

This bushfire hazard level assessment (BHL) has been prepared to assist in the formulation and review of the Shire of Collie Local Planning Strategy.

State Planning Policy 3.7 Planning in Bushfire Prone Areas requires that the preparation of the Local Planning Strategy should include high level consideration of relevant bushfire hazards when identifying or investigating land for future development. It requires that for bushfire prone land that any strategic planning proposal is to be accompanied by:

- ❖ A BHL assessment determining the applicable hazard level(s) across the subject land, in accordance with the methodology set out in the Guidelines;
- ❖ The identification of any bushfire hazard issues arising from the relevant assessment; and
- ❖ Clear demonstration that compliance with the bushfire protection criteria in the Guidelines can be achieved in subsequent planning stages.

The objectives for this BHL assessment are:

- 1) To examine those areas which are identified for development in the proposed Local Planning Strategy, to determine their suitability for development.
- 2) To identify areas that require a more detailed analysis before any development / subdivision occurs;
- 3) To identify any bushfire management issues and any spatial impact of such issues; which should be considered; in the preparation of a structure plan; and
- 4) To document how the recommendations of this bushfire hazard level assessment can be implemented in the relevant planning stages.

The assessment considers the development potential of a number of areas of land in Collie and Allanson as shown below.

No	Location	TPS 5 Zoning	Current LPS Designation
1	Hull Rd	Rural 1 Rural Residential	Rural residential DIA
2	Booth St	Rural 1 Rural Residential	Rural residential DIA
3	Patstone Rd North	Rural 1	Rural residential DIA
4	Patstone Rd South	Rural 1 Rural 2	Rural residential DIA
5	Allanson	Rural 1	Rural residential DIA
6	Buckingham Way	Residential Development	Residential Development
7	North Collie	Residential Development	Residential Development
8	Steere St	Residential Development	Residential Development
9	Wellington Heights	Residential Parks & Recreation	Urban
10	Preston	Rural Residential	Rural Residential
11	Coolangatta	Special Use 3	Coolangatta Industrial Estate DIA

The State Map of Bushfire Prone Areas (2017) identifies large areas of land both within and adjoining the Collie and Allanson townships as being bushfire prone. Bushfire prone land includes bushfire hazard vegetation and land within 100m of this vegetation. Approximately 80% of the municipality contains land which is managed by the Department of Parks and Wildlife being either State Forest, National Parks or conservation reserves.

The area surrounding Collie and Allanson are constrained due to:

- Mining activities and requirements within the Collie Basin with associated buffers; and
- Catchment management for both surface and groundwater as well other environmental factors.

The open cut coal mines to the east of the township are a prominent district feature and State resource. The Collie Basin Structure Plan recognises a 'Limit Line of Urban Development' around both Collie and Allanson. This is an important factor in justifying the location of the proposed investigation areas. Consequently, new development has generally been directed to the north of the Collie Township with pressure for this to continue towards Allanson.

The local vegetation is predominantly forests of *Eucalyptus marginata* (Jarrah) and *Corymbia calophylla* (Marri). There are Federal and State controls over land clearing with additional clearing controls within the catchment areas.

The Westralia Conservation Park is an A Class reserve (45961) located on the western boundary of Collie township and it has an area of 855 hectares. Environmental Bulletin No 8 (2009) South West Ecological Linkages also identifies regional ecological linkages within the area.

A number of general bushfire management development issues have been identified in the assessment which are summarised as:

1. The development / hazard interface as the level of the bushfire hazard is directly proportional to the distance / setback from the areas with high fuel loadings.
2. Clearing / hazard reduction in order to provide the minimum Bushfire Attack Level (BAL) setback distances prescribed in SPP3.7 Planning in Bushfire Prone Areas. However, the need for permanent hazard reduction may conflict with environmental objectives and regulations. The extent of minimal clearing to a BAL-29 setback and to provide an asset protection zone will vary due to the slope of the vegetation. In forest areas, this may vary between 3,000 and 5,000 square metres depending upon the size of the dwelling.
3. The provision of multiple access both at the district and local level, is one of the most significant design issues to be considered in the subdivision and development of land. These access routes should be in different directions, which are available to all residents/the public at all times.
4. SPP3.7 recognises that vulnerable land uses need to be given special consideration. These are uses where persons may be less able to respond in a bushfire emergency. This can be either due to physical conditions, age, or being unfamiliar with the location such as tourists. As the precincts examined in this assessment are predominantly proposed for residential and/or rural residential development, the most likely vulnerable land use to occur will be tourist accommodation. The approval of these will need to consider bushfire management; access and potentially evacuation issues.
5. SPP3.7 recognises that high risk land uses need to be given special consideration. High risk land uses are those uses which may lead to the potential ignition, prolonged duration and/or increased intensity of a bushfire. Examples include service stations, landfill sites, bulk storage of hazardous materials, fuel depots. It is expected that high risk land uses, especially those relating to industry will be located in the industrial estate on the northern side of the Collie township, or in the Coolangatta or Shotts Industrial Estates. The approval of these will need to consider bushfire management; public safety, access and potentially evacuation issues.

The assessment also identifies specific development issues for each of the investigation areas. These are also shown spatially on an overall issues plan.

