



BUSHFIRE  
PLANNING  
AUSTRALIA

# BUSHFIRE ASSESSMENT REPORT

## Modification to an Industrial Subdivision

Nepean Business Park, Penrith

Prepared for Precinct Capital Pty Ltd



## Bushfire Planning Australia

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BPA Reference: 1854 Penrith

Prepared for Precinct Capital Pty Ltd

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Date: 31 January 2025



## Disclaimer and Limitation

This report is prepared solely for the Precinct Capital Pty Ltd (the 'Client') for the specific purposes of only for which it is supplied (the 'Purpose'). This report is not for the benefit of any other person; either directly or indirectly and is strictly limited to the purpose and the facts and matters stated in it and will not be used for any other application.

This report is based on the site conditions surveyed at the time the document was prepared. The assessment of the bushfire threat made in this report is made in good faith based on the information available to Bushfire Planning Australia at the time.

The recommendations contained in this report are considered to be minimum standards and they do not guarantee that a building or assets will not be damaged in a bushfire. In the making of these comments and recommendations it should be understood that the focus of this document is to minimise the threat and impact of a bushfire.

Finally, the implementation of the adopted measures and recommendations within this report will contribute to the amelioration of the potential impact of any bushfire upon the development, but they do not and cannot guarantee that the area will not be affected by bushfire at some time.

## Document Status: 1854 - Industrial Subdivision

Version	Status	Purpose	Author	Review Date
1	Draft	Draft for Review	Katrina Greville	30 October 2024
2	Draft	Draft for Client Review	Stuart Greville	31 January 2025
3	Final	Final for Submission	Stuart Greville	31 January 2025

## Certification

As the author of this Bushfire Assessment Report (BAR), I certify this BAR provides the detailed information required by the NSW Rural Fire Service under Clause 45 of the Rural Fires Regulation 2022 and Appendix 2 of Planning for Bushfire Protection 2019 in accordance with the requirements of section 4.14 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

**Stuart Greville**

Accredited Bushfire Practitioner

BPAD-26202



Date: 31 January 2025

In signing the above, I declare the report is true and accurate to the best of my knowledge at the time of issue.



## Executive Summary

Bushfire Planning Australia (BPA) has been engaged by Precinct Capital Pty Ltd (the 'Client') to undertake a Bushfire Assessment Report (BAR) to support the proposed modification to an approved industrial subdivision known as the Nepean Business Park located at 14-28, 30-68 & 70-98 Old Castlereagh Street, Penrith, legally known as Lot 3, 2 & 1 DP1263486 respectively.

The National Construction Code (NCC) does not provide for any bush fire specific performance requirements for the proposed development, being a development that could facilitate the construction of non-habitable buildings. The general fire safety construction provisions of the NCC are taken as acceptable solutions in this instance. A hazard assessment has been completed and found the site was exposed to a moderate bushfire hazard located to the south-west of the site. The predominant vegetation surrounding the site is consistent with a *forested wetland* specifically *Coastal Floodplain Wetland* as described in the NSW Rural Fire Service document Planning for Bushfire Protection 2019 (PBP 2019).

PBP 2019 refers to the proposed industrial development as 'Other development'. Given the unique features of these developments, compliance with PBP is strongly focused in satisfying the aims and objectives of PBP 2019.

The following recommendations when implemented will reduce the impact of a bushfire to an acceptable level for the proposed industrial (non-habitable) buildings and demonstrate the proposed development is able to comply with PBP 2019:

### Asset Protection Zones

1. All areas of the site zoned 'EP' Employment shall be managed as an Inner Protection Area (IPA) as outlined within Appendix 4 of PBP 2019 and the RFS document *Standards for asset protection zones*.
2. Any required Asset Protection Zones or setbacks for future structures are able to be provided within each lot.

### Construction Standards

3. A Bushfire Attack Level (BAL) certificate shall be prepared for any future development demonstrating the proposed building is not exposed to BAL-40 or BAL-FZ and that the development is able to confirm with the specifications and requirements of PBP 2019. Alternatively, a development application shall be submitted to the relevant consent authority supported by a Bushfire Assessment Report (BAR).
4. All hazardous materials to be stored on land within 100m of any designated bushfire prone land shall be stored in a secure enclosure away from the bushfire hazard.

### Access

5. Public access roads are to be constructed in accordance with Table 5.3b of PBP 2019 and as shown on the development plans contained in **Appendix A**.

### Water Supply

6. All lots are to be connected to a reliable water supply network and that suitable fire hydrants are located throughout the development site that are clearly marked and provided for the purposes of bushfire protection. Fire hydrant spacing, sizing and pressure shall comply with AS2419.1 2005 and Table 5.3c of PBP 2019.

### Landscaping

7. Consideration should be given to landscaping and fuel loads on site to decrease potential fire hazards on site.

This assessment has been made based on the bushfire hazards observed in and around the site at the time of inspection and production.





Should the above recommendations be implemented, the existing bushfire risk should be suitably mitigated to offer an acceptable level of protection to life and property for those persons and assets occupying the site, but they do not and cannot guarantee that the area will not be affected by bushfire at some time. The report is based on the best available information and expert knowledge, but it is important to note that bushfire risk is dynamic and can change due to factors such as weather conditions and land management practices.



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Appendix A: Proposed Modification Development

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## Terms and Abbreviations

Abbreviation	Meaning
APZ	Asset Protection Zone
AS2419 -2005	Australian Standard – Fire Hydrant Installations
AS3959-2018	Australian Standard – Construction of Buildings in Bush Fire Prone Areas
BAR	Bushfire Assessment Report
BAL	Bushfire attack level
BCA	Building Code of Australia
BC Act	NSW Biodiversity Act 2016
BMP	Bush Fire Management Plan
BPA	Bush Fire Prone Area (Also Bushfire Prone Land)
BFPL	Bush Fire Prone Land
BFPLM	Bush Fire Prone Land Map
BPM	Bush Fire Protection Measures
DoE	Commonwealth Department of the Environment
DPI Water	NSW Department of Primary Industries – Water
EP&A Act	NSW Environmental Planning and Assessment Act 1979
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
FDI	Fire Danger Index
FMP	Fuel Management Plan
ha	hectare
IPA	Inner Protection Area
LGA	Local Government Area
NCC	National Construction Code
OPA	Outer Protection Area
OEH	NSW Office of Environment and Heritage
PBP or PBP (2019)	Planning for Bushfire Protection 2019
PCC	Penrith City Council
RF Act	Rural Fires Act 1997
RF Regulation	Rural Fires Regulation
RFS	NSW Rural Fire Service
SFR	Short fire run
URA	Urban release area



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## 1. Introduction

Bushfire Planning Australia (BPA) has been engaged by Precinct Capital Pty Ltd (the 'Client') to undertake a Bushfire Assessment Report (BAR) to support the proposed modification to an approved industrial subdivision known as the Nepean Business Park located at 14-28, 30-68 & 70-98 Old Castlereagh Street, Penrith; legally known as Lot 3, 2 & 1 DP1263486 respectively.

Section 8.3 of PBP 2019 refers to any types of development that are not residential / rural residential subdivisions, SFPPs or residential infill development as 'Other development'. The proposed industrial development seeks consent for the subdivision of land where predominantly industrial development is permitted.

The National Construction Code (NCC) does not provide for any bush fire specific performance requirements for other development, such as the proposed industrial development. The general fire safety construction provisions of the NCC are taken as acceptable solutions in this instance.

Nevertheless, in order to demonstrate the proposed industrial development is able to satisfy the aims and objectives of PBP 2019, this BAR was completed to determine the bushfire hazard that has the potential to threaten the proposed development. Based on this assessment, a series of bushfire protection measures that will provide for an increased level of protection on property and life from the threat of bushfire have been recommended; thereby satisfying the aims and objectives of PBP 2019.



## 2. Site Description

Table 1: Site Details

Address	14-28, 30-68 & 70-98 Old Castlereagh Street, Penrith
Title	Lot 3, 2 & 1 DP1263486
LGA	Penrith City Council
Development Area	49.15 ha
Land Use Zone	E Environment, EP Employment & DM Deferred Matter
Context	The site was formally used as a quarry and is currently vacant and cleared. The site is located within the Penrith Lakes Scheme. All development is subject to the provisions of State Environment Planning Policy (SEPP) (Penrith Lakes Scheme).
Topography	For the most part the site is flat, and then steeply drops down to the south-west to the Nepean River.
Fire History	The site lies within a local government area with a Fire Danger Index (FDI) rating of 100.

