

# **BUSHFIRE HAZARD ASSESSMENT**



**524 - 530 CHAMBERS FLAT ROAD LOGAN RESERVE**

# Document Control

RFA22-073

QUALITY ASSURANCE STATEMENT				
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			Name	Date
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02	Rob Friend	Final	Rob Friend, Director, Rob Friend & Associates Pty Ltd	16 May 2023
03	Lucy Ford	Updated Plan	Rob Friend, Director, Rob Friend & Associates Pty Ltd	10 August 2023
04	Rob Friend	New Plan of Development	Rob Friend, Director, Rob Friend & Associates Pty Ltd	6 <sup>th</sup> of August 2024

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**Cover Photo:** View to the west over the front of the property at 524 – 530 Chambers Flat Road



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## 1 INTRODUCTION

This Bushfire Hazard Assessment has been prepared for GC DEV 6 Pty Ltd to inform the development of 524 - 530 Chambers Flat Road Logan Reserve in relation to bushfire issues within and adjacent to the site.

Both the State Planning Policy and Local government Planning Scheme map the surrounding vegetation as potential bushfire hazard with the potential impact buffer area extending over a portion of the property.

A site inspection was undertaken on the 9 December 2022 to inform this report.

## 2 PROPOSAL

CG DEV 6 Pty Ltd is proposing to submit a Reconfiguration of Lot application 1 into 30 residential lots, a residual lot. Lot 50 as well as new internal roadways, bio basin (Lot 900) and a drainage reserve over a water impoundment/dam.

Access to Chambers Flat Road is intended to be provided by a future new roadway along the adjoining boundary of the adjoining property, 544-550 Chambers Flat Road, Logan Reserve (Lot 13 on RP97736).

## 3 SITE DESCRIPTION

<b>Applicant name</b>	<b>GC DEV 6 Pty Ltd</b>
<b>Site address</b>	524 – 530 Chambers Flat Road Logan Reserve
<b>Real Property Description (RPD)</b>	10 RP97736
<b>Site area</b>	3.34ha
<b>Ward</b>	Logan City Council
<b>Zone and precinct</b>	Emerging Community

### 3.1 GENERAL DESCRIPTION

The land is cleared with the exception of a few landscape amenity trees around an existing dwelling house and some wattle regrowth in the eastern portion of the land. There is a large farm dam towards the front of the property, which is part of a larger network of interconnected dams to the north and south. This waterway corridor holds permanent water.

The property has frontage to Chambers Flat Road at the western boundary with access to the site by a dirt driveway at the southern boundary. To the north, south and east are neighbouring rural residential properties.

The northern boundary is shared with two 20m wide access tracks to battle axe lots to the rear of the site. Further to the north is a partially vegetated rural lot. There is a 40 metre separation to the vegetation to the north.

The QFES Redi-Portal bushfire characteristic mapping maps an FFDI 54 over the land and surrounding areas. Vegetation in neighbouring lands are mapped as Vegetation Hazard Class (VHC) 9.2 - Moist to dry eucalypt woodland on coastal lowlands and ranges.



**Figure 1:** Nearmap aerial imagery of 524-530 Chambers Flat Road dated 24 November 2022.

### 3.2 LANDFORM

The land is relatively flat with a slope of less than 2 degrees from east to west into the waterway way depression. The surrounding area is located in a flood plain and is low lying between 16m and 20m AHD. There are no significant topographical features that will influence bushfire behaviour.

### 3.3 VEGETATION

The State's mapping within Queensland Globes Regulated Vegetation Overlay (**Map 1**) maps vegetation within and adjacent to the site as Category X area.

Land to the north contains a patch of vegetation in the eastern half and this is mapped by the State as Category C, High value regrowth of the following Regional Ecosystems:

**RE12.9-10.12** is described as Mixed woodland to open forest usually containing *Corymbia intermedia*, *Angophora leiocarpa* and at least a presence of *Eucalyptus seeana*. Other commonly associated species include *E. siderophloia*, *E. tereticornis*, *E. racemosa subsp. racemosa* and *C. citriodora subsp. variegata*. *E. seeana* and *Lophostemon suaveolens* are often present as sub-canopy or understory trees. Occasional *Melaleuca quinquenervia* on lower slopes. Occurs on Cainozoic and Mesozoic sediments. (BVG1M: 9g).

