

Teesdale Strategic Bushfire Risk Assessment



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xwb consulting
Town Planning and Bushfire Consultants



1. Introduction

XWB Consulting has been engaged by the Golden Plains Shire Council ("Council") to prepare a Strategic Bushfire Risk Assessment for Teesdale. The assessment addresses the growth area to the north east of Teesdale previously identified in the Teesdale Structure Plan 1997 and the area generally around the periphery of the town where future growth may be considered.

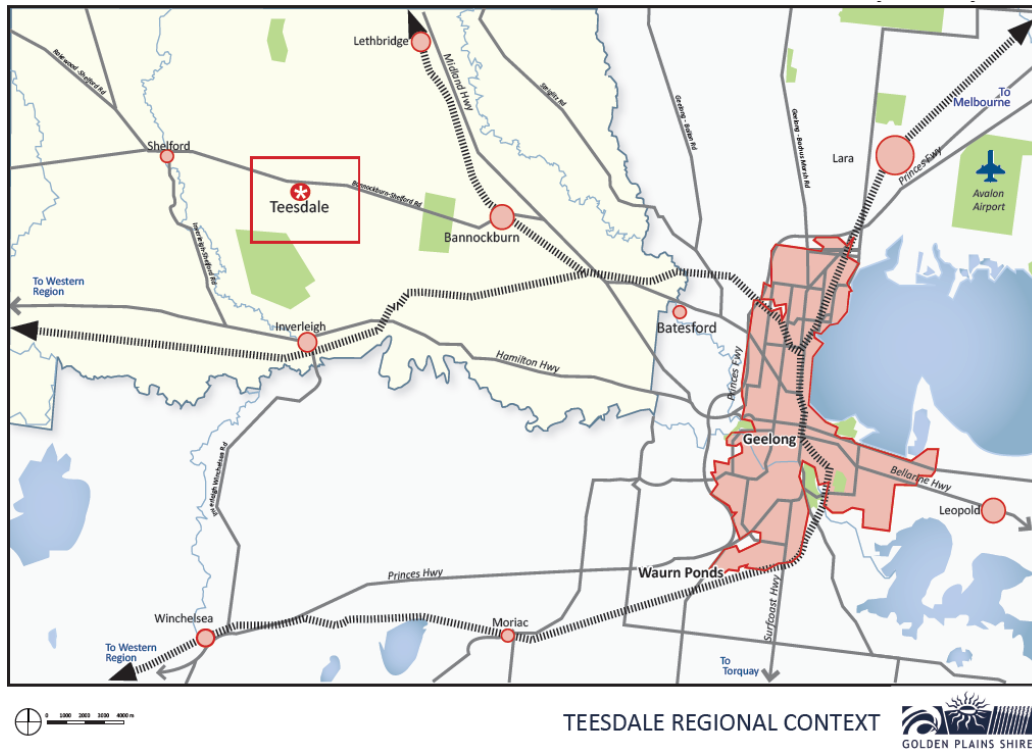
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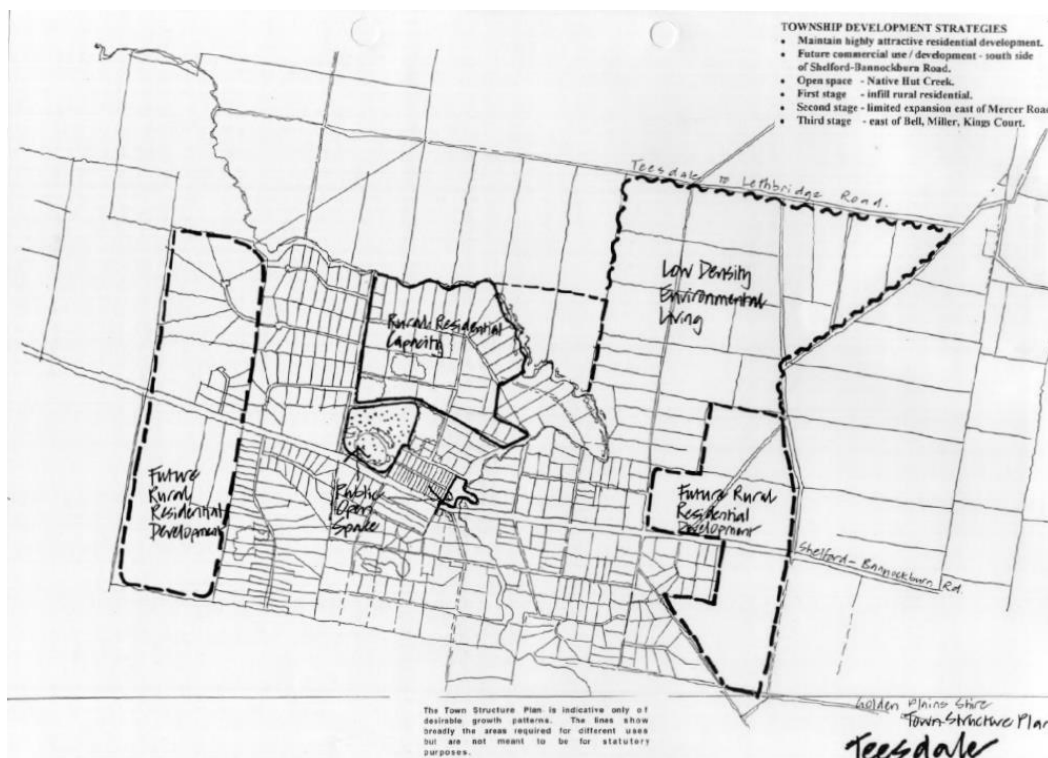
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2. Context