The assessment also examines each investigation areas to determine how likely it is that development can comply with the Bushfire Protection Criteria. The Bushfire Protection Criteria relate to subdivision and development design with the key elements relating too:

- Location;
- Siting and Design;
- Vehicular Access; and
- Water.

The categories which have been used to consider these are:

- Extreme - Unlikely to meet the criteria.
- High - May meet the criteria subject to further investigation and design.
- Moderate - Should meet the criteria depending upon the design.
- Low - Expected to meet the criteria.

The purpose of this is to identify where multiple factors may contribute to the suitability of one area in comparison to others. For example, an area might not have any "extreme" ratings but has multiple "high" ratings. This may suggest that the area is unlikely to be suitable for development.

From both the spatial identification of issues and the consideration of the application of the Bushfire Protection Criteria, both general and specific recommendations for the investigation areas have been formulated.

It is recommended that the Local Planning Strategy include the following general recommendations:

1. Require that any structure planning for the proposed policy areas must address bushfire management issues and the co-ordination of bushfire management measures.
2. Recognise any district or local ecological corridors and environmental buffer areas and they be recognised in any detailed bushfire hazard assessment.
3. Stipulates that planning proposals on land with a moderate or extreme hazard rating should be accompanied by a bushfire management plan with a more detailed bushfire hazard assessment for the proposed site.
4. Give high priority to the provision of multiple access especially for subdivisions by either a public road, emergency access way or fire service access route in all policy areas.
5. Acknowledge that the clearing of remnant vegetation to the "minimum extent necessary" to permit development is based upon the setbacks required for a BAL-29 rating.
6. Require that any structure plan or Scheme review consider the location, zoning permissibility and development criteria for vulnerable and high-risk land uses.
7. Require that planning proposals and development applications in other bushfire prone areas not examined in this report comply with the provisions of State Planning Policy 3.7.

The specific recommendations for the investigation areas are:

Area 1 Hull Road

8. That the structure plan be reviewed in relation to address access; development setbacks and future water tank locations/reserves.

Area 2 Booth Street

9. Investigate the upgrading of the river crossing access to Lintott Road.

Area 3 Patstone Road North

10. That the Strategy recognise that Lot 1345 has significant development constraints.
11. That a connecting road access be provided.
12. Require an increased development setback ie minimum 50m low fuel zone along the northern boundary.

Area 4 Patstone Road South

13. Require an increased development setback ie minimum 50m low fuel zone along the western boundary.
14. Limit the use of battle-axe lots.

Area 5 Allanson

15. That the Strategy recognise that Lots 2620 and 1378 have significant development constraints.

Area 6 Buckingham Way

16. That development proceeds in accordance with the approved structure plan.

Area 7 North Collie

17. That the Strategy recognise that Lots 2803 and 2804 have significant development constraints.
18. That the structure plan for the cleared land east of Ewing Street be reviewed to require land to be maintained as low threat vegetation to compensate for the multi battle axe lots.

Area 8 Steere Street

19. That a structure plan be prepared for the land between Steere Street and Princep to co-ordinate any subdivision as the existing lots are elongated.
20. That a connecting road access be provided.

Area 9 Wellington Heights

21. That the Strategy recognise that Lots 601, 602 and 603 have significant development constraints.
22. Investigate the provision of additional separation and safety measures for the existing residences and primary school.
23. Investigate the possible extension of Wellington Boulevard.

Area 10 Preston

24. That the Strategy recognise that Lot 1622 has significant development constraints.

Area 11 Coolangatta

25. Any amendment or review of the structure plan should consider increased development setbacks from the northern and western boundaries, strategic water supplies and emergency access.
26. Investigate if the existing haulage road can be used for emergency access as it connects to Coalfields Highway.

How these recommendations apply to the following planning stages or policies has also been documented.

- Bushfire Risk Management Plan;
- Local Planning Strategy;
- Planning Scheme or Amendment;
- Structure Plan;
- Development Application; or
- Local Planning Policy.

