

16th October 2023

Andrea Smith,
Development Manager, Villawood Properties
PO Box 1104, Bendigo VIC 3552
Email: andrea@villawoodproperties.com
Phone: (03) 5444 0002

Dear Andrea,

Bushfire Attack Level Assessment

Imagine Estate, Strathfieldsaye: Stage 16 and 16B

Practical Ecology was commissioned by Villawood Properties to provide a Bushfire Attack Level Assessment for the residential subdivision of Stage 16 and 16B of Imagine Estate, Strathfieldsaye. It is understood a planning permit has been granted for the subdivision plan and a BAL assessment for the building permit is all that is required. An overview of the site is presented in Map 1.

The land is located within a Bushfire Prone Area under the *Victorian Building Regulations 2018*. As such, the provisions within the Building Code of Australia (BCA) require residential development to be protected from the effects of bushfire. The deemed-to-satisfy solutions require an assessment of the Bushfire Attack Level (BAL) in accordance with *Australian Standards 3959-2018: Construction of buildings in bushfire-prone areas* (AS3959-2018). Dwellings must then be built to the relevant BAL as per the BCA.

Currently there are two deemed-to-satisfy methods of building construction to satisfy the BAL:

- AS3959-2018, and
- NASH Standard 'Steel Framed Construction in Bushfire Areas'

The land is zoned General Residential and is not covered by a Bushfire Management Overlay. Planning authorities may seek assurance that bushfire protection measures have been considered at the subdivision application stage.

There are three potential methods of BAL assessment under the building and planning regulations:

- Method 1 of AS3959-2018
- Method 2 of AS3959-2018
- An Alternative Solution in accordance with the BCA for building permits or as approved by the Relevant Authority for planning permits.

Considering the nature of the development and the condition of the surrounding vegetation. Method 1 as per AS3959-2018 is considered suitable in relation to the subdivision of Stage 16 and 16B.

SUMMARY OF RESULTS

Document date & version	16/10/2023 - Version 1.0
Assessors	Julian Drummond
Accreditation Number	BPAD44709
Assessors Contact	Email: juliand@practicalecology.com.au Phone: (03) 9484 1555 Mobile: 0421 695 276

Lot No	BAL rating as per AS3959-2018	Setback from boundary required	Shielding as per AS3959-2018 Section 3.5 applicable
1601	BAL-12.5	N/A	N/A
1602	BAL-12.5	N/A	N/A
1603	BAL-12.5	N/A	N/A
1604	BAL-12.5	N/A	N/A
1605	BAL-12.5	N/A	N/A
1606	BAL-12.5	N/A	N/A
1607	BAL-12.5	N/A	N/A
1608	BAL-12.5	N/A	N/A
1609	BAL-12.5	N/A	N/A
1610	BAL-12.5	N/A	N/A
1611	BAL-12.5*	N/A*	N/A
1612	BAL-12.5*	N/A*	N/A
1613	BAL-12.5	N/A	N/A
1614	BAL-12.5	N/A	N/A
1615	BAL-12.5	N/A	N/A
1616	BAL-12.5	N/A	N/A
1617	BAL-12.5	N/A	N/A
1618	BAL-12.5*	N/A*	N/A
1619	BAL-12.5*	N/A*	N/A
1620	BAL-12.5*	N/A*	N/A
1621	BAL-12.5	N/A	N/A
1622	BAL-12.5	N/A	N/A
1623	BAL-12.5	N/A	N/A
1624	BAL-12.5	N/A	N/A
1625	BAL-12.5	N/A	N/A
1626	BAL-12.5*	N/A*	N/A
1627	BAL-12.5*	N/A*	N/A
1628	BAL-12.5*	N/A*	N/A
1629	BAL-12.5*	N/A*	N/A
1630	BAL-12.5*	N/A*	N/A

Lot No	BAL rating as per AS3959–2018	Setback from boundary required	Shielding as per AS3959–2018 Section 3.5 applicable
1631	BAL-12.5	N/A	N/A
1632	BAL-12.5	N/A	N/A
1633	BAL-12.5	N/A	N/A

