BAL ASSESSMENTS | BUSHFIRE MANAGEMENT PLANS | CONSULTANCY

RUIC FIRE

# BUSHFIRE HAZARD LEVEL ASSESSMENT & BAL CONTOUR

## Canning City Centre Activity Centre Plan

Version: A4 Reference: 5495 August 2016



# DISCLAIMER AND LIMITATION

This report is prepared solely for 360 Environmental and City of Canning (the 'proponent') and any future residents of the proposed development. This report is not for the benefit of any other person and may not be relied upon by any other person.

This Bushfire Hazard Level Assessment is limited to the Bushfire Hazard Assessment scope and methodology as identified in *Guidelines for Planning in Bushfire Prone Areas* Appendix Two. It is expressly stated that RUIC Fire and the writer do not guarantee that if such standards are complied with or if a property owner exercises prudence, that a building or property will not be damaged or that lives will not be lost in a bush fire.

Fire is an extremely unpredictable force of nature. Changing climatic factors (whether predictable or otherwise) either before or at the time of a fire can also significantly affect the nature of a fire and in a bushfire prone area it is not possible to completely guard against bushfire.

To the maximum extent permitted by the law, RUIC Fire, its employees, officers, agents and the writer ("RUIC Fire") excludes all liability whatsoever for:

1. claim, damage, loss or injury to any property and any person caused by fire or as a result of fire or indeed howsoever caused;
2. errors or omissions in this report except where grossly negligent; and

the proponent expressly acknowledges that they have been made aware of this exclusion and that such exclusion of liability is reasonable in all the circumstances.

If despite the provisions of the above disclaimer RUIC Fire is found liable then RUIC Fire limits its liability to the lesser of the maximum extent permitted by the law and the proceeds paid out by RUIC Fire's professional or public liability insurance following the making of a successful claim against such insurer.

RUIC Fire accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report and its supporting material by any third party.

This report is valid for a period of THREE years only from the date of its issue.

# DOCUMENT DETAILS

| | |
|---|---|
| Project Number: | 5495 |
| Project Name: | Canning City Centre Activity Centre plan |
| Prepared by: | Darrel Krammer, Grad Cert Bushfire Protection, BPAD Level 1 (BPAD33412) |
| Version: | A4 DRAFT RELEASE |
| Date of issue: | 15th August 2016 |

_____

Author: Darrel Krammer

Date:

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



RUIC Fire is a trading name of

Rural Fire Risk Consultancy Pty Ltd

ABN: 48 151 451 713

# Contents Page

1.0 Introduction ..... 5
1.1 Purpose of Report ..... 5
1.2 Location ..... 7
2.0 Strategic Bushfire Hazard Level ..... 8
2.1 Assessment Methodology ..... 8
2.2 Vegetation & Hazard Level ..... 9
2.3 Topography ..... 19
2.4 Bushfire Hazard Issues ..... 19
3.0 Proposal Compliance and Justification ..... 25
3.1 SPP 3.7 Policy Measures applicable to the proposal ..... 25
3.2 Guidelines for Planning in Bushfire Prone Areas Compliance ..... 26
3.3 Areas of non-compliance with other relevant documents ..... 28
4.0 Conclusion ..... 29
5.0 BAL Contour Maps ..... 30
6.0 Reference ..... 35
7.0 Appendix ..... 36

# 1.0 Introduction

## 1.1 Purpose of Report

Rural Fire Risk Consultancy Pty Ltd, trading as RUIC Fire, was engaged by 360 Environmental to prepare this Bushfire Hazard Level Assessment (BHLA) for the City of Canning to support the proposed Canning City Centre Activity Centre Plan (the Plan) as shown in Figure 1A.

The BHLA was conducted in accordance with State Planning Policy 3.7 (SPP3.7) (Western Australian Planning Commission 2015a) and Appendix Two of *Guidelines for Planning in Bushfire Prone Areas* (The Guidelines) (Western Australian Planning Commission 2015b).

The purpose of this Bushfire Hazard Level Assessment is to:

1. Determine the bushfire hazard level affecting the site at a strategic (pre-development) level

This report is *not* a Bushfire Management Plan. Should a Bushfire Management Plan be required a separate report is to be prepared.

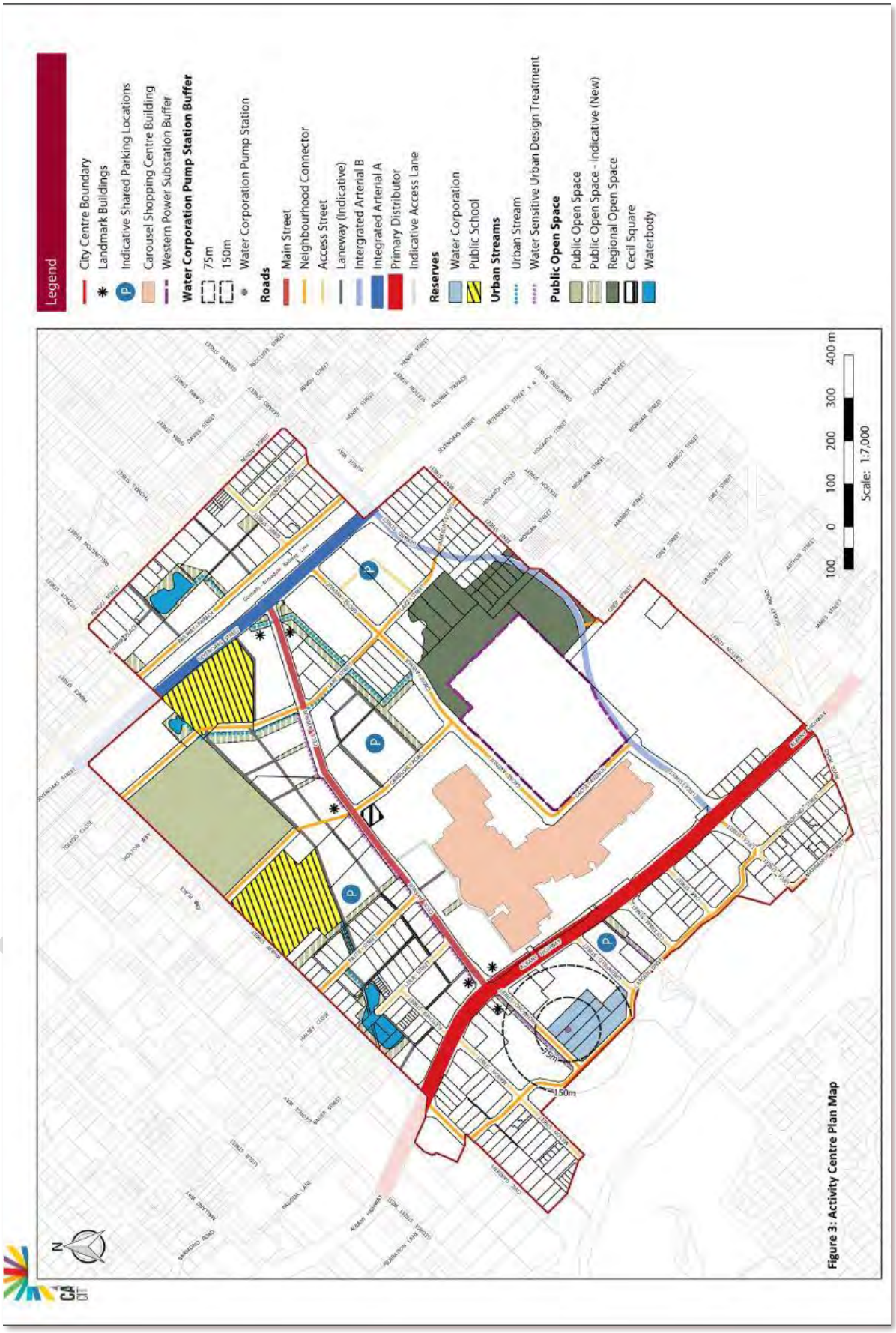



*Figure1A: Activity Centre Plan map (City of Canning, 2016)*

## 1.2 Location

The Plan includes the assessment of all areas within the Site Boundary and within 100 metres external to the site boundary. The assessment area is illustrated in Figure 1B.

