

Bushfire Management Plan

Lot 9033 Mornington Drive

Banksia Grove



Prepared for:
Qube Carramar South Pty Ltd

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Lot 9033 Mornington Drive Bushfire Management Plan

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Version

Version	Prepared and Authorised by	Accreditation	Date
Version 1	Sue Brand	Level 2 BPAD 36638	30 July 2025

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1. Background Information

Qube Carramar South Pty Ltd (Qube) commissioned Surefire Environmental Pty Ltd (Surefire Environmental) to prepare a Bushfire Management Plan (BMP) to support the proposed subdivision and development of their landholdings within Lot 9033 Mornington Dr, Banksia Grove, (Lot 9033, the Site), within the City of Wanneroo (Figure 1).

1.1 Location

The Site is (Figure 2) is:

- approximately 27 km to the north of the Perth Central Business District
- 2.7 ha of vacant land zoned residential that will be subdivided to create a 57 residential Lots along with roads and other associated infrastructure
- bounded by existing residential development to the north and west, Wanneroo Precinct 8 across Mornington Road to the east with the current land use being market gardens, and public road reserve and drainage areas to the south.

1.2 Bushfire Prone Status

The Site is located within a bushfire prone Area 1 as designated by the Fire and Emergency Services Commissioner, Office of Bushfire Risk Management (OBRM) (2024), within the Department of Fire and Emergency Services (Figure 3). Accordingly, there is a requirement for landowners to undertake an assessment to determine the risks and identify appropriate management strategies such that the development does not increase the inherent bushfire risk. Portions of the site that are located within 100 m of vegetation designated as being bushfire prone necessitate the need for a bushfire attack level assessment (BAL-assessment) and assigning a BAL-rating that will determine appropriate construction standards as per *AS 3959:2018 Construction of Buildings in Bushfire Prone Areas (AS 3959:2018)*.

The BAL-assessment component of this document considers current and projected site conditions (i.e. vegetation classification pre- and post-development), along with the provisions of *State Planning Policy 3.7 Bushfire (SPP3.7)* (Department of Planning, Lands and Heritage (DPLH)), and the Western Australian Planning Commission (WAPC) (2024b) and *Planning for Bushfire Guidelines for the Implementation of State Planning Policy 3.7 Bushfire (the Guidelines)* (Department of Planning, Lands and Heritage and the Western Australian Planning Commission, 2024a).

1.3 Aims and Objectives

The aim of this BMP is to outline the bushfire management methods and requirements that will be implemented within the proposed subdivision. Accordingly, broad aims include:

- minimise the impact of bushfire to the life and property of future residents
- allow easy access for firefighters if a bushfire does occur
- protect the landscape within the Site as far as is possible
- document bushfire prevention requirements of the area to which it relates.

The objectives of this Bushfire Management Plan are to:

- define land use areas and values within and in proximity to the Site

- define and assess the various vegetation classifications present
- outline the roles and responsibilities of individuals and organisations in relation to bushfire management as it relates to the Site
- document bushfire management strategies for the subdivision, taking into consideration:
 - vegetation to be retained in Da Vinci Park across Pinjar Road to the west and a small patch of Class D Scrub to the south within a designated road reserve (Figure 1, Figure 2)
 - the need for building construction standards where vegetated patches interface with the urban development
 - document the performance criteria and acceptable solutions adopted for the Site.

1.4 Document Preparation

Sue Brand (Surefire Environmental), an accredited Level 2 Bushfire Planning and Design (BPAD) practitioner with the Fire Protection Association Australia, has prepared this document. Activities involved with its preparation included:

- assessing the vegetation type and class present within and adjacent to the proposed development site using descriptions provided in AS 3959:2018
- assigning the bushfire hazard based on the vegetation classes present around the Site
- determining BAL-ratings for each Lot located within 100 m of any classified vegetation based on currently available information
- suggesting management strategies that will be implemented based on current and projected site considerations in conjunction with the bushfire prone mapping that occurred in October 2024 (OBRM, 2024).

Signed:



Date: 30 July 2025

Accreditation Number: BPAD36638

Accreditation Expiry Date: 30 April 2026



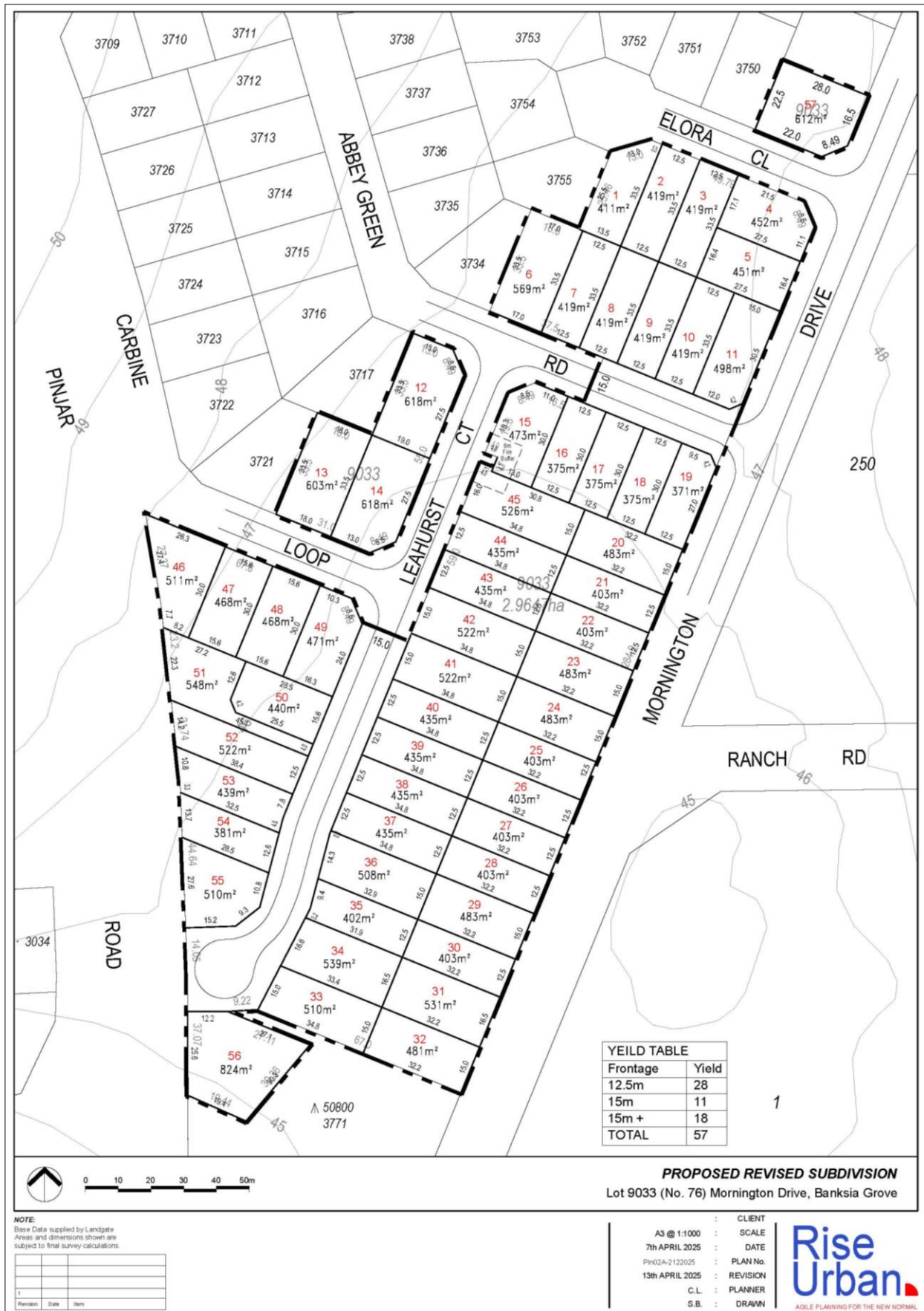


Figure 1: Proposed Subdivision Area

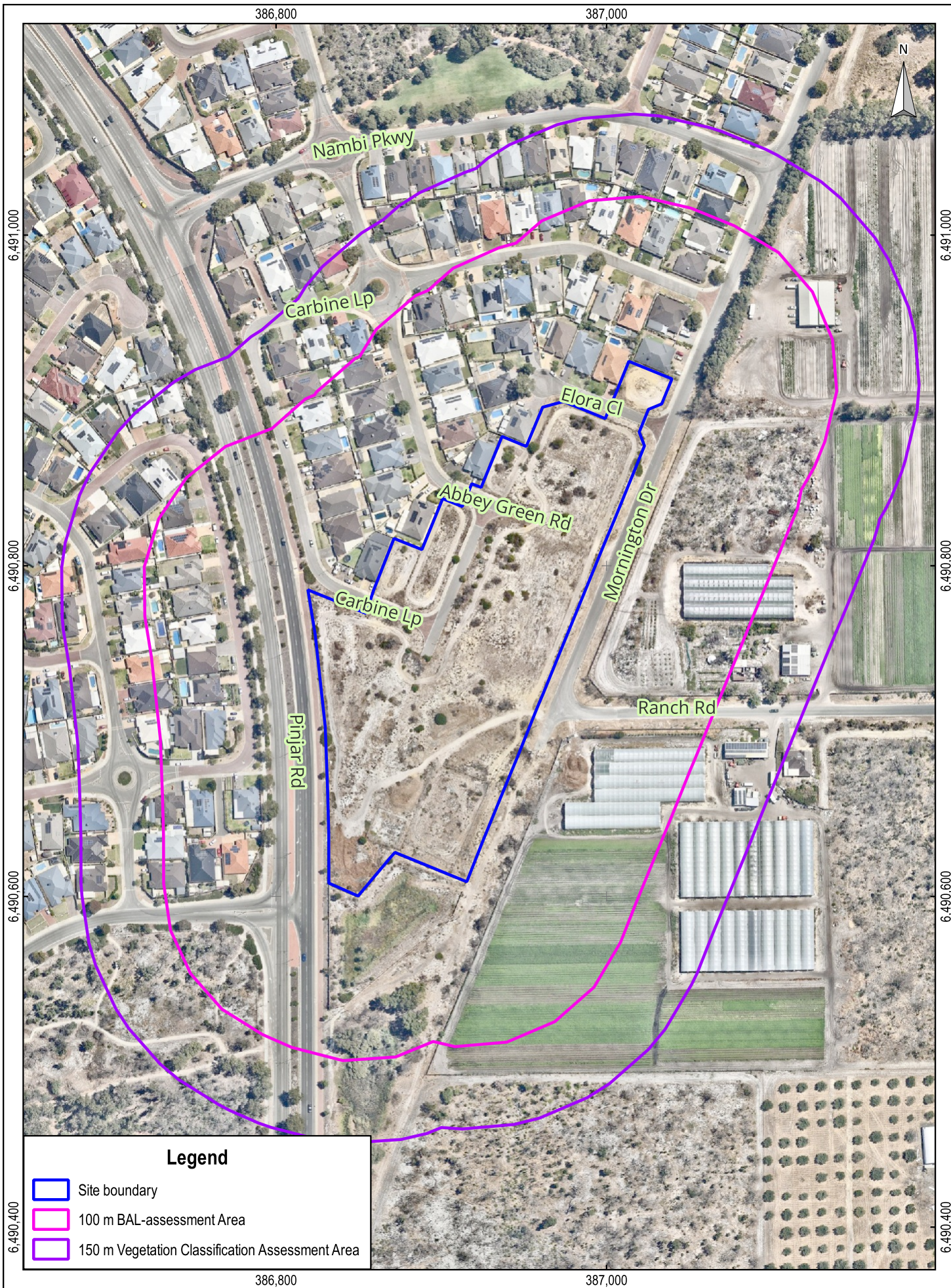
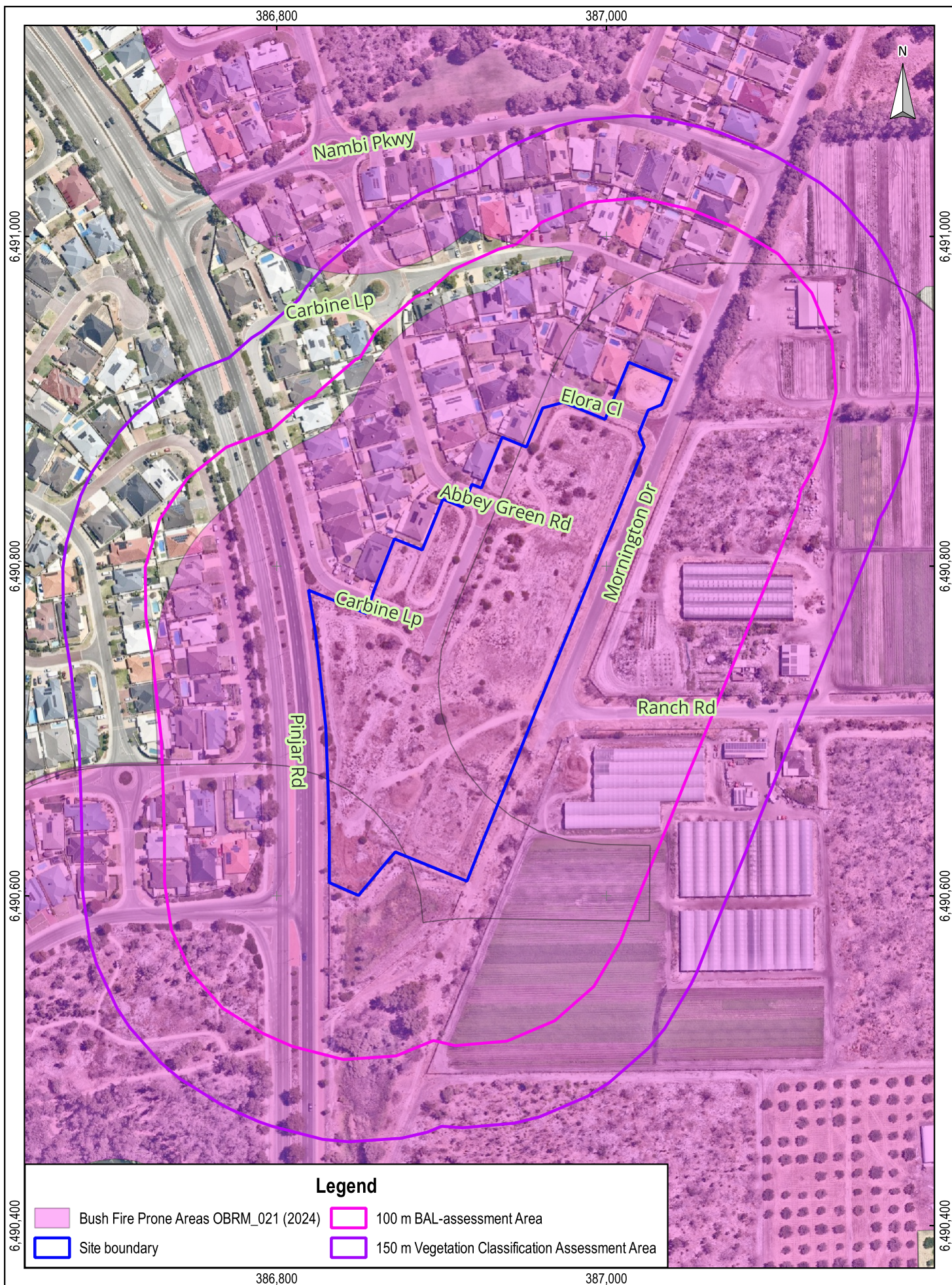


Figure 2

Location

Bushfire Management Plan
 Lot 9033 Mornington Dr, Banksia Grove
 Qube Carramar South Pty Ltd



2. Environmental Considerations

Lot 9033 is an undeveloped portion of land cleared of native vegetation in the southern portion of Banksia Grove, with environmental considerations having been considered during previous planning phases.