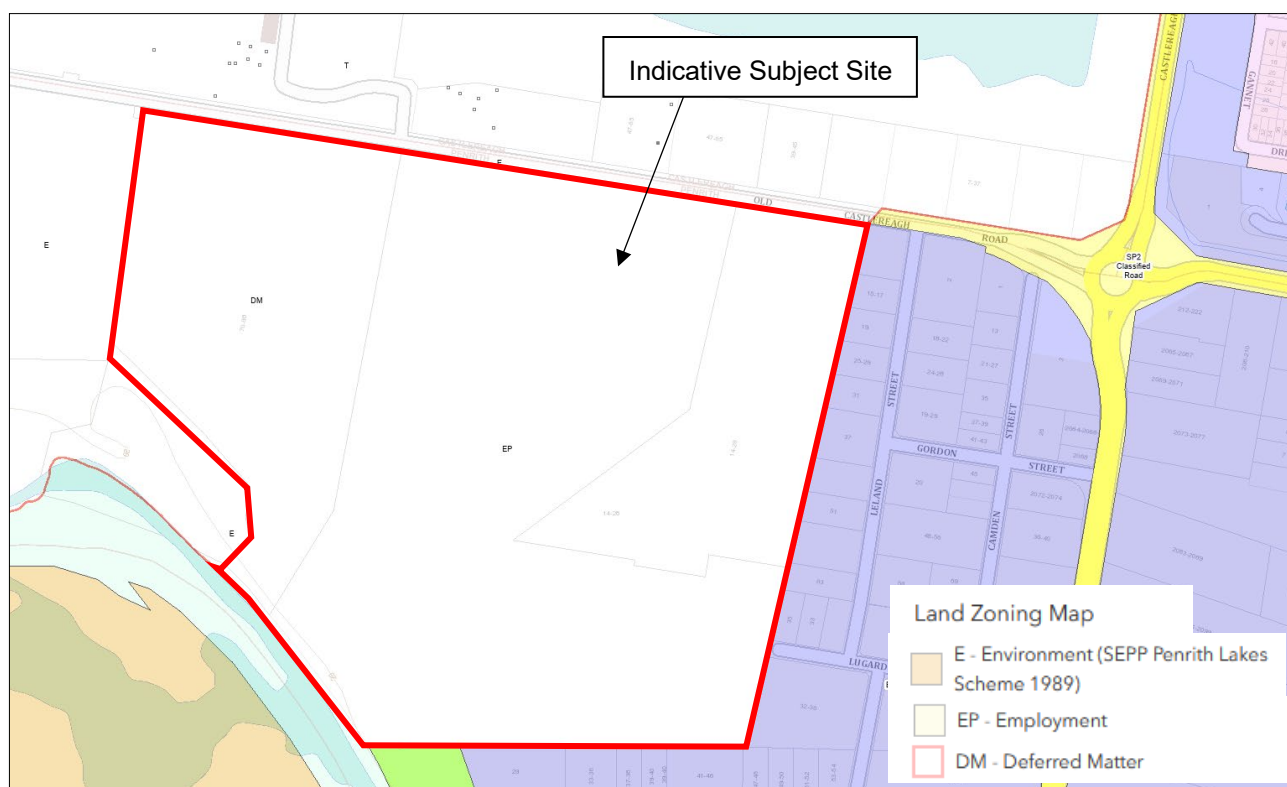


Figure 1: Land Use Zoning (SEPP - Western Parkland City 2021)





Project: Nepean Business  
Park  
Job No: 1854

Figure 2  
**Site  
Location**

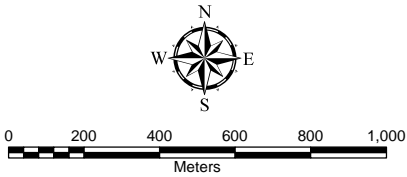


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- Subject site
- 100m buffer
- 140m buffer

SOURCE:  
Cadastral Boundary: NSW Department of Finance,  
Services and Innovation 2024  
Basemap: NSW Department of Customer Service  
2022



A3 Scale: 1:20,000

File:1854-NepeanBusinessPark-Fig1-SiteLocation-240925 Date: 25/09/2024

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## 2.1. Bushfire Prone Land

Bushfire activity is prevalent in landscapes that carry fuel and the two predominant bushfire types are grassland and forest fires. Factors such as topographic characteristics and quantity of fuel loads influence the intensity and spread of fire. The scale of a bushfire hazard is tailored to the characteristics of the hazard, the size and characteristics of the affected population, types of land use exposed to bushfire, predicted development growth pressures and other factors affecting bushfire risk.

**Figure 3** demonstrates the entire site is identified as Vegetation Category 2 bushfire prone land with exception of a corridor of vegetation along the south-western boundary identified as Vegetation Category 1 bushfire prone land. This extends within and beyond 140m of the site to the south-west and is identified as the primary bushfire hazard.

Immediately surrounding the site within 140m of the northern, eastern and southern boundaries is a narrow corridor of Vegetation Buffer before transitioning to non-bushfire prone land.

Within and beyond 140m west of the site is Vegetation Category 2 bushfire prone land.



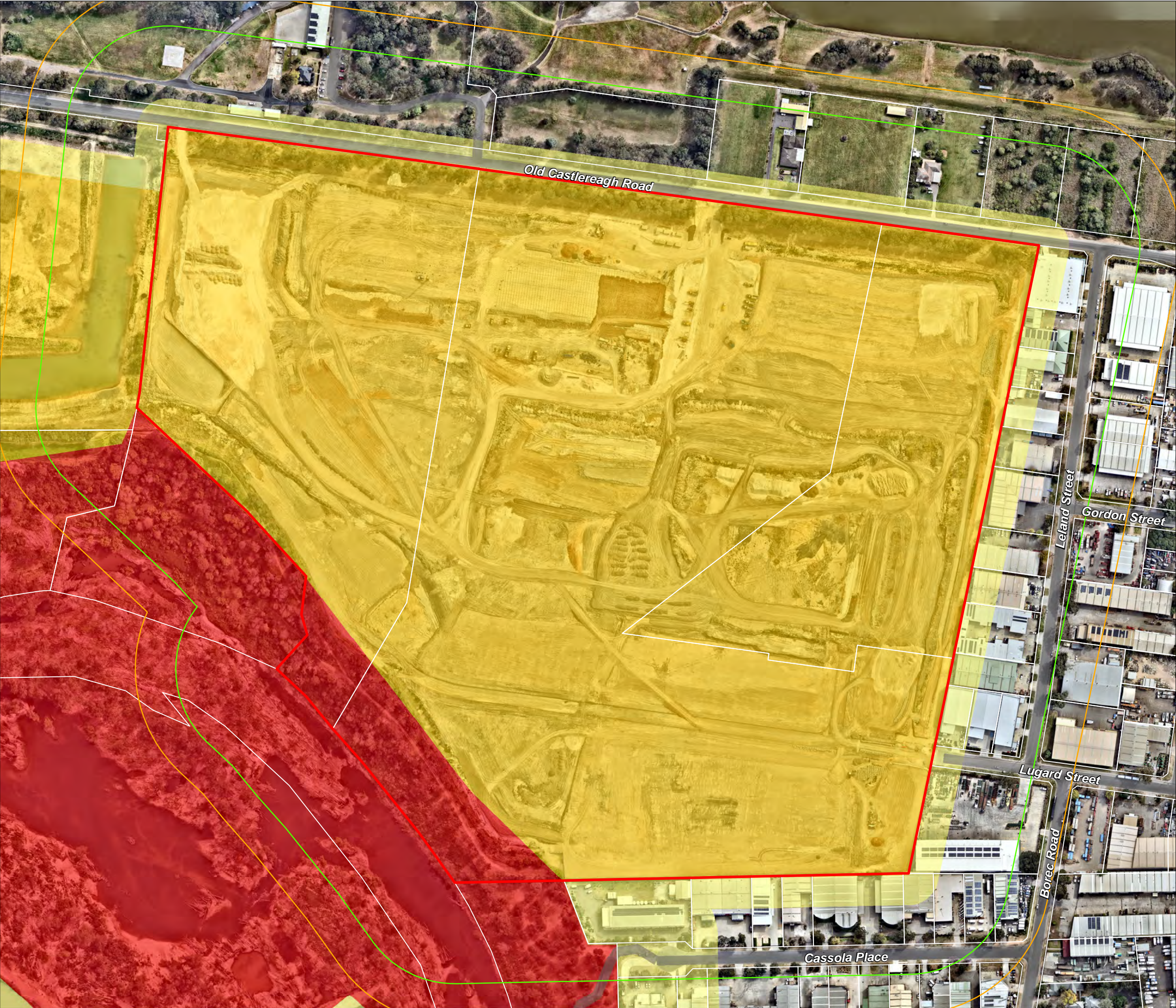


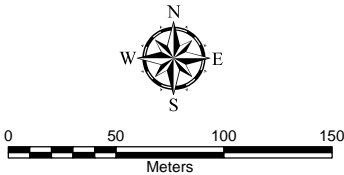
Figure 3

# NSW Bush Fire Prone Land



- Subject site
- 100m buffer
- 140m buffer
- Bushfire Prone Land**
  - Vegetation Category 1
  - Vegetation Category 2
  - Buffer

SOURCE:  
Cadastral Boundary: NSW Department of Finance,  
Services and Innovation 2024  
NSW Bush Fire Prone Land: NSW Rural Fire Service  
2024  
Aerial Photo: Nearnap 22/09/2024



A3 Scale: 1:3,500

File:1854-NepeanBusinessPark-Fig2-BFPL-240925 Date: 25/09/2024

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## 2.2. Approved Development

The Nepean Business Park was originally approved under Development Application (DA) 9876 on 31 March 2022 via the Land and environment Court (LEC No: 2021/204069). The approved development, as shown in **Figure 4** and includes:

- ☐ 3 into 4 environmental lot subdivision
- ☐ the subdivision of the residual lot into 93 Community title lots and one community association
- ☐ Earthworks and construction of final internal roads
- ☐ Landscaping works
- ☐ Freestanding advertisement signage.