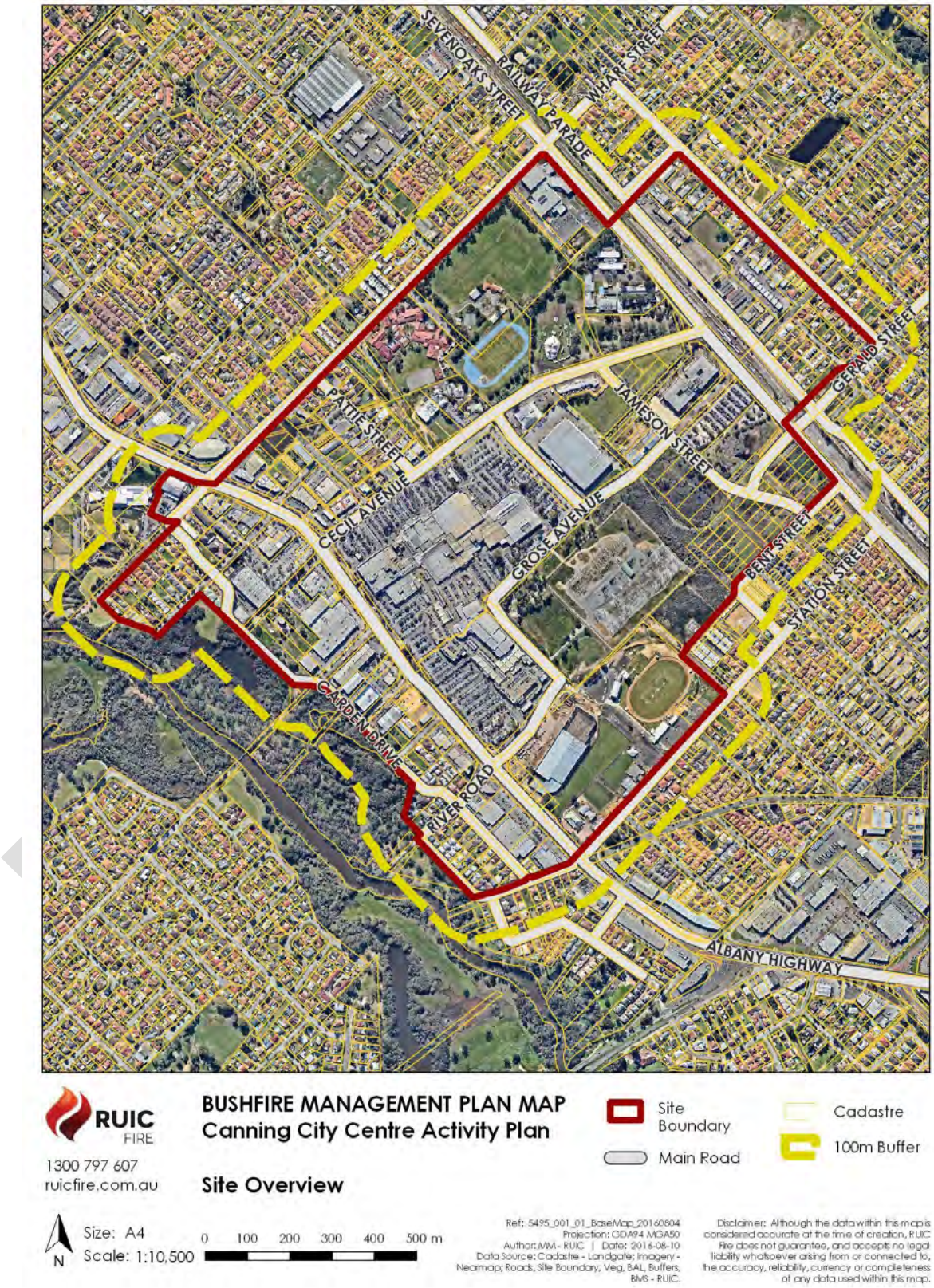



*Figure1A: Site Overview*

# 2.0 Strategic Bushfire Hazard Level

## 2.1 Assessment Methodology

The Bushfire Hazard Level Assessment was undertaken within 100 metres of the proposed development area in accordance with *Guidelines for Planning in Bushfire Prone Areas* (The Guidelines) Appendix Two (refer to Appendix 1 of this report for the full methodology).

The Guidelines Appendix Two assign three Hazard Levels to land being Low, Moderate or Extreme.

Table 2A details the vegetation characteristics and associated hazard levels identified in The Guidelines Appendix 2.

*Table 2A: Vegetation Characteristics and Associated Hazard Level*

| Vegetation Characteristics | Hazard Level |
|---|---|
| • devoid of standing vegetation (less than 0.25ha cumulative area);<br>• areas which, due to climatic conditions or vegetation (e.g. rainforest), do not experience bushfires;<br>• inner urban or suburban areas with maintained gardens and very limited standing vegetation (less than 0.25ha cumulative area);<br>• low threat vegetation, including grassland managed in a minimal fuel condition (i.e. to a nominal height of 100mm), maintained lawns, vineyard and orchards; and<br>• pasture or cropping areas with very limited standing vegetation that is shrubland, woodland or forest with an effective up slope*, on flat land or an effective down slope* of less than 10 degrees, for a distance greater than 100 metres. | Low |
| • areas containing pasture or cropping with an effective down slope* in excess of 10 degrees for a distance greater than 100 metres;<br>• unmanaged grasslands;<br>• open woodlands;<br>• open shrublands;<br>• low shrubs on areas with an effective up slope*, on flat land or an effective down slope* of less than 10 degrees, for a distance greater than 100 metres or flat land;<br>• suburban areas with some tree cover; and | Moderate |

| Vegetation Characteristics | Hazard Level |
|---|---|
| • forest and woodlands with a permanent grass understorey or at most, a scrub understory structure consisting of multiple areas of <0.25ha and not within 20 metres of each other or single areas of <1ha and not within 100 metres of other scrub areas. | |
| • forests with a scrub understorey which is multi-tiered;<br>• woodlands with a scrub understorey which is multi-tiered;<br>• tall shrubs; and<br>• any area of vegetation not otherwise categorised as low or moderate. | Extreme |
| *NOTE Effective slope refers to the slope under the classified vegetation in relation to the subject site. Distances less than 100 metres will be deemed to be undulating land, rather than a nominated slope. | |

## 2.2 Vegetation & Hazard Level

A strategic pre-development Bushfire Hazard Level Assessment was undertaken for the proposed development area as well as all land within 100 metres of the external boundary of the subject site (the assessment area).

Figures 2A to 2C illustrate the location of each vegetation plot identified within the assessment area and the bushfire hazard level applicable to each plot. Table 2B lists each vegetation plot and its corresponding BHLA classification (from Table 2A) and Bushfire Hazard Level (BHL).

The pre-development vegetation structures within and external to the site consist of:

- Areas devoid of vegetation
- Unmanaged grassland
- Open woodland
- Woodland with a grass understorey
- Woodland with scrub understorey
- Tall shrubs
- Low shrubs
- Inner suburban area with maintained gardens
- Suburban areas with some tree cover

High definition satellite imagery taken on 12/07/2016 and supported by site ground truthing inspections (28/07/2016 and 02/08/16) revealed that in its current state, the assessment area contains approximately:

- 51% by land area Low Hazard Level
- 42% by land area Moderate Hazard Level

- 7% by land area Extreme Hazard Level

The photos below illustrate each vegetation plot and identify the BHLA vegetation classifications (from Table 2A).