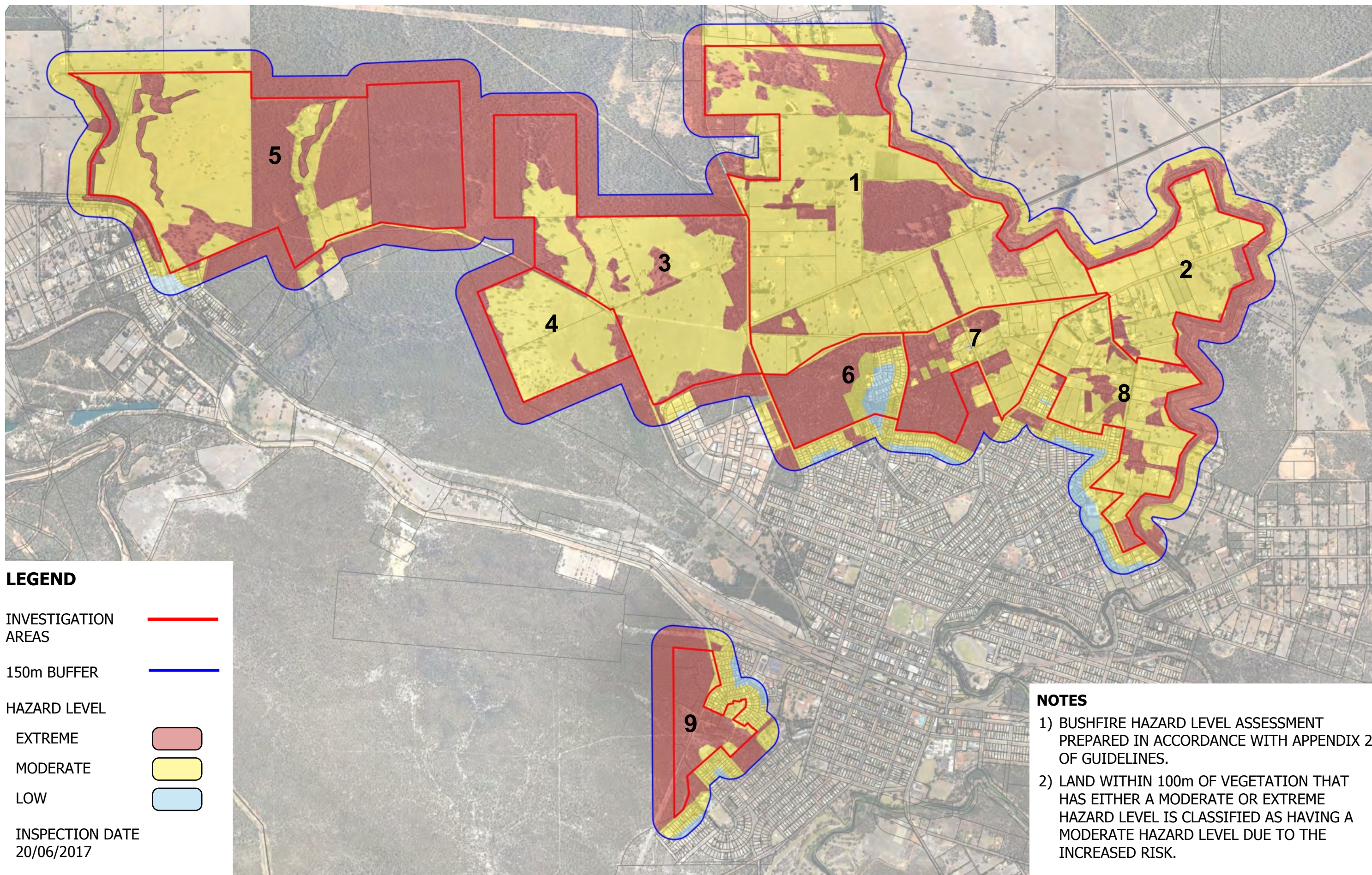


FIGURE 16
BUSHFIRE HAZARD LEVELS
SHEET 1 OF 2

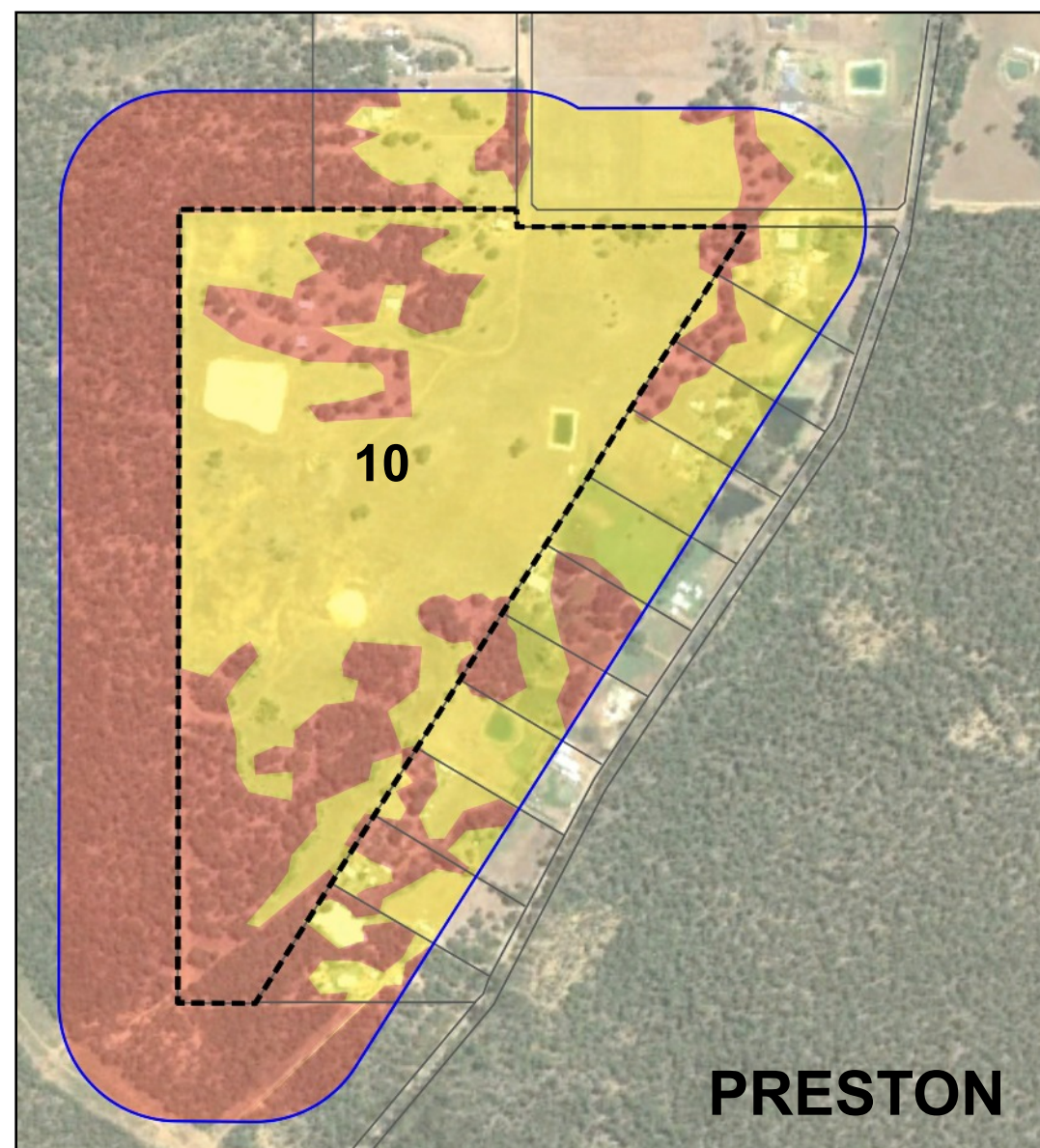


Rev A Description Preliminary

Date 20/07/2017



Job No 17-025
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LEGEND

INVESTIGATION
AREAS

150m BUFFER

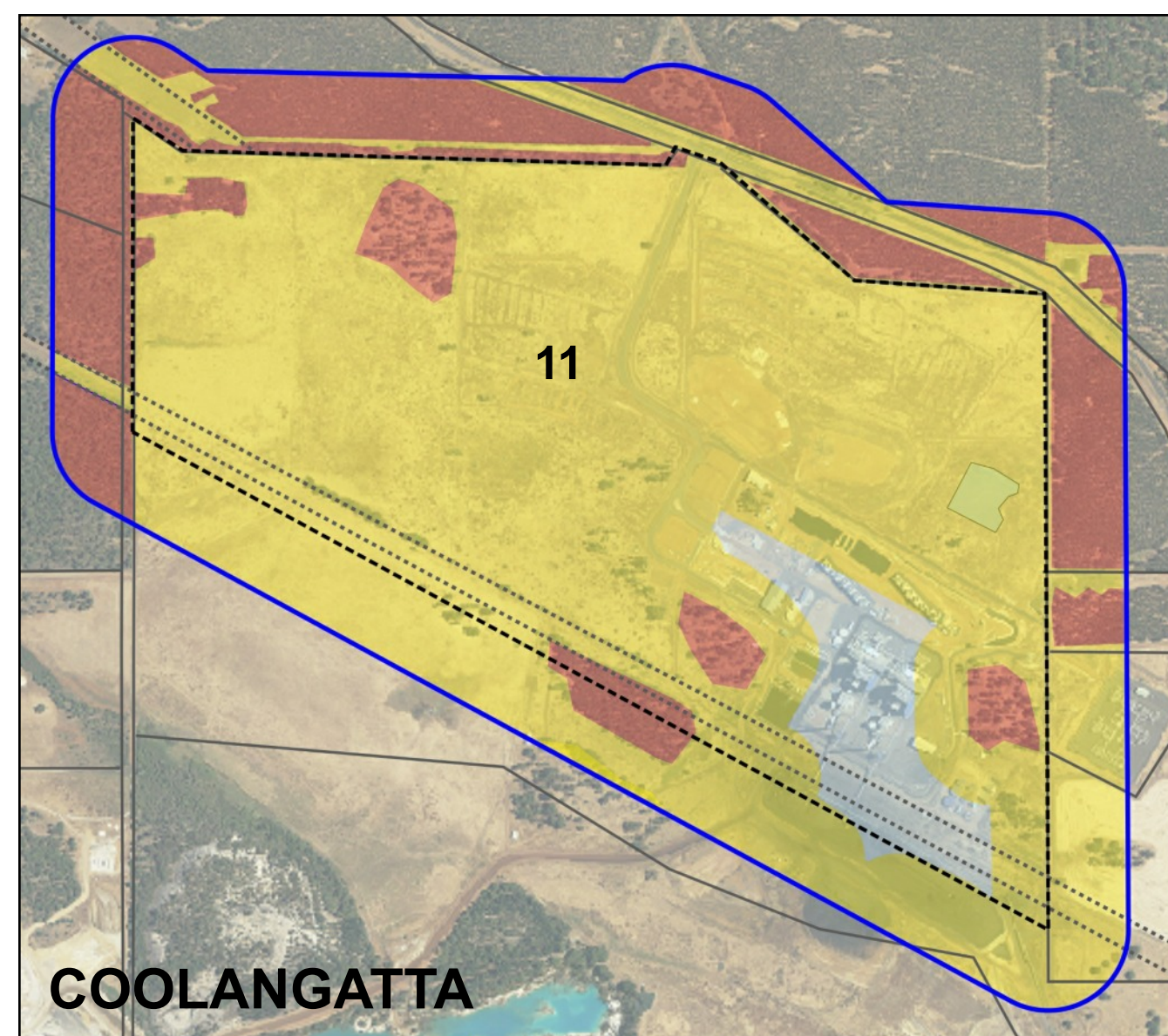
HAZARD LEVEL

EXTREME

MODERATE

LOW

INSPECTION DATE
20/06/2017



NOTES

- 1) BUSHFIRE HAZARD LEVEL ASSESSMENT PREPARED IN ACCORDANCE WITH APPENDIX 2 OF GUIDELINES.
- 2) LAND WITHIN 100m OF VEGETATION THAT HAS EITHER A MODERATE OR EXTREME HAZARD LEVEL IS CLASSIFIED AS HAVING A MODERATE HAZARD LEVEL DUE TO THE INCREASED RISK.