Teesdale is a small rural township located approximately 30km west of Geelong with a population of 1750 residents.

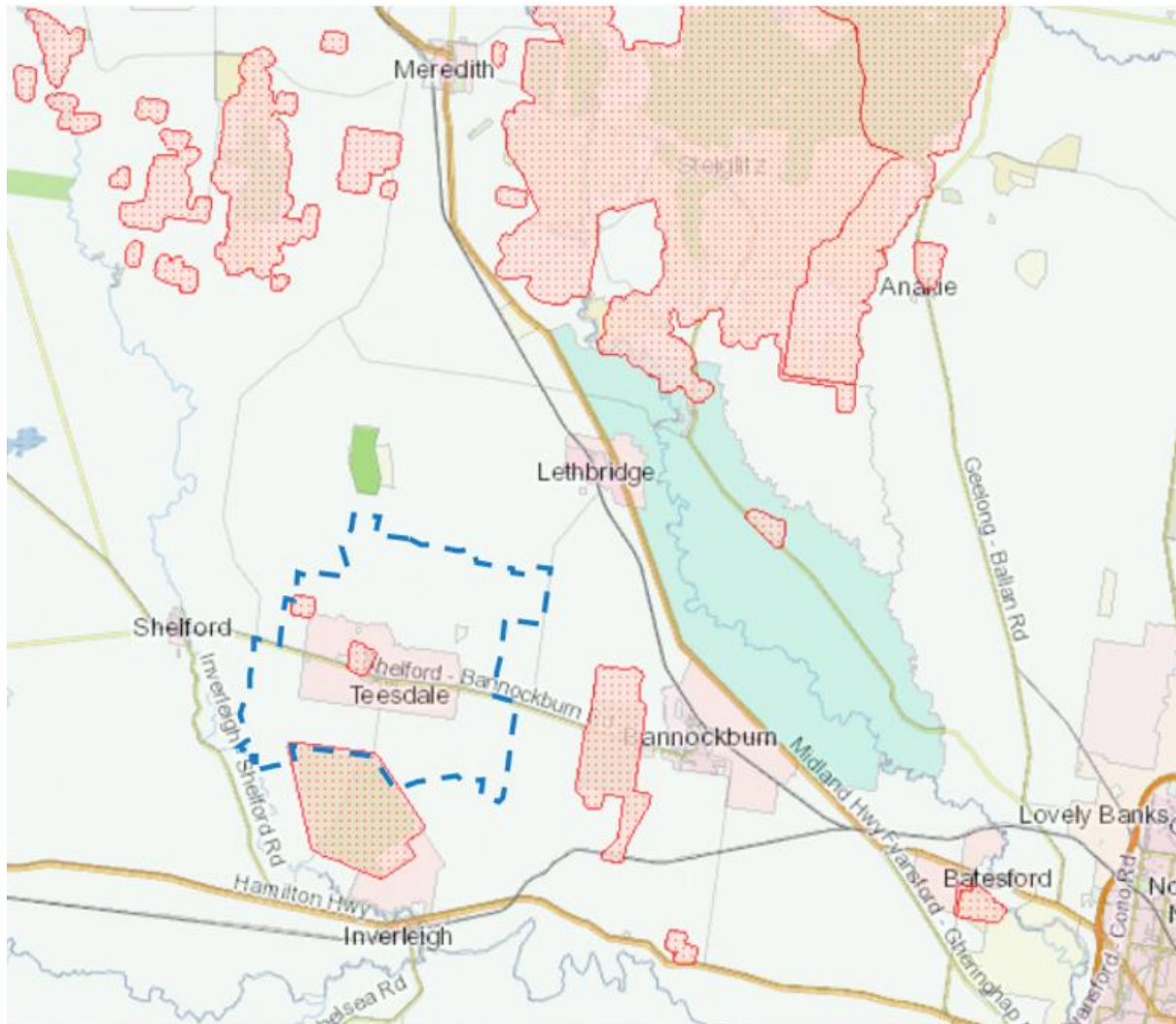


Council prepared a structure plan for Teesdale in 1997 which is included within the Golden Plains Planning Scheme at Clause 21.08-14 and is currently undertaking a review of the Teesdale Structure Plan. A copy of the 1997 Teesdale Structure Plan is shown below:



3. Bushfire Risk

Most of the Teesdale Township sits outside the Bushfire Management Overlay save for the Don Wallace Reserve and a small reserve to the north west of town as shown by the areas in red on the plan below. These reserves would be best described as small remnant woodland pockets. The Bushfire Management Overlay under state planning policy is applied