Plot 1 – Unmanaged grassland (aerial imagery used due to restricted access)


Plot 2 – Suburban with maintained gardens


Plot 3 – Suburban with maintained gardens


Plot 3 – Suburban with maintained gardens


Plot 4 – Devoid of standing vegetation


Plot 5 – Tall shrubs


Plot 6 – Maintained vegetation


Plot 6 – Maintained vegetation


Plot 6 – Maintained vegetation


Plot 6 – Maintained vegetation


Plot 7 – Unmanaged grassland


Plot 8 – Managed grassland


Plot 9 – Unmanaged grassland


Plot 10 – Managed grassland


Plot 11 – Open woodland


Plot 11 – Open woodland


Plot 12 – Woodland


Plot 13 – Inner suburban with maintained gardens


Plot 13 – Inner suburban with maintained gardens


Plot 14 – Managed grassland


Plot 15 – Low shrubs


Plot 16 – Managed grassland


Plot 17 – Woodland with grass understorey


Plot 18 – Tall shrubs


Plot 18 – Tall shrubs


Plot 18 – Tall shrubs


Plot 19 – Low shrubs


Plot 19 – Low shrubs


Plot 20 – Suburban areas with some tree cover


Plot 21 – Unmanaged grassland

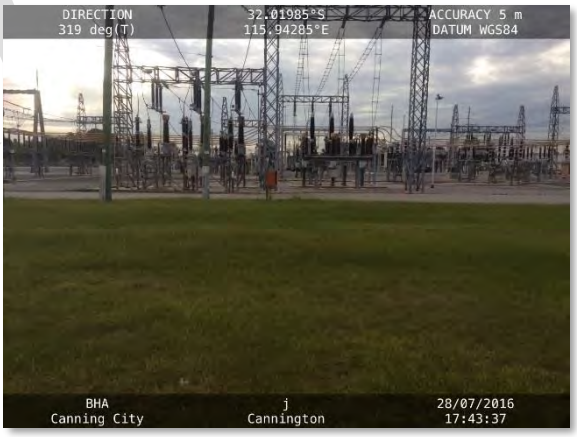

Plot 21 – Unmanaged grassland


Plot 22 – Low shrubs


Plot 22 – Low shrubs


Plot 23 – Tall shrubs


Plot 23 – Tall shrubs




Plot 24 – Inner suburban with maintained gardens


Plot 25 – Inner suburban with maintained gardens


Plot 26 – Open woodlands


Plot 27 – Woodlands


Plot 27 – Woodlands


Plot 28 – Unmanaged grasslands


Plot 29 – Unmanaged grasslands


Plot 30 – Tall shrubs


Plot 30 – Tall shrubs (background)


Plot 31 – Woodland


Plot 32 – Low shrubs


Plot 33 – Managed grassland


Plot 34 – Woodland with grass understorey (back left)


Plot 35 – Maintained vegetation


Plot 36 – Woodland with grass understorey


Plot 37 – Woodland with scrub understorey


Plot 37 – Woodland with scrub understorey


Plot 38 – Managed grassland


Plot 39 – Inner suburban with maintained gardens


Plot 40 – Woodland with scrub understorey


Plot 40 – Woodland with scrub understorey


Plot 40 – Woodland with scrub understorey


Plot 41 – Inner suburban with maintained gardens

## 2.3 Topography

The site and surrounding areas were inspected and cross referenced to Landgate elevation data. Topography through the developed areas is considered to be flat with minimal relief across the assessment area.

## 2.4 Bushfire Hazard Issues

Analysis of the Bushfire Hazard Level Assessment identifies the following potential bushfire issues:

- Several areas, external and internal to the site boundary have a BHL of extreme, and have the potential of having an increased radiant heat impact in the event of a bushfire through the vegetation. Internal and external vegetation is located primarily within wetland and river foreshore areas and is assumed that it will be retained.
- There are private lots within the assessment area that have unmanaged vegetation that pose a bushfire threat to surrounding development. Enforcement of the City of Canning Annual Fire Hazard Reduction Notice requirements on landowners should be carried out to reduce the risk of bushfire impact.

- Future development is to ensure that adequate separation distances are achieved between the classified vegetation and proposed development so as not to expose any future habitable buildings to a radiant heat impact greater than 29kW/m$^2$. This is to be determined through a BAL assessment for each development. A Bushfire Attack Level (BAL) assessment has been conducted and is illustrated through various maps located in Section 5 of this report.
- The vegetation within and external to the site boundaries may be subject to acts of arson. Education of the community into the effects of bushfire is encouraged to be undertaken. Surveillance of high risk areas should be continued or enhanced where arson activity is identified.
- Work practices and/or storage of flammable materials classified as 'High Risk' within the development area may give rise to the ignition of surrounding vegetation or increase a bushfires intensity.

The bushfire hazard issues are addressed in Table 3B.

