

**BUSHFIRE MANAGEMENT PLAN
STAGES 34A, 34B, 35A, AND 40A
TRINITY ESTATE, ALKIMOS**

PREPARED FOR:

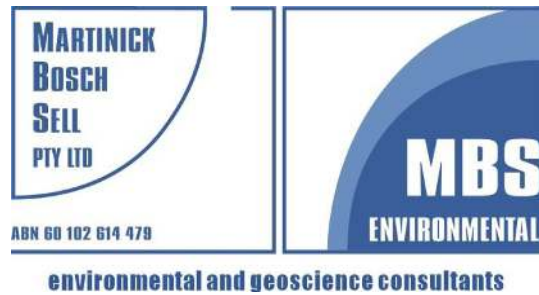
NORTHERN CORRIDOR DEVELOPMENTS LTD

APRIL 2023

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STAGES 34A, 34B, 35A AND 40A TRINITY ESTATE BUSHFIRE MANAGEMENT PLAN

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1. BACKGROUND INFORMATION

A bushfire management plan was prepared for Lot 9058 Marmion Ave, Alkimos – Aura Western Village (Trinity) in 2020 and updated in 2021 (Bushfire Safety Consulting, 2021). With sales progressing in Stages 34A, 34B, 35A and 40A (the Site), Northern Corridor Developments Ltd commissioned Martinick Bosch Sell Pty Ltd (MBS Environmental, MBS) to prepare an updated bushfire management plan (BMP) that reflects current site design and conditions. The broad aim of the assessment process was to identify potential bushfire risks to future properties along with appropriate management actions when the site is developed.

The Site is located within a bushfire prone area as designated by the Fire and Emergency Services Commissioner, Office of Bushfire Risk Management (OBRM), within the Department of Fire and Emergency Services (2021). 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*. 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 (SPP) 3.7 *Planning in Bushfire Prone Areas* (Department of Planning and the Western Australian Planning Commission (WAPC), 2015) and *Guidelines for Planning in Bushfire Prone Areas* (Department of Planning, Lands and Heritage (DPLH) and the Western Australian Planning Commission (WAPC), V1.4, 2021).

1.1 LOCATION

The Trinity subdivision is located within a portion of Lot 9058 Marmion Ave, Alkimos, within the City of Wanneroo (CoW, the City). It extends west from Marmion Ave in the east to existing residential development and development being undertaken by others near what will become Hapsburg Ave in the west, south to what will become Chaudes Rd, north to Montana Park and Leatherback Blvd to the northwest (Figure 1, Figure 2).

Stages 34A, 34B and 35A are in the southwestern portion of the subdivision, approximately bounded by Hawksbill Dr to the north, Chaudes Rd to the west and south, and Kaiser Ave to the east (Figure 1). Stage 40A is in the northern portion of the subdivision, with Lots to be constructed along Hapsburg Ave, Chateau Ave, Parnu St, and Friedrich Way (Figure 2).

1.2 AIMS AND OBJECTIVES

The aim of the BMP is to outline the fire management methods and requirements that will be implemented within Stages 34A, 34B, 35A, and 40A of the Trinity subdivision. Accordingly, broad aims include:

- Reduce the occurrence of and minimise the impact of fire to the life and property of future residents and the environment.
- Allow easy access of fire-fighters if a fire does occur.
- Protect the landscape within the site as far as is possible.
- Document fire prevention requirements of the area to which it relates.

The objectives of this BMP are to:

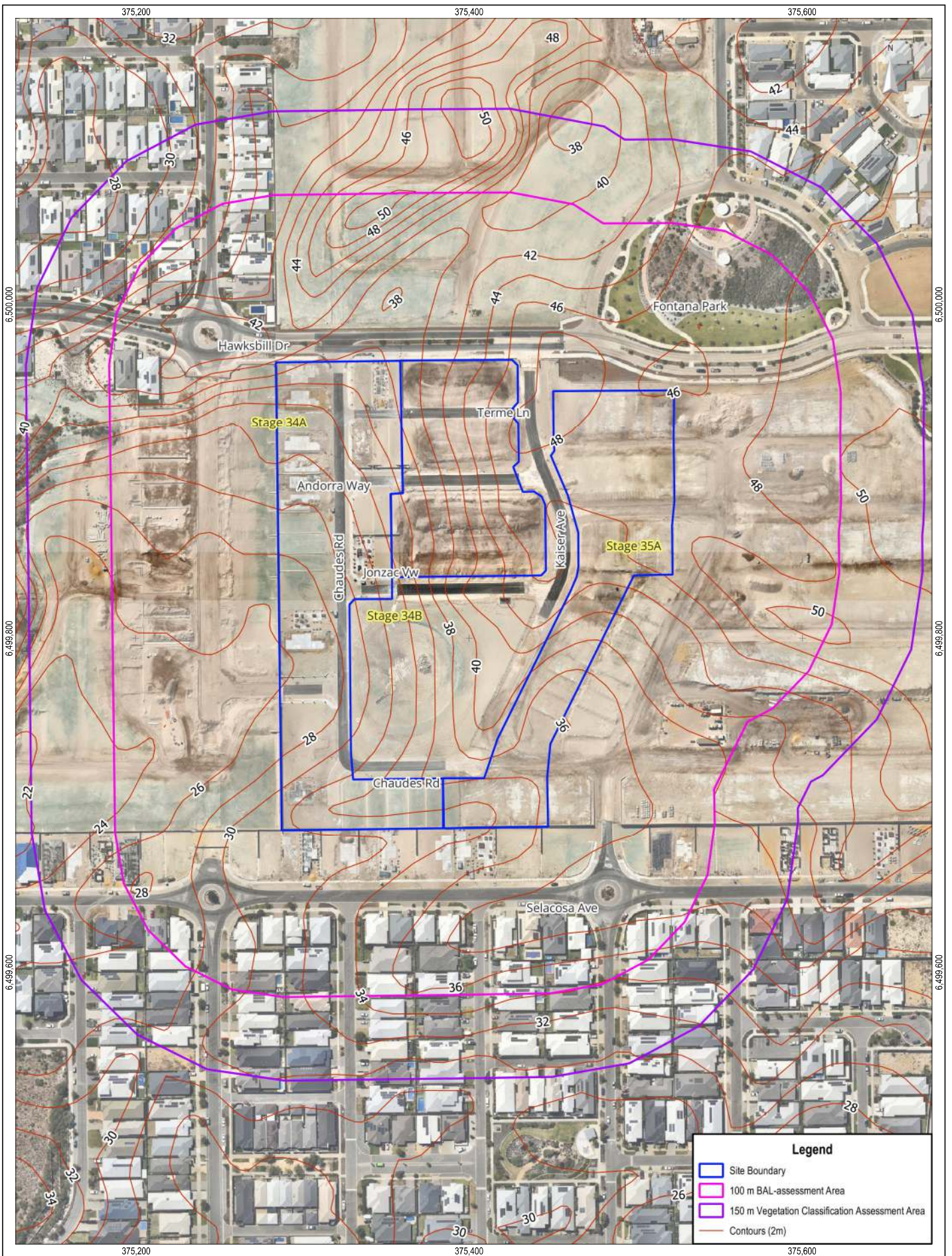
- Define land use areas and values within the subdivision, with the four stages being developed as urban residential Lots except for locations designated public open space (POS).
- Define and rank fire hazard areas according to the vegetation type and fire fuels present.
- Outline the roles and responsibilities of individuals and organisations in relation to fire management within the subdivision.
- Document fire management strategies for the subdivision, taking into consideration:

- Vegetation to be retained in areas of public open space (POS) to the north along Montana Cr and in Allevard St close to Stage 40A.
- The need for building construction standards where vegetated areas interface with the urban development.
- Identify access for fire-fighting operations and daily maintenance in and around vegetated areas and stages of development.
- Define an assessment procedure that will evaluate the effectiveness and impact of existing and proposed fire prevention activities and strategies.
- Document the performance criteria and acceptable solutions adopted for the site.