2.1 Regional Context

Perth is located within the Swan Coastal Plain region of the Interim Biogeographical Regionalisation of Australia (IBRA). The Swan Coastal Plain comprises of two major divisions, namely Swan Coastal Plain 1 – Dandaragan Plateau and Swan Coastal Plain 2 – Perth Coastal Plain. The Site is in the Perth Coastal Plain subregion, which is broadly characterised as including areas of Jarrah and Banksia woodlands on sandy soils in a series of sand dunes, along with wetland areas, often within the interdunal swales (Mitchell, Williams, and Desmond, 2002).

2.2 Environmental Considerations

As the site is cleared of all native vegetation (Figure 2), within the Site boundaries there are:

- no recorded threatened or priority flora, fauna, or ecological communities
- Bush Forever sites, with the closest being Site 147 Mariginiup Lake and Adjacent Bushland Mariginiup, ranging from 600 – 1000 m to the southeast (Mariginiup Lake) and east (Little Mariginiup Lake)
- wetlands or waterways, with the closest wetlands being the Resource Enhancement basin sumpland associated with Da Vinci Park across Pinjar Rd to the west, the Conservation Category Mariginiup Lake (600 m to the southeast) Little Mariginiup Lake (1000 m to the east), and Lake Adams (1400 m to the northeast) (Geomorphologic Wetlands of the Swan Coastal Plain Dataset (DPLH_019) provided by the Department of Planning, Lands and Heritage (2019).

2.3 Native Vegetation – Modification and Clearing

Current land use within the Site is vacant land with grassed areas and the occasional tree or shrub (Figure 4); all will be cleared to accommodate the development.



Figure 4: Current Land Use

2.4 Revegetation and Landscaping

As Lot 9033 will be developed as residential Lots, there will be no revegetation or landscaping within the Site.

3. Bushfire Assessment Results

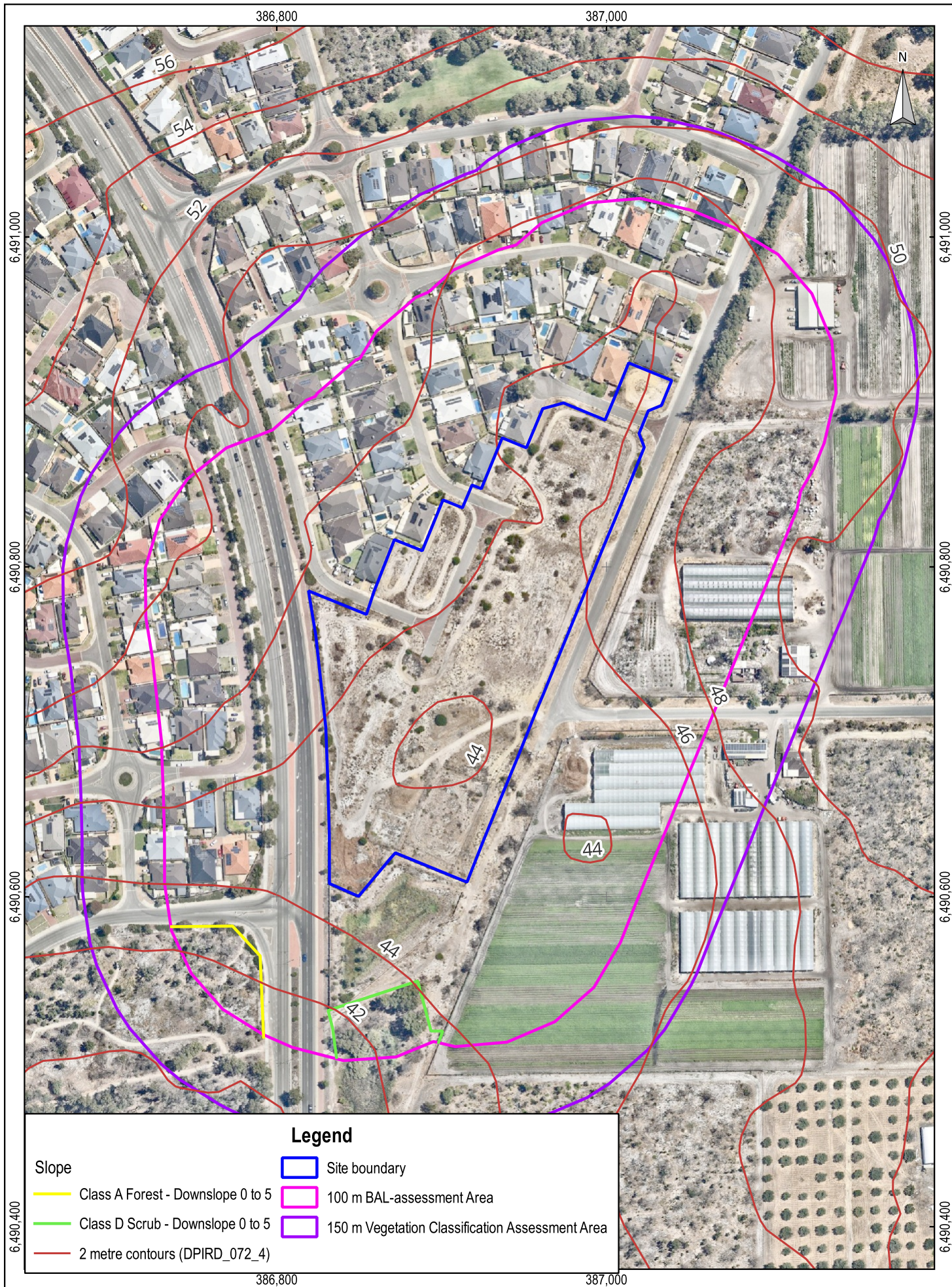
This section outlines the outcomes of the bushfire assessment process.

3.1 Broader Landscape Assessment

As the Site is located within an area designated as Area 1 on the Map of Bushfire Prone Areas (OBRM, 2024) (Figure 3), a broader landscape assessment (BLA) was not required.

3.2 Contours and Slope

The Site rises from 44 m Australian Height Datum (AHD) from the south up to 46 m AHD in the north. Accordingly, the slope of the vegetation in proximity to the planned subdivision is Downslope 0 – 5°, as shown in Figure 5.



Scale: 1: 3,000
 Original Size: A4
 Aerial Imagery: NearMap February 2025
 Grid: GDA94 / MGA zone 50
 0 50 100 m

Figure 5

Contours and Slope

Bushfire Management Plan
 Lot 9033 Mornington Dr, Banksia Grove
 Qube Carramar South Pty Ltd

3.3 Vegetation Classification

Vegetation on and within 150 m of the Site was assessed during the several visits to the area, with the most recent being June 2025, using descriptions provided in Table 2.3 and Figure 2.4 of AS 3959:2018. Each vegetation class is discussed and shown in Figure 6, Figure 7, Figure 8, Figure 9, and Figure 10. The pre-development vegetation classification for the Site is provided in Figure 11, with the expected post-development classification shown in Figure 12.