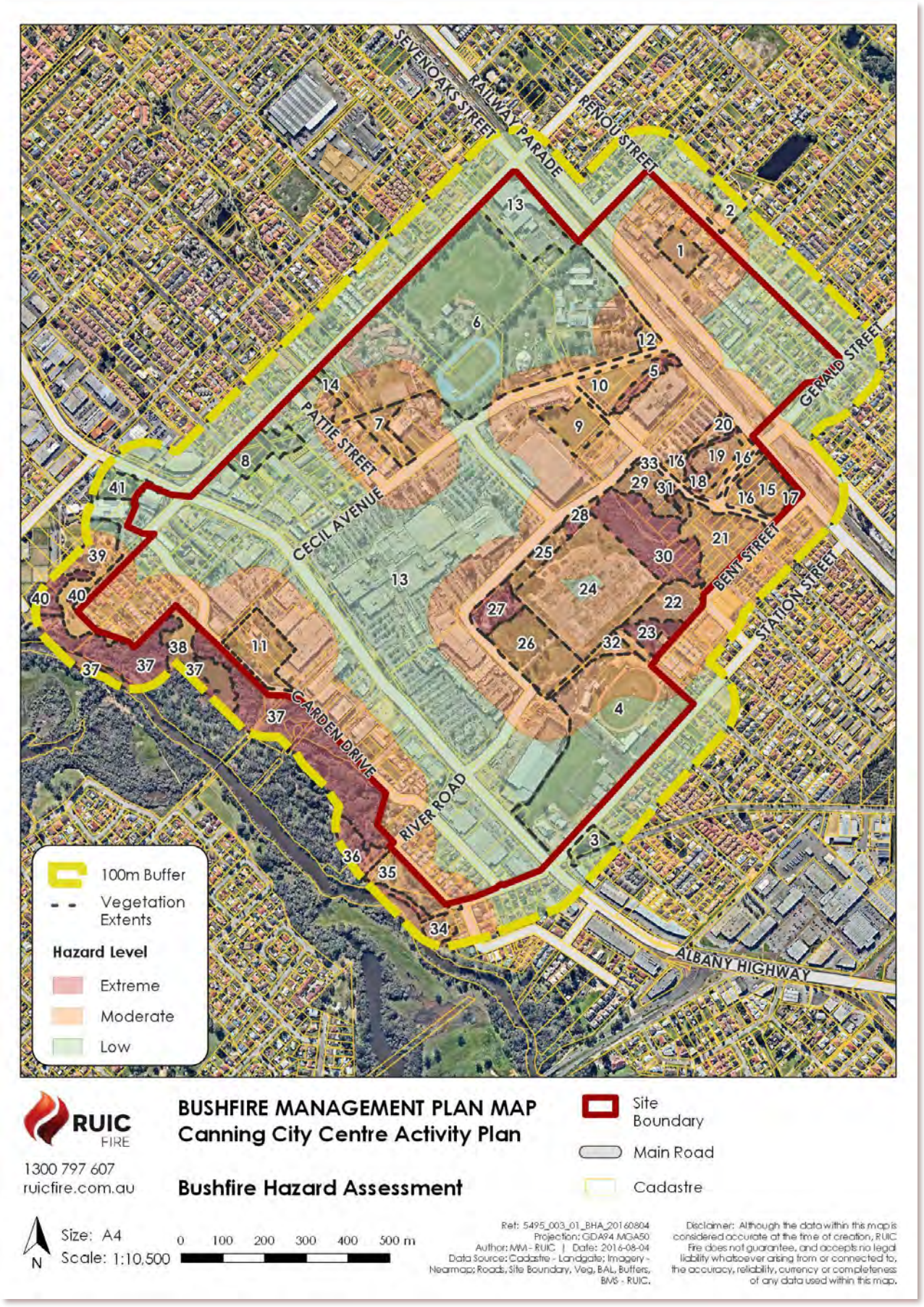



*Figure 2A: Bushfire Hazard Assessment (overall)*

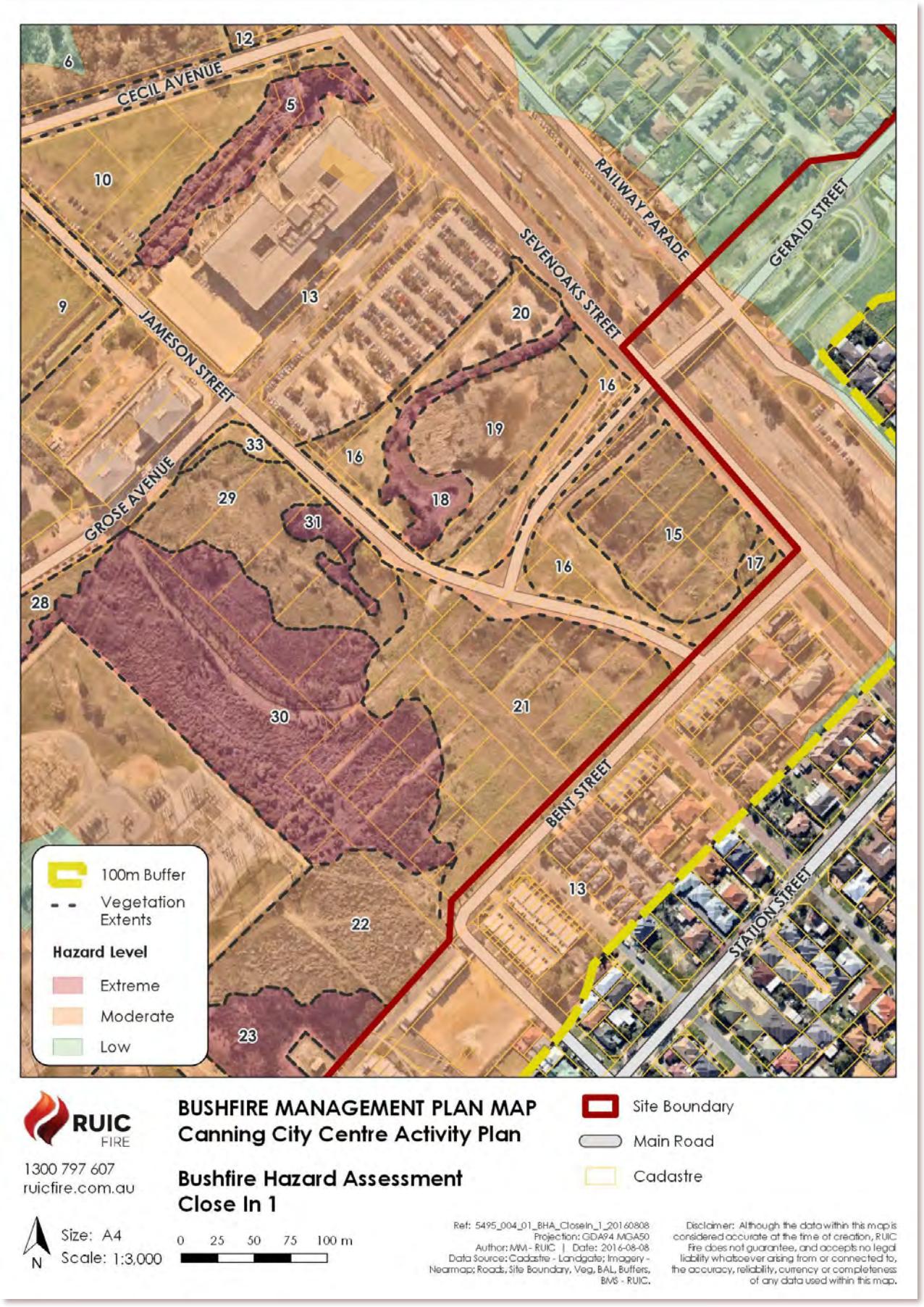



*Figure 2B: Bushfire Hazard Assessment (north east corner)*

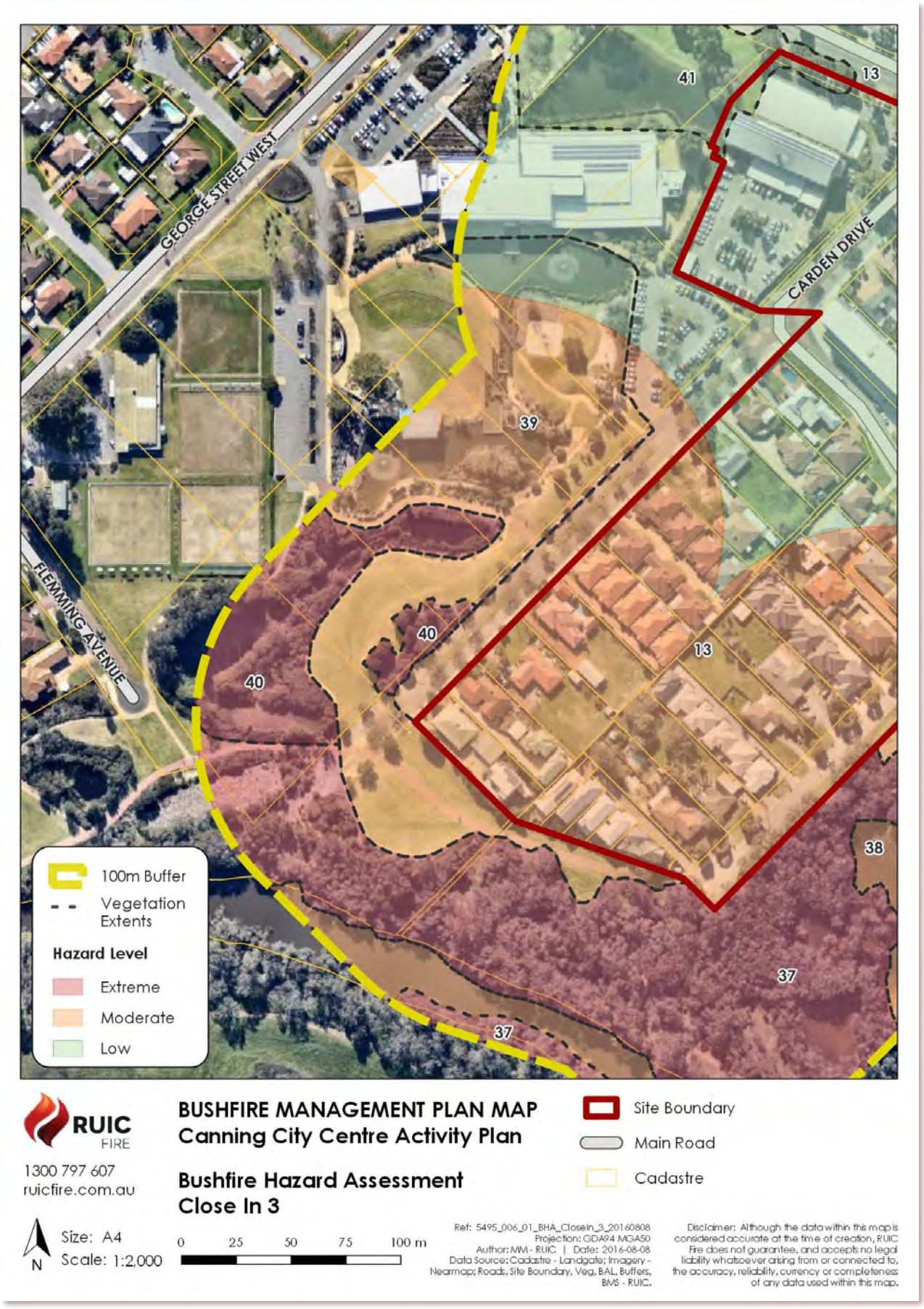



*Figure 2C: Bushfire Hazard Assessment (south west corner)*

*Table 2B: Vegetation Plot Descriptors and Hazard Level*

| Plot No | Hazard Name | Hazard Level |
|---|---|---|
| 1 | Unmanaged Grasslands | MODERATE |
| 2 | Suburban with Maintained Gardens | LOW |
| 3 | Suburban with Maintained Gardens | LOW |
| 4 | Devoid of standing vegetation | LOW |
| 5 | Tall Shrub | EXTREME |
| 6 | Maintained Vegetation | LOW |
| 7 | Unmanaged Grasslands | MODERATE |
| 8 | Managed Grassland | LOW |
| 9 | Unmanaged Grasslands | MODERATE |
| 10 | Managed Grassland | LOW |
| 11 | Open Woodland | MODERATE |
| 12 | Woodland | MODERATE |
| 13 | Inner suburban with maintained gardens | LOW |
| 14 | Managed Grassland | LOW |
| 15 | Low Shrubs | MODERATE |
| 16 | Managed Grassland | LOW |
| 17 | Woodlands with grass understorey | MODERATE |
| 18 | Tall Shrub | EXTREME |
| 19 | Low Shrubs | MODERATE |
| 20 | Suburban areas with some tree cover | MODERATE |
| 21 | Unmanaged Grasslands | MODERATE |
| 22 | Low Shrubs | MODERATE |
| 23 | Tall Shrub | EXTREME |
| 24 | Inner suburban with maintained gardens | LOW |
| 25 | Inner suburban with maintained gardens | LOW |
| 26 | Open Woodland | MODERATE |
| 27 | Woodlands | EXTREME |
| 28 | Unmanaged Grasslands | MODERATE |
| 29 | Unmanaged Grasslands | MODERATE |
| 30 | Tall Shrub | EXTREME |
| 31 | Woodlands | EXTREME |
| 32 | Low Shrubs | MODERATE |
| 33 | Managed Grassland | LOW |
| 34 | Woodland with Grass Understorey | MODERATE |
| 35 | Maintained Vegetation | LOW |
| 36 | Woodland with Grass understorey | EXTREME |
| 37 | Woodland with scrub understorey | EXTREME |
| 38 | Managed Grassland | LOW |
| 39 | Inner suburban with maintained gardens | LOW |
| 40 | Woodland with scrub understorey | EXTREME |
| 41 | Inner suburban with maintained gardens | LOW |

# 3.0 Proposal Compliance and Justification

## 3.1 SPP 3.7 Policy Measures applicable to the proposal

*Table 3A: Compliance of the proposed development with the Policy Measures of SPP 3.7.*

| Policy Measure | Description | Compliance | |
|---|---|---|---|
| 6.1 | Higher order strategic planning | ☑ | N/A – not a higher order strategic planning document. |
| 6.2 | Strategic Planning Proposals, Subdivision and Development Applications | ☑ | Site has a Bushfire Hazard Level above LOW. Policy Measure 6.3 applies. |
| 6.3 | Supporting information for Strategic Planning Proposals | ☑ | A Bushfire Hazard Level Assessment map is provided in Figures 2A-2C. Bushfire hazard issues arising from the BHLA are detailed in Section 2.4. Compliance with the bushfire protection criteria is detailed in Table 3B. |
| 6.4 | Supporting information for Subdivision Applications | ☑ | N/A – At a strategic level |
| 6.5 | Supporting information for Development Applications | ☑ | N/A – At a strategic level |
| 6.6 | Vulnerable / High Risk Land Use | ☑ | This will be addressed during DA approval at a later stage should and development be considered to be a 'Vulnerable Land Use' or 'High Risk Land Use' in the bushfire context. |
| 6.7 | Minor / Unavoidable Development in BAL-40 and BAL-FZ areas | ☑ | This will be addressed during DA approval at a later stage to locate the development outside of BAL-40 and BAL-FZ areas, if practicable. |
| 6.8 | Advice of State/relevant Authorities for Emergency Services to be sought where Policy Measures are not achieved or where development includes Unavoidable, Vulnerable or High Risk Land Use | ☑ | This will be addressed during DA approval at a later stage to locate the development outside of BAL-40 and BAL-FZ areas, if practicable. |
| 6.9 | Advice of State/relevant Authorities for Environmental Protection sought | ☑ | N/A –The relevant agency responsible for biodiversity conservation management will be consulted for later planning stages should vegetation disturbance be required. |