* Assuming that the Forest vegetation along Dukes Lane is managed by future developments along this road reserve over the next five years as indicated from previous assessments

Bushfire Attack Level Assessment

Document date & version	10/10/2023 – Version 0.0
Assessors	Julian Drummond
Accreditation Number	BPAD44709
Assessors Contact	Email: juliand@practicalecology.com.au Phone: (03) 9484 1555 Mobile: 0421 695 276

SITE DETAILS

Municipality	Greater Bendigo
Address	Stage 16 and 16B – 59 & 80 Dukes Lane, Strathfieldsaye, Victoria, 3551
Applicant	c/o Andrea Smith Development Manager, Villawood Properties PO Box 1104, Bendigo VIC 3552 andrea@villawoodproperties.com
Zoning	General Residential Zone (GRZ)
Overlays	<ul style="list-style-type: none"> Development Plan Overlay – Schedule 26 (DPO26) Environmental Significance Overlay – Schedule 1 (ESO1) Land Subject to Inundation Overlay – Schedule 1 (LSIO1) & Schedule 2 (LSIO2)
Bushfire Prone Area	Yes
Proposal	Residential subdivision

AS3959 METHOD 1

The Study Area consists of parcels on the eastern and western side of Dukes Lane. The majority of this area has already been cleared for the residential subdivisions on adjacent properties although there is some vegetation to the north on properties which have not been developed yet and along the Dukes Lane Road Reserve. The vegetation along the road reserve was a small patch of Forest, there is Grassland to the north and east and a small patch of Woodland to the east. All of these are considered to be on a 0–5° downslope due to a slight northern downslope towards Emu Creek.

The results of the BAL assessment are provided in Table 1 below but, considering the conditions within the surrounding areas and the previous assessments done in this area, no setbacks should be required.

Table 1. Bushfire hazard site assessment

Vegetation patch	1	2	3	4
Direction in relation to site	North	East	North-east	South
Fire Danger Index	100	100	100	100
Vegetation type	Forest	Woodland	Grassland	Low Threat
Exclusions (from Section 2.2.3.2 b, c, d, e or f)	N/A	N/A	N/A	e, f
Effective Slope (up/down)	Down	Down	Down	Up
Slope (degrees)	0–5°	0–5°	0–5°	0–5°
Defendable space requirements for BAL-12.5 (m)	57	41	22	N/A
Defendable space requirements for BAL-19 (m)	43	29	15	N/A
Defendable space requirements for BAL-29 (m)	32	21	10	N/A
Defendable space requirements for BAL-40 (m)	24	15	7	N/A

A Bushfire Risk Assessment was performed by *Practical Ecology* for 90 Dukes Lane and 410 Somerset Park Road, Strathfieldsaye ('Bushfire Risk Assessment – 90 Dukes Lane and 410 Somerset Park Road, Strathfieldsaye', *Practical Ecology*, 2021) which includes the land to the north where the Classified vegetation was recorded. This report confirmed that all of this vegetation will be managed for similar residential development or for the upgraded road reserve along Dukes Lane.

Bushfire Risk Assessments were also performed for properties to the east and west (including properties which contained the Stage 16 lots) which confirmed the assessment above. Requiring setbacks and/or higher BAL ratings for the vegetation still present in these areas is therefore redundant, noting although the management of the vegetation to the north should be scheduled over the next five years. Based on this assessment, there should be no issue having BAL-12.5 for all lots with no setbacks or shielding required.

QUALIFICATIONS

We have taken all reasonable steps to ensure that the information provided in this assessment is accurate and reflects the conditions on and around the site on the date of this assessment. This assessment cannot guarantee safety during a bushfire event. There are additional measures that should be considered and implemented to improve the bushfire performance of buildings and the safety of occupants such as:

- a Personal Bushfire Plan for each household to detail how occupants will respond to an emergency event
- building design: e.g. minimise re-entrant corners, elevated floors, vulnerable elements
- access and egress for emergency services
- static water supply in case mains water is not available
- defensible space around building by managing vegetation and removing other fuel sources.