3.3.1 Patch 1: Class A Forest

Class A Forest is characterised by trees up to 30 m with a 30 – 70% canopy cover. This vegetation classification is present across Pinjar Rd to the west in Da Vinci Park (Figure 6) and will be retained, meaning an ongoing bushfire risk to the Site.

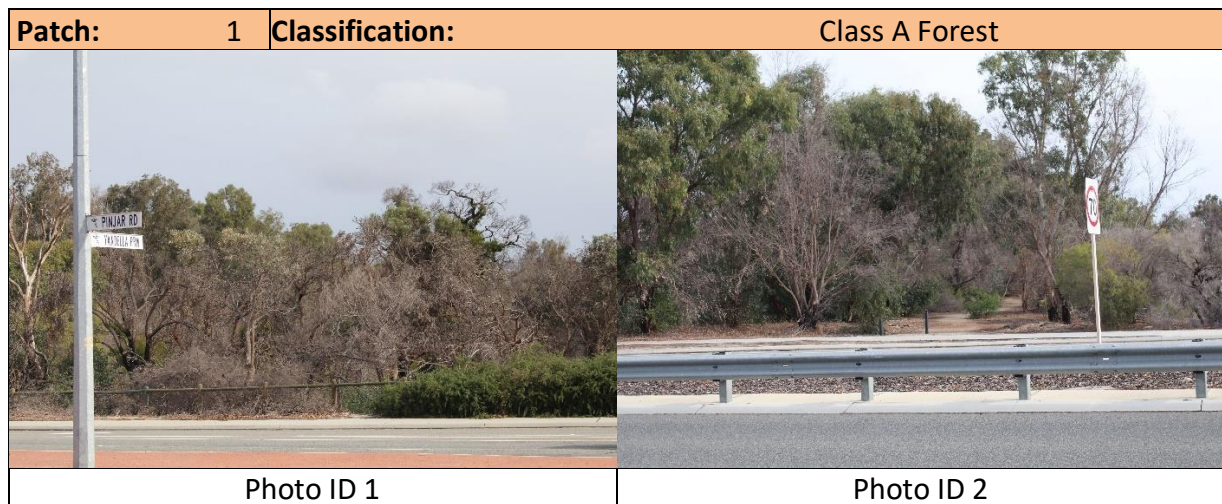


Figure 6: Class A Forest

3.3.2 Patch 2: Class D Scrub

Class D Scrub is characterised by shrubs to 4 m with a continuous canopy from ground level, noting that trees to 6 m (e.g.: Banksia) can be present. This vegetation classification is present within a road reserve to the south of the Site as well as being present in Lot 39 (294) Pinjar Rd to the east of the road reserve (Figure 7). It is expected that this vegetation will be retained in the short-to-medium term and thus represent an ongoing bushfire risk for some time.

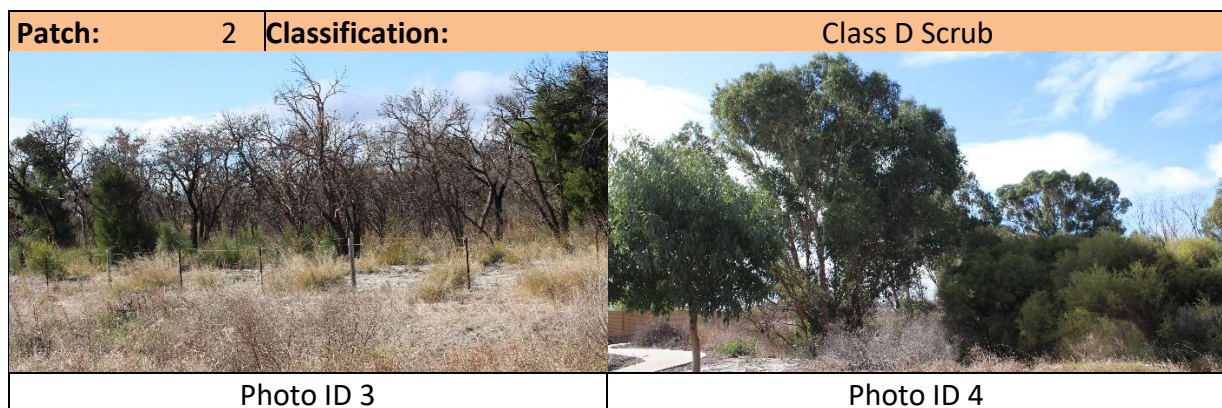


Figure 7: Class D Scrub

3.3.3 Patch 3: Class G Grassland

Class G Grassland is characterised by all forms of grass, including those grassed areas with the occasional tree or shrub present. This vegetation class is present in (Figure 8):

- within Lot 9033, and which will be cleared to accommodate the development
- within the Mornington Dr road reserve south of Ranch Rd, and which is anticipated will be maintained by the City of Wanneroo.