| 6.10 | Bushfire conditions may be imposed | ☑ | This will be addressed within the development of a Bushfire Management Plan at a later stage should development occur in a bushfire prone area (as defined within the most current version of the OBRM *Map of Bush Fire Prone Areas*). |

| Policy Measure | Description | Compliance | |
|---|---|---|---|
| 6.11 | Precautionary Principle | ☑ | The precautionary principle has been adopted throughout this report. The relevant decision maker is encouraged to adopt an informed precautionary approach in accordance with SPP 3.7 |

## 3.2 Guidelines for Planning in Bushfire Prone Areas Compliance

*Table 3B: Compliance with Guidelines for Planning in Bushfire Prone Areas (GPBPA)*

| Element | Acceptable Solution (A) or Performance Based (PB) Solution | Compliance | Notes |
|---|---|---|---|
| 1. Location | A1.1 Development location | ☑ | The site contains areas of extreme and moderate bushfire hazard level. Development design will guide vegetation management/separation distances at later planning stages, through a BAL Contour Map or BAL assessment to ensure that no development is located within an area exceeding a radiant heat impact of 29kW/m$^2$ (where practicable). |
| 2. Siting and Design of Development | A2.1 Asset Protection Zone (APZ) | ☑ | An APZ shall be established and maintained around all future development within 100m of classified vegetation. Future development located within 100m of classified vegetation, will require the proponent to endeavour to locate the development in an area of BAL-29 or lower. This may be able to be achieved through establishment and maintenance of an APZ or through the development design. Future Class 1, 2, 3 or associated Class 10a buildings are to be constructed to the requirements of AS3959-2009 if located within an area of BAL-12.5 or greater to account for |

| | | | |
|---|---|---|---|
| | | | less than 100m separation from classified vegetation.<br>Development proposed on lots within existing subdivisions, may not be able to achieve a BAL-29 or lower rating, therefore the development is to be assessed in accordance with SPP3.7 policy measures 6.7.1 (Minor Development) or 6.7.2 (Unavoidable Development). |
| | A2.2 Hazard Separation Zone (HSZ) | ☑ | Future subdivisions and developments within the site should provide for a HSZ (where practicable) to ensure that no development is exposed to a radiant heat impact exceeding 29kW/m$^2$.<br>A HSZ may not be required if the proposed building construction meets the applicable AS3959-2009 construction standard for BCA Class 1, 2 3 and associated Class 10a buildings. |
| 3. Vehicular Access | A3.1 Two access routes | ☑ | Current public road network allows for two different access routes from the majority of the assessment area |
| | A3.2 Public road | ☑ | Future public roads to be constructed to applicable standards. Existing public roads are compliant. |
| | A3.3 Cul-de-sac | ☑ | All temporary and permanent dead end roads as part of future development are to be provided with compliant cul-de-sacs. Existing cul-de-sacs are provided within the assessment area. Permanent cul-de-sacs should be avoided in bushfire prone areas. |
| | A3.4 Battle-axe | ☑ | Battle-axe lots to be avoided in any future development |
| | A3.5 Private driveway longer than 50m | ☑ | Required at DA stage if buildings greater than 50m from public roads |

| | | | |
|---|---|---|---|
| | A3.6 Emergency access way | N/A | Public road network provides adequate access |
| | A3.7 Fire service access routes | N/A | Public road network provides adequate access |
| | A3.8 Firebreak width | ☑ | In accordance with City of Canning Firebreak notice, if applicable |
| 4. Water | A4.1 Reticulated areas | ☑ | The assessment area is located in a reticulated water area |
| | A4.2 Non-reticulated areas | N/A | |
| | A4.3 Individual lots within non-reticulated areas | N/A | |