**RE12.9-10.4** is described as *Eucalyptus racemosa subsp. racemosa* woodland to open forest. Other species can include *Angophora leiocarpa*, *Eucalyptus seeana*, *E. siderophloia*, *Corymbia intermedia*, *E. tindaliae*, with *Lophostemon suaveolens*, *Melaleuca quinquenervia*, *E. tereticornis* common on lower slopes. Occurs on Cainozoic and Mesozoic sediments +/- remnant Tertiary surfaces. (BVG1M: 9g)

## 4 BUSHFIRE HAZARD MAPPING

### 4.1 LOCAL

The Logan City Council Planning Scheme is the same as the State Planning Policy, Natural Hazards, Risk and Resilience Bushfire Hazard map. LCC (**Map 2**) maps a polygon of Medium potential bushfire hazard class over the property to the immediate north which causes a small area of potential impact buffer to extend into the eastern portion of the land.

### 4.2 STATE

The State Planning Policy Natural Hazards Risk and Resilience Bushfire Hazard mapping (**Map 3**) maps the vegetation a polygon of Medium potential bushfire hazard class over the property to the immediate north (Lot 13 RP97736) with the 100m potential impact buffer to extend into the eastern portion of the land.

## 5 FINDINGS

The property itself will be largely cleared for development, with an area abutting Chambers Flat Road remaining as open space within the watery way corridor. To the immediate north of the property are two access driveways approximately 40 meters in total width.

Further north, within Lot 13 RP97736 is an area of regrowth vegetation consistent with a mixed eucalypt woodland. Species noted in this area were:

Emergent eucalypts to 22m *Corymbia intermedia* and *Eucalyptus racemosa*, with a dense canopy to 12m of *Lophostemon confertus*, *Allocasuarina littoralis*, *Acacia leiocalyx*, *Acacia disparrima* and *Melaleuca nodosa*. The species profile and density of canopy are consistent with regrowth vegetation of RE12.9-10.12/12.9-10.4. Lot 13 is approximately 80m wide with vegetation located in the eastern half. There is no direct connectivity to the north, south and east, however the

northeast corner connects with the rear corner of another vegetated lot. This is a point connection only and the surrounding area is for rural uses with low grass or depauperate vegetation cover.

## 5.1 DEVELOPMENT CHANGES TO BUSHFIRE HAZARD

Surrounding the proposed development site is a much larger area of new residential development within the Emerging Community local government zoning. Neighbouring land to the south is subject to a development application (COM/60/2022). This development covers Lot 6, 7, 8 & 9 on RP 97736 (Figure 3). This will effectively remove all mapped hazardous vegetation within 100m to the south.



**Figure 2:** Map of the proposed development site at 524 – 530 Chambers Flat Road with neighbouring development to the south (red hash) and regulated vegetation to the north. Note that the light blue area is not Koala Habitat Area and is mapped as Category C High Value Regrowth vegetation.

Logan Planning Scheme General Planning Layout (Figure 2) suggests an environmental corridor may be located on the eastern side of Chambers Flat Road, within the flood prone areas. This corridor is unlikely to return to a fully developed regional ecosystem, given the proximity to the residential developments and future road widening of Chambers Flat Road to accommodate the emerging community. Additionally, this corridor will hold permanent water and is subject to flooding.



**Figure 3:** Extract from Logan Planning Scheme 2015 General Planning Layout - FIG-7.2.1.8 Logan Reserve GPL areas

## 5.2 BUSHFIRE HAZARD ASSESSMENT

The assessment of bushfire hazards, following development changes to vegetation, will be from the north, east and west only. Vegetation within 100m to the south and within the property will be removed because of development.

The open space area to the west that will remain as part of the development application flood encroachment, abutting Chambers Flat Road, is a corridor with connectivity to the north and south. The corridor is on average less than 100m wide.

Regrowth vegetation within Lot 13 RP97736 to the north, is approximately 80m wide with no direct connectivity to neighbouring vegetation. Surrounding land use can be described as rural in nature with vegetation cleared most recently in 2018. There is a point connection to vegetated lot mapped as hazardous at the northeast corner; however, this corridor of vegetation is also less than 100m wide and is surrounded by grassland and a large dam. There would be significant interruptions for a fire run from the north due to narrow corridors and interrupted vegetation cover.