1.3 DOCUMENT PREPARATION

This document has been prepared by Sue Brand, an accredited Level 2 Bushfire Planning and Design (BPAD) practitioner with the Fire Protection Association Australia. Activities involved with the plan preparation process included:

- Assessing the vegetation type and class present within and adjacent to the proposed development site using descriptions provided in *AS 3959:2018 Construction of Buildings in Bushfire Prone Areas*.
- Assigning hazard ratings based on the vegetation types present on and offsite.
- Determining bushfire attack level (BAL) contours and ratings, along with suggesting management strategies that could be implemented based on current and projected site considerations.
- Preparing this BMP.



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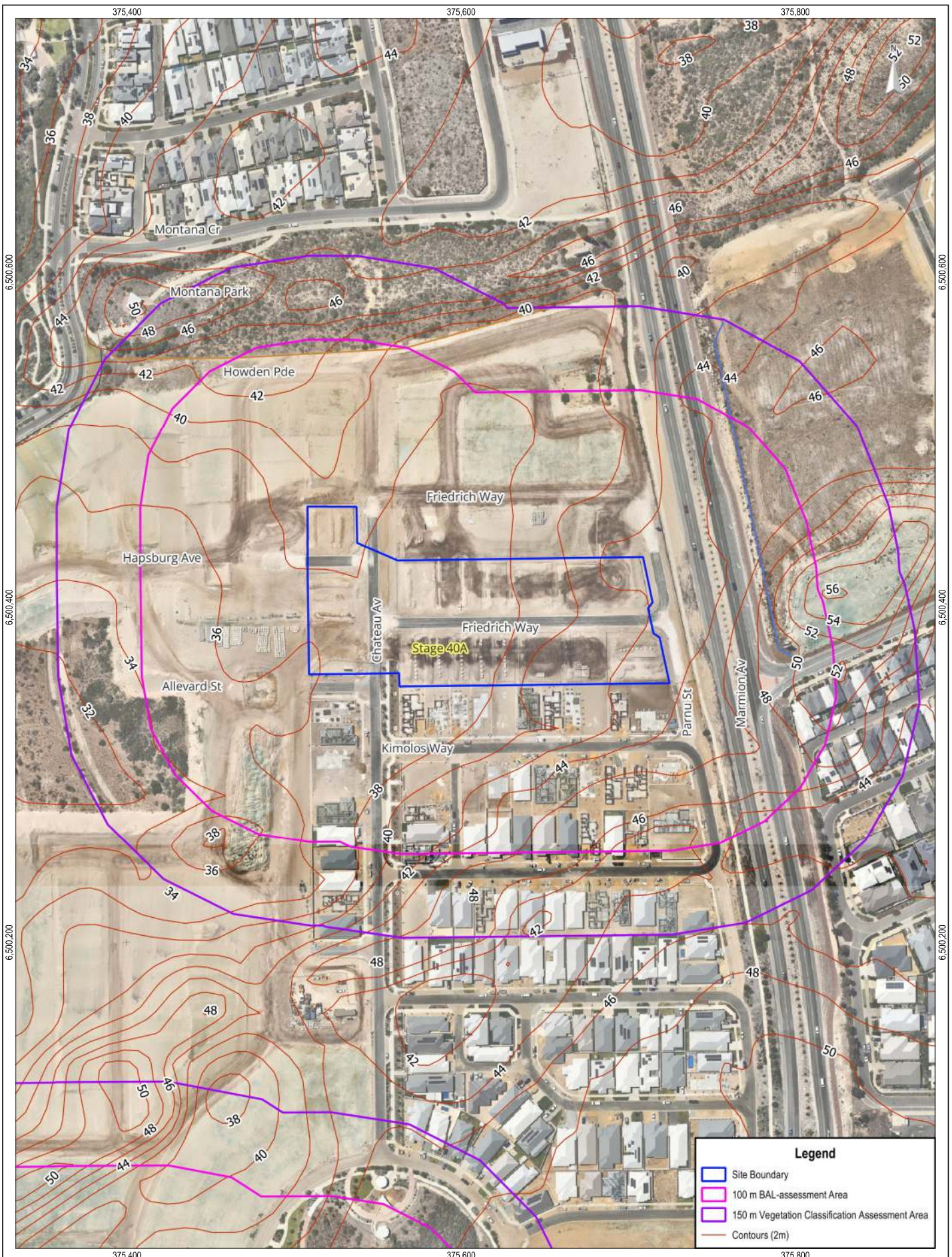
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Bushfire Management Plan
 Stages 34A, 34B, 35A, and 40A
 Trinity Estate, Alkimos

Figure 1
Location and Contours
 Stages 34A, 34B, and 35A

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Bushfire Management Plan
 Stages 34A, 34B, 35A, and 40A
 Trinity Estate, Alkimos

Figure 2
 Location and Contours
 Stage 40A

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2. CONSIDERATION OF BUSHFIRE THREAT

2.1 SITE CHARACTERISTICS

2.1.1 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 the Swan Coastal Plain 1 — Dandaragan Plateau and Swan Coastal Plain 2 — Perth Coastal Plain. The Site is in the Perth 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).

2.1.2 Vegetation

Vegetation across the majority of the Site has been cleared to progress civil engineering works ahead of the sale of Lots. Some scrub vegetation will be retained in the planned POS area that will be created adjacent to Allevard St in the north (less than 1 ha and more than 100 m from classified vegetation), with Montana Park to the north along Montana Cr including approximately 1.5 ha of scrub vegetation (Figure 1). Other POS areas within the subdivision include small stands of trees in association with landscaped areas (Figure 1, Figure 2). Additional POS areas in the southern portion of the Site will be managed as low threat vegetation as per Exclusion Clause 2.2.3.2 (f) of AS 3959:2018.

2.1.3 Contours and Slope

The coastal aspect of the Trinity site means that Stages 34A, 34B, and 35A in the southern portion of the site rises from the west from an interdunal swale at a height of 26 m Australian Height Datum (AHD) to 50 m AHD towards Marmion Ave (Figure 1). For Stage 40A in the northern portion of the Site, the height ranges from 32 m AHD in the west to more than 50 m AHD east of Marmion Ave (Figure 2).

2.1.4 Land Uses

Stages 34A, 34B, 35B, and 40A have been cleared of vegetation, with civil engineering works progressing ahead of sale of the Lots (Figure 3).



Figure 3: Current Land Use — Stage 40A (L), Stage 34B (R)

2.1.5 Environmental Considerations

Environmental values have been considered during previous Site planning phases. The City of Wanneroo issued a development approval on 09 October 2019 that allowed clearing of native vegetation under the provisions of the City of Wanneroo District Planning Scheme No. 2 and the Metropolitan Region Scheme (Bushfire Safety Consulting, 2021).

2.1.6 Landscaping

Landscaping will occur in the POS planned for Allevard St whilst also retaining some stands of native vegetation. The POS fronting Chaudes Rd and Kaiser Ave Stages 34A, 34B and 35A will be landscaped.

2.2 VEGETATION CLASSIFICATION

Vegetation on and within 150 m of the Site was assessed during the site visit on 01 April 2023 using descriptions provided in Table 2.3 and Figure 2.4 of AS 3959:2018; each vegetation class is discussed. The pre-development vegetation classifications for the Site are shown in Figure 4, Figure 5, Figure 6, Figure 7, and collectively in Figure 8 (Stages 34A, 34B, and 35A) and Figure 9 (Stage 40A). As the post-development classifications are the same as those for the pre-development situation, they are not shown separately.

2.2.1 Patch 1: Class D Scrub

Class D Scrub is characterised by shrubs from 2 – 4 m with a continuous canopy from ground level; this vegetation class may include the occasional taller tree. A patch of Class D Scrub is present in the POS to the north of the subdivision in Montana Dr (Figure 4). As this vegetation will be retained in the longer term it represents an ongoing bushfire hazard to Stage 40A. Stages 34A, 34B, and 35A are all more than 100 m from this vegetation class.