Please don't hesitate to contact us if you have any issues or queries,

Yours sincerely,



Julian Drummond

Bushfire / Ecological Consultant

Ph: (03) 9484 1555 | E-mail: juliand@practicalecology.com.au

Web: www.practicalecology.com.au Address: PO Box 228 | Preston Vic 3072









Map 1. Subject Site

Imagine Estate – Stage 16

Legend

-  Study area
-  Parcels
-  Contours (10m)
-  Natural watercourse

Details

Mapping by: Julian Drummond
 Date: 10/10/2023
 Version: 1
 Aerial photography from Nearmap (Sept 2023).
 Data Source: Base layers courtesy of VicMap,
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Scale: 1:1,000 (Page size A3)

Disclaimer

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Map 2. BAL Assessment – Classified Vegetation

Imagine Estate – Stage 16



Legend

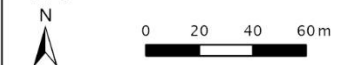
- Study area
- Assessment area (100m)
- Parcels
- Contours (10m)
- Natural watercourse
- Slopes calculated from contours

Classified vegetation

- 0–5° Downslope Forest
- 0–5° Downslope Woodland
- 0–5° Downslope Grassland
- Low Threat

Details

Mapping by: Julian Drummond
 Date: 10/10/2023
 Version: 1
 Aerial photography from Nearmap (Sept 2023).
 Data Source: Base layers courtesy of VicMap,
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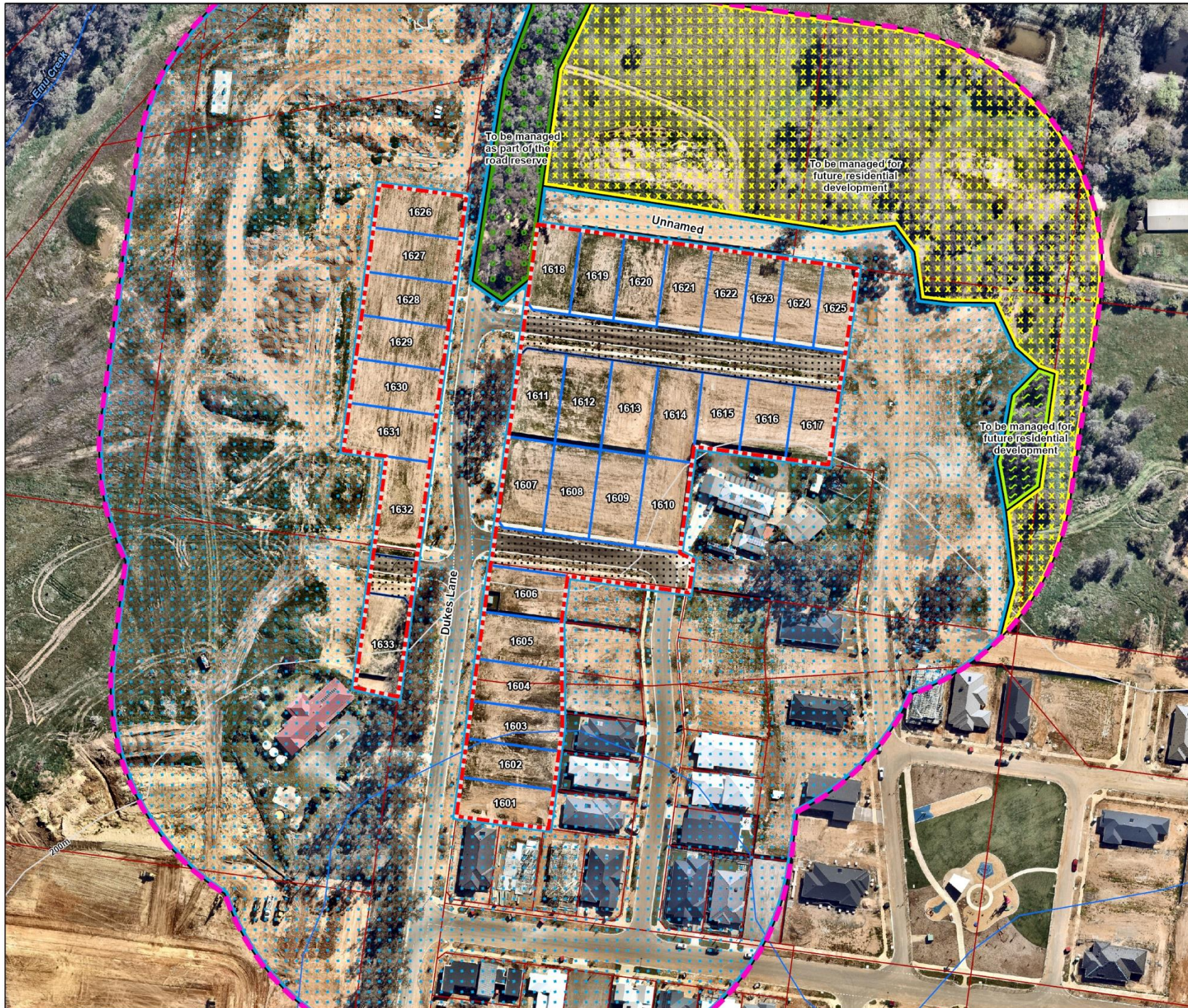
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Map 3. BAL Assessment – Proposed layout