Using methodology available in Leonard, Newnham, Opie, & Bianchi, (2014) vegetated areas smaller than 1ha or less than 100m wide will not reach a fireline intensity greater than 4000kW/m and will not be a significant threat to life or property. Furthermore, where the vegetation is disrupted by non-flammable surfaces such as roadways, and low hazard or discontinuous fuel sources such as maintained grassland, the potential bushfire intensity is reduced (Leonard & Opie, 2017).

The narrow corridor that will remain in the west of the development site, as well as the regrowth vegetation within Lot 13 on RP97736 can both be considered low bushfire hazards following the Leonard et al. (2014) methodology.

The Bushfire Resilient Communities Guide (QFES, 2019) describes all corridors greater than 100 metres to be potential bushfire hazards and the level of bushfire hazard will be determined by the FFDI (Forest Fire Danger Index), the Vegetation Hazard class and associated surface and total fuel loads and the slope under that vegetation.

The Vegetation Hazard Class best attributed to rural areas with low grass and very sparse woody vegetation or tree cover is VHC 40.4 Continuous low grass or tree cover. For vegetation in the surrounding land that is rural in nature, Table 1 describes the assessment of potential hazard, determining that this vegetation is not a bushfire prone area.

**Table 1:** Fire line intensity calculation for vegetation to the south and west of the development site.

Vegetation Hazard Class (VHC)	Potential Fuel Load (t/ha)	Potential Fire Weather Severity (FFDI)	Slope under hazardous vegetation (deg)	Potential Fireline Intensity (kw/m)	Potential Bushfire Hazard Class No	Potential Bushfire Hazard Class
40.4 Continuous low grass or tree cover	5	54	2	961	2	Not BPA

Input fields	Calculated fields
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Any further mapped hazardous vegetation or unmapped vegetation occur greater than 100m from the proposed development site with the potential impact buffer not reaching the development site.

## 6 CONCLUSIONS

The proposed development site is found to be **not in a bushfire prone area** based on the following conclusions:

1. Vegetation to the south of the proposed development will be removed as a consequence of neighbouring development (COM/60/2022)
2. Corridor assessment removes potential bushfire hazards to the north and future bushfire hazards to the west where:
  - o Vegetation to the north of the development is a narrow corridor less than 100m wide with very limited connectivity to other small patches of vegetation.

- Future open space areas in the west of the development site are on average less than 100m in width, holding a permanent waterway.
- 3. The surrounding land use is rural in nature and is deemed a low bushfire prone area
- 4. Construction should be to an equivalent **Bushfire Attack Level Rating (BAL) Low** and not required to comply with AS3959-2018 Construction of buildings in bushfire prone areas.

A response to the Planning Scheme bushfire overlay code is attached in Appendix I