FIGURE 16
BUSHFIRE HAZARD LEVELS
SHEET 2 OF 2



Rev A Description Preliminary

Date 20/07/2017

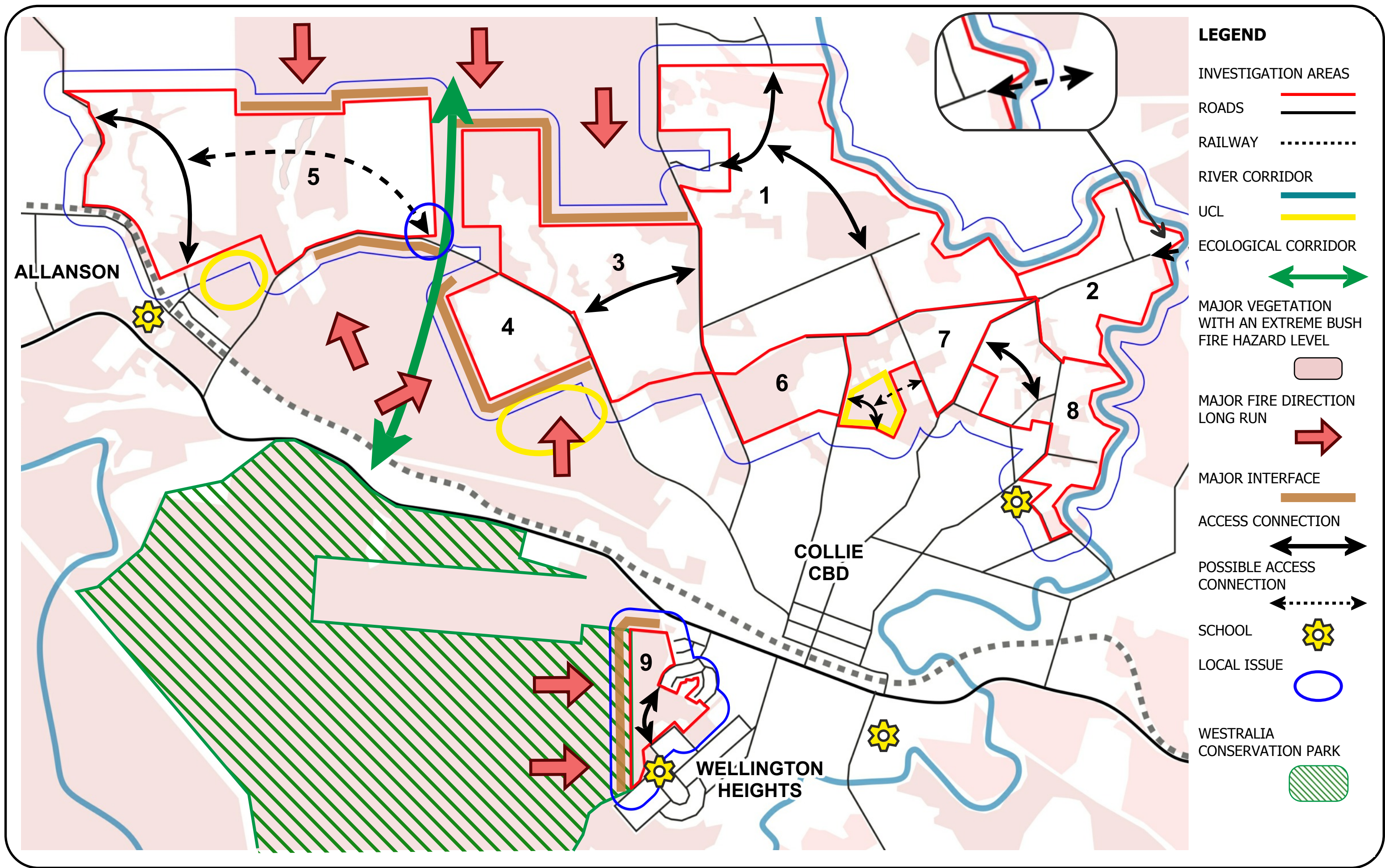


