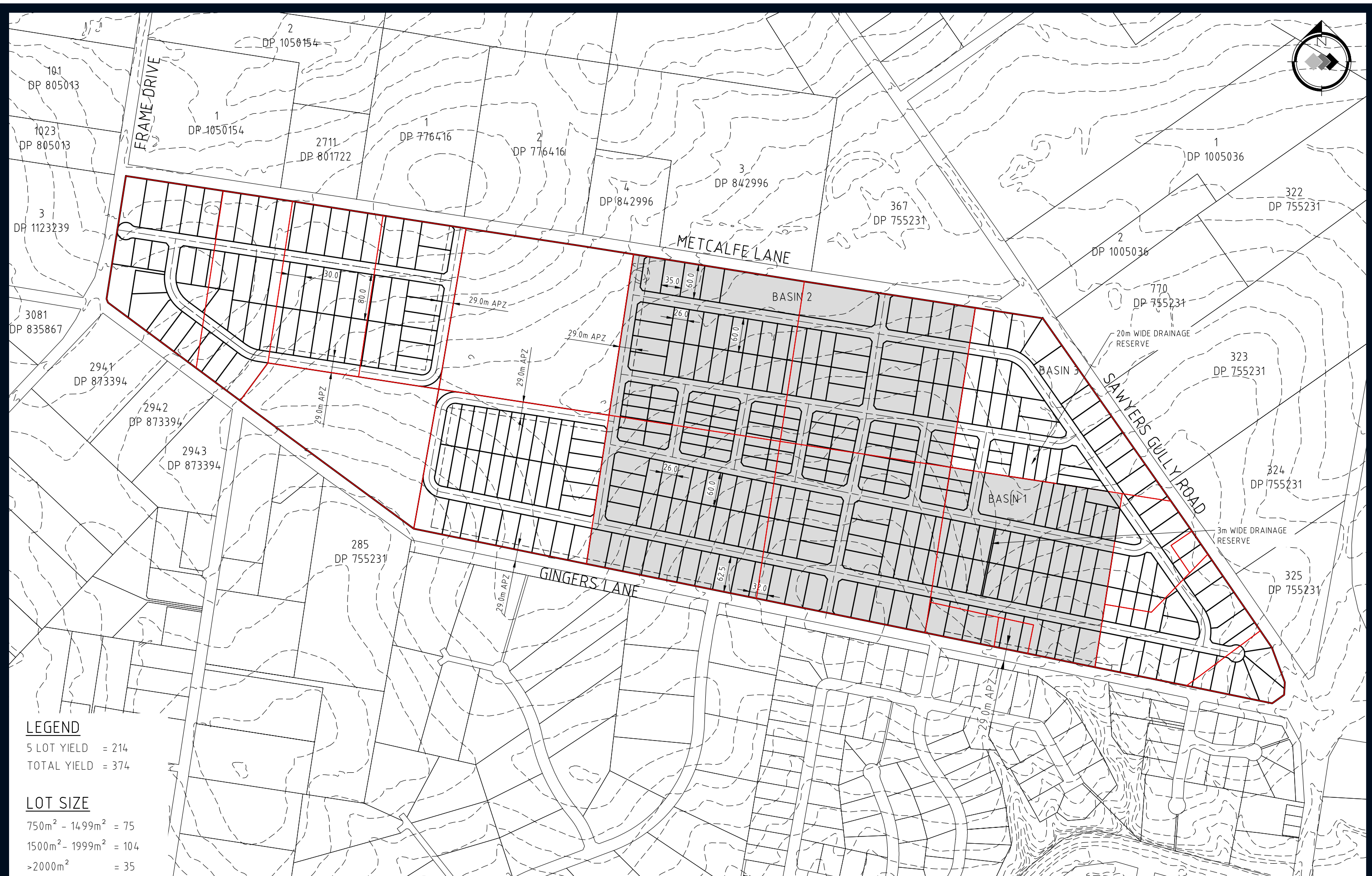
0 100 200 m



While every effort is made to ensure this map is free of errors, there is no warrant the map or its features are either spatially or temporally accurate or fit for a particular use. This map is provided without any warranty of any kind whatsoever, either express or implied.

Job No: J000909 Date: 17/05/2021





LEGEND

5 LOT YIELD = 214
TOTAL YIELD = 374

LOT SIZE

750m² - 1499m² = 75
1500m² - 1999m² = 104
>2000m² = 35



Geoff Craig & Associates
1 Hartley Drive,
P.O. Box 3337,
Thornton NSW 2322
Phone: 49641811

TITLE:
PROPOSED SUBDIVISION
GINGERS LANE
SAWYERS GULLY
PLAN SHEET

Cad Ref: 18184LD LD06 r1		Scale: 1:6000		Designed: DB		Project No	
						18184LD	
						Drawing No	
						LD06	
						Revision	
						1	
1	ORIGINAL ISSUE	DB	27.04.21				
No	Amendment	Drawn	Date				

ATTACHMENT 7 – LEGAL DESCRIPTION

No	Address	Lot/DP	Name	Restriction
1	156 Frame Drive	Lot 2721, DP 1104897	Ruth P	-
2	19 Metclafe Lane	Lot 276, DP 755231	Shirley H	-
3	59 Metclafe Lane	Lot 277, DP 755231	Malcolm S	-
4	71 Metclafe Lane	Lot 275, DP 755231	Newpro Pty Ltd	-
5	101 Metclafe Lane	Lot 274, DP 755231	Joseph K	-
6	107 Metclafe Lane	Lot 2732, DP 884423	Anthony B	88b – Easement for Electricity – 15m Wide
7	131 Metclafe Lane	Lot 2731, DP 884423	Patrick C	-
8	133 Metclafe Lane	Lot 2722, DP 1104897	Chad J	88b – Building Envelope.
9	15 Sawyers Gully Lane	Lot 1, DP 308003	Sonia P	-
10	27 Sawyers Gully Lane	Lot 2, DP 314641	Owen J	-
11	37 Sawyers Gully Lane	Lot 1, DP 371151	Dearne M	-
12	43 Sawyers Gully Lane	Lot 1, DP 663726	Marlene S	-
13	40 Gingers Lane	Lot 1, DP 345294	Dennis M	-
15	52 Gingers Lane	Lot 10, DP 710071	Douglas W	-
16	60 Gingers Lane	Lot 11, DP 710071	Douglas W	-

17	72 Gingers Lane	Lot 280, DP 755231	Peter R	-
18	102 Gingers Lane	Lot 281, DP 755231	Stephen & Julie P	-
19	152 Gingers Lane	Lot 282, DP 755231	Newpro16 Pty Ltd	-
20	176 Gingers lane	Lot 283, DP 755231	Lee W	-



Perception Planning Pty Ltd.
PO Box 107,
Clarence Town, NSW, 2324
Phone: 04 1155 1433
Email: admin@perceptionplanning.com.au