Figure 4: Plan of Approved Industrial Subdivision



## 2.3. Proposed Modification

The proposed modification development remains within the original site and development footprint approved under DA9876. The proposed development seeks consent to:

- ☐ reduce the number of community title lots from 93 to 64 including the creation of 10 superlots.
- ☐ construct proposed Road 02 as a cul-de-sac instead of the previous through road.
- ☐ establish access to proposed Lot 23 from the proposed Road 03
- ☐ construct a drainage easement through the proposed new super lots, from the end of Road 02 through to Road 01.

A plan of the proposed development is shown in **Figure 5** and contained in **Appendix A**.

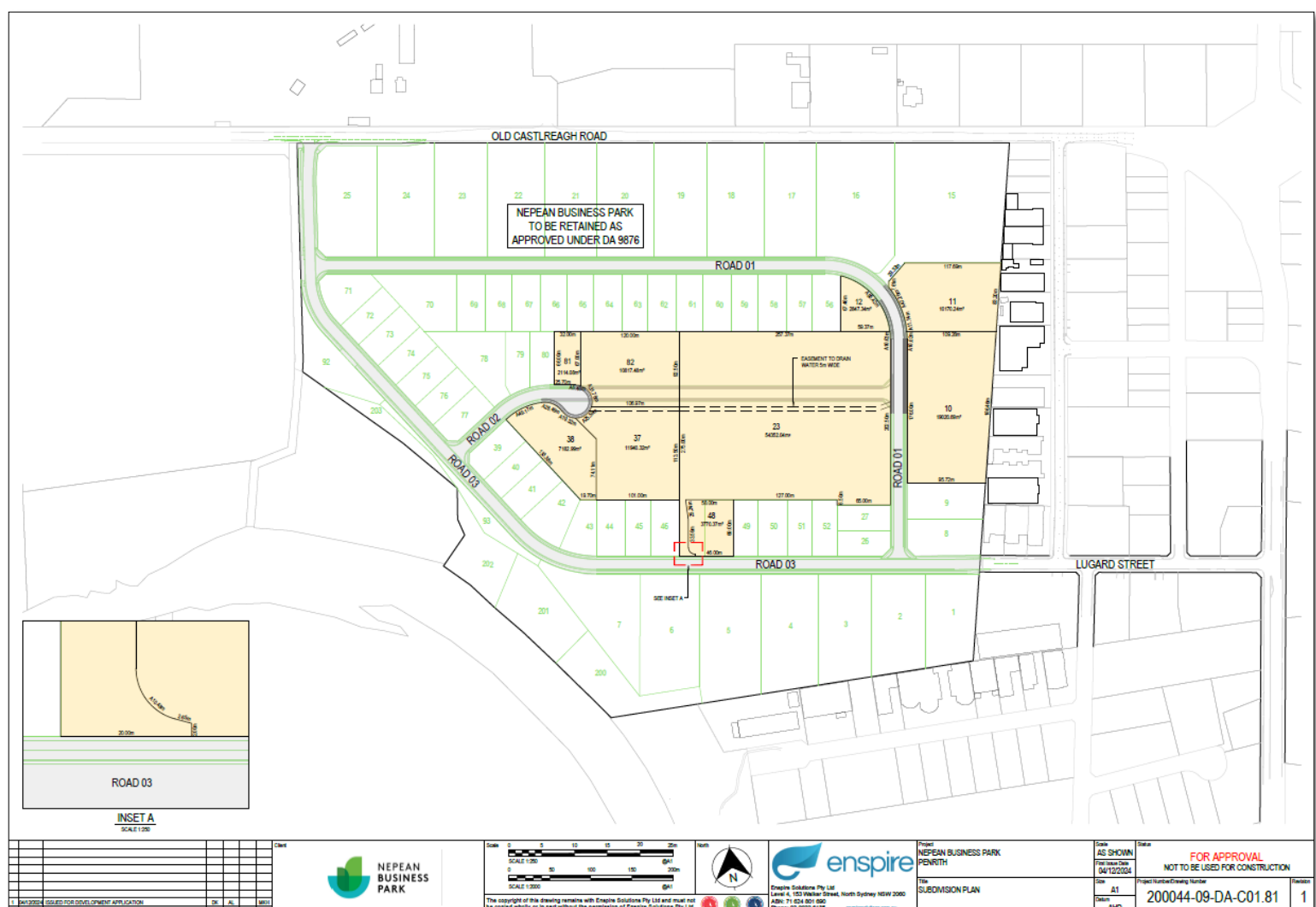


Figure 5: Plan of Proposed Industrial Subdivision



## 2.4. Industrial Development

Section 8.3 of PBP 2019 provides specific advice for developments that are not residential subdivision, special fire protection purposes (SFPPs) or residential infill. The proposed development is limited to Class 5-8 and 10 buildings of the National Construction Code: Building Code of Australia (NCC). These classes of buildings include factories, warehouses, offices and other industrial facilities. Residential development and habitable buildings are not permissible on the subject site.

The general aims and objectives of PBP 2019 apply in relation to matters such as access, water and services, emergency planning and landscaping/ vegetation management. However, it is prudent that a suitable package of bushfire protection measures be proposed commensurate with the assessed level of risk of the future development. Accordingly, this BAR will recommend existing areas cleared of vegetation are continued to be maintained at the hazard interface to ensure defensible space is provided for firefighting purposes.

Notwithstanding the available bushfire protection measures outlined in PBP 2019, the NCC does not provide for any bushfire specific performance requirements for industrial (non-habitable buildings) and as such Australian Standard *AS3959-2018 Construction of buildings in bushfire prone areas* (AS3959-2018) does not apply as a set of deemed-to-satisfy provisions. However, the following objectives apply in relation to access, water and services, and emergency and evacuation planning:

- ☐ To provide safe access to/from the public road system for firefighters providing property protection during a bush fire and for occupant egress for evacuation;
- ☐ To provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development;
- ☐ To provide adequate services of water for the protection of buildings during and after the passage of bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building; and
- ☐ Consideration of storage and hazardous materials away from the hazard wherever possible.



### 3. Bushfire Hazard Assessment

#### 3.1. Vegetation Assessment

Vegetation classification over the site and surrounding area has been carried out as follows:

- ❑ Aerial Photograph Interpretation to map the vegetation classification and extent;
- ❑ Review of LiDAR point cloud data (NSW LPI);
- ❑ Reference to NSW State Vegetation Type, NSW Department of Planning, Industry and Environment 2023 (**Figure 7**); and
- ❑ Site inspection completed by Bushfire Planning Australia - Stuart Greville.

In accordance with PBP 2019, an assessment of the vegetation over a distance of 140m in all directions from the site was undertaken. Vegetation that may be considered a bushfire hazard was identified in all directions from the development footprint. The vegetation classification is based on the revised Table 2.3 in AS3959-2018 and Appendix 1 of PBP 2019. The inconsistencies between the mapping sources listed above was quantified during the site inspection and compared to the Keith Vegetation Formations.

The predominant vegetation classification presenting as a bushfire hazard was identified as a *forested wetland* in accordance with the descriptions contained in PBP 2019 as shown in **Figure 6** and **Table 2**.