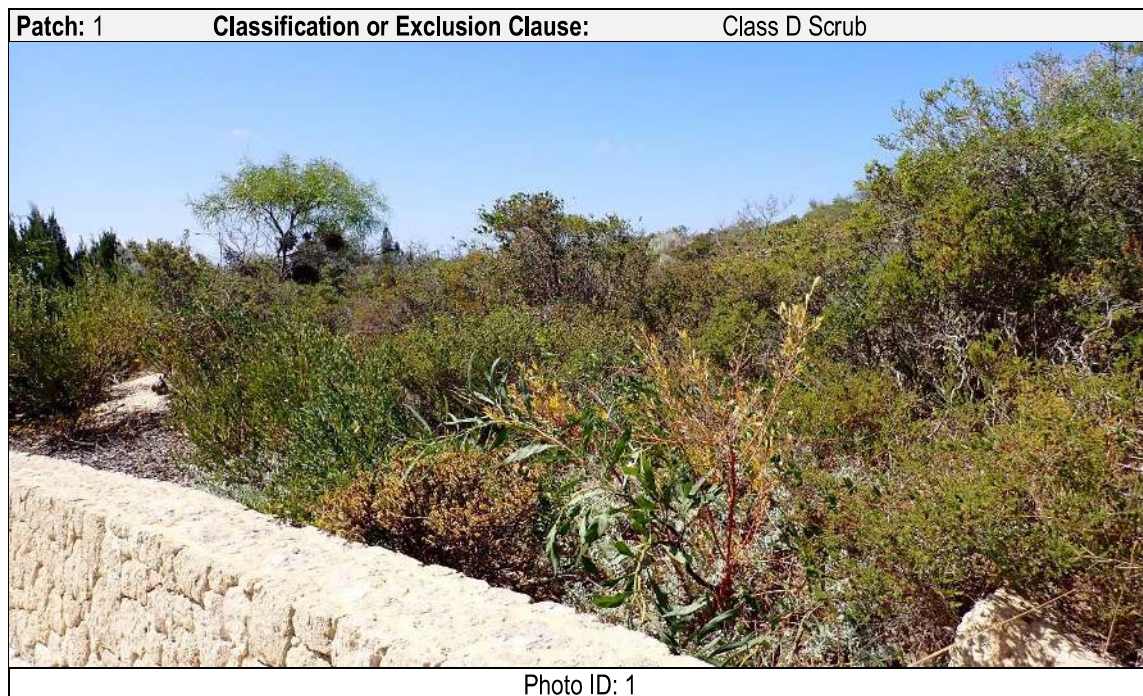




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Figure 4: Class D Scrub

2.2.2 Patch 2: Class G Grassland

Class G Grassland includes all forms including those with the occasional tree and shrub present where the canopy cover is less than 10%. A patch of Grassland that is characterised by cured grasses from 20 – 30 cm is present across Marmion Ave to the east (Figure 5) in a plot that will be developed at a future point in time. This patch is more than 50 m from Stage 40A, and as AS 3959:2018 considers grassland areas for 50 m rather than the 100 m of other vegetation classes, it will have no influence on BAL-ratings. Stages 34A, 34B, and 35A are all more than 100 m from this vegetation class.

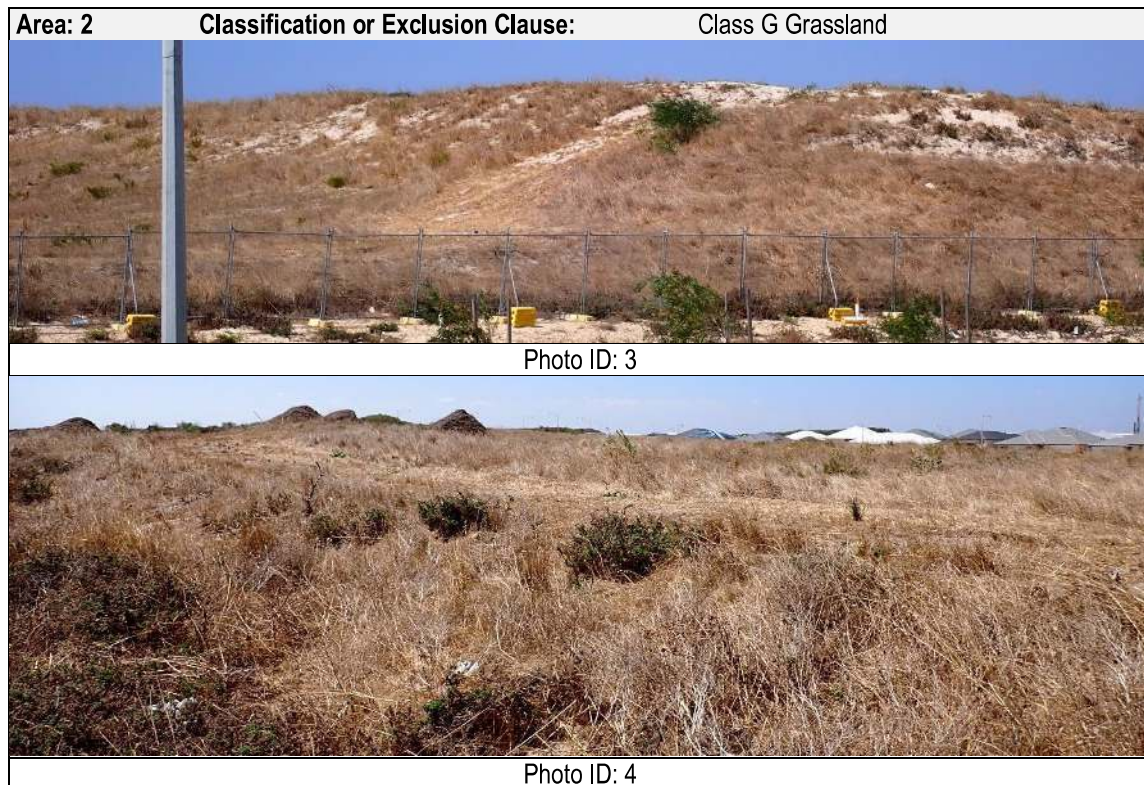


Figure 5: Class G Grassland

2.2.3 Patch 3: Low Threat Vegetation

Vegetation may be considered low threat due to characteristics including flammability, moisture content, or flammability, with examples including management parkland/reserve areas, grassland maintained in a minimal fuel load through cropping to 20 cm or less, market gardens, orchards, and playing fields; these locations are subject to exclusion clause 2.2.3.2 (f). Low threat vegetation also includes single areas of vegetation that are less than 1 ha and not within 100 m of classified vegetation (exclusion clause 2.2.3.2 (b)), one or more areas of vegetation that less than 0.25 ha and not within 20 m of the site (exclusion clause 2.2.3.2 (c)), and strips of vegetation less than 20 m wide and not within 20 m of the site (exclusion clause 2.2.3.2 (d)).

Low threat vegetation subject to exclusion clause 2.2.3.2 (f) is present in the POS areas north and south of Hawksbill Ave (Figure 6). When landscaped, it will also include the POS area adjacent to Allevard St (near Stage 40A) and Chaudes Rd in Stage 34B. Currently, the Allevard St POS with its retained vegetation is subject to exclusion clause 2.2.3.2 (b) as it is less than 1 ha and more than 100 m from the Class D Scrub within Montana Park.