Imagine Estate – Stage 16



Legend

- Study area
- Assessment area (100m)
- Parcels
- Contours (10m)
- Natural watercourse

Classified vegetation

- 0–5° Downslope Forest
- 0–5° Downslope Woodland
- 0–5° Downslope Grassland
- Low Threat

Proposed layout

- Lot
- Road

Details

Mapping by: Julian Drummond
 Date: 10/10/2023
 Version: 1
 Aerial photography from Nearmap (Sept 2023).
 Data Source: Base layers courtesy of VicMap,
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Scale: 1:1,500 (Page size A3)

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PLAN OF SUBDIVISION

EDITION 1

PS 839663V

Location of Land

Parish: STRATHFIELDSAYE
Township: STRATHFIELDSAYE
Section: -----
Crown Allotment: 39 (PART), 40 (PART) & 40 A (PART)
Crown Portion: -----
Title Reference: VOL. FOL. T.B.A., VOL. FOL. T.B.A & VOL.9476 FOL.705
Last Plan Reference: LOT A (PART) & LOT B (PART) PS839660C & LOT 2 PS723842S
Postal Address: 80 DUKES LANE
 (at time of subdivision) STRATHFIELDSAYE 3551

MGA Co-ordinates: E 265 730 Zone: 55
 (of approx. centre of land N 5 923 880 GDA 2020
 in plan)

Council Name: CITY OF GREATER BENDIGO **Ref:**

Vesting of Roads and/or Reserves

Identifier	Council/Body/Person
ROAD R1	CITY OF GREATER BENDIGO
ROAD R2	CITY OF GREATER BENDIGO
RESERVE No.1	POWERCOR AUSTRALIA LTD

Notations

The supply of electricity easement shown as E-1, E-2 & E-3 on PS723842S is to be removed upon registration of this plan
 The carriageway easement shown as E-2, E-3, E-4 and E-5 on PS723842S is to be removed upon registration of this plan
 The transmission of telecommunications signals by underground cables easement shown as E-3 and E-4 on PS723842S is to be removed upon registration of this plan
 The water supply easements vide transfers J77639, J122327 and J188195 over the easement E-6 on PS723842S is to be removed upon registration of this plan

Notations

Depth Limitation: Does not apply
Survey: This plan is based on survey
Staging: This is not a staged plan of subdivision
Planning Permit No. DS/188/2016 and DS/459/2020
This survey has been connected to permanent mark(s): 117, 130 & 137
In Proclaimed Survey Area No. -----