**Plate 1: Subject site looking from the south-west**



**Plate 2: South-west site boundary looking east along general alignment of Great River Walk**





**Plate 3: Forest wetland between site and Nepean River**

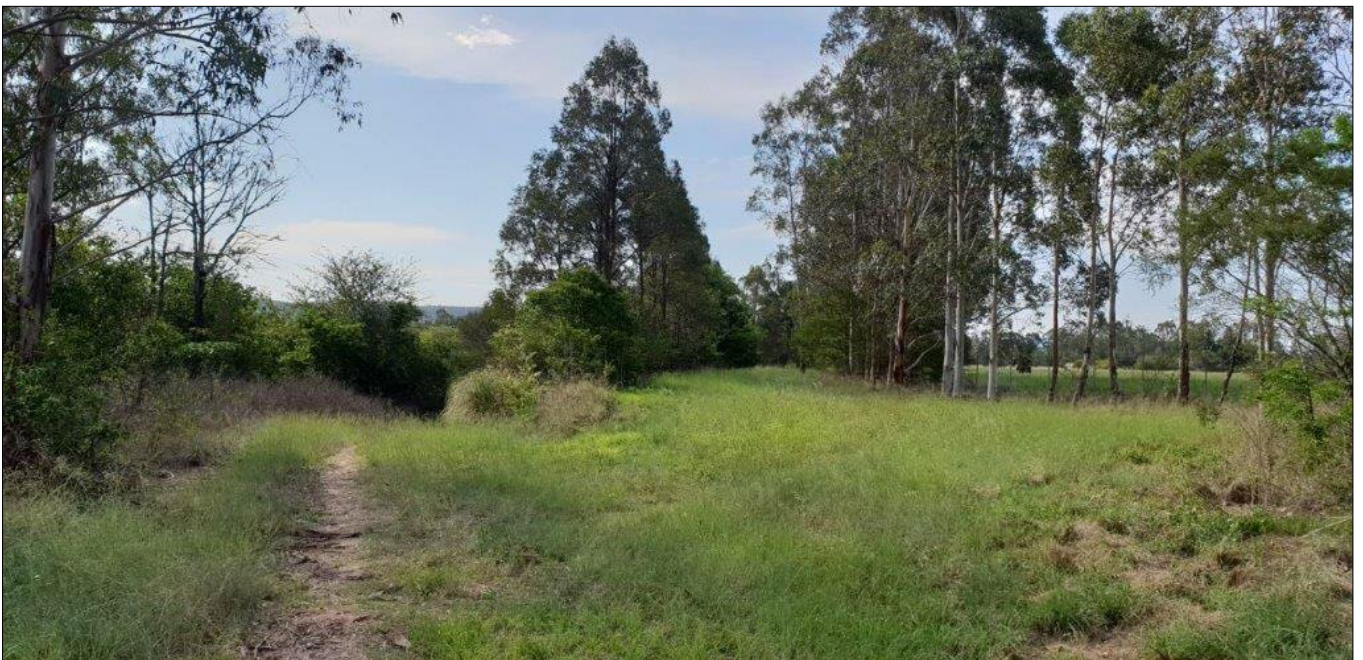


**Plate 4: Typical vegetation to south-west of the site**





**Plate 5: Typical vegetation commensurate with forested wetland**



**Plate 6: The Great River Walk will be extended along the south-west site boundary**





**Plate 7: Southern end of site connects to the existing Great River Walk**

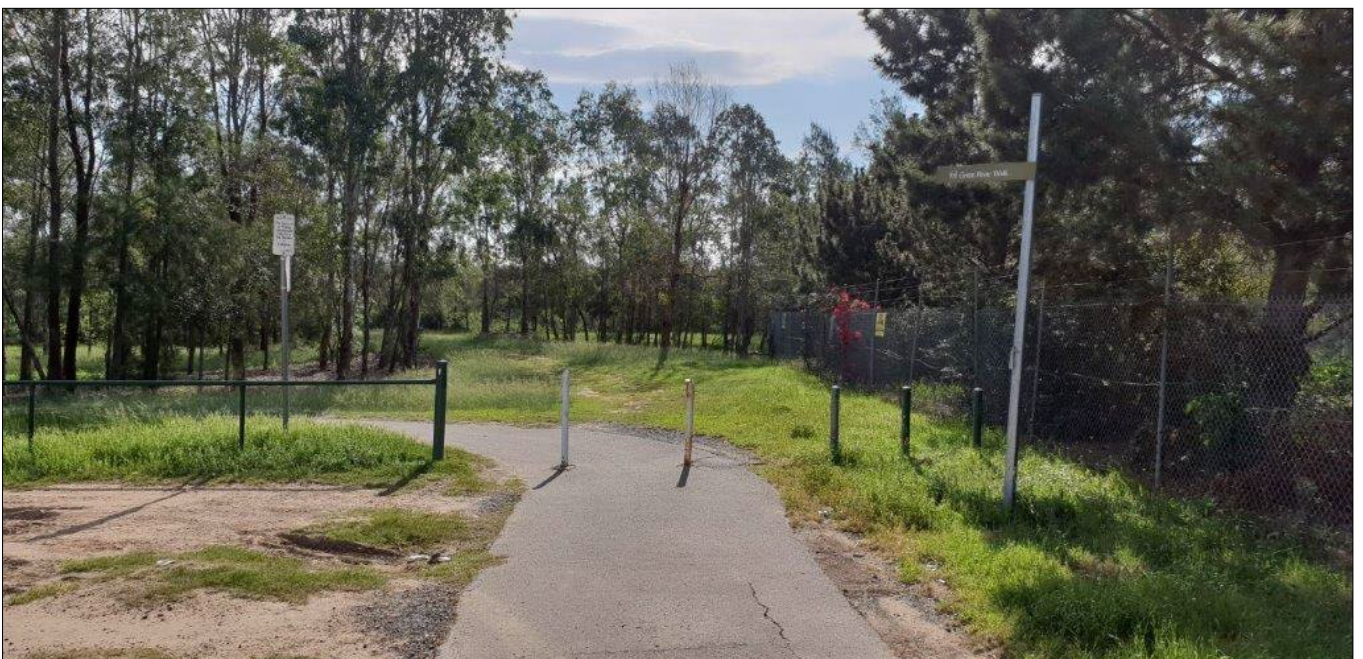


**Plate 8: Looking west towards southern boundary of the site**





**Plate 9: Great River Walk looking south through woodland**



**Plate 10: Access to Great River Walk from western end Cassola Place**





Project: Nepean Business  
Park  
Job No: 1854

Figure 6

# NSW State Vegetation Type (Class)

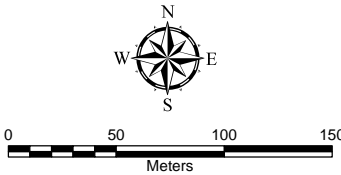


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- Subject site
- 100m buffer
- 140m buffer

- Vegetation Class
- Coastal Floodplain Wetlands
  - North Coast Wet Sclerophyll Forests

SOURCE:  
Cadastral Boundary: NSW Department of Finance,  
Services and Innovation 2024  
NSW Vegetation Type: NSW Department of  
Planning, Industry and Environment 2023  
Aerial Photo: Nearmap 22/09/2024



A3 Scale: 1:3,500

File:1854-NepeanBusinessPark-Fig3-Vegetation-NSW-SVT-240925  
Date: 25/09/2024

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### 3.2. Slope Assessment

The slope assessment was undertaken as follows:

- ☐ Review of LiDAR point cloud data - including DEM (NSW LPI);
- ☐ Detail survey of existing contours; and
- ☐ Site inspection completed by Bushfire Planning Australia - Stuart Greville.

An assessment of the slope over a distance of 100m in the hazard direction from the site boundary was undertaken. The effective slope was then calculated under the classified vegetation where there was a fire run greater than 50m. The topography of the site has been evaluated to identify both the average slope and by identifying the maximum slope present. These values help determine the level of gradient which will most significantly influence the fire behaviour of the site.

The effective slope in all directions is shown in **Figure 7**, **Figure 8** and **Table 2**.





Figure 7

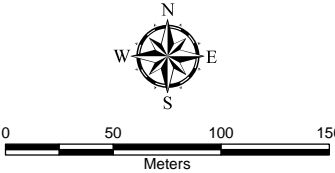
# Digital Elevation Model



BUSHFIRE  
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- Subject site
- 100m buffer
- 140m buffer
- Contour (2m)
- Contour (0.5m)
- Elevation (AHD)**
  - High : 30m
  - Low : 11m

SOURCE:  
Cadastral Boundary: NSW Department of Finance,  
Services and Innovation 2024  
Surface analysis: Derived from Penrith 1m  
resolution LiDAR: © Department Finance, Services  
and Innovation 2019