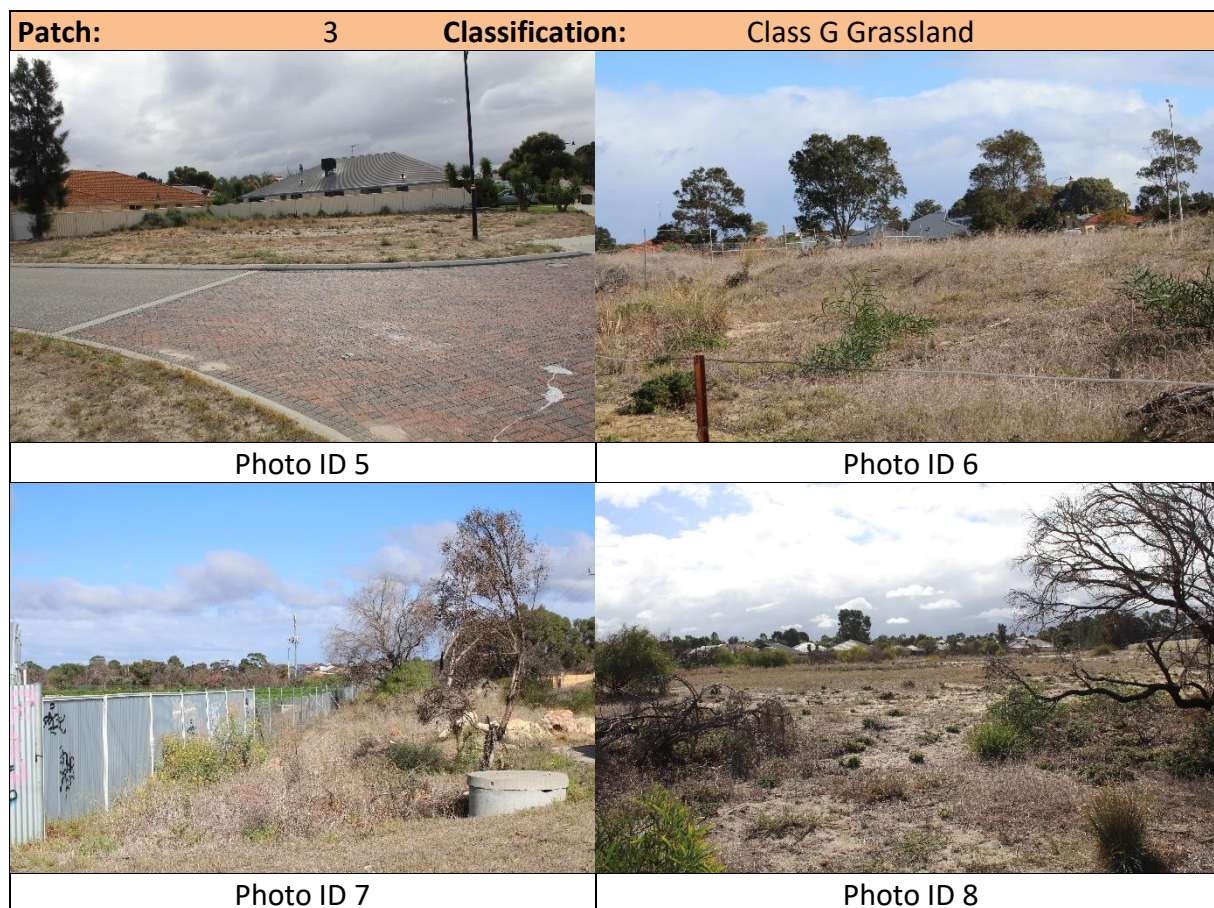


Figure 8: Class G Grassland

3.3.4 Patch 4: Low Threat Vegetation

Clause 2.2.3.2 of AS 3959:2018 outlines various exclusion clauses for low threat vegetation and non-vegetated areas. Exclusion clause 2.2.3.2 (f) applies to vegetation that is characterised as low threat by factors such as flammability, moisture content, or fuel load, with examples including grassland managed in a minimal fuel condition, maintained lawns, playing fields, golf courses (fairways and playing areas), maintained public reserves, parklands, vineyards, orchards, nature strips, windbreaks, and cultivated gardens.

This vegetation class is present in portions of the rural living Lots where there are market gardens, garden beds, lawn areas, nature strips, and lines of trees (Figure 9). Areas of low threat vegetation across Mornington Dr to the east are subject to an approved Local Structure Plan (LSP) and will be cleared in time to accommodate that development as future planning phases are implemented.

Exclusion Clause 2.2.3.2 (b) applies to areas of classified vegetation that are less than 1 ha and more than 100 from any other classified vegetation. There is a patch of Class C Shrubland that is approximately 0.5 ha located in Lot 250 (11) Ranch Rd to the east, and which is more than 100 m from any other classified vegetation.

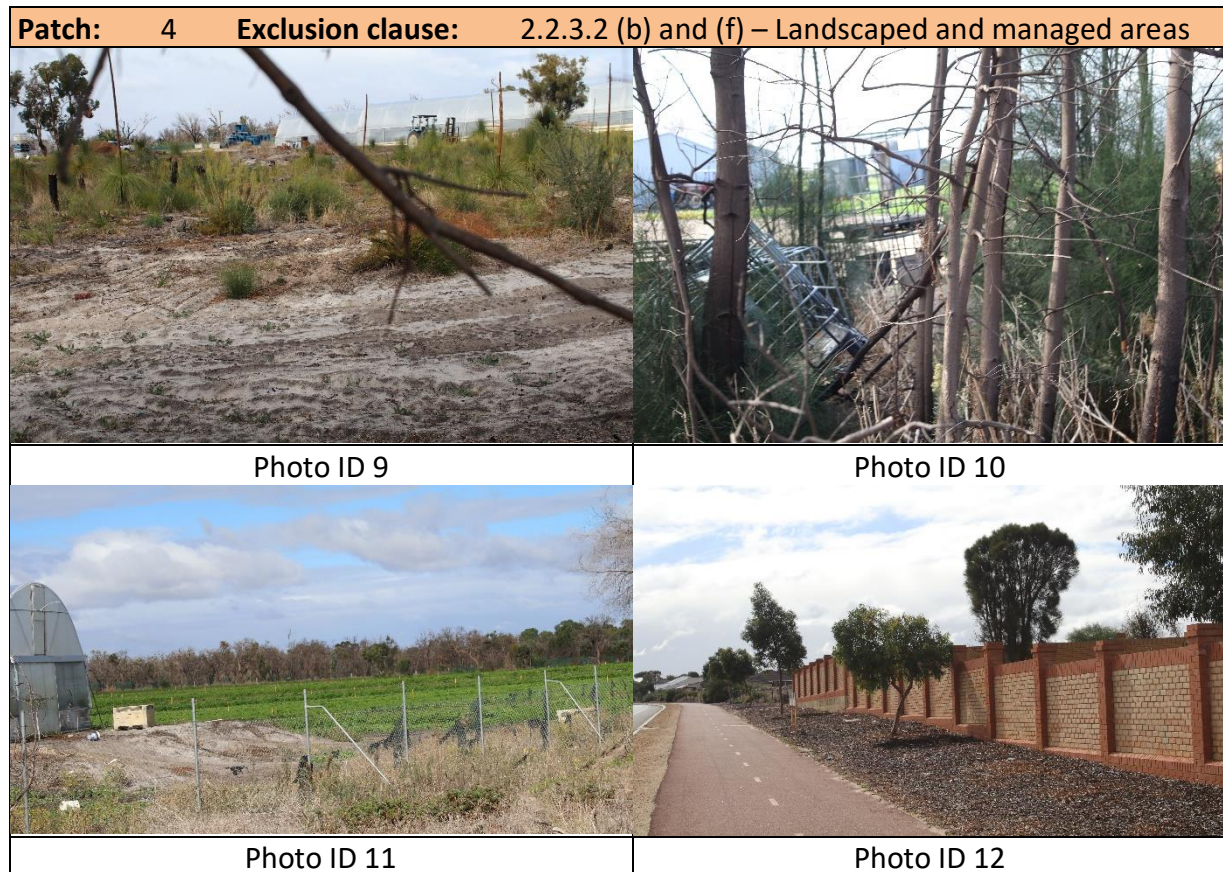


Figure 9: Low Threat Vegetation

3.3.5 Patch 5: Non-Vegetated Areas

Non-vegetated areas are subject to exclusion clause 2.2.3.2 (e) of AS 3959:2018, with those within and close to the Site including (Figure 10):

- roads and footpaths
- land cleared of vegetation, such as firebreaks and access tracks
- existing residences and other structures associated with rural land uses.