FIGURE 26
BUSHFIRE ISSUES
SHEET 1 OF 2

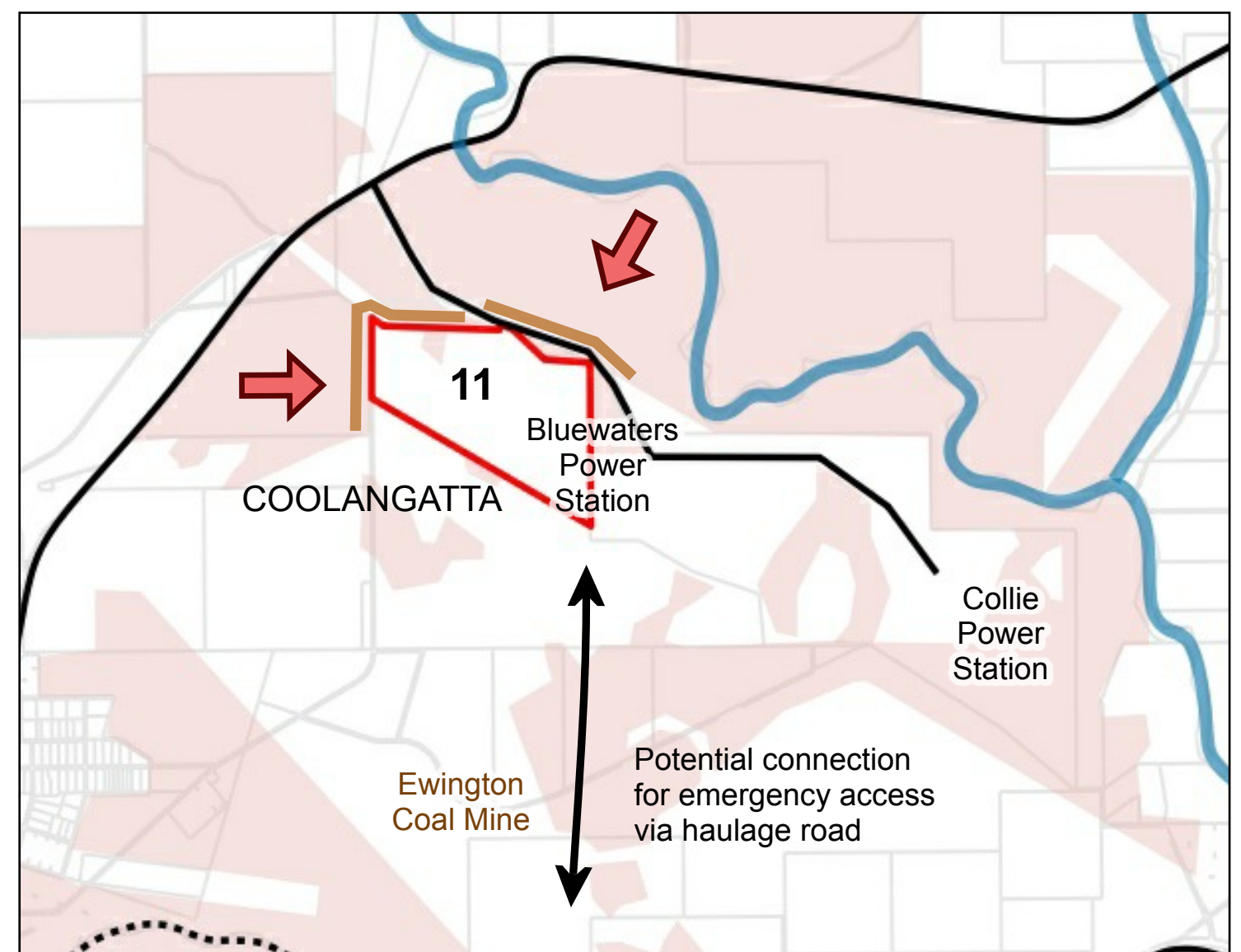
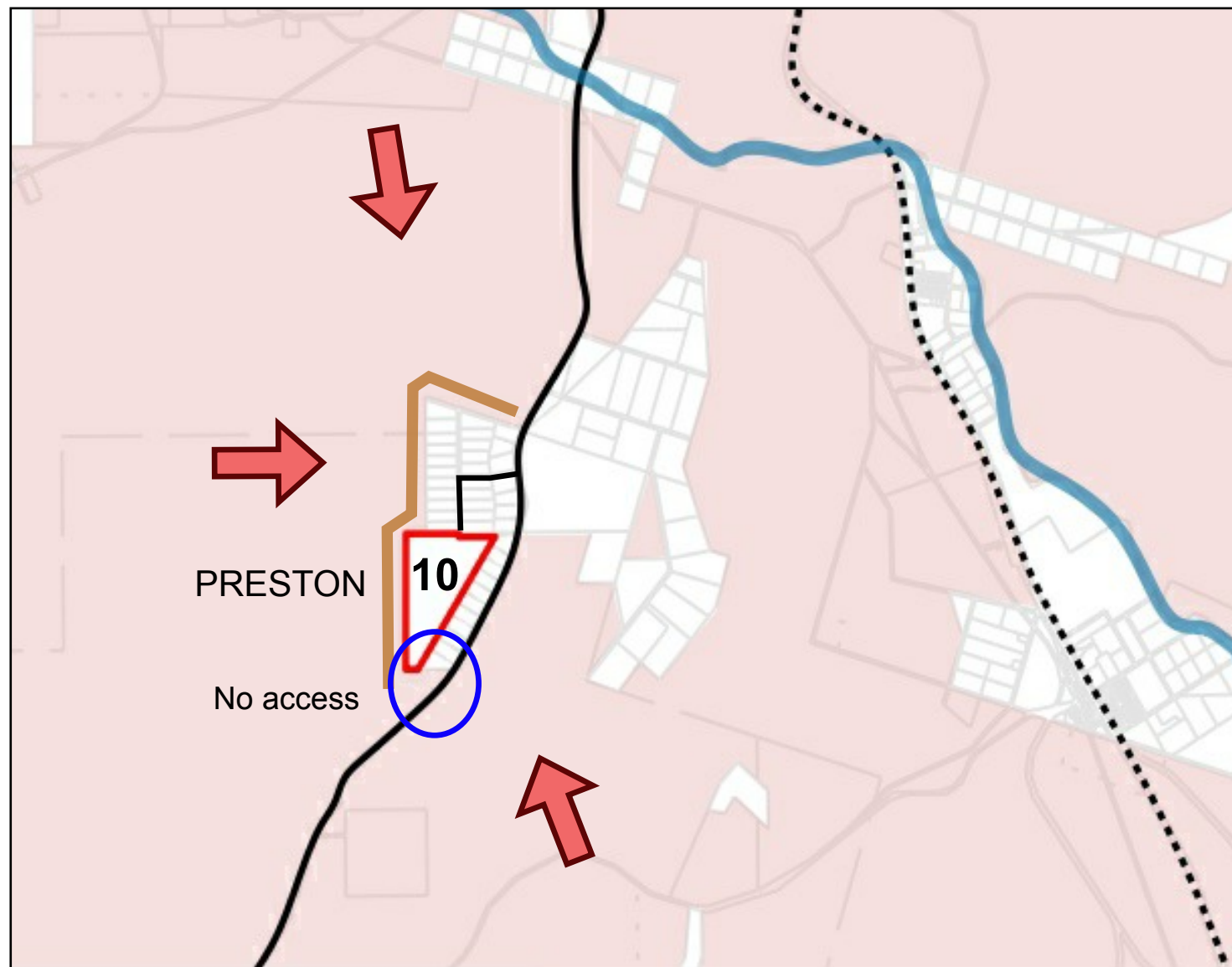