## 3.3 Areas of non-compliance with other relevant documents

This report has also been developed in order to comply with the requirements of all referenced and applicable documents. No non-compliances have been identified.

# 4.0 Conclusion

Conclusions of the Bushfire Hazard Level Assessment are:

1. Pre-development, the assessment area contains areas of Low, Moderate and Extreme Bushfire Hazard Levels as shown on Figures 2A to 2C.
2. It is envisaged that the Bushfire Hazard Level across the site will not change significantly due to large areas of wetlands and protected vegetation within the site.
3. The design of future development may be able to adequately manage the Extreme Hazard Level vegetation through identification of the radiant heat impacts (BAL assessment) to the development, therefore providing information for the proponent to manage the risk, if applicable. Methods to manage the bushfire threat can include development design and siting considerations and changes, and construction of buildings to the standards of AS3959-2009 for the applicable BAL rating.
4. In summary, the Hazard Level is not prohibitive of any proposed re-development when the objectives of State Planning Policy 3.7 and The Guidelines are considered for future development within bushfire prone areas.
5. A future Bushfire Management Plan may be required to support any application for development of the land pursuant to SPP3.7.

# 5.0 BAL Contour Maps

The BAL Contour Map was prepared in accordance with State Planning Policy 3.7 Guidelines for Planning in Bushfire Prone Areas (the Guidelines) Appendix three (3). The BAL assessment was carried out in accordance with AS 3959-2009 Simplified Procedure (Method 1).

The purpose of this BAL Contour map is to illustrate the potential radiant heat impacts and associated indicative BAL ratings in reference to any classified vegetation within 100 metres of the assessment area.

The site was assessed in accordance with AS 3959-2009 Methodology 1.

The location and extent of AS 3959 vegetation structures, including low fuel areas, within 100 metres of the site were mapped, specifically those vegetation plots that align with the DFES *Map of Bush Fire Prone Areas* dataset. Bushfire fuel loads are identified as consistent with AS 3959 Table B2 for radiant heat flux modelling purposes. All bushfire structures and fuel loads are assessed in their mature states (including revegetation and rehabilitation areas) unless otherwise identified.

BAL Contour Maps, figures 5A – 5D, illustrate the radiant heat impacts (BAL Contours) of the assessment area on the following pages.