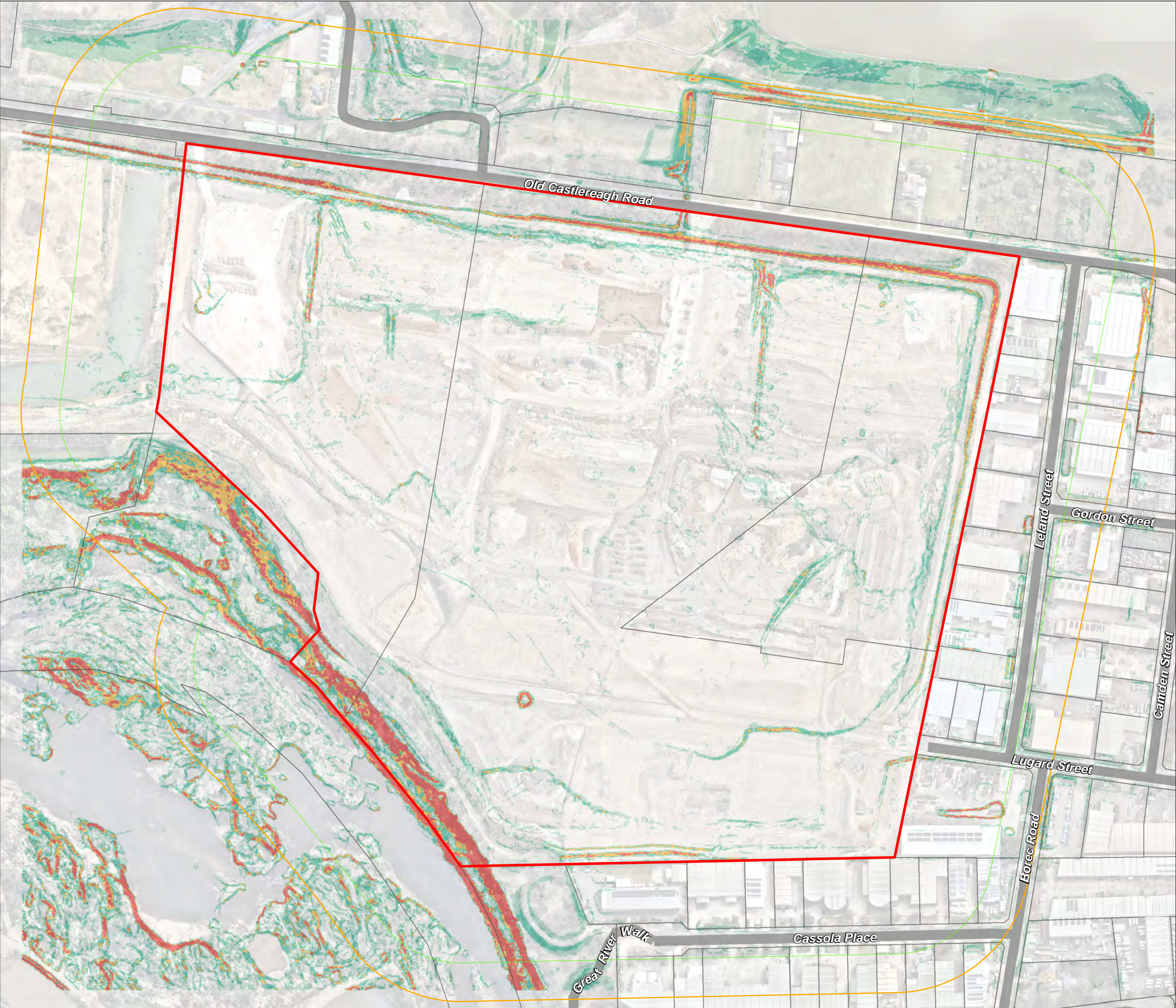
A3 Scale: 1:3,500

File:1854-NepeanBusinessPark-Fig4-DEM-240925 Date: 25/09/2024

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Park  
Job No: 1854

Figure 8  
**Slope  
Analysis:  
LiDAR**



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Subject site

100m buffer

140m buffer

**Slope**

0° - 5°

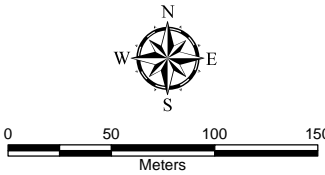
5° - 10°

10° - 15°

15° - 20°

>20°

SOURCE:  
Cadastral Boundary: NSW Department of Finance,  
Services and Innovation 2024  
Surface analysis: Derived from Penrith 1m  
resolution LiDAR: © Department Finance, Services  
and Innovation 2019  
Aerial photo: Nearmap22/09/2024



A3 Scale: 1:3,659

File:1854-NepeanBusinessPark-Fig5-SlopeLiDAR-240925 Date: 25/09/2024

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### 3.3. Slope and Vegetation Assessment Results

Using the site assessment methodology in PBP 2019, **Table 2** summarises vegetation classifications identified on site as per *Ocean Shores to Desert Dunes* - David Keith (2004) and vegetation formations as per PBP 2019.

All vegetation identified within the current Bush Fire Prone Land map was confirmed during the site inspection. The site is predominantly cleared with the exception of a narrow corridor of vegetation within the south-western portion of site, lining the south-western boundary (Lot 200-203). This vegetation is identified as a *forested wetland*, namely *Coastal Floodplain Wetland*. The *Coastal Floodplain Wetland* also extends within and beyond 140m south-west of the site to the Nepean River and is identified as the primary bushfire hazard.

Within and beyond 140m to the north of the site are isolated sections of *Coastal Floodplain Wetlands* on managed rural residential properties. This is considered a low threat vegetation, as it is sparse and has a managed understorey. To the east and majority to the south of the site consists of existing industrial developments whilst to the west a detention basin exists. As existing buildings and detention basins are defined as excluded, it is not considered for the purposes of PBP.

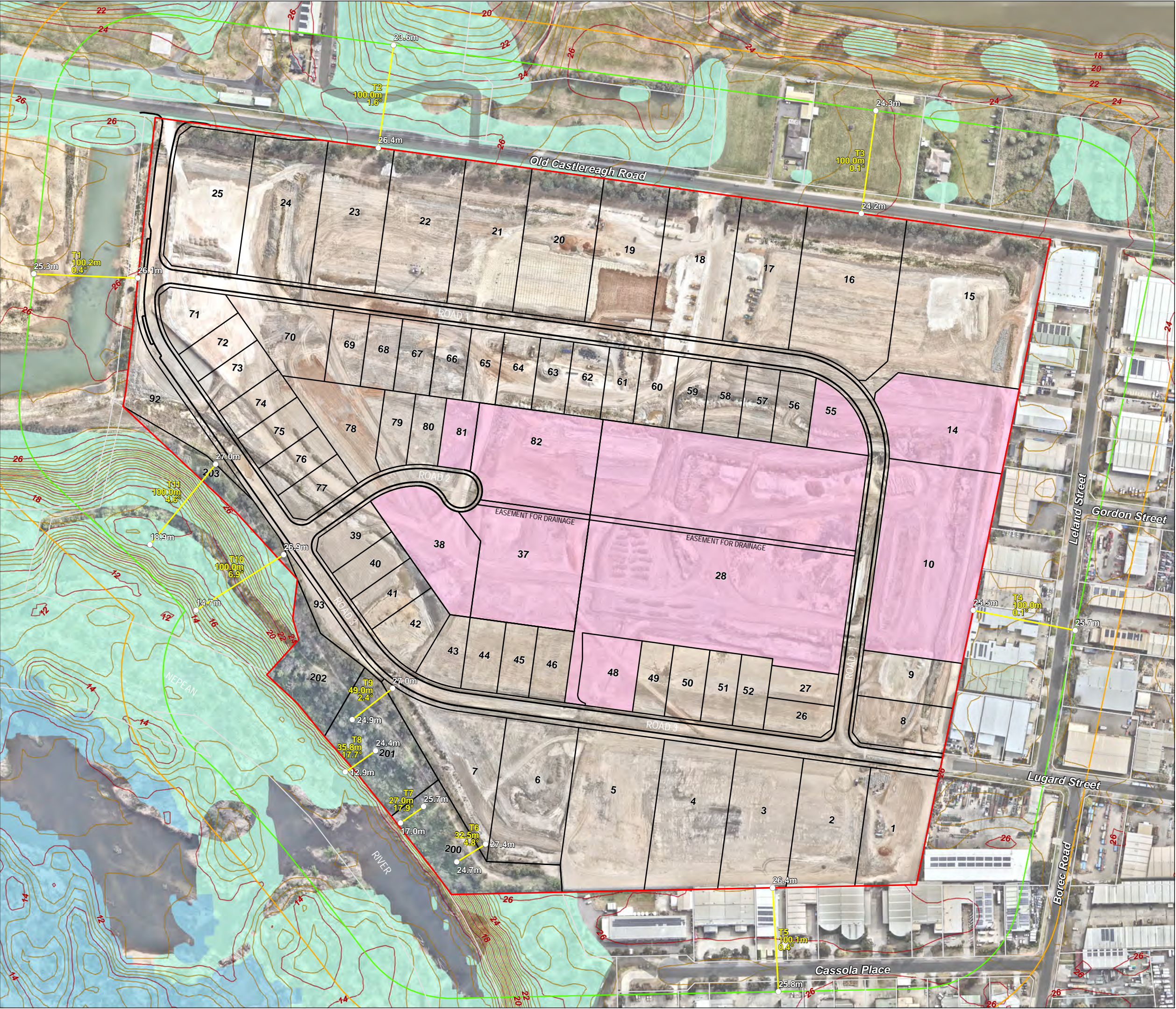
The results of the Bushfire Hazard Assessment are presented in **Table 2** and **Figure 9**.