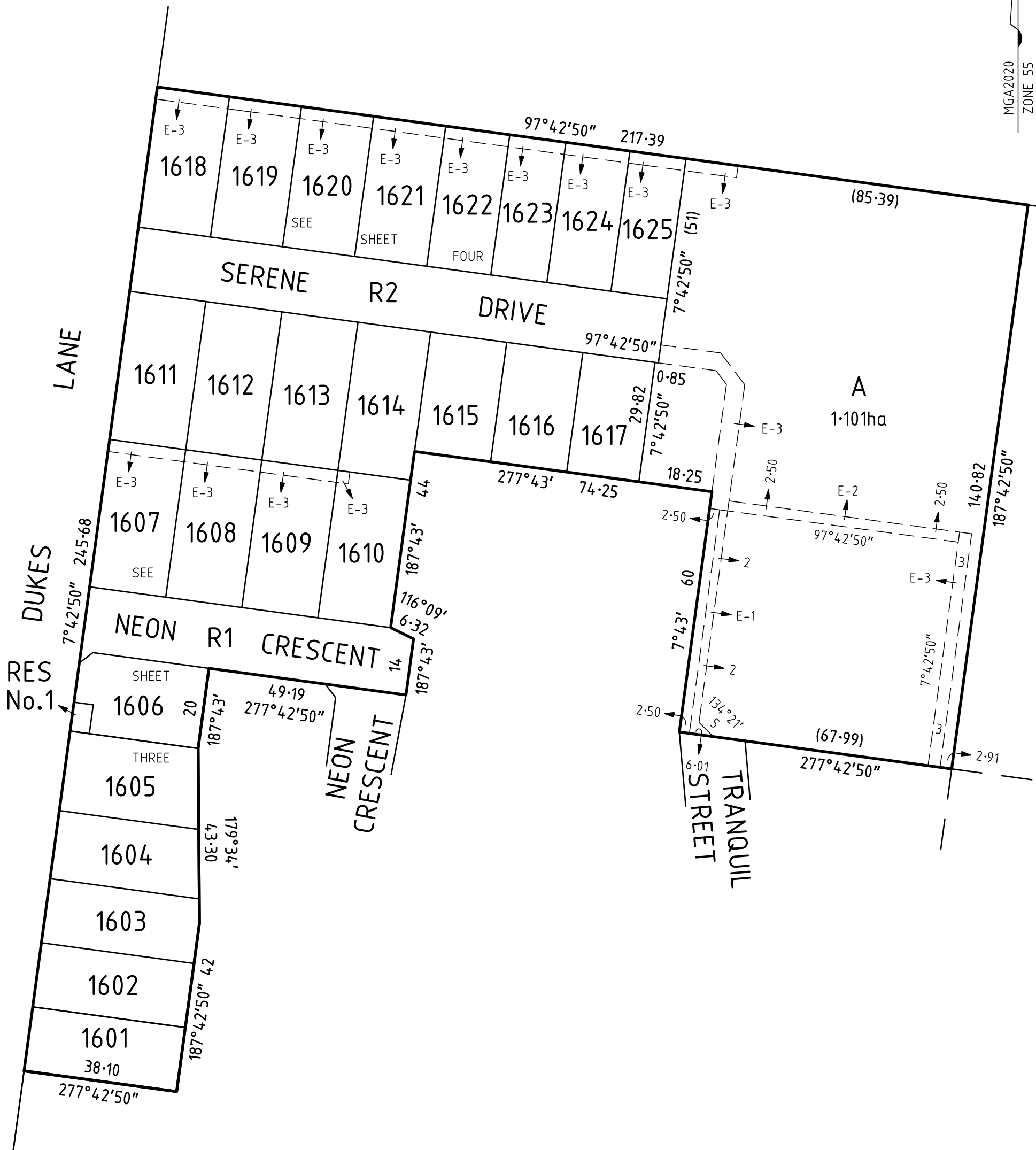
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Easement Information

Legend: E - Encumbering Easement or Condition in Crown Grant in the Nature of an Easement or other Encumbrance A - Appurtenant Easement