Figure 6: Low Threat Vegetation

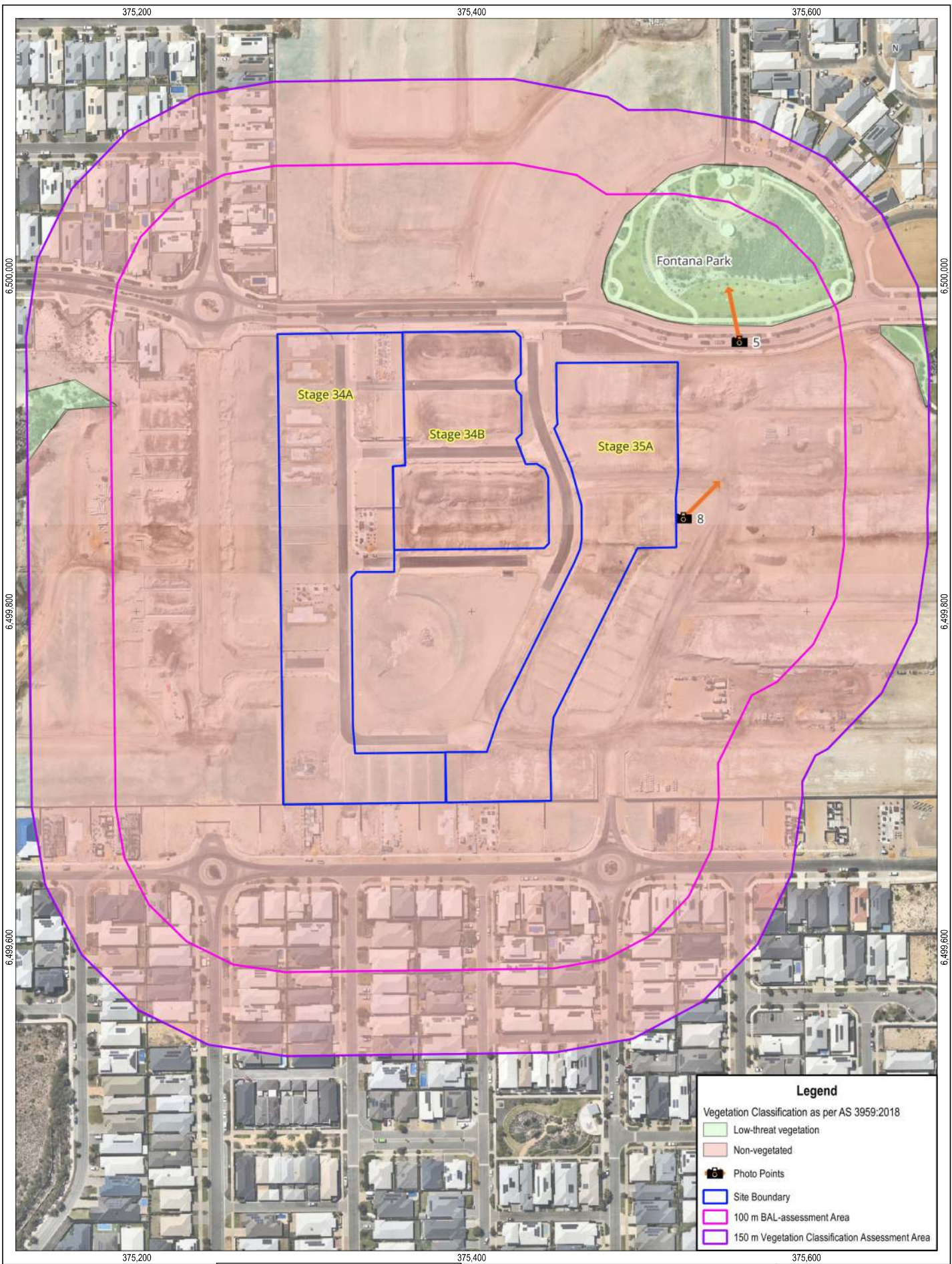
2.2.4 Patch 4: Non-vegetated Areas

Non-vegetated areas are subject to exclusion clause 2.2.3.2 (e), with those within and close to the Site including (Figure 7):

- Roads and footpaths.
- Land cleared of vegetation ahead of civil engineering works.
- Existing development in preceding development stages.



Figure 7: Non-vegetated Areas



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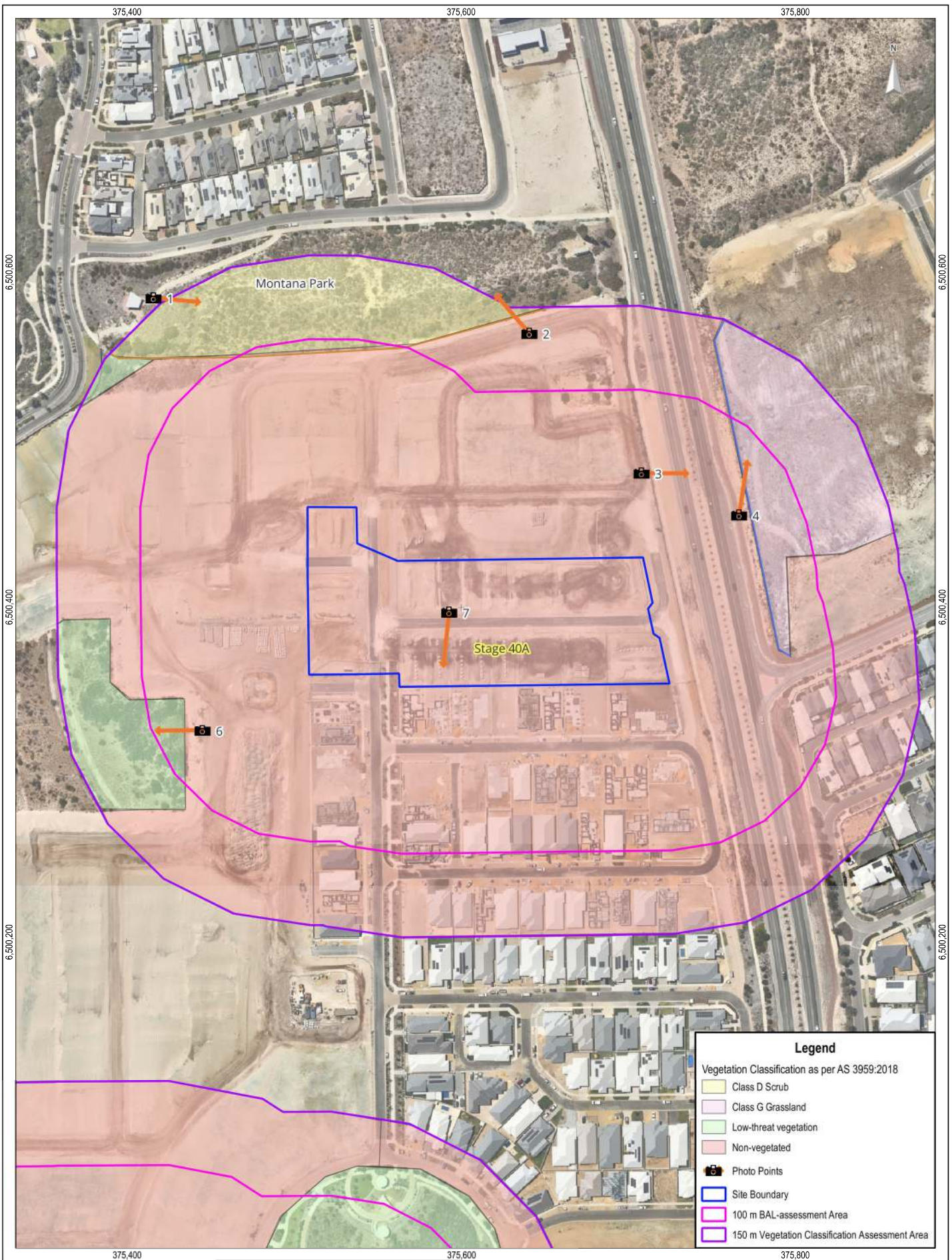
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Bushfire Management Plan
Stages 34A, 34B, 35A, and 40A
Trinity Estate, Alkimos

Figure 9
Location and Contours
Stage 40A

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Bushfire Management Plan
 Stages 34A, 34B, 35A, and 40A
 Trinity Estate, Alkimos

Figure 9
 Location and Contours
 Stage 40A

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2.3 BUSHFIRE HAZARD LEVEL

2.3.1 Bushfire Hazard Assessment

Depending on the vegetation type, a hazard rating of low, moderate, or extreme is assigned. The nature of the vegetation in and around the development area means that the pre-development bushfire hazard rating ranges from Low to Extreme due to the presence of the Class D Scrub within Montana Park. The Class D Scrub has an extreme bushfire hazard, with locations within 100 m of that vegetation class having a Moderate bushfire hazard, and the remainder of the Stage 40A assessment area having a Low bushfire hazard rating (Figure 10).

As Stages 34A, 34B, and 35A are not located within 100 m of any classified vegetation, the bushfire hazard rating for the assessment area is Low and has not been mapped.