to land where the extent of vegetation can create an extreme bushfire hazard. Therefore most of the town other than the interface with the two reserves is not exposed to a potential extreme bushfire hazard.



The Teesdale Township however sits within a Bushfire Prone Area under the Building Regulations 2018.

The landscape surrounding the Teesdale Township is predominantly open crop and pasture land. The main exceptions to this are:

- The Inverleigh Flora and Fauna Reserve immediately to the south of the township which is a woodland reserve of approximately 1050ha.
- The Bannockburn Flora and Fauna Reserve which is located 7km to the east of the township.

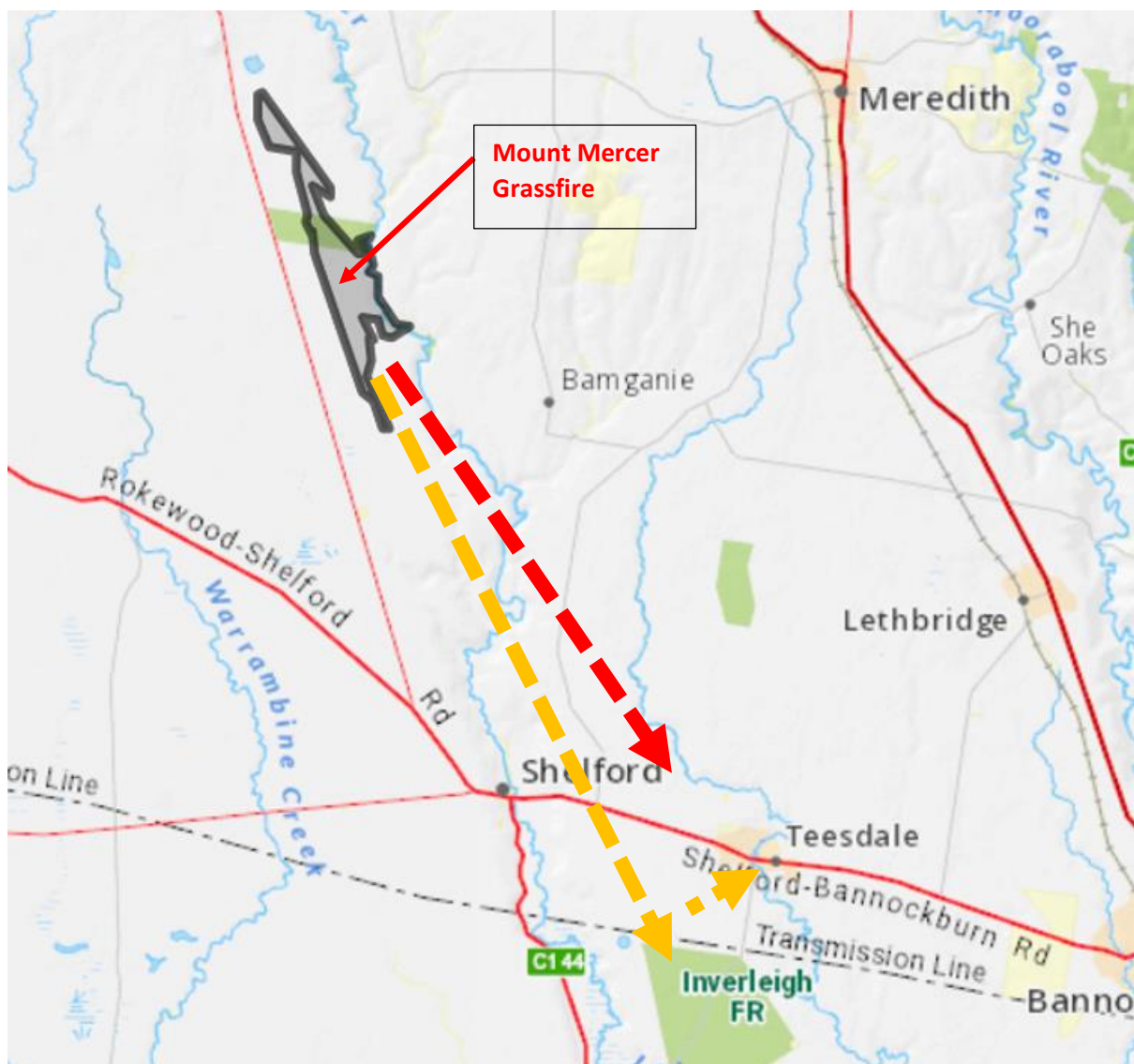
- The Brisbane Ranges which are located 15km to the north east of the township.