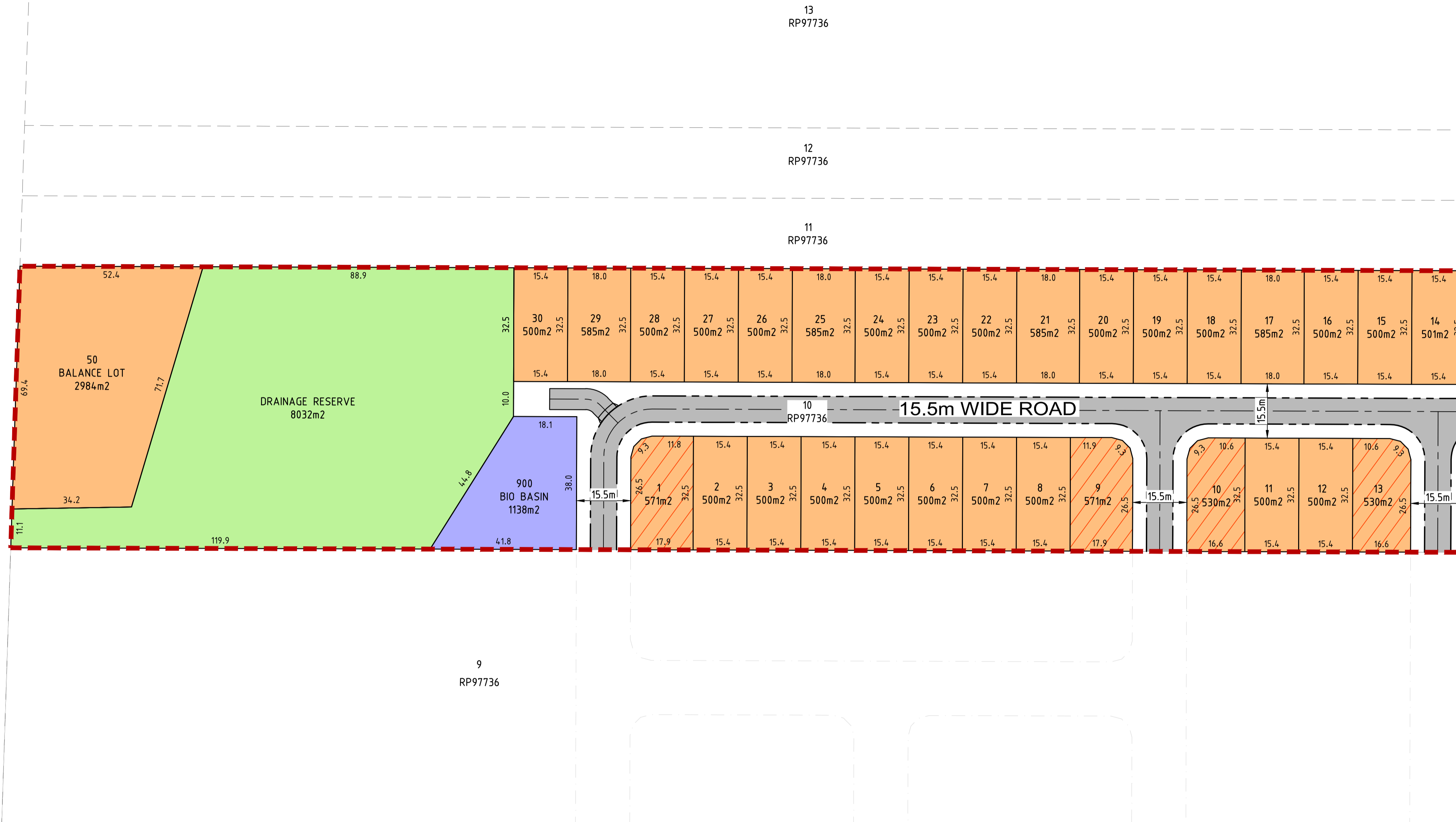
## 7 REFERENCES

- CSIRO. (2022). *Forest Fire Danger Index*. Retrieved from Best bushfire practice guide: <https://research.csiro.au/bushfire/assessing-bushfire-hazards/hazard-identification/fire-danger-index/>
- Leonard, J., & Opie, K. (2017). *Estimating the potential bushfire hazard of vegetation patches and corridors*. CSIRO.
- Leonard, J., Newnham, G., Opie, K., & Blanche, R. (2014). *A new methodology for state-wide mapping of bushfire prone areas in Queensland*. Australia: CSIRO.
- Logan City Council. (2022, December 14). *Logan City Planning Scheme 2015*. Retrieved from [https://logan.isoplan.com.au/eplan/property/287483/0/157?\\_t=property](https://logan.isoplan.com.au/eplan/property/287483/0/157?_t=property)
- QFES. (Oct 2019). *Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience - Bushfire'*. State of Queensland.