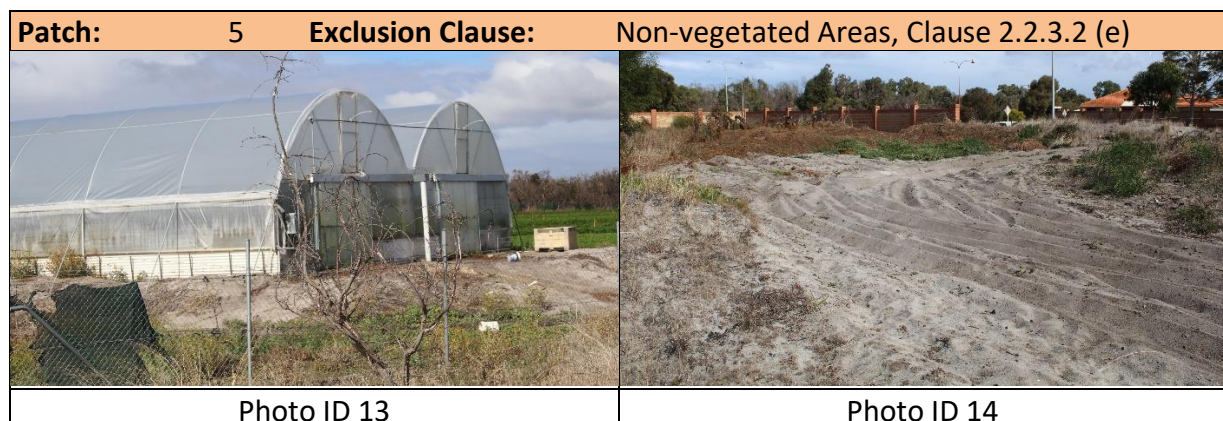
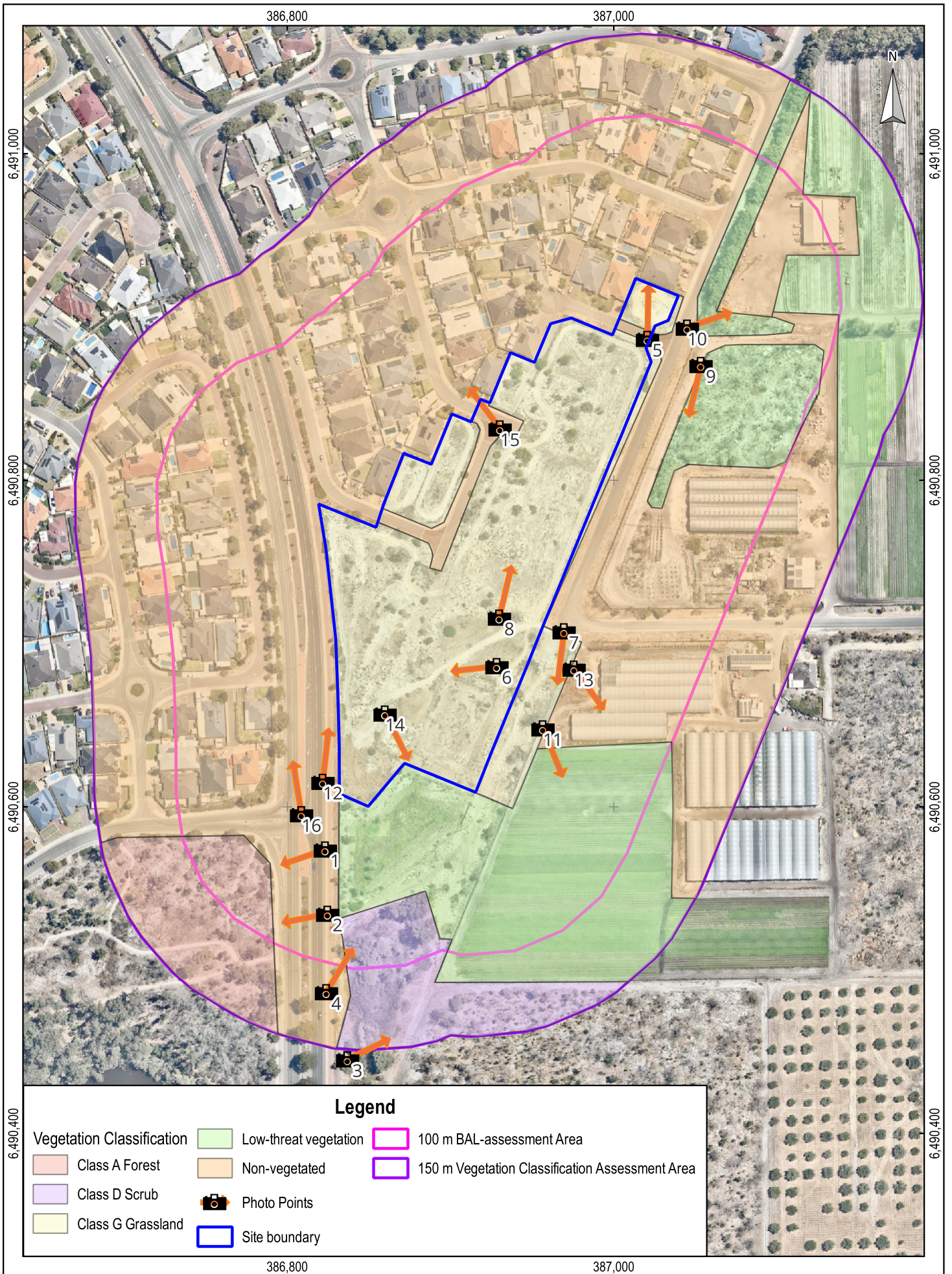




Figure 10: Non-vegetated Areas

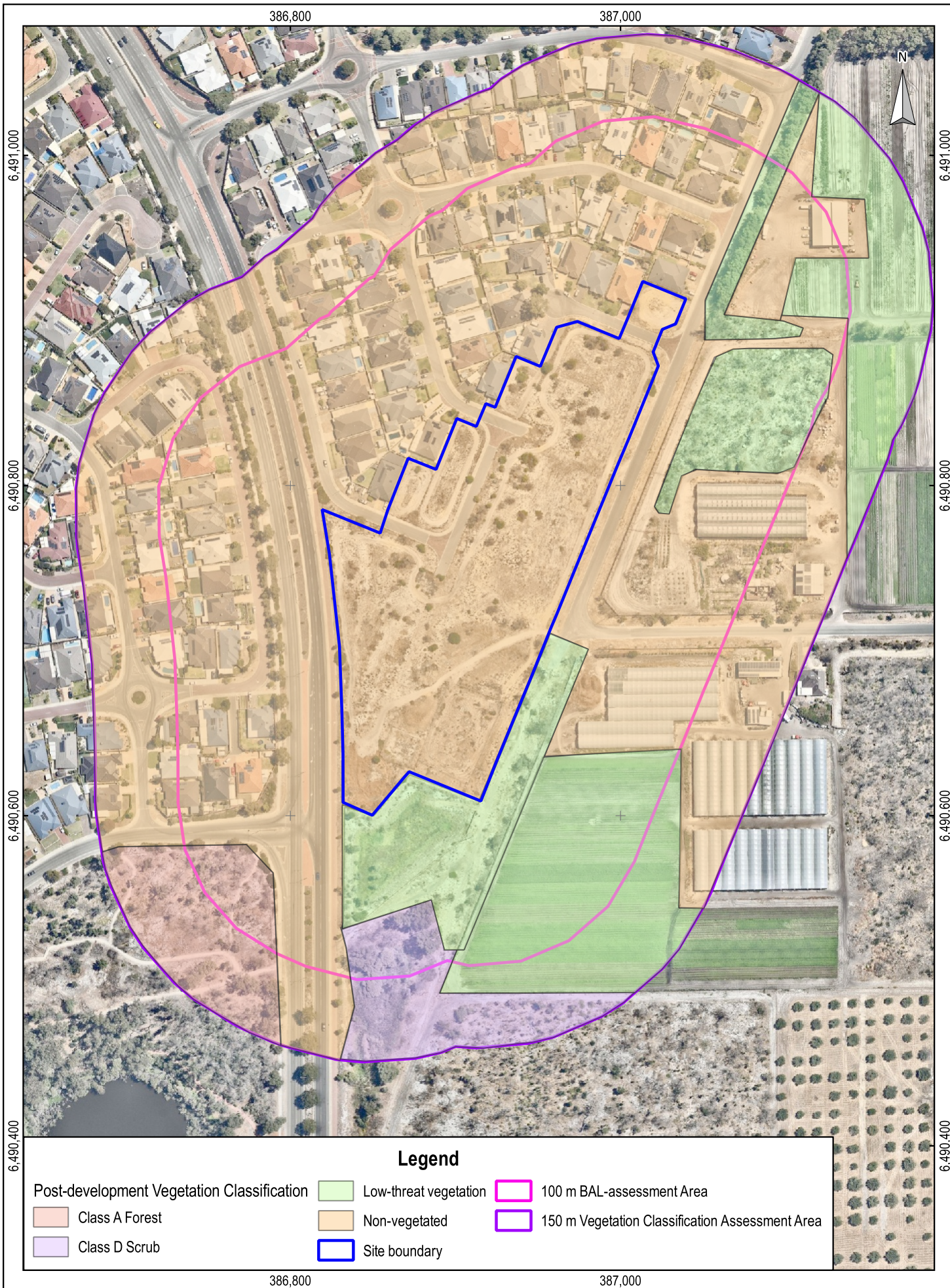


Scale: 1: 3,000
 Original Size: A4
 Aerial Imagery: NearMap February 2025
 Grid: GDA94 / MGA zone 50
 0 50 100 m