2.3.2 Fire Danger Index

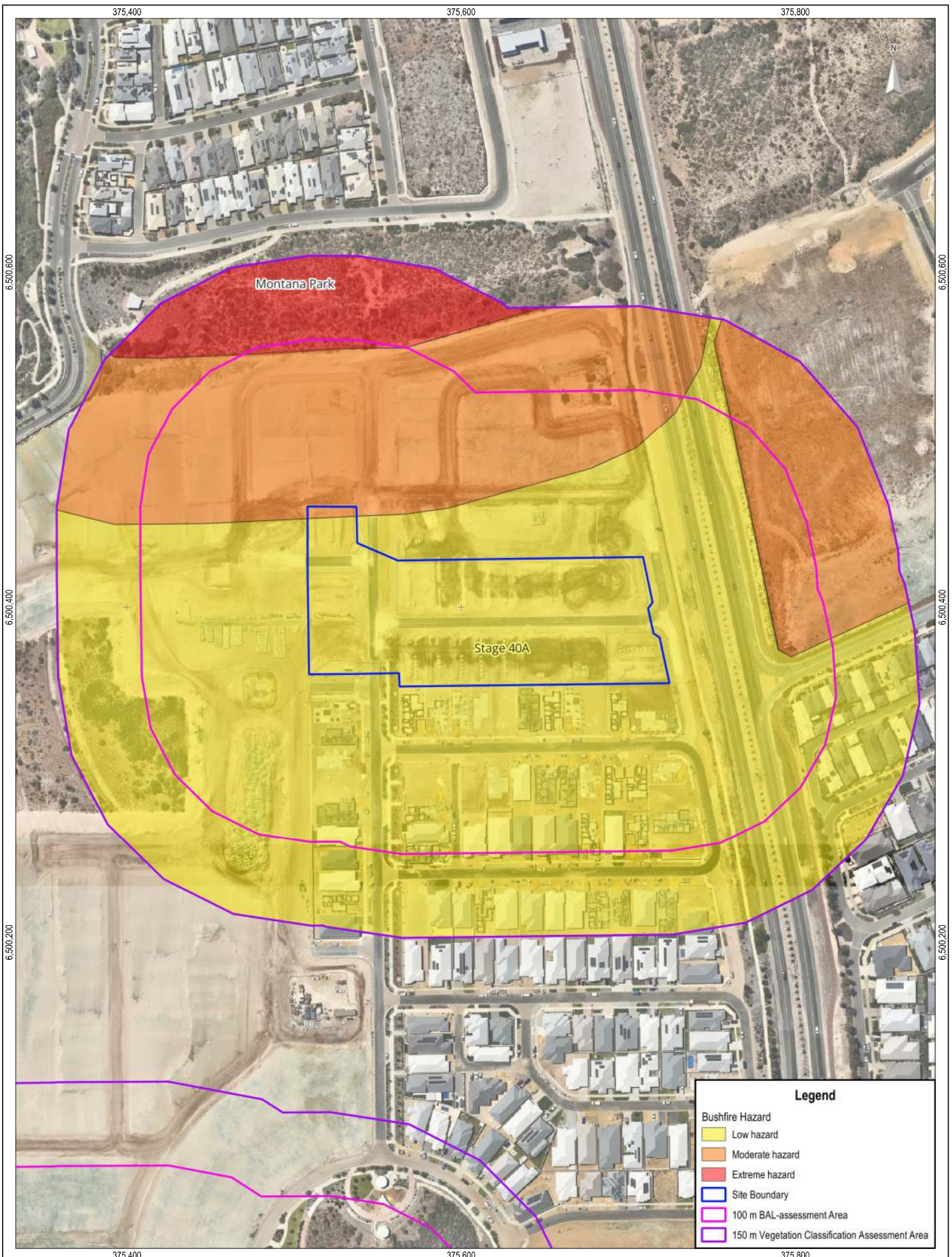
The fire danger index (FDI) for the Site is FDI 80, as documented in Table 2.4.3 of AS 3959:2018, and which is the nominated FDI for Western Australia.

2.3.3 Potential Fire Impacts

Potential fire impacts within the Site include smoke and ember attack. Analysis of the vegetation classification, slope, and separation distance to identify the highest BAL-rating is provided in Table 1.

Table 1: BAL-analysis

Patch	Vegetation Class	Slope	Separation Distance (m)	BAL-rating
1	Class D Scrub	Upslope	>90 m	BAL-12.5
2	Class G Grassland	Upslope	>50 m	BAL-Low
3	Low Threat Vegetation	N/A	N/A	BAL-Low
4	Non-vegetated Areas	N/A	N/A	BAL-Low



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Bushfire Management Plan
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Figure 10
Bushfire Hazard
Stage 40A

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2.4 BAL-ASSESSMENT

The Lot layout for stages 34A, 34B, 35A, and 40A are known, so it is possible to determine BAL-ratings for each.

2.4.1 Stage 40A

Stage 40A comprises 28 Lots on Hapsburg Ave, Friedrich Way, and Chateau Ave. The assessment process confirms that the northern portion of Stage 40A is located within 100 m of the Class D Scrub present in Montana Park to the north, meaning that Lots 2409 and 2410 Hapsburg Ave will be rated BAL-12.5 (Figure 11) with the remaining 26 Lots rated BAL-Low as all are more than 100 m from the classified vegetation. As unmanaged grassland is considered for 50 m rather than the 100 m for other vegetation classifications, the Class G grassland across Marmion Ave to the east will have no influence on BAL-ratings within this stage as it is more than 70 m from the eastern boundary of Stage 40A (Figure 11).

2.4.2 Stages 34A, 34B, and 35B

Stage 34A (36 Lots), Stage 34B (30 Lots) and Stage 35B (34 Lots) are all located more than 100 m from any classified vegetated so are all rated BAL-Low; a BAL-contour and ratings map has not been provided for these stages.

2.5 ASSET PROTECTION ZONE

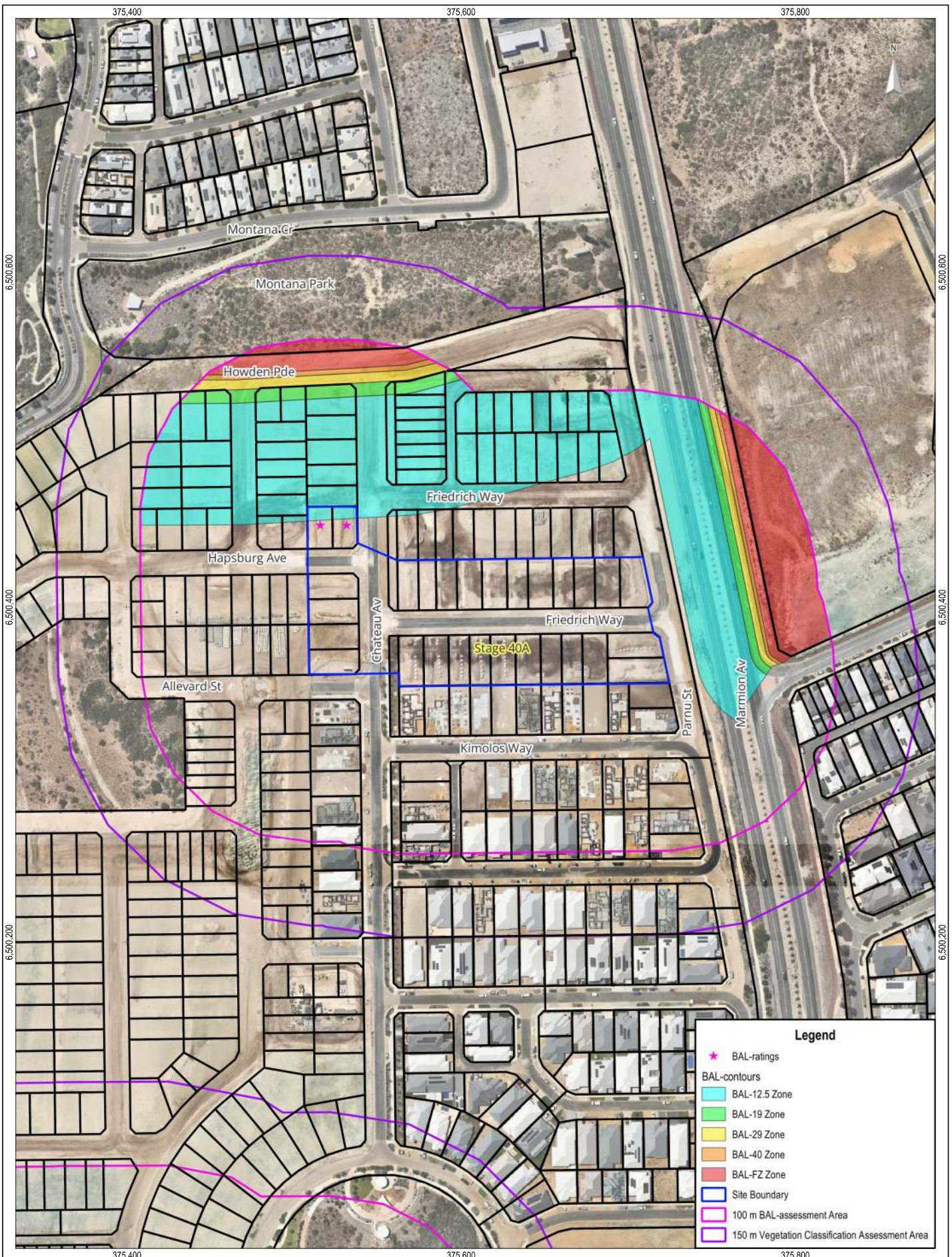
The asset protection zone (APZ) for the Site is that area that provides the separation distance between the classified vegetation and building walls, with a preferred width of 100 m: that separation distance is achieved for Stages 34A, 34B, and 35A. For locations where that APZ width cannot be achieved, a reduced APZ can be implemented when a BAL-rating is determined for the building, as is the case for Stage 40A. The reduced APZ commences at the junction of the BAL-40 and BAL-29 zones, or the junction of the orange and yellow zones in Figure 11, and will extend to the building walls as that is the point where the potential radiant heat impact of a bushfire does not exceed 29 kW/m². As a suitable separation distance can be demonstrated for the nominated stages, it indicates that the bushfire risk can be managed within the subdivision.