Easement Reference	Purpose	Width (Metres)	Origin	Land Benefited/In Favour Of
E-1, E-3	DRAINAGE	SEE DIAG	THIS PLAN	CITY OF GREATER BENDIGO
E-2, E-3	PIPELINES OR ANCILLARY PURPOSES	SEE DIAG	THIS PLAN - SEC 136 WATER ACT 1989	COLIBAN REGION WATER CORPORATION

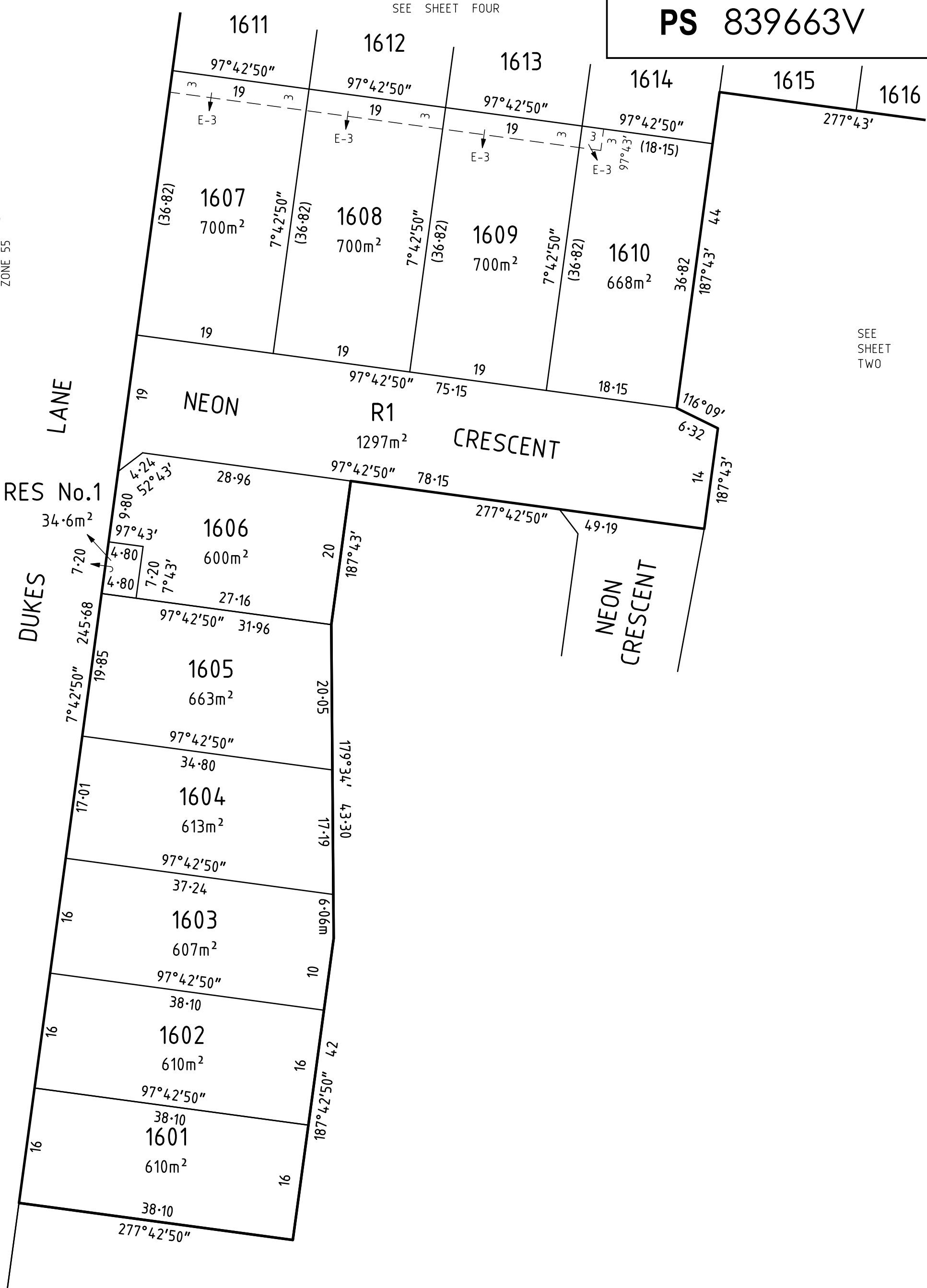




SEE SHEET FOUR

PS 839663V

MGA2020
ZONE 55



SEE SHEET TWO

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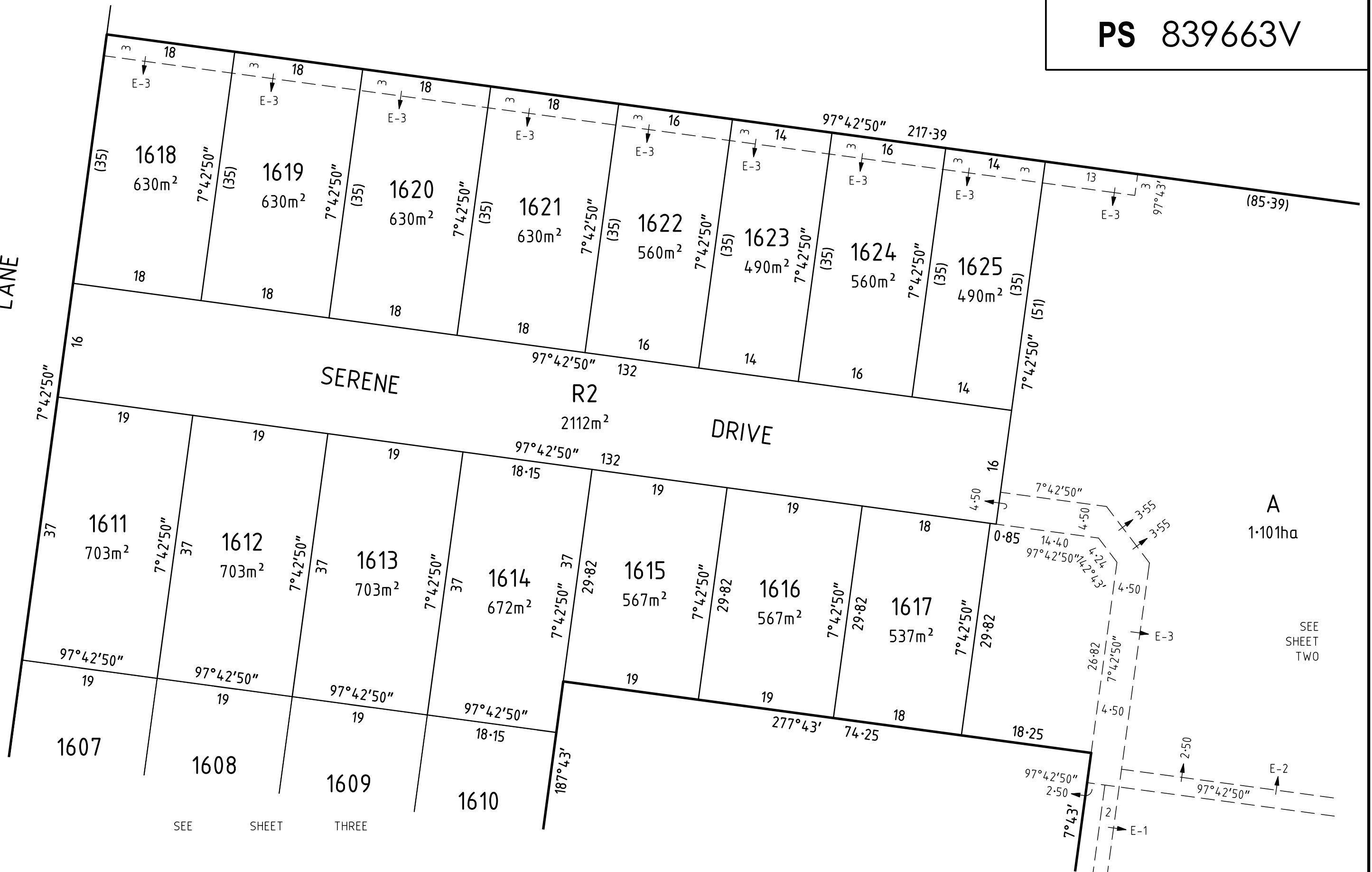
LENGTHS ARE IN METRES