## 8 DEVELOPMENT PLANS



CHAMBERS FLAT ROAD



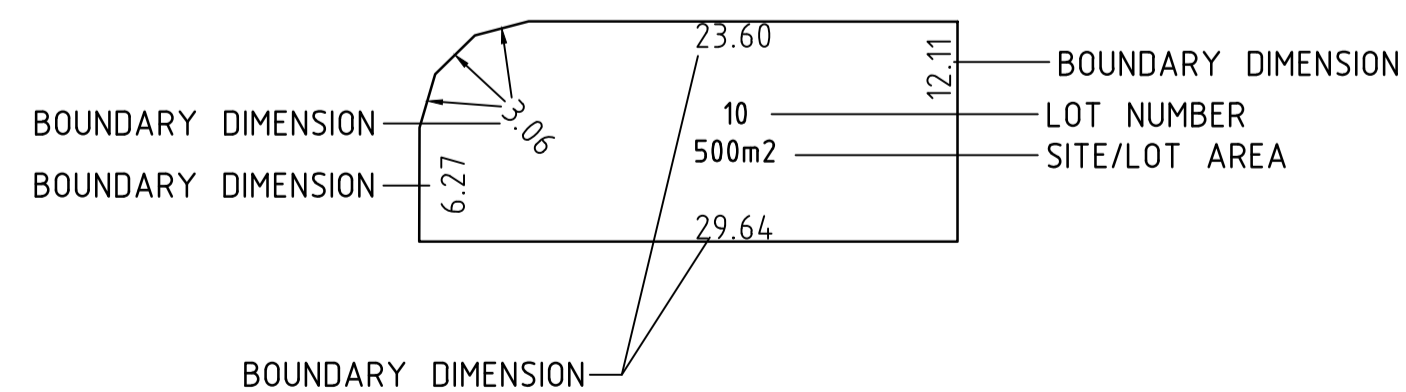
MASTER PLAN VILLAGE PRECINCT

SCALE 1 : 750 (FULL SIZE)

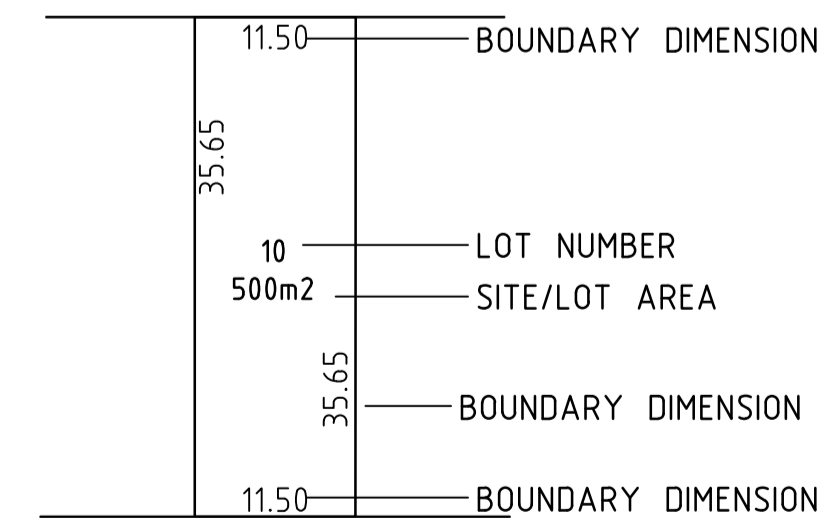
DEVELOPMENT SUMMARY

TOTAL SITE AREA: 3.337 ha
TOTAL AREA OF NEW ROAD: 0.567 ha
LENGTH OF NEW ROAD: 383.18 meters
TOTAL AREA ROAD PAVEMENT: 0.267 ha
TOTAL AREA DRAINAGE RESERVE: 0.803 ha
TOTAL AREA BALANCE LOT: 0.298 ha
TOTAL AREA OF BASIN: 0.114 ha
NET DEVELOPMENT AREA: 1.853 ha
NET SITE AREA DENSITY: 16.73 DWELLINGS/ha
GROSS SITE DENSITY: 9.29 DWELLINGS/ha

CORNER ALLOTMENT



STANDARD ALLOTMENT



LEGEND:

- TYPICAL ALLOTMENTS
CORNER ALLOTMENTS
STAGE BOUNDARY

LOT FRONTAGE WIDTH BREAKDOWN

Table with columns: FRONTAGE WIDTH, No. ON LOTS. Rows: 15.0-15.99m (22), 16.0-16.99m (2), 17.0-17.99m (2), >=18m (5), TOTAL (31)

YIELD BREAKDOWN

Table with columns: LOT SIZE, No. ON LOTS. Rows: 500-549m2 (24), 549-600m2 (6), >600m2 (1), TOTAL (31)