2.6 SHIELDING

Clause 3.5 of AS 3959:2018 allows for a reduction in the nominated construction standard for a building in 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 Lots 2409 and 2410 Hapsburg Ave are rated BAL-12.5, the shielding provisions of the standard will not apply.

2.7 OTHER BUSHFIRE PROTECTION MEASURES

No other bushfire protection measures are required for Stages 34A, 34B, 35A, and 40A.



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Bushfire Management Plan
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 Trinity Estate, Alkimos

Figure 11
BAL-contours and Ratings
Stage 40A

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2.8 IMPLEMENTATION

Implementation of this BMP will commence immediately and will be the responsibility of the Developer, Northern Corridor Developments Ltd, both for installation and ongoing maintenance until Lots are sold and POS areas are ceded to the City of Wanneroo. The Developer is also responsible for ensuring the occupier or new owner of the site, as appropriate, receives a copy of this BMP.

When ownership arrangements change over time, the responsibility for the maintenance of fire management measures will devolve to the new owner or managing organisation, noting that landowners or managers are responsible for land under their direct control only. For example, Lot owners will be responsible for ensuring asset protection zones within their property are maintained. Activities that will be involved with the implementation of this plan are described in , which also includes an indication of maintenance responsibilities associated with a particular activity.

Table 2: Implementation Schedule

Item	Activity	Responsibility	Maintenance	Responsibility
Developer Responsibilities				
1	Provide a copy of this BMP to owner/developer of BAL-contours to inform future building approval and construction process.	Developer	Not required	N/A
2	Install and maintain firebreak/low fuel/asset protection zones on their land.	Developer or owner/occupier as appropriate	Ongoing, in accordance with Shire of Broome firebreak notices	Developer or owner/occupier as appropriate
3	Arranging for a Section 70A notification on titles to inform that the Lots are in a designated bushfire prone area.	Developer	Not required	N/A
City of Wanneroo Responsibilities				
4	Providing appropriate bushfire advice in relation to firebreaks, hazard reduction, and similar	CoW	As required	CoW
5	Ensuring appropriate information relating to bushfire prone status is included on titles	CoW	Not required	N/A
6	Ensure that buildings are constructed in accordance with the nominated BAL-rating	CoW	Not required	N/A
Owner/Occupier Responsibilities				
7	Ensure that they are constructed in accordance with the relevant clauses of AS 3959:2018 for the confirmed BAL-rating.	Owner/builder	Not required	N/A
8	Maintain the nominated asset protection zone between the edge of the classified vegetation and building walls.	Owner/occupier	Ongoing as required	Owner/occupier
9	If evaporative air conditioners are installed on dwelling(s), install ember shields.	Owner	Regular maintenance in accordance with manufacturer's instructions.	Owner
10	Respond to/comply with bushfire advice issued by the developer, the City of Wanneroo or DFES.	Owner/occupier	Ongoing as required	Owner/occupier

2.9 RESPONSIBILITIES

Responsibilities for bushfire preparedness and response within the development area are shared by the Developer, Northern Corridor Developments Ltd, the City of Wanneroo, and building owners/occupiers.

2.9.1 Developer Responsibilities

The Developer is responsible for implementing key portions of this BMP, including:

- Provide a copy of this BMP to owner/developer of BAL-contours to inform future building approval and construction process.
- Install and maintain firebreak/low fuel/asset protection zones on their land.
- Arranging for a Section 70A notification on titles to inform that the Lots are in a designated bushfire prone area.

2.9.2 City of Wanneroo Responsibilities

It should be noted that the City of Wanneroo has the responsibility and powers under the Local Planning Scheme and the *Bush Fires Act 1954 (WA)* to ensure that this BMP, annual firebreak notices, any bushfire Information, and any Special orders issued under the *Bush Fires Act 1954* are complied with.

The City will be responsible for:

- Providing appropriate bushfire advice in relation to firebreaks, hazard reduction, and similar.
- Ensuring appropriate information relating to bushfire prone status is included on titles.
- Ensure that buildings are constructed in accordance with the nominated BAL-rating.

2.9.3 Owner and/or Occupier Responsibilities

It is the responsibility of individual property owners building near the vegetated areas to:

- Ensure that they are constructed in accordance with the relevant clauses of AS 3959:2018 for the confirmed BAL-rating.
- Maintain the nominated asset protection zone between the edge of the classified vegetation and building walls.
- If evaporative air conditioners are installed on dwelling(s), install ember shields.
- Respond to/comply with bushfire advice issued by the developer, the City of Wanneroo or DFES.

3. COMPLIANCE AND JUSTIFICATIONS

3.1 SPP 3.7 OBJECTIVES AND APPLICATION OF POLICY MEASURES

The intent of *State Planning Policy (SPP) 3.7 Planning in Bushfire Prone Areas* (Department of Planning and Western Australian Planning Commission, 2015) is to ensure that bushfire risks are considered in a timely manner and that planning documents demonstrate the appropriate application of the various policy measures. Table 3 summarises the intent and objectives of SPP 3.7 and provides evidence of how the proposed development of Stages 34A, 34B, 35A, and 40A complies.

Table 3: SPP 3.7 Compliance Evidence

SPP Reference	Description	Evidence of Compliance
Intent	<ul style="list-style-type: none"> Ensure that risks associated with bushfires are planned using a risk-based approach. 	<ul style="list-style-type: none"> Preparation of a BMP in accordance with SPP 3.7. Hazard assessment indicates risks associated with bushfire are manageable.
Objective 1	<ul style="list-style-type: none"> Avoid any increase in the threat of bushfire to people, property, and infrastructure. 	<ul style="list-style-type: none"> Hazard assessment indicates risks associated with bushfire are manageable. All Lots within Stages 34A, 34B, and 35A are rated BAL-Low as they are located more than 100 m from any classified vegetation. Lots 2409 and 2410 in Stage are rated BAL-12.5, with all others rated BAL-Low (Figure 11)
Objective 2	<ul style="list-style-type: none"> Reduce vulnerability to bushfire. 	<ul style="list-style-type: none"> Hazard assessment indicates risks associated with bushfire are manageable. All Lots within Stages 34A, 34B, and 35A are rated BAL-Low as they are located more than 100 m from any classified vegetation. Lots 2409 and 2410 in Stage are rated BAL-12.5, with all others rated BAL-Low (Figure 11).
Objective 3	<ul style="list-style-type: none"> Ensure that higher order strategic planning documents and proposals consider bushfire protection requirements at an early stage. 	<ul style="list-style-type: none"> The development of the subdivision is well progressed, with the current stages being among the last to be developed. This document provides an update to the one prepared by Bushfire Safety Consulting in 2021.
Objective 4	<ul style="list-style-type: none"> Achieve an appropriate balance between bushfire risk management and biodiversity conservation. 	<ul style="list-style-type: none"> Site environmental values have been considered during earlier stages of the planning approvals process. The City of Wanneroo issued a Development Approval for Vegetation Clearing for the development site in 2019 (refer Appendix 7 in Bushfire Safety Consulting, 2021)

3.2 BUSHFIRE PROTECTION CRITERIA

Appendix 4 of the *Guidelines for Planning in Bushfire Prone Areas* (DPLH and WAPC, v1.4, 2021) provides details of the acceptable bushfire protection solutions that can be used to demonstrate how a location can be developed in bushfire prone areas. Table 4 demonstrates the Site's Compliance with Bushfire Protection Criteria; Figure 11 provides the Lot layout with BAL-contours and ratings for Stage 40A.