Rev	Description	Date
A	Preliminary	20/07/2017
B	Area Numbers	17/08/2017

Date
20/07/2017
17/08/2017



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LEGEND

INVESTIGATION
AREAS

ROADS

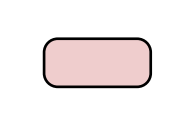
RAILWAY

RIVER CORRIDOR

MAJOR VEGETATION
WITH AN EXTREME BUSH
FIRE HAZARD LEVEL

MAJOR FIRE DIRECTION
LONG RUN

MAJOR INTERFACE



ACCESS CONNECTION

POSSIBLE ACCESS CONNECTION

LOCAL ISSUE



FIGURE 26
BUSHFIRE ISSUES
SHEET 2 OF 2



Rev A Preliminary
B Area Numbers

Date 20/07/2017
17/08/2017



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Table 3 BPC Assessment

No	Reference	Proposed Land Use	Location			Siting & Design	Vehicular Access			Water	Land Uses	
			Subject Land Cleared/ uncleared	Slopes	Surrounding Land Cleared/uncleared		Asset Protection	District access	Local access		Emergency Access Way - Fire Access	Reticulated Non Reticulated
1	North of Hull Rd	Rural Residential	Generally cleared	< than 10 degrees	Adjoining hazard vegetation on opposite side of Harris River Road with potential long fire runs.	Within lots subject to subdivision design	Single north south access route via Harris River Road.	Road connections to Banksia Ave through Lot 2137 may be difficult due to remnant vegetation. Connection to Ewing St preferred but difficult due to remnant vegetation in Lot 1278.	Subject to subdivision design	Non Rectic Tanks are required at strategic locations.	Possible subject to zoning provisions	Highly unlikely in proposed zone
	South of Hull Rd	Rural Residential	Generally cleared. Revegetation of drainage line may create a future hazard.	< than 10 degrees	Adjoining hazard vegetation Buckingham Way is proposed to be cleared for subdivision.	Within lots subject to subdivision design	Multiple access north and south	Provided by Hull Road and Booth Street with Ewing connecting these.	Subject to subdivision design	Potential retic otherwise tanks are required at strategic locations.	Possible subject to zoning provisions	Highly unlikely in proposed zone
2	Booth St	Rural Residential	Generally cleared	< than 10 degrees except for some areas along the river corridor.	Adjoining hazard vegetation along the river and land to the south east.	Within lots subject to subdivision design	Multiple access west and south. Upgrading of river crossing to Lintott Street would provide access to the east.	No additional roads are proposed.	Subject to subdivision design	Potential retic otherwise tanks are required at strategic locations.	Possible subject to zoning provisions	Highly unlikely in proposed zone
3	Patstone Rd North	Rural Residential	Generally cleared	< than 10 degrees	Major vegetation to the north.	Within lots subject to subdivision design	Multiple access routes	Access connections between Patstone and Harris River Roads are required.	Subject to subdivision design	Potential retic otherwise tanks are required at strategic locations.	Possible subject to zoning provisions	Highly unlikely in proposed zone
	Lot 1345	Rural Residential	Significant vegetated areas	< than 10 degrees	Major vegetation on all sides with potential long fire runs.	Within lots subject to subdivision design	Access in two directions via Patstone Road.	No direct road access or frontage. Likely to only have a single access connection into the adjoining lots.	Subject to subdivision design	Potential retic otherwise tanks are required at strategic locations.	Possible subject to zoning provisions	Highly unlikely in proposed zone
4	Patstone Rd South	Rural Residential	Generally cleared	< than 10 degrees	Major vegetation to the south and west with potential long fire runs.	Within lots subject to development design	Access in two directions via Patstone Road.	Multiple directions may be difficult as there is only one road frontage.	Subject to subdivision design	Non Reticulated Tanks are required at strategic locations.	Possible subject to zoning provisions	Highly unlikely in proposed zone
5	Allanson Lot 1127	Rural Residential	Generally cleared	< than 10 degrees	Major vegetation to the east and south east.	Within lots subject to development design	Access in multiple directions from McAvoy and via townsite.	Access connection to Yokain or Francis Road required. Additional access into Lot 2620 required.	Subject to subdivision design	Non Reticulated Tanks are required at strategic locations.	Possible subject to zoning provisions	Highly unlikely in proposed zone
	Lot 2620	Rural Residential	Significant vegetated areas	Moderately undulating < 10 degrees	Major vegetation to the north and south with potential long fire runs.	Within lots subject to development design	District access should be provided connecting Patstone to McAvoy Roads.	No direct road access or frontage.	Subject to subdivision design	Non Reticulated Tanks are required at strategic locations.	Possible subject to zoning provisions	Highly unlikely in proposed zone
	Lot 1378	Rural Residential	Plantation expected to be cleared for development as per structure plan	Moderately undulating < 10 degrees	Major vegetation with potential long fire runs on all sides.	Within lots subject to development design	District access should be provided connecting Patstone to McAvoy Roads.	Single access point to Patstone Road	Subject to subdivision design	Non Reticulated Tanks are required at strategic locations.	Possible subject to zoning provisions	Highly unlikely in proposed zone
6	Buckingham Way	Residential	Vegetation to be cleared for subdivision.	< than 10 degrees	Hazard vegetation on UCL to the east.	Likely to extend outside of lot boundaries.	Access in multiple directions	Multiple access as per structure plan design	Not required	Reticulated	Possible subject to zoning provisions	Highly unlikely in proposed zone