**Table 2: Slope and Vegetation Assessment results**

Transect	Vegetation Description	Vegetation Classification (PBP 2019)	Slope
T1 West	Existing water detention basin west of the site	Excluded (Cleared Land)	0.4° Downslope
T2 North	Low threat vegetation with managed understorey on a rural residential property	Excluded (Low-threat vegetation)	1.6° Downslope
T3 North	Managed paddock north of Old Castlereagh Road	Excluded (Managed Land)	-0.1° Upslope
T4 East	Existing industrial development east of the site	Excluded (Cleared Land)	-0.1° Upslope
T5 South	Existing industrial development south of the site	Excluded (Cleared Land)	0.4° Downslope
T6 On-site	Environmental lots within the site	<i>Forested Wetland</i> (Coastal Floodplain Wetlands)	4.8° Downslope
T7 On-site	Environmental lots within the site	<i>Forested Wetland</i> (Coastal Floodplain Wetlands)	17.9° Downslope
T8 On-site	Environmental lots within the site	<i>Forested Wetland</i> (Coastal Floodplain Wetlands)	17.7° Downslope
T9 On-site	Environmental lots within the site	<i>Forested Wetland</i> (Coastal Floodplain Wetlands)	2.4° Downslope
T10 South-west	Vegetation between the site and the Nepean River	<i>Forested Wetland</i> (Coastal Floodplain Wetlands)	6.9° Downslope
T11 South-west	Vegetation between the site and the Nepean River	<i>Forested Wetland</i> (Coastal Floodplain Wetlands)	4.6° Downslope





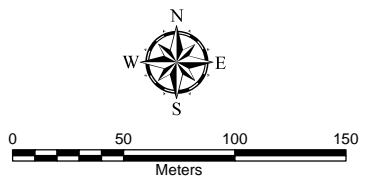
# Figure 9

## Slope & Vegetation Assessment



- Subject site
- 100m buffer
- 140m buffer
- Contour (2m)
- Contour (0.5m)
- Proposed modification
- RL
- Transect
- Vegetation Class**
  - Coastal Floodplain Wetlands
  - North Coast Wet Sclerophyll Forests

**SOURCE:**  
Cadastral Boundary: NSW Department of Finance, Services and Innovation 2024  
Vegetation: Bushfire Planning Australia (2024) based on NSW SVTM Department of Planning, Industry and Environment 2023  
Aerial Photo: Neamap 22/09/2024  
Surface analysis: Derived from Penrith 1m resolution LiDAR: © Department Finance, Services and Innovation 2019



A3 Scale: 1:3,400

File:1854-NepeanBusinessPark-Fig9-SlopeVeg-250119 Date: 19/01/2025

The information shown on this plan may be insufficient for some types of design. GEOVIEW should be consulted as to the suitability of the information shown herein prior to the commencement of any works based on this plan.

This map is not guaranteed to be free from error or omission. GEOVIEW hereby disclaims liability for any act done or omission made on the basis of the information in this plan, and any consequences of such acts or omissions



### **3.4. Significant Environmental Features**

There are no known environmental features of significance within the development footprint or the balance of the site. The development footprint is wholly located within the part of the site that is cleared.

### **3.5. Threatened Species, populations or ecological communities**

The area of the site to be affected by the proposed development has been identified to minimise impact on any threatened species, population or EEC. All bushfire mitigation measures; including APZs have considered the existing and potential biodiversity values to minimise impact where possible

### **3.6. Aboriginal Objects**

A search of the AHIMS database (results contained in **Appendix B**) revealed there are no Aboriginal sites or places recorded in or near the subject site.



## 4. Bush Fire Protection Measures

PBP 2019 refers to the proposed industrial development as 'Other development'. In order to comply with PBP 2019, the development should:

- ☐ Note the range of available Bush Fire Protection Measures (BFPMs);
- ☐ Satisfy the aims and objectives of PBP 2019;
- ☐ Consider any matters listed for the specific purpose; and
- ☐ Propose an appropriate combination of BFPMs.

Additional provisions relevant to 'other development' detailed in PBP 2019 state that in order to comply with PBP 2019, the following conditions must be met:

- ☐ Satisfy the aims and objectives of PBP outlined in Chapter 1;
- ☐ Consider any issues listed for the specific purpose for the development; and
- ☐ Propose an appropriate combination of BFPMs.

This BAR has adopted the methodology to determine the appropriate BFPMs detailed in PBP 2019. As part of the BAR, the recommended BFPMs demonstrate the aims and objectives of PBP 2019 are able to be satisfied; including the matters considered by the RFS necessary to protect persons, property and the environment from the danger that may arise from a bushfire.

### 4.1. Asset Protection Zones

An APZ is an area surrounding a development that is managed to reduce the bushfire hazard to an acceptable level to mitigate the risk to life and property. The required width of the APZ varies with slope and the type of hazard.

#### 4.1.1. Determining the Appropriate Setbacks

PBP 2019 does not explicitly require the proposed industrial development to provide an APZ in accordance with Appendix 1 of PBP 2019. Notwithstanding, the provision of access and defendable space is provided by the service roads. In this instance consideration has been given to the type of hazard; including the average slope and also the steepest slope.

A perimeter road along the south-west boundary provides separation and defendable space between the hazard of the proposed lots. Several lots (Lots 6, 7, 92 and 93) have rear or side boundaries at the hazard interface, however these lots will be able to provide rear setbacks within each lot that will further increase the separation between any future structures and the nearest potential bushfire hazard. This area of land should be managed as an IPA.

Indicative APZs have been calculated in accordance with Table A1.12.2 of PBP 2019 applicable to the various vegetation formations and slopes within and surrounding the site and detailed in **Table 3** and shown in **Figure 10**.



**Table 3: Proposed Asset Protection Zones**

Transect	Vegetation Classification (PBP 2019)	Slope	APZ A1.12.2 (PBP 2019)
T1 West	Excluded (Cleared Land)	0.4° Downslope	N/A
T2 North	Excluded (Managed Land)	1.6° Downslope	N/A
T3 North	Excluded (Managed Land)	-0.1° Upslope	N/A
T4 East	Excluded (Cleared Land)	-0.1° Upslope	N/A
T5 South	Excluded (Cleared Land)	0.4° Downslope	N/A
T6 On-site	<i>Forested Wetland</i> (Coastal Floodplain Wetlands)	4.8° Downslope	12m
T7 On-site	<i>Forested Wetland</i> (Coastal Floodplain Wetlands)	17.9° Downslope	26m
T8 On-site	<i>Forested Wetland</i> (Coastal Floodplain Wetlands)	17.7° Downslope	26m
T9 On-site	<i>Forested Wetland</i> (Coastal Floodplain Wetlands)	2.4° Downslope	12m
T10 South-west	<i>Forested Wetland</i> (Coastal Floodplain Wetlands)	6.9° Downslope	16m
T11 South-west	<i>Forested Wetland</i> (Coastal Floodplain Wetlands)	4.6° Downslope	12m



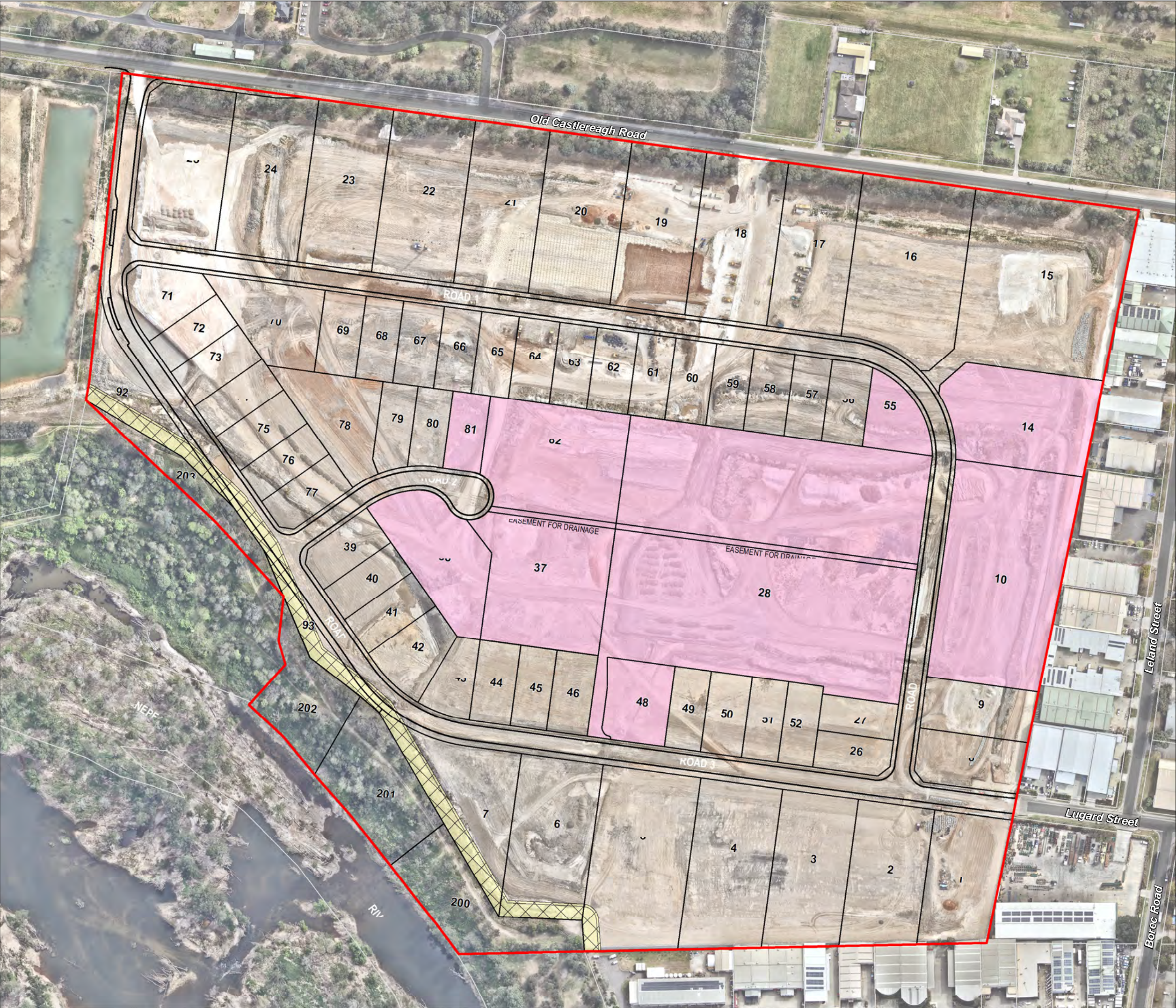
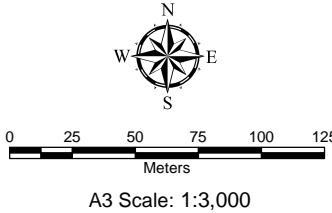