Table 4: Compliance with Bushfire Protection Criteria

Intent	Acceptable Solutions	Solution
<p>Element 1: Location</p> <p>Ensure that strategic planning proposals, subdivision and development applications are located in areas with the least possible risk of bushfire to facilitate the protection of people, property and infrastructure.</p>	<p>A1.1 Development Location</p> <p>Bushfire hazard assessment is or will on completion be moderate or low.</p> <p>BAL-rating is BAL-29 or lower.</p>	<ul style="list-style-type: none"> • The subdivision is in an area where the bushfire hazard level is manageable. • Bushfire hazard assessment indicates manageable bushfire risk. • All Lots within Stages 34A, 34B, and 35A are rated BAL-Low as they are located more than 100 m from any classified vegetation. • Lots 2409 and 2410 in Stage are rated BAL-12.5, with all others rated BAL-Low (Figure 11).
<p>Element 2: Siting and Design of Development</p> <p>To ensure that the siting and design of development minimises the level of bushfire impact.</p>	<p>A2.1 Asset Protection Zone (APZ)</p> <p>Every habitable building is surrounded by, and every proposed lot can achieve an APZ depicted on plans that meets the following:</p> <ul style="list-style-type: none"> • Width — bushfire radiant heat does not exceed radiant heat of 29 kW/m² (BAL-29) as measured from any external wall or supporting post or column in all circumstances. • Location — APZ contained solely within the boundaries of the Lot on which the building is situated, except in instances where the neighbouring lot(s) will be managed in a low-fuel state on an ongoing basis, in perpetuity. • Management — the APZ is managed in accordance with the requirements of ‘Standards for Asset Protection Zones’ (Schedule 1 on page 71 of the Guidelines). 	<ul style="list-style-type: none"> • The APZ coincides with the boundary between BAL-40 and BAL-29 zones (Figure 11) and includes roads and cleared areas. • Subdivision design ensures width is suitable to ensure radiant heat does not exceed 29 kW/m² (BAL-29) as measured from any external wall or supporting post or column in all circumstances. • All Lots within Stages 34A, 34B, and 35A are rated BAL-Low as they are located more than 100 m from any classified vegetation. • Lots 2409 and 2410 in Stage are rated BAL-12.5, with all others rated BAL-Low (Figure 11).

Intent	Acceptable Solutions	Solution
<p>Element 3: Vehicular Access</p> <p>Ensure that the vehicular access serving a subdivision/development is available and safe during a bushfire event.</p> <p>To achieve the intent, all applicable acceptable solutions must be addressed:</p> <ul style="list-style-type: none"> SP – Strategic planning proposal and structure plan where the lot layout is not known. Sb – Structure plan where the lot layout is known and subdivision application. Dd – Development application for a single dwelling, ancillary dwelling, or minor development. Do – Development application for any other development that is not a single dwelling, ancillary dwelling, or minor development. 	<p>A3.1 Public Roads (SP Sb Do)</p> <p>Public roads are to meet the minimum technical requirements in Table 6, Column 1 on page 76 of the Guidelines. The trafficable (carriageway/pavement) width is to be in accordance with the relevant class of road in the Local Government Guidelines for Subdivisional Development (JPWEA Subdivision Guidelines), Liveable Neighbourhoods, Ausroad standards and/or any applicable standards for the local government area.</p> <p>A3.2a Multiple Access Routes (SP Sb Do)</p> <p>Public road access is to be provided in two different directions to at least two different suitable destinations with an all-weather surface (two-way access).</p> <p>If the public road access is via a no-through road that cannot be avoided due to demonstrated site constraints, the road access is to be a maximum of 200 m from the subject lot(s) boundary to an intersection where two-way access is provided.</p> <p>A no-through road may exceed 200 m if it is demonstrated that an alternative access way cannot be provided due to site constraints and the following requirements are met:</p> <ul style="list-style-type: none"> • The no-through road travels towards a suitable destination. • The balance of the no-through road that is greater than 200 m from the subject site is wholly within BAL-Low or is in a residential built-out area (Figure 23 on page 81 of the guidelines). <p>A3.2b Emergency Access Way (SP Sb Do)</p> <p>Where it is demonstrated that A3.2a cannot be achieved due to site constraints, or where an alternative design option does not exist, an emergency access way can be considered as an acceptable solution. An emergency access way is to meet all the following requirements:</p> <ul style="list-style-type: none"> • Requirements in Table 6, Column 2 on page 76 of the guidelines. • Provides a through connection to a public road. • Be no more than 500 m. 	<p>Public roads will be constructed in accordance with the technical requirements outlined in Column 1 of Table 5 on page 76 of the Guidelines.</p> <p>Access and egress within each of the stages is available to at least two different destinations, with east-west and north-south options available for each.</p> <p>N/A — all roads are through roads.</p> <p>N/A — all roads are through roads.</p> <p>N/A — access will be the existing and planned road network.</p>

Intent	Acceptable Solutions	Solution
	<ul style="list-style-type: none"> Must be signposted and if gated, gates must open the whole trafficable width and remain unlocked. 	
	<p>A3.3 Through-roads (SP Sb)</p> <p>All public roads should be through-roads. No-through roads should be avoided and should only be considered as an acceptable solution where:</p> <ul style="list-style-type: none"> It is demonstrated that no alternative road layout exists due to site constraints, and The no-through road is a maximum length of 200 m to an intersection providing two-way access, unless it satisfies the exemption provisions in A3.2a. 	<p>N/A — all roads will be through roads.</p>
	<p>A no-through road is to meet all the following requirements:</p> <ul style="list-style-type: none"> Requirements of a public road (Table 6, Column 1, Page 76). Turn-around area as shown in Figure 24 on page 81 of the Guidelines. 	<p>N/A — all roads are through roads.</p>
	<p>A3.4a Perimeter Roads (SP Sb)</p> <p>A perimeter road is a public road and should be provided for greenfield or infill development where 10 or more lots are being proposed, including as part of a staged subdivision, with the aim of:</p> <ul style="list-style-type: none"> Separating areas of classified vegetation under AS 3959 that adjoin the subject site from the proposed lots, and Removing the need for battle-axe lots that back onto areas of classified vegetation. 	<p>N/A to Stages 34A, 34B, 35A and 40A, however, note that a perimeter road is planned immediately south of Montana Park north of Stage 40 (Figure 11) in a stage that will be developed at a future point in time.</p>
	<p>A perimeter road is to meet the requirements contained in Table 6, Column 1 on page 76 of the Guidelines.</p>	<p>As above, not applicable to Stages 34A, 34B, 35A and 40A.</p>
	<p>A perimeter road may not be required where:</p> <ul style="list-style-type: none"> The adjoining classified vegetation is Class G Grassland. Lots are zoned for rural living or equivalent. It is demonstrated that it cannot be provided due to site constraints. All lots have frontage to an existing public road. 	<p>As above, not applicable to Stages 34A, 34B, 35A and 40A.</p>
	<p>A3.4b Fire Service Access Route (SP Sb)</p> <p>Where proposed lots adjoin classified vegetation under AS 3959 (excluding Class G Grassland) and a perimeter road is not required in accordance with A3.4a, a fire service access route can be considered as an acceptable solution to provide firefighter access, where access is not available, to the</p>	<p>N/A — fire access will be via the existing and planned road network.</p>