PRELIMINARY

CHAMBERS FLAT ROAD LOGAN RESERVE
LOT 10 RP97736; 524-530 CHAMBERS FLAT ROAD

FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

Revision table with columns: VER., DESCRIPTION, DATE. Rows: D, C, B, A

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PROJECT:
524-530
CHAMBERS FLAT ROAD
PRELIMINARY CIVIL
ENGINEERING DESIGN

DRAWING TITLE:
MASTER PLAN
VILLAGE PRECINCT

Project metadata table with columns: DEVEL. APPLIC. No., DATE, PROJECT LEADER, DESIGNER, DRAFTSPERSON, CHECKED, APPROVED FOR AND ON BEHALF OF, RPEQ, SCALE, DATUM, FULL SIZE, PROJECT No., DRAWING No., VERSION.

## 9 APPENDICES

### 9.1 APPENDIX I - OVERLAY CODE

#### 8.2.3.3 - Assessment benchmarks for assessable development and requirements for accepted development

#### Part A - Requirements for accepted development (subject to requirements) and assessment benchmarks for assessable development

Table 8.2.3.3.1 - Bushfire hazard overlay code: accepted development (subject to requirements) and assessable development

Performance outcomes	Acceptable outcomes	Comments
<b>For accepted development (subject to requirements) and assessable development</b>		
<b>Location, design and siting of development</b>		
<p><b>PO1</b></p> <p>Development is designed to:</p> <ol style="list-style-type: none"> <li>minimise risk of bushfire hazard;</li> <li>provide safe premises;</li> <li>create efficient emergency access for fire-fighting and other emergency vehicles.</li> </ol> <p>Note - Planning scheme policy 6 - Management of bushfire hazard provides guidelines on how to achieve this outcome.</p>	<p><b>AO1</b></p> <p>Development:</p> <ol style="list-style-type: none"> <li>does not increase the number of persons living in, or lots in, the Bushfire hazard area identified on Bushfire hazard overlay map OM-03.00; or</li> <li>is on a site that a bushfire hazard assessment prepared in accordance with the methodology in Planning scheme policy 6 - Management of bushfire hazard determines is of low bushfire hazard.</li> </ol>	<p><b>R1</b></p> <ul style="list-style-type: none"> <li>The development is located in a low bushfire hazard area. See Attached report by Rob Friend &amp; Associates (dated 15 December 2022)</li> <li>No further response to the overlay coded is required.</li> </ul>

9.2 APPENDIX II – MAPPING



**Map 1** Queensland Globe Regulated Vegetation Management and Regional Ecosystem Mapping for Lot 10 on RP97736, 524-530 Chambers Flat Road.

 Legend

 Attribution

Vegetation management regional ecosystem map labels

Category A or B area containing endangered



Category A or B area containing of concern



Category A or B area that is least concern



Category C or R area containing endangered



Category C or R area containing of concern



Category C or R area that is of least concern



Places: Search Results

10RP97736

Road Crossing

— Bridge

— Tunnel

Road

— Highway

— Main

— Local

— Private

Railway



Cities and Towns



Maxar

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**Logan City Council - Logan Planning Scheme 2015 Bushfire Hazard Overlay**



**Map 2** Logan City Planning Scheme Bushfire Hazard Overlay Mapping for Lot 10 on RP97736, 524-530 Chambers Flat Road.



**Map 3** QFES Redi Portal Bushfire Prone Area Mapping for Lot 10 on RP97736, 524-530 Chambers Flat Road.

### 9.3 APPENDIX III - PHOTOGRAPHIC PLATES



**Photographic Plate 1** View to the west over the access driveway on the southern boundary.



**Photographic Plate 2** View to the north over the proposed development site. Vegetation to the rear of frame is located in Lot 13 on RP97736 and is mapped as partially hazardous.



**Photographic Plate 3** View to the north over the proposed development site. Vegetation to the rear of frame is in Lot 13 on RP97736 and is mapped as partially hazardous. Regrowth vegetation to the right of frame will be removed as a consequence of development.



**Photographic Plate 4** View to the north over the northern boundary fence. Vegetation to the rear of frame is located in Lot 13 on RP97736 and is mapped as partially hazardous.