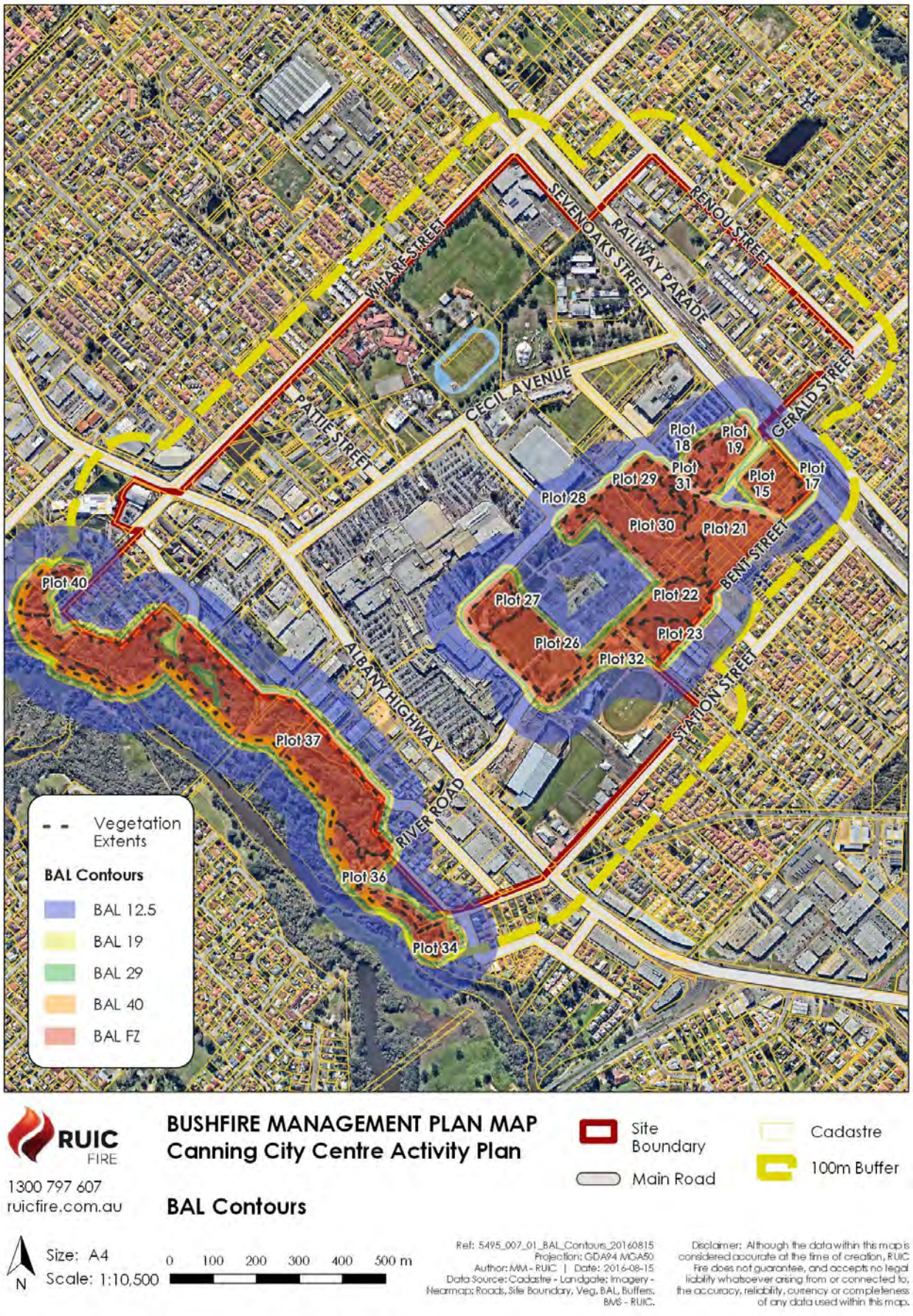



*Figure 5A: BAL Contour (whole of site)*

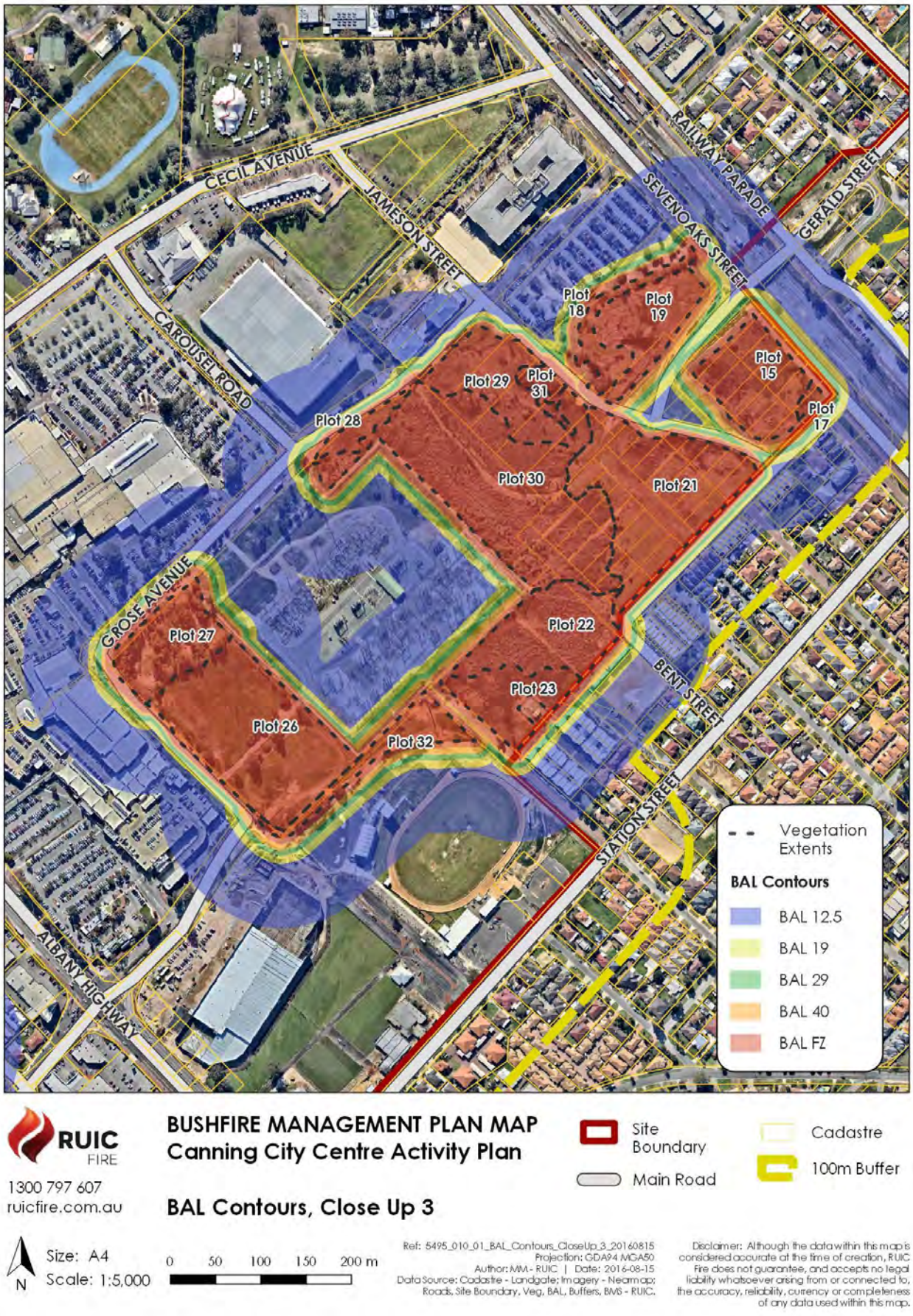



*Figure 5B: BAL Contour (north east corner)*

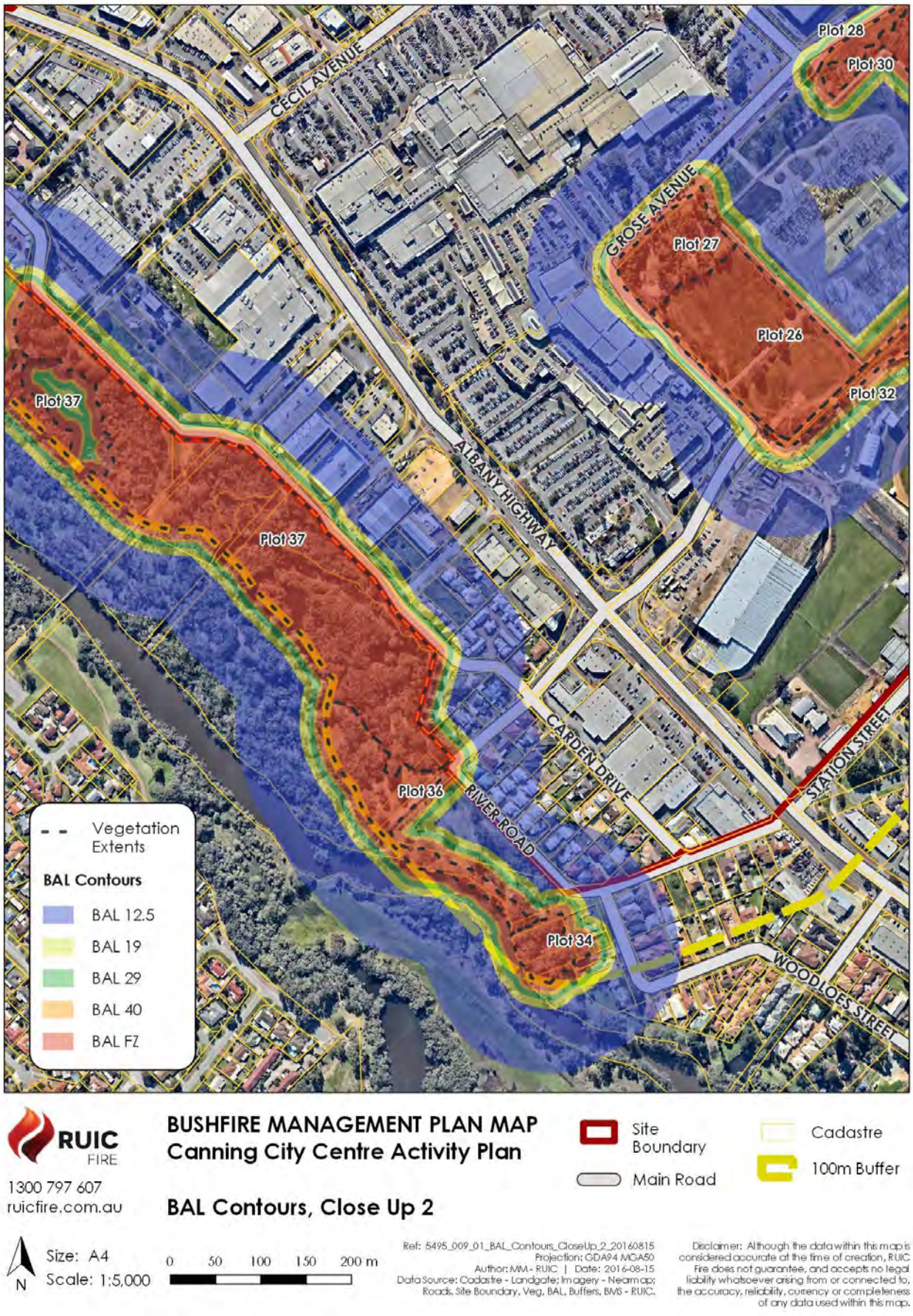



*Figure 5C: BAL Contour (south east corner)*

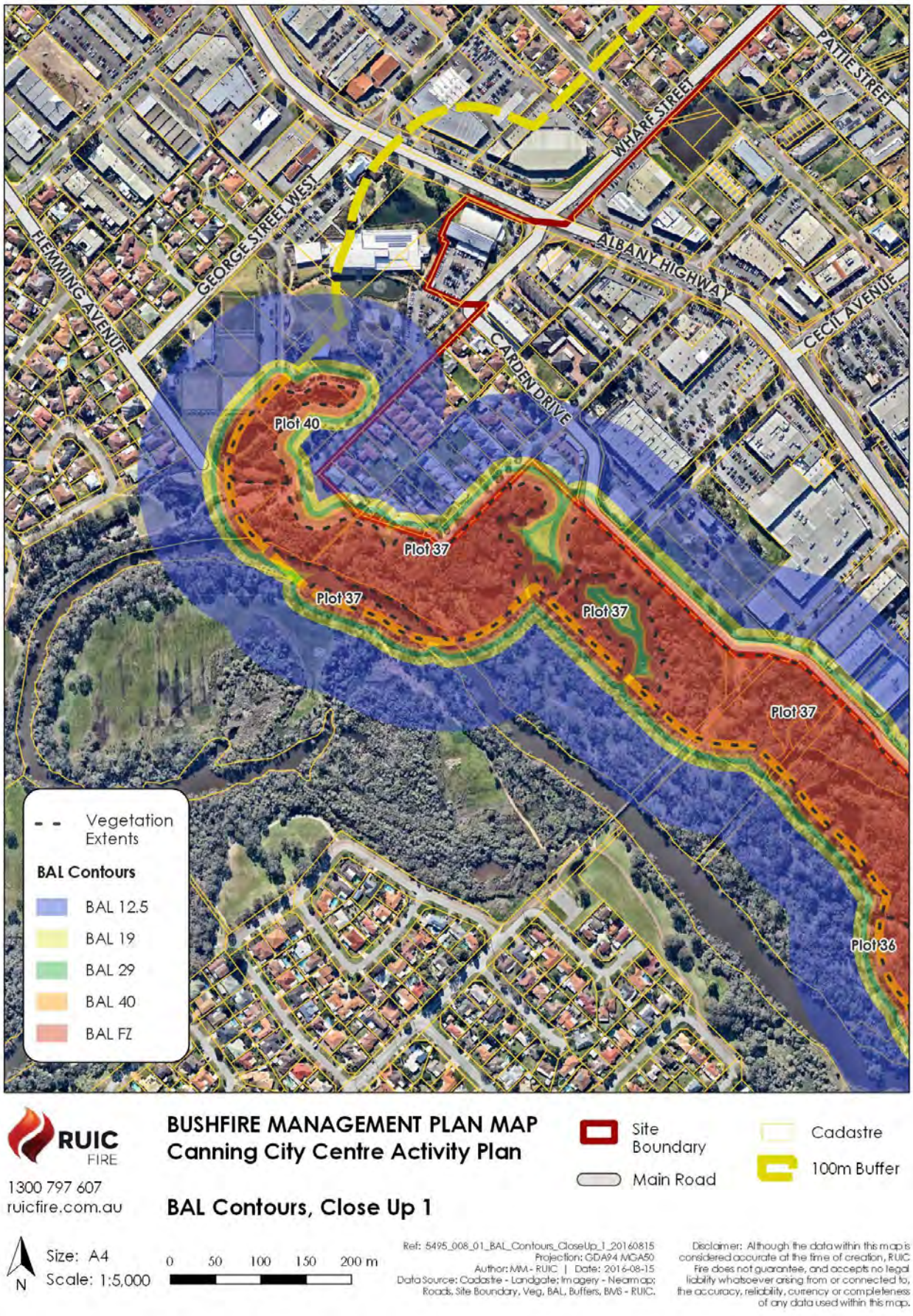



*Figure 5D: BAL Contour (north east corner)*

# 6.0 Reference

Western Australian Planning Commission. (2015a). State Planning Policy 3.7: Planning in Bushfire Prone Areas. Western Australian Planning Commission.

Western Australian Planning Commission. (2015b). Guidelines for Planning in Bushfire Prone

# 7.0 Appendix

## 7.1 Appendix 1

Guidelines for Planning in Bushfire Prone Areas Appendix Two: Bushfire Hazard Level Assessment Methodology

### APPENDIX TWO
### BUSHFIRE HAZARD LEVEL ASSESSMENT METHODOLOGY

This methodology rates bushfire hazards using vegetation type, classifying the results into three potential categories: low, moderate or extreme. It is strongly recommended that landowners/proponents seek the assistance of an accredited Bushfire Planning Practitioner to conduct this assessment.

Table 3: Hazard levels and characteristics

| HAZARD LEVEL | CHARACTERISTICS |
|---|---|
| **Low** | • devoid of standing vegetation (less than 0.25ha cumulative area);<br>• areas which, due to climatic conditions or vegetation (e.g. rainforest), do not experience bushfires;<br>• inner urban or suburban areas with maintained gardens and very limited standing vegetation (less than 0.25ha cumulative area);<br>• low threat vegetation, including grassland managed in a minimal fuel condition (i.e. to a nominal height of 100mm), maintained lawns, vineyard and orchards; and<br>• pasture or cropping areas with very limited standing vegetation that is shrubland, woodland or forest with an effective up slope*, on flat land or an effective down slope* of less than 10 degrees, for a distance greater than 100 metres. |
| **Moderate** | • areas containing pasture or cropping with an effective down slope* in excess of 10 degrees for a distance greater than 100 metres;<br>• unmanaged grasslands;<br>• open woodlands;<br>• open shrublands;<br>• low shrubs on areas with an effective up slope*, on flat land or an effective down slope* of less than 10 degrees, for a distance greater than 100 metres or flat land;<br>• suburban areas with some tree cover; and<br>• forest and woodlands with a permanent grass understorey or at most, a scrub understory structure consisting of multiple areas of <0.25ha and not within 20 metres of each other or single areas of <1ha and not within 100 metres of other scrub areas. |