Figure 11

Pre-development Vegetation Classification

Bushfire Management Plan
 Lot 9033 Mornington Dr, Banksia Grove
 Qube Carramar South Pty Ltd



Scale: 1: 3,000
 Original Size: A4
 Aerial Imagery: NearMap February 2025
 Grid: GDA94 / MGA zone 50

0 50 100 m

Figure 12

Post-development Vegetation Classification

Bushfire Management Plan
 Lot 9033 Mornington Dr, Banksia Grove
 Qube Carramar South Pty Ltd

3.4 Fire Danger Index (FDI)

The Fire Danger Index for this site is FDI 80, as documented in Table 2.4.3 of *AS 3959:2018* and which is the nominated FDI for Western Australia.

3.5 Potential Bushfire Impacts

Potential bushfire impacts within the Site include smoke, ember attack, and radiant heat, with the BAL-analysis provided in Table 1.

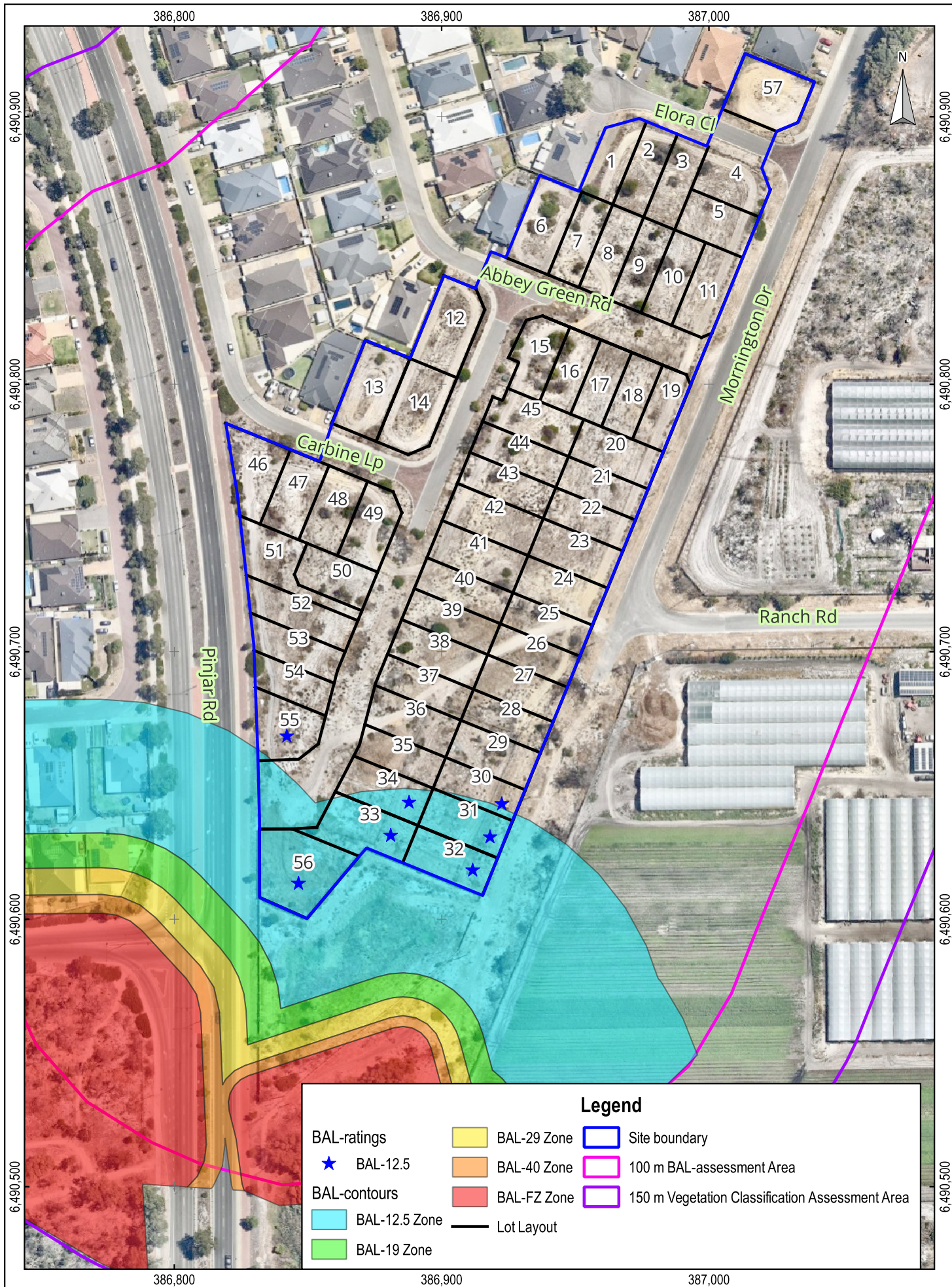
Table 1: BAL-analysis

Patch	Vegetation Class	Slope	Separation Distance (m)	Maximum BAL-rating
1	Class A Forest	Downslope 0 - 5°	> 95	BAL-12.5
2	Class D Scrub	Downslope 0 - 5°	> 60	BAL-12.5
3	Class G Grassland	Downslope 0 - 5°	Will be cleared	BAL-Low
4	Low Threat Vegetation	N/A	N/A	BAL-Low
5	Non-vegetated areas	N/A	N/A	BAL-Low

3.6 BAL-assessment

The presence of the Class A Forest and Class D Scrub to the west and south of the Site mean that (Figure 13):

- Lots 30 – 34, and 56 are rated BAL-12.5
- Lot 55 is rated BAL-12.5, however, if the dwelling can avoid the BAL-12.5 contour, it may be possible to reduce the BAL-rating to BAL-Low
- Lots 1 – 29, 35 – 54, and 57 are rated BAL-Low.



Scale: 1: 1,850
 Original Size: A4
 Aerial Imagery: NearMap February 2025
 Grid: GDA94 / MGA zone 50

0 50 100 m

Figure 13

BAL-contours and Ratings

Bushfire Management Plan
 Lot 9033 Mornington Dr, Banksia Grove
 Qube Carramar South Pty Ltd

3.7 Asset Protection Zone

The Asset Protection Zone (APZ) for the Site is the area that provides the separation distance between the edge of the classified vegetation and building walls, with the preferred width of the APZ being 100 m. For locations where a 100 m APZ width cannot be achieved, a reduced APZ can be implemented when a BAL-rating is determined for the building. The reduced APZ commences at the junction of the BAL-40 and BAL-29 zones, or the junction of the orange and yellow zones shown in Figure 13 and will extend to the building walls which is the point where the potential radiant heat impact of a bushfire does not exceed 29 kW/m². As seven Lots have a BAL-12.5 rating and all others are rated BAL-Low, a suitable APZ can be achieved.