In south eastern Australia, the greatest bushfire / grassfire threat occurs when there is a strong dry north westerly wind followed by a south westerly wind change. Under these conditions, the main threat to the township would be from:

1. A grassfire from the north west running towards the township.
2. A grassfire making a run to the west of the township and turning towards the township following a south westerly wind change.
3. A bushfire within the Inverleigh Flora and Fauna Reserve influenced by a south westerly wind running towards the township.

A fire within the Don Wallace Reserve will be a more localised fire and its spread will be curtailed by surrounding urban development. Buildings at the interface with the reserve may experience some ember attack.

The potential of a grassfire to the north west is evidenced by the Mount Mercer grassfire on 19 December 2019. An emergency warning was issued for the Teesdale Township north of Bannockburn Shelford Road as a result of the grassfire. The extent of the grassfire is shown on the plan below:



There was the potential for this grassfire to make a long run to the south east impacting on the Shelford and Teesdale Townships, or running to the west of the Teesdale Township and being affected by a south westerly wind change which would cause the fire to run east towards the township.

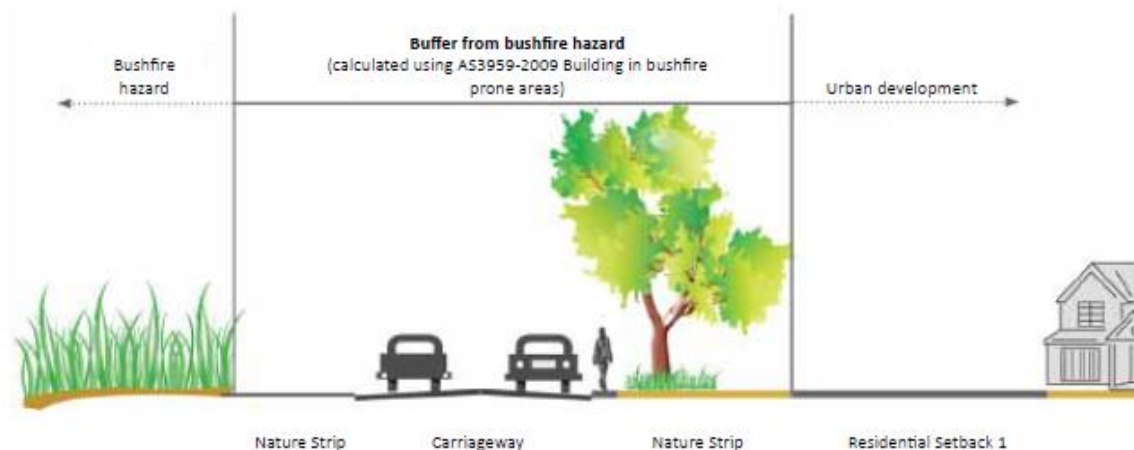
4 Bushfire mitigation

For the likely fire threats to the Teesdale Township, the interface treatment between the bushfire hazard and the residential development is critical to mitigating the bushfire risk to an acceptable level.