Intent	Acceptable Solutions	Solution
	<p>classified vegetation. A fire access route is to meet all the following requirements:</p> <ul style="list-style-type: none"> • Requirements in Table 6 Column 3 on page 76 of the Guidelines. • Be through-routes with no dead-ends. • Linked to the internal road system at regular intervals, every 500 m. • Must be signposted. • No further than 500 m from a public road. • If gated, gates must open the required trafficable width and be locked by the local government and/or emergency services, if keys are provided for each gate. • Turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 m. 	
	<p>A3.5 Battle-axe Access Legs (Sb)</p> <p>Where it is demonstrated that a battle-axe access leg cannot be avoided due to site constraints, it can be considered as an acceptable solution.</p> <p>There are no battle-axe technical requirements where the point of the battle-axe access leg joins the effective area of the battle-axe lot is less than 50 m from a public road in a reticulated water area.</p>	<p>N/A — no battle-axe Lots are planned.</p>
	<p>In circumstances where the above condition is not met, or the battle-axe lot is in a non-reticulated water area, the battle-axe access leg is to meet all the following requirements:</p> <ul style="list-style-type: none"> • Requirements in Table 6, Column 4 on page 76 of the Guidelines. • Passing bays every 200 m with a minimum length of 20 m and minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed driveway to be a minimum six metres). 	<p>N/A — no battle-axe Lots are planned.</p>
	<p>A3.6 Private Driveways (Dd Do)</p> <p>There are no private driveway technical requirements where the private driveway is:</p> <ul style="list-style-type: none"> • Within a lot serviced by reticulated water. • No greater than 70 m in length between the most distant external part of the development site and the public road as measured as a hose lay. • Accessed by a public road where the road speed limit is not greater than 70 km/h. 	<p>N/A — no private driveways are planned</p>

Intent	Acceptable Solutions	Solution
<p>Ensure that water is available to enable people, property, and infrastructure to be defended from bushfire.</p> <p>To achieve the intent, all applicable acceptable solutions must be addressed:</p> <ul style="list-style-type: none"> SP – Strategic planning proposal and structure plan where the lot layout is not known. Sb – Structure plan where the lot layout is known and subdivision application. Dd – Development application for a single dwelling, ancillary dwelling, or minor development. Do – Development application for any other development that is not a single dwelling, ancillary dwelling, or minor development. 	<p>In circumstances where all the above conditions are not met, or the private driveway is in a non-reticulated water area, the private driveway is to meet all the following requirements:</p> <ul style="list-style-type: none"> • Requirements in Table 6, Column 4 on page 76 of the Guidelines. • Passing bays every 200 m with a minimum length of 20 m and minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed driveway to be a minimum six metres). • Turn around areas as shown in Figure 28 on page 86 of the Guidelines and within 30 m of the habitable building. 	
Element 4: Water		
<p>A4.1 Identification of Future Water Supply (SP)</p> <p>Evidence that a reticulated or sufficient non-reticulated water supply for bushfire fighting can be provided at the subdivision and/or development application stage, in accordance with the specifications of the relevant water supply authority or the requirements of Schedule 2 on Page 90 of the Guidelines.</p> <p>Where the provision of a strategic water tank(s) is required in a suitable area within a road reserve or a dedicated lot the location should be identified on the structure plan to the satisfaction of the local government.</p>		<p>Stages 34A, 34B, 35A and 40A is located in an area with reticulated water supply available for firefighting purposes.</p> <p>N/A — subdivision will be connected to a reticulated water supply.</p>
<p>A4.2 Provision of Water for Firefighting Purposes (Sb Dd Do)</p> <p>Where a reticulated water supply is existing or proposed, hydrant connection(s) should be provided in accordance with the specifications of the relevant water supply authority. Where these specifications cannot be met, then the following applies:</p> <ul style="list-style-type: none"> • The provision of a water tank(s) in accordance with the requirements of Schedule 2 on page 90 of the guidelines. • Where the provision of a strategic water tank(s) is applicable, then the following requirements apply: <ul style="list-style-type: none"> — Land to be ceded free of cost to the local government for the placement of the tank(s). 		<p>Hydrants will be installed in accordance with Water Corporation Design Standard DS 63.</p>

Intent	Acceptable Solutions	Solution
	<ul style="list-style-type: none"> — The lot or road reserve where the tank is to be located is identified on the plan of subdivision. — Tank capacity, construction, and fittings provided in accordance with the requirements of Schedule 2 on page 90 of the Guidelines. — A strategic water tank is to be located no more than 10 minutes from the subject site (at legal road speeds). <p>Where a subdivision includes an existing habitable building(s) that is to be retained, a water supply should be provided to this existing habitable building(s) in accordance with the requirements listed above.</p>	
Element 5: Vulnerable Tourism Land Uses		
<p>Provide for bushfire protection for tourism land uses relevant to the characteristics of the occupants and/or the location, to preserve life and reduce the impact of bushfire on property and infrastructure. All applicable acceptable solutions must be addressed.</p>	<p>Every habitable building is surrounded by Asset Protection Zone (APZ) in accordance with Element 2: Siting and Design of Development — A2.1 Asset Protection Zone.</p> <p>Habitable buildings are sited and designed to:</p> <ul style="list-style-type: none"> • Minimise clearing of existing vegetation. • Provide hazard separation between classified vegetation and a development site that is managed in perpetuity to protect life, prevent the spread of, and manage the impacts of fire. <p>Suitable access/egress is provided for users of tourism sites.</p> <p>Adequate water is available for firefighting purposes in the event of a bushfire.</p>	<p>N/A — subdivision is a residential subdivision.</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>



3.3 COMPLIANCE WITH RELEVANT DOCUMENTS

Sections 3.1 and 3.2 that the development of Stages 34A, 34B, 35A, and 40A comply with State Planning Policy 3.7 (Department of Planning and WA Planning Commission, 2015) and the *Guidelines for Planning in Bushfire Prone Areas* (Department of Planning, Department of Fire and Emergency Services and WA Planning Commission, V1.4, 2021). Site owners/occupiers must comply with relevant sections of the annual firebreak notice and bushfire information prepared by the City of Wanneroo, such as total fire ban and hazard reduction programs.

3.4 COMPLIANCE STATEMENT

This BMP has been prepared in accordance with the requirements of *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (Department of Planning and Western Australian Planning Commission, 2015) and *Guidelines for Planning in Bushfire Prone Areas* (Department of Planning and the Western Australian Planning Commission, V1.4, 2021). The information contained in this document represents current site conditions based on a visit to the site on 23 March 2023 and associated planning.

Signed: 

Date: 09 May 2023

Accreditation Number: BPAD 36638

Accreditation Expiry Date: 30 April 2024



4. REFERENCES

Australian Standard, AS 3959:2018, *Construction of Buildings in Bushfire-Prone Areas*, Standards Australia, NSW.

Bushfire Safety Consulting, (2021, V3) *Bushfire Management Plan – Proposed Subdivision Aura Western Village, Lot 9058 Marmion Ave, Alkimos*, unpublished report prepared for Northern Corridor Developments Ltd.

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Department of Planning, Department of Fire and Emergency Services, Western Australian Planning Commission, (V1.3, Dec 2017), *Guidelines for Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth, Western Australia.

Department of Planning and Western Australian Planning Commission, (2015), *State Planning Policy 3.7 Planning in Bushfire Prone Areas*, 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, https://www.dpaw.wa.gov.au/images/documents/about/science/projects/waaudit/swan_coastal_plain02_p606-623.pdf, accessed August 2021.

Water Corporation, (2021), *Design Standard DS 63 – Water Reticulation Standards Design and Construction Requirements for Water Reticulation Systems up to DN250*, accessed April 2023 via: <https://pw-cdn.watercorporation.com.au/-/media/WaterCorp/Documents/About-us/Suppliers-and-contractors/Resources/Design-standards/DS63-Water-Reticulation-Pipelines-DN250-and-Smaller.pdf?la=en&rev=fae19a82f6834cff9ba6a5b7fedc1c00&hash=68936ABF801F36596F06B84F5E73B80A>.