CHRISTOPHER SCOTT FRANKS

ORIGINAL SHEET SIZE A3	SURVEYORS REF No. 1065316	VER 03	PLOTTED 09-09-2021	P.J.L.
			Sheet 3	

MGA2020
ZONE 55

LANE
DUKES



A
1.101ha

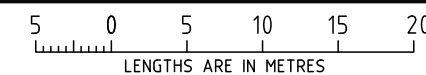
SEE
SHEET
TWO

SEE SHEET THREE



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ORIGINAL
SHEET SIZE
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SURVEYORS REF No.
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VER
03

PLOTTED 09-09-2021 P.J.L.
Sheet 4

CHRISTOPHER SCOTT FRANKS

PLAN OF SUBDIVISION

EDITION 1

PS 848026C

Location of Land

Parish: STRATHFIELDSAYE
Township: STRATHFIELDSAYE
Section: SECTION
Crown Allotment: 31, 31^A, 32, 33, 33^A & 33^B
Crown Portion: -----
Title Reference: VOL.10567 FOL.871 & VOL.11555 FOL.954

Last Plan Reference: TP020600A & TP954658G

Postal Address: 59 DUKES LANE
 (at time of subdivision) STRATHFIELDSAYE 3551

MGA Co-ordinates: E 265 540 Zone: 55
 (of approx. centre of land N 5 923 850 GDA 2020
 in plan)

Council Name: CITY OF GREATER BENDIGO **Ref:**

Vesting of Roads and/or Reserves

Notations

Identifier	Council/Body/Person
ROAD R1	CITY OF GREATER BENDIGO

Other purpose of plan:
 The water supply and drainage easement shown as E-1 on TP020600A and originating from L13595W is to be removed upon registration of this plan
 Gounds for removal:
 Direction in planning permit DS/973/2020

Notations

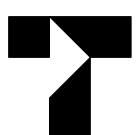
Depth Limitation: 15.24 metres below the surface
 applies to crown allotments 31^A & 33^B only
Survey: This plan is based on survey
Staging: This is not a staged plan of subdivision
Planning Permit No. DS/973/2020
This survey has been connected to permanent mark(s): 117, 130 & 137
In Proclaimed Survey Area No. -----

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Easement Information

Legend: E - Encumbering Easement or Condition in Crown Grant in the Nature of an Easement or other Encumbrance A - Appurtenant Easement

Easement Reference	Purpose	Width (Metres)	Origin	Land Benefited/In Favour Of
NIL				



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IMAGINE STAGE 16B



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VERSION 04

ORIGINAL SHEET
 SIZE: A3

Sheet 1 of 3 Sheets

CHRISTOPHER SCOTT FRANKS

PS 848026C

DUKES LANE

102°22'50"

76.85

47°45'
59.95

7°43'20"
52.50

79°43'
36.55

31°49'
162.41

B
6.983ha



97°33'20"
62.36

315°05'11"
81.35

28°41'20"
67.05

270.17
277°42'50"

97°42'50"
36

1626

1627

1628

1629

1630

1631

18
97°42'50"

1632

YELLOW BOX AVENUE

94
7°42'50"

R1

1633

18
97°42'50"

84

110
7°42'50"

392.33
187°42'50"

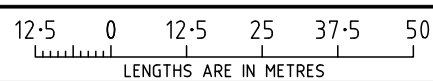
LANE
DUKES LANE

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Sheet 2

CHRISTOPHER SCOTT FRANKS

MGA2020
ZONE 55

B

YELLOW BOX AVENUE

LANE
DUKES