The interface treatment should include:

- Sufficient separation between the hazard and dwellings to achieve a bushfire attack level rating of BAL12.5 for dwellings. This is a requirement of state planning policy in relation to bushfire planning for any strategic plan or planning scheme amendment.
- The inclusion of a perimeter road within the separation distance to mitigate the run of a fire and allow access by fire fighting vehicles.
- Fuel management to reduce the available fuel within the separation distance to a minimal level to suppress the run of a fire.

The concept of a perimeter road is shown in the diagram below:

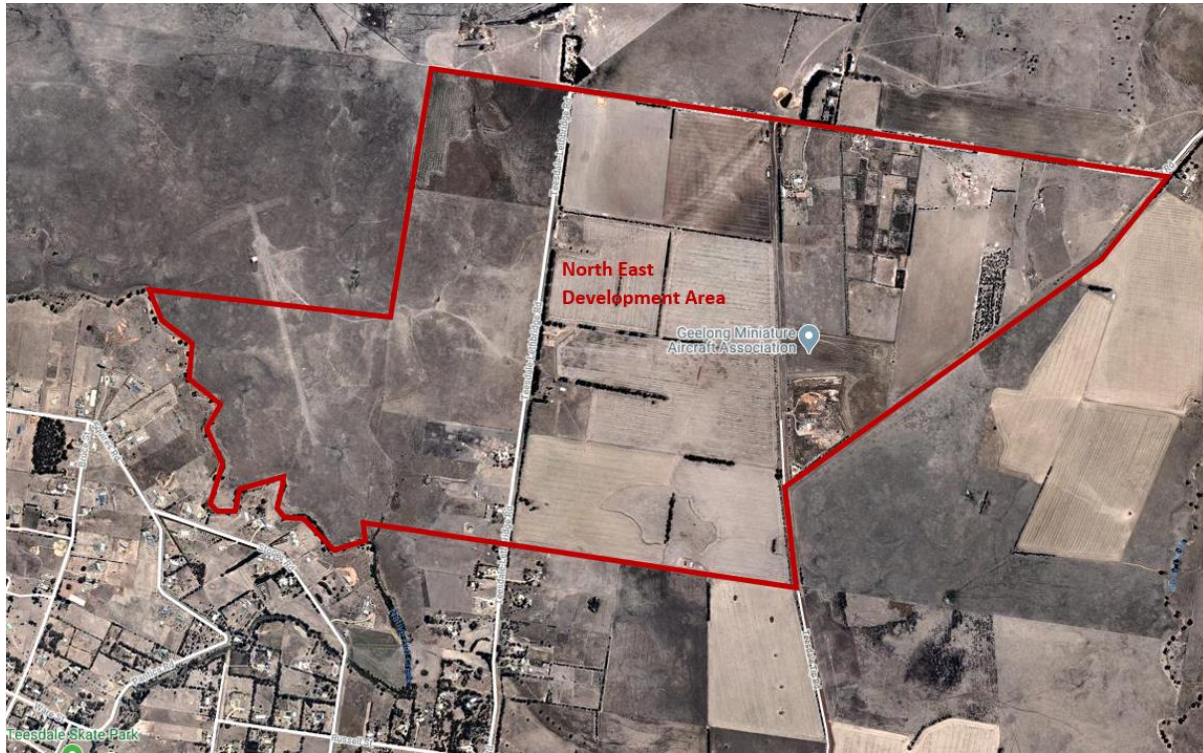


A minimum bushfire attack level construction standard of BAL12.5 is also required for new dwellings within the Bushfire Prone Area which affects the whole of the Teesdale Township.

It is noted that existing properties on the northern edge of Teesdale in Squire Road, River Drive and Eagle Court would have a higher risk exposure to a grassfire due to the configuration of lots and layout of roads.

5. North East Growth Area

An area to the north east of the Teesdale Township was identified for low density environmental living in the 1997 Teesdale Structure Plan. The area is shown on the aerial photograph below:



This development area would be principally impacted by a grassfire from the north / north west. Any fire from the south west would be moderated by existing development within the Teesdale Township.

Any development should implement the bushfire mitigation measures in Section 4, and consideration should be given to the staging of development to ensure interim bushfire mitigation measures can be put in place.

The table below sets out a response to state planning policy in relation to bushfire planning in relation to the north east development area including mitigation measures which can be put into place to meet state planning policy.