3.8 Shielding

Clause 3.5 of AS 3959:2018 allows for a reduction in the nominated construction standard for a building in a bushfire prone area where the elevation is not exposed to the source of the bushfire attack, noting that the reduction in building standard cannot reduce below BAL-12.5. As no Lot is rated higher than BAL-12.5, the shielding provisions of AS 3959:2018 will not apply.

3.9 Other Bushfire Protection Measures

No other bushfire protection measures are required for the Site other than those documented in this BMP.

4. Assessment Against Bushfire Protection Criteria

Appendix B of the *Guidelines* (DPLH and WAPC, 2024a) provides details of the acceptable bushfire protection solutions that can be used to demonstrate how a location can be developed in bushfire prone areas.

4.1 Compliance Table

The compliance table focuses on ensuring that the subdivision design complies with Element 2: Siting and Design, Element 3: Vehicular Access, and Element 4: Water. Outcomes of how the Site will comply are provided in Table 2 with all compliance requirements able to be achieved.

Table 2: Compliance Table

Bushfire Protection Criteria	Method of Compliance – Method 1		Proposed Bushfire Management Strategies
	Acceptable Solutions		
Element 1: Location	A1.1a	Broader Landscape Type A	OBRM (2024) mapping indicates the Site is a Broader Landscape Type A
Element 2: Siting and Design	A2.1	Siting and Design	Lot 9033 is the final stage of previous development to the north, with the assessment process associated with preparation of this BMP indicating that the Site can be readily developed, with seven Lots being rated BAL-12.5 and all others BAL-Low.
	A2.2	Asset Protection Zone	The assessment process indicates that a suitable APZ can be demonstrated for all Lots (Figure 13).
	A2.3	Clearing of Native Vegetation	As the dominant vegetation classification within the Site is Class G Grassland, with the occasional tree and shrub present, there will be no clearing of native vegetation required to accommodate the subdivision (Figure 11, Figure 12).
Element 3: Vehicular Access	A3.1	Public Roads	Public roads will be constructed in accordance with the technical requirements outlined in Column 2, Area 1 of Table 10 on page 103 of the <i>Guidelines</i> . Road design will be approved by the City of Wanneroo prior to construction commencing.

Bushfire Protection Criteria	Method of Compliance – Method 1		Proposed Bushfire Management Strategies
	Acceptable Solutions		
	A3.2	Access Roads	Access and egress from the subdivision will be available to at least two different destinations to the west, north, and east via Carbine Lp, Leahurst Ct, Abbey Green Rd, Elora Ct, Nambi Pkwy, and Mornington Dr (Figure 1, Figure 13).
	A3.3a	No-through Roads	Leahurst Ct south of Carbine Lp is a no through road of less than 125 m, with additional access/egress options not available due to location design constraints.
	A3.3b	No-through Road Requirements	The no-through road will comply with the requirements of a public road as detailed in Appendix B.3 Table 10, Column 2 of the <i>Guidelines</i> , and include a turn-around area/head as per Figure 30 of the <i>Guidelines</i> .
	A3.4	Emergency Access Ways	Not applicable – access and egress will be via the current and planned road network.
	A3.5a	Perimeter Roads	Not applicable – the Site is a balance Lot associated with previous subdivision and planning processes. The southern portion of the Site is located more than 60 m from offsite bushfire risks, indicating they can be managed, as well as being constrained due to its shape (Figure 1, Figure 13).
	A3.5b	Fire Service Access Routes	N/A – fire service access requirements will be via the planned road network.
	A3.6	Battle-axe Access Leg	Lot 51 is a battle-axe Lot, with the access leg being less than 30 m.
Element 4: Water	A4.1	Water Supply for Structure Plans	N/A – Subdivision application.

Bushfire Protection Criteria	Method of Compliance – Method 1		Proposed Bushfire Management Strategies
	Acceptable Solutions		
	A4.2	Water Supply for subdivision applications	The Site is in an area where a reticulated water supply will be available. The water supply and hydrant design will undergo review and endorsement by the Water Corporation prior to construction commencing, with design information also being provided to the City when available.
	A4.3	Water Supply for existing Habitable Buildings	N/A – Subdivision application

4.2 Bushfire Mitigation Measures

Required bushfire mitigation measures that will be implemented and maintained by the Developer until the Site is developed, and Lots are sold are provided in Table 3. Also provided are an indication of the responsibilities of future lot and landowners and the maintenance requirements associated with the various responsibilities.

Table 3: Bushfire Mitigation Measures

Item	Mitigation Measure	Maintenance
Landowner/Developer Prior to Sale or Occupancy		
1	The bushfire implications of any changes to the Lot layout are assessed prior to being implemented.	If required
2	Hydrant design requirements will be in accordance with the Water Corporation Design Standard 63 for hydrants: <ul style="list-style-type: none"> installation of markings to indicate the presence of hydrants clearance on the placement of hydrants is required from the Water Corporation hydrants to be clearly identifiable, with markings installed by the developer after practical completion. 	Prior to sub-surface civil engineering construction commencing.
3	Public roads and no-through roads will be designed and constructed in accordance with the technical requirements outlined in Column 2, Area 1 of Table 10 on page 103 of the <i>Guidelines</i> and be consistent with those constructed in surrounding areas, noting that road design will be approved by the City of Wanneroo prior to construction commencing.	Prior to surface civil engineering works commencing.

Item	Mitigation Measure	Maintenance	
4	If required, BAL-ratings will be confirmed at various future planning approval phases.	If required.	
5	Comply with the City of Wanneroo’s annual fire hazard reduction notice.	Annually, as per the requirements of the City of Wanneroo annual fire hazard reduction notice.	
6	Prepare a BMP compliance report to demonstrate that the relevant bushfire management measures have been implemented during subdivisional works to deliver compliance.	Prior to the issuing of Lot titles.	
Landowner/Developer – Ongoing Management			
1	Maintain vehicular access routes, including secondary access routes, within the development area to the required surface condition and clearances.	As required.	
Developer – Prior to Issue of Certificate of Titles for New Lots			
No.	Implementation Action	Local Government Clearance	Bushfire Consultant Clearance
1	Confirm the BAL-ratings of Lots within the subdivision can achieve a maximum BAL-29 rating.		✓
2	Construct the public roads and no-through roads to the standards stated in the BMP.	✓	✓
3	Hydrant and water supply is in accordance with Water Corporation requirements.	✓	✓

5. References

AS 3959:2018 *Construction of Buildings in Bushfire-Prone Areas*, (2018), Standards Australia, New South Wales.

Department of Planning, Lands and Heritage (DPLH), (2019), *Geomorphic Wetlands of the Swan Coastal Plain Dataset* (DPLH_019), accessed via World Wide Web URL: <https://catalogue.data.wa.gov.au/dataset/bush-forever-areas-2000-dop-071>.

Department of Planning, Lands and Heritage (DPLH) and the Western Australian Planning Commission (WAPC), (2024a), *Planning for Bushfire Guidelines for the Implementation of State Planning Policy 3.7 Bushfire* (the Guidelines), Western Australian Planning Commission, Perth, Western Australia.

Department of Planning and Western Australian Planning Commission, (2024b) *State Planning Policy 3.7 Bushfire (SPP 3.7)*, Western Australian Planning Commission, Perth Western Australia.

Mitchell, Williams, and Desmond, (2002), *Swan Coastal Plain 2 (SWA2 – Swan Coastal Plain subregion)*, Department of Conservation and Land Management, accessed June 2025 via World Wide Web URL: <https://library.dbca.wa.gov.au/static/FullTextFiles/021927.pdf>.