Figure 10  
**Asset Protection Zone**



- Subject site
- Proposed modification
- Asset Protection Zone

SOURCE:  
Cadastral Boundary: NSW Department of Finance,  
Services and Innovation 2024  
Aerial Photo: Nearmap 22/09/2024



File:1854-NepeanBusinessPark-Fig8-APZ-250119 Date: 19/01/2025

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## 4.2. Access

In the unlikely event of a serious bushfire, it will be essential to ensure that adequate ingress / egress and the provision of defendable space are afforded in the development layout. The following design specifications detailed in PBP 2019 are relevant to the proposed development:

- ☐ be two-wheel drive all weather roads;
- ☐ be through roads, but if unavoidable then dead ends should be not more than 200 metres in length, incorporate a minimum 12 metres turning circle (either in cul-de-sac or T-head formation) and should be clearly sign posted as dead ends;
- ☐ the capacity of road surfaces is sufficient to carry fully loaded fire fighting vehicles (approximately 15 tonnes for areas with reticulated water, 28 tonnes for all other areas);
- ☐ non perimeter roads comply with table – Road widths for Category 1 Tanker;
- ☐ curves of roads (other than perimeter roads) are a minimum inner radius of 6 metres and minimal in number, to allow for rapid access and egress;
- ☐ maximum grade for sealed roads do not exceed 12.5°;
- ☐ have a minimum vertical clearance to a height of four metres at all times;
- ☐ parking bays are a minimum of 2.6 metres wide from kerb edge to road pavement. No services or hydrants are located within the parking bays.

Public road access will be provided to all new lots with connections to the existing public road network from the northern and eastern site boundaries being Old Castlereagh Road and Lugard Street respectively.

All new roads have been designed in accordance with the required road widths for industrial estates under the relevant planning instrument. The proposed roads are wider than required by PBP 2019.

Refer to **Appendix 1** for proposed development showing access.

## 4.3. Services - water, electricity and gas

### 4.3.1. Water

Fire hydrant spacing, sizing and pressure should comply with AS 2419.1-2005. Hydrants are not to be located within any road carriageway.

All lots within the proposed development will be connected to the internal reticulated water supply.

### 4.3.2. Electricity

All electricity services are located underground.

### 4.3.3. Gas

Any reticulated or bottled gas should be installed and maintained according to the requirements of the relevant authorities and AS 1596-2002. It is expected that the location of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.



## 4.4. Landscaping and Vegetation Management

The design and management of the landscaped areas in the vicinity of buildings have the potential to improve the chances of survival of people and buildings. Generally landscaping in and around a bushfire hazard should consider the following:

- ☐ Priority given to retaining species that have a low flammability;
- ☐ Priority given to retaining species which do not drop much litter in the bushfire season and which do not drop litter that persists as ground fuel in the bush fire season;
- ☐ Priority given to retaining smooth barked species over stringy bark; and
- ☐ Create discontinuous or gaps in the vegetation to slow down or break the progress of fire towards the dwellings.

Landscaping should give due regard to fire retardant plants and ensure that fuel loads do not accumulate as a result of the selected plant varieties.

The principles of landscaping for bushfire protection aim to:

- ☐ Prevent flame impingement on buildings;
- ☐ Provide a defensible space for property protection;
- ☐ Reduce fire spread;
- ☐ Deflect and filter embers;
- ☐ Provide shelter from radiant heat; and
- ☐ Reduce wind speed.

Plants that are less flammable have the following features;

- ☐ High moisture content;
- ☐ High levels of salt;
- ☐ Low volatile oil content of leaves;
- ☐ Smooth barks without 'ribbons' hanging from branches or trunks; and
- ☐ Dense crown and elevated branches.

Avoiding understorey planting and regular trimming of the lower limbs of trees also assists in reducing fire penetration into the canopy. Rainforests species such as Syzygium and figs are preferred to species with high fine fuel and/or oil content. Trees with loose, fibrous or stringy bark should be avoided. These trees can easily ignite and encourage ground fire to spread up to, and then through the crown of trees.

Careful thought must be given to the type and physical location of any proposed site landscaping. Inappropriately selected and positioned vegetation has the potential to 'replace' any previously removed fuel load. Bearing in mind the desired aesthetic and environment sought by site landscaping, some basic principles have been recommended to help minimise the chance of such works contributing to the potential hazard on site.

Whilst it is recognised that fire-retardant plant species are not always the most aesthetically pleasing choice for site landscaping, the need for adequate protection of life and property requires that a suitable balance between visual and safety concerns be considered.

It is reiterated again that it is essential that any landscaped areas and surrounds are subject to ongoing fuel management and reduction to ensure that fine fuels do not build up.



#### **4.5. Construction Standards - Bushfire Attack Level**

The proposed land use zone permits a variety of non-habitable buildings included bulky goods premises, general industries, warehouses and distribution centres. The NCC does not provide for any bushfire specific performance requirements for these particular classes of buildings. As such, AS3959-2018 are not considered as a set of deemed-to-satisfy provisions. However, compliance with AS3959-2018 and the NASH standard may be considered when meeting the aims and objectives of PBP 2019 - for future industrial buildings.

As the proposed development is an industrial subdivision (Class 5 to 8 buildings), the National Construction Code (NCC) does not provide for any bushfire specific performance requirements for these particular classes of buildings. Therefore, BALs are not required for this proposed development.



#### 4.6. Bushfire Emergency Procedures & Services

It is recommended an Emergency Management Plan is prepared prior to occupation for all future businesses occupying a lot within designated bushfire prone land.

In case of an emergency, there is a NSW Rural Fire Brigade station located at 20 Jeanette Street, Regentville, approximately 6.5km drive away from the site (**Figure 11**).

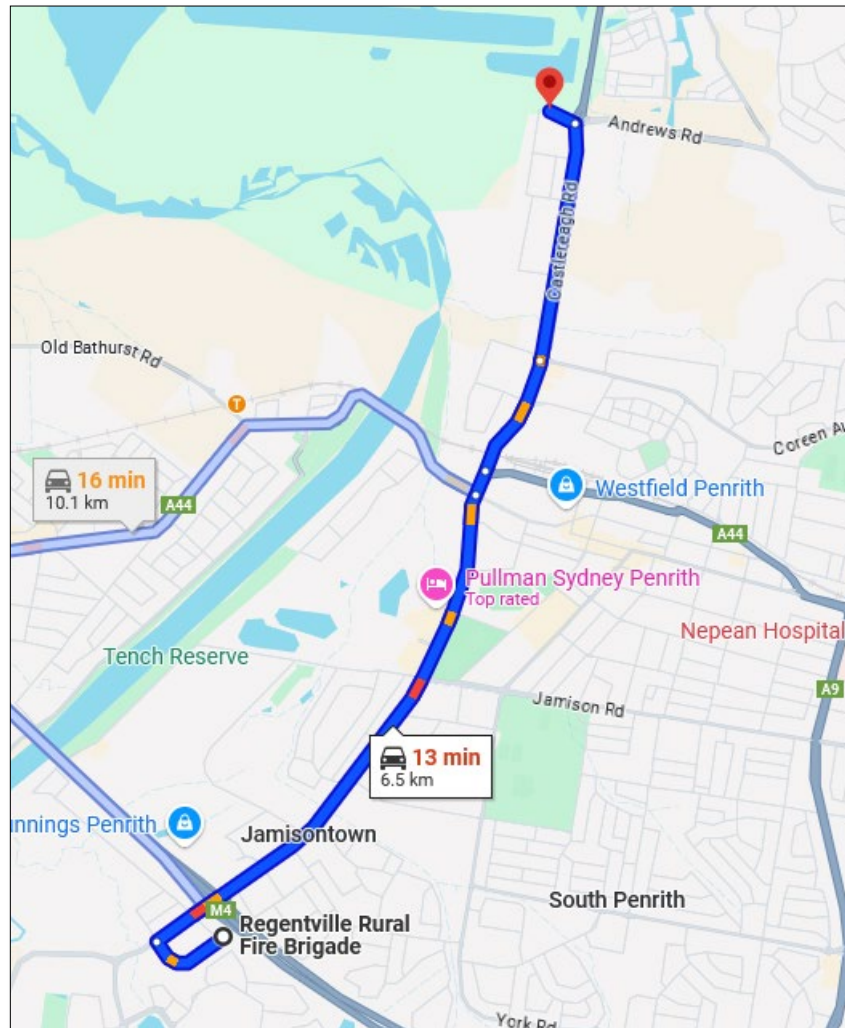


Figure 11: NSW Rural Fire Brigade - Regentville



## 5. Conclusion and Recommendations

Bushfire Planning Australia (BPA) has been engaged by Precinct Capital Pty Ltd (the 'Client') to undertake a Bushfire Assessment Report (BAR) to support the proposed modification to an approved industrial subdivision known as the Nepean Business Park located at 14-28, 30-68 & 70-98 Old Castlereagh Street, Penrith, legally known as Lot 3, 2 & 1 DP1263486 respectively.