Legend

Extreme	Unlikely to meet the criteria.	High	May meet the criteria subject to further investigation and design.	Moderate	Should meet the criteria depending upon the design.	Low	Expected to meet the criteria.
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No	Reference	Proposed Land Use	Location			Siting & Design	Vehicular Access			Water	Land Use	
			Subject Land Cleared/ uncleared	Slopes	Surrounding Land Cleared/uncleared	Asset Protection	District access	Local Access	Emergency Access Way - Fire Access	Reticulated Non Reticulated	Vulnerable	High Risk
7	North Collie	Residential	Mixture of cleared and vegetated land.	< than 10 degrees	Hazard vegetation on UCL to the south.	Within lots subject to development design	Access in multiple directions	Limited internal access affecting subdivision design and lot yield.	EAW already provided.	Reticulated	Possible subject to zoning provisions	Highly unlikely in proposed zone
	Lots 2803 2804	Residential	Significant vegetated areas on crown land (UCL)	< than 10 degrees	Minor vegetation to the east.	Within lots subject to development design	Access in multiple directions	Additional access to Ewing Street may be required.	Subject to subdivision design	Reticulated	Possible subject to zoning provisions	Highly unlikely in proposed zone
8	Steere St	Residential	Cleared scattered vegetation	Sloping land with some minor areas potentially 10 degrees.	Adjoining hazard vegetation along the river.	Likely to extend outside of lot boundaries.	Access in multiple directions	Limited internal access affecting subdivision design and lot yield.	Subject to subdivision design	Reticulated	Possible subject to zoning provisions	Highly unlikely in proposed zone
9	Wellington Heights	Residential	Significant vegetated areas	Moderately undulating < 10 degrees	Adjoins Westralia Conservation Park with potential long fire runs.	Additional separation distances likely to be required.	Access in multiple directions	Limited internal access, additional connection to Caulfield Street required.	Subject to subdivision design	Reticulated	Possible subject to zoning provisions	Highly unlikely in proposed zone
11	Preston	Rural Residential	Generally cleared	Moderately undulating < 10 degrees	Major vegetation to the west with potential long fire runs. Significant vegetation on the eastern side of Preston Road.	Within lots subject to development design	Access in two directions via Preston Road.	Single dead end access road.	Subject to subdivision design	Non Reticulated Tanks are required at strategic locations.	Possible subject to zoning provisions	Possible subject to zoning provisions
12	Coolangatta	Industrial	Generally cleared	Moderately undulating < 10 degrees	Major vegetation to the north & east (plantations) and west with potential long fire runs.	Within lots subject to development design	Single access via Boys Home Road but haulage road connects to Coalfields Hwy.	Multiple directions may be difficult as there is only one road frontage.	Subject to subdivision design	Non Rectic Alternative sources available	Highly unlikely in proposed zone	Existing and additional uses likely

Legend

Extreme	Unlikely to meet the criteria.	High	May meet the criteria subject to further investigation and design.	Moderate	Should meet the criteria depending upon the design.	Low	Expected to meet the criteria.
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