| **Extreme** | • forests with a scrub understorey which is multi-tiered;<br>• woodlands with a scrub understorey which is multi-tiered;<br>• tall shrubs; and<br>• any area of vegetation not otherwise categorised as low or moderate. |

*NOTE Effective slope refers to the slope under the classified vegetation in relation to the subject site. Distances less than 100 metres will be deemed to be undulating land, rather than a nominated slope.

### Step One: Determine the area to be assessed

Use an appropriate aerial photo (where available) and define the area that is to be the subject of the Bushfire Hazard Level assessment. The aerial photo must be as current as possible and at a scale that clearly shows the vegetation crowns and structure. All land within 100 metres of the external boundary of the subject site is to be included in the assessment. This is the Bushfire Hazard Level assessment area.

### Step Two: Identify vegetation type and class

The Bushfire Hazard Level assessment area's vegetation must be classified and characterised either through vegetation mapping data or physical site inspection. The characterisation should use the standard approach applied in AS 3959 to identify which vegetation type(s) predominate on the site.

Where there are various vegetation classes on the subject site, areas of distinct vegetation classes greater than 0.25 hectares are to be identified and mapped. Multiple areas of the same vegetation class, each of less than 0.25 hectares and within 20 metres of other vegetation must be mapped.

Strips of vegetation equal to or greater than 20 metres in width, irrespective of length, and within 20 metres of other vegetation, are to be classified.

Areas of mixed vegetation class less than 0.25 hectares should also be identified and mapped. This is to capture situations where a small lot is linked to larger areas of vegetation outside the subject area.

### Step Three: Map the results

Create a vegetation class map covering the bushfire hazard assessment area based on an analysis of the results. The map should use an appropriately scaled map (maximum scale of 1:25,000) and an aerial photograph, where available.

From the vegetation classes map, hazard levels can then be assigned to a proposal site or parts of a proposal site, and even parts of individual lots. In the latter case, bushfire hazard levels can assist with determining suitable or unsuitable locations for building envelopes and buildings.

Areas that are found to be of low bushfire hazard, but are within 100 metres of a moderate or extreme bushfire hazard level area are to adopt a moderate bushfire hazard within that 100 metres and should be assessed as such, to reflect the increased level of risk. This 100 metre buffer reflects the Hazard Separation Zone requirements.

Figure 10: Sample Bushfire Hazard Level assessment map