A hazard assessment has been completed and found the site was exposed to a moderate bushfire hazard located to the south-west of the site. The predominant vegetation surrounding the site is consistent with a *forested wetland*, specifically *Coastal Floodplain Wetland*, as described in the NSW Rural Fire Service document Planning for Bushfire Protection 2019 (PBP 2019).

PBP 2019 refers to the proposed industrial development as 'Other development'. Given the unique features of these developments, compliance with PBP is strongly focused in satisfying the aims and objectives of PBP 2019.

The following recommendations when implemented will reduce the impact of a bushfire to an acceptable level for the proposed industrial (non-habitable) buildings and demonstrate the proposed development is able to comply with PBP 2019:

### Asset Protection Zones

1. All areas of the site zoned 'EP' Employment shall be managed as an Inner Protection Area (IPA) as outlined within Appendix 4 of PBP 2019 and the RFS document *Standards for asset protection zones*.
2. Any required Asset Protection Zones or setbacks for future structures are able to be provided within each lot.

### Construction Standards

3. A Bushfire Attack Level (BAL) certificate shall be prepared for any future development demonstrating the proposed building is not exposed to BAL-40 or BAL-FZ and that the development is able to confirm with the specifications and requirements of PBP 2019. Alternatively, a development application shall be submitted to the relevant consent authority supported by a Bushfire Assessment Report (BAR).
4. All hazardous materials to be stored on land within 100m of any designated bushfire prone land shall be stored in a secure enclosure away from the bushfire hazard.

### Access

5. Public access roads are to be constructed in accordance with Table 5.3b of PBP 2019 and as shown on the development plans contained in **Appendix A**.

### Water Supply

6. All lots are to be connected to a reliable water supply network and that suitable fire hydrants are located throughout the development site that are clearly marked and provided for the purposes of bushfire protection. Fire hydrant spacing, sizing and pressure shall comply with AS2419.1 2005 and Table 5.3c of PBP 2019.

### Landscaping

7. Consideration should be given to landscaping and fuel loads on site to decrease potential fire hazards on site.

This assessment has been made based on the bushfire hazards observed in and around the site at the time of inspection and production.

Should the above recommendations be implemented, the existing bushfire risk should be suitably mitigated to offer an acceptable level of protection to life and property for those persons and assets occupying the site, but they do not and cannot guarantee that the area will not be affected by bushfire at some time.





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## 6. References

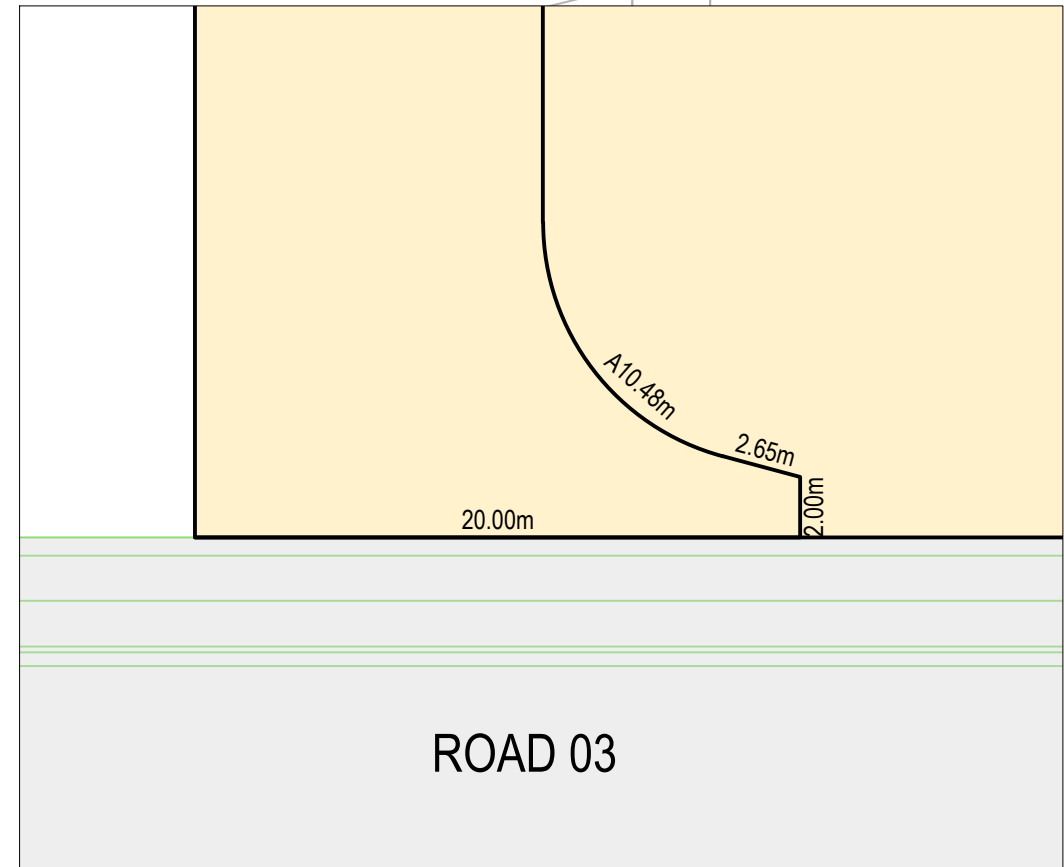
- ❑ Keith, D. (2004). Ocean Shores to Desert Dunes - The Native Vegetation of New South Wales and the ACT.
- ❑ NSW Rural Fire Service (2005). *Standards for Asset Protection Zones*. NSW Rural Fire Service.
- ❑ NSW Rural Fire Service (2019). Planning for Bushfire Protection – A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners.
- ❑ Ramsay, GC and Dawkins, D (1993). *Building in Bushfire-prone Areas – Information and Advice*. CSIRO and Standards Australia.
- ❑ Rural Fires and Environmental Assessment Legislation Amendment Act 2002.
- ❑ Standards Australia (2018). AS 3959 – 2018: Construction of Buildings in Bushfire-prone Areas.



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## Appendix A: Proposed Modification Development





INSET A  
SCALE 1:250

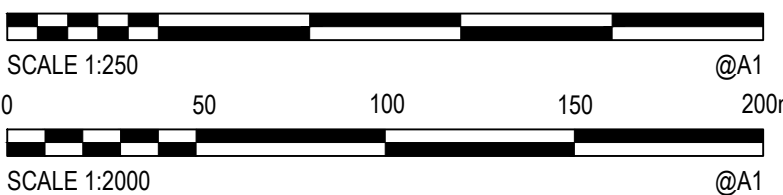
REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	04/12/2024	ISSUED FOR DEVELOPMENT APPLICATION	DK	AL		MKH.

Client



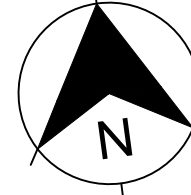
NEPEAN  
BUSINESS  
PARK

Scale



SCALE 1:250 @A1  
0 50 100 150 200m  
SCALE 1:2000 @A1

North



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Project  
NEPEAN BUSINESS PARK  
PENRITH

Title  
SUBDIVISION PLAN

Scale AS SHOWN	Status <b>FOR APPROVAL</b> NOT TO BE USED FOR CONSTRUCTION
First Issue Date 04/12/2024	Project Number/Drawing Number 200044-09-DA-C01.81
Size A1	Revision 1
Datum AHD	



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## Appendix B: AHIMS Search Results



Katrina Greville  
 21 Costata Crescent  
 Adamstown New South Wales 2289  
 Attention: Katrina Greville  
 Email: klmukevski@bigpond.com

Date: 25 January 2025

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Address : 14-28 OLD CASTLEREAGH ROAD PENRITH 2750 with a Buffer of 200 meters, conducted by Katrina Greville on 25 January 2025.**

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 Heritage NSW 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. *



**If your search shows Aboriginal sites or places what should you do?**

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(https://www.legislation.nsw.gov.au/gazette\)](https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

**Important information about your AHIMS search**

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.