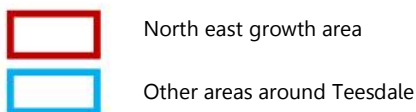
State policy	Response
Objective	A risk based assessment has been undertaken in relation to the north east development area in this report. The risk at a landscape and site scale can be mitigated to an acceptable level through the implementation of appropriate interface treatments and mitigation measures as set out in Section 4.
Protection of human life	The risk at a landscape and site scale can be mitigated to an acceptable level which prioritises the protection of human life. The priority of the protection of human life is not compromised by other policy considerations such as the protection of native vegetation or habitat areas. Development can achieve a separation distance from grassland fuel types sufficient to achieve a

State policy	Response
	<p>radiant heat flux of 12.5 kilowatts/square metre (BAL12.5) under AS3959 which is considered to be a low risk location. Access is available to the areas in the Teesdale Township (eg: community hall) which offer a higher level of protection from the impact of a bushfire, or alternatively east towards the Bannockburn Township.</p>
Bushfire hazard identification and assessment	<p>The bushfire risk at a landscape and site scale has been identified within this report, and it has been assessed that the risk can be mitigated to an acceptable level.</p>
Settlement planning	<p>These strategies are particularly relevant to the Teesdale Structure Plan.</p> <p>Development within the north east development area is considered to be a low risk location as bushfire mitigation measures can be implemented which can achieve a separation distance from the grassland vegetation sufficient to achieve a radiant heat flux of 12.5 kilowatts/square metre under AS3959.</p> <p>Access is available to the areas in the Teesdale Township (eg: community hall) which offer a higher level of protection from the impact of a bushfire, or alternatively east towards the Bannockburn Township.</p> <p>The bushfire risk to existing and future residents, property and community infrastructure will not be increased subject to the implementation of bushfire protection measures including in relation to interface treatments as set out in this report.</p> <p>The bushfire risk to the Teesdale Township at a landscape, settlement and local scale has been considered within this assessment and appropriate bushfire mitigation measures have been identified to ensure the bushfire risk is acceptable.</p> <p>The bushfire risk to the Teesdale Township is comparable with other small towns within the Golden Plains Shire and the limitation of development within the north east growth area in favour of another township would not contribute to a reduction in the overall bushfire risk at a landscape scale.</p> <p>In the context of the Teesdale Structure Plan, it is not appropriate to consider alternative locations for development. The key question to be addressed in relation to the north east growth area is whether development is being directed to a low risk location where a bushfire attack level of BAL12.5 can be achieved for the construction of future dwellings. If it is not, then the north east growth area should not be developed for residential purposes. As set out above, development within the north east development area is considered to be a low risk location as bushfire mitigation measures can be implemented which can achieve a separation distance from the grassland vegetation sufficient to achieve a radiant heat flux of 12.5 kilowatts/square metre under AS3959 consistent with state planning policy.</p>

State policy	Response
Area of biodiversity	There are no areas of significant biodiversity impacted in order to provide for bushfire protection measures for future development of the north east development area.
Use and development controls in a bushfire prone area	Under these strategies, future subdivisions with development areas will be required to consider bushfire risk at the detailed planning permit stage including appropriate bushfire mitigation measures.

6. Other areas around Teesdale

Other areas around Teesdale as shown on the plan below are at risk from grassfires in the surrounding landscape as described in Section 3.



Having regard to state planning policy, the following should be taken into account if Council is considering development within the other areas around Teesdale:

- Any development should implement the bushfire mitigation measures set out in section 4. In the absence of these measures, development would be inconsistent with state planning policy in relation to bushfire planning.
- Consideration should be given to infill development within the existing township ahead of opening up new development areas around the township. This will obviously depend on the capacity to accommodate forecast demand for lots.
- The preferred location for any other new development from a bushfire perspective is to the east of the existing township along the Bannockburn Shelford Road as shown on the plan below. This location has the least exposure to the bushfire risk set out in Section 2.
- Some development could be considered to the north west of the existing township as shown on the plan below where the new development implements the bushfire mitigation measures outlined in Section 4, particularly the provision of perimeter

roads. This would improve the level of bushfire protection for existing lots within the Teesdale Township.

- Development should be avoided to the south of the Teesdale Township, particularly to the east of Teesdale Inverleigh Road. The area is a woodland environment which on face value would meet the criteria for inclusion within a Bushfire Management Overlay. There is a higher bushfire risk within this area and any development would have impacts on native vegetation in order to provide for development and bushfire protection for new dwellings.

