

Natural Values Report

For a proposed dwelling at 231 Cripps Road, Woodbridge.



For T. Koeller and L Fischer

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1. Introduction

This Natural Values Report has been prepared as a requirement of a development application under the Kingborough Interim Planning Scheme 2015 (KIPS). The site at 231 Cripps Road, Woodbridge is zoned as Rural Resource under the KIPS and the entire property is within a Biodiversity Protection Area (BPA). As the proposed dwelling/s have the potential to impact on natural values within the BPA a natural values assessment is required.

Enviro-dynamics has been contracted to undertake this natural values assessment on behalf of the proponents T. Koeller and L Fischer. The assessment identifies the natural values of the site including determining the type and extent of vegetation communities, presence of threatened species and threatened fauna habitat. It also aims to map weed infestations and identify any other threats present. Any potential impacts to natural values posed by the development are then analysed against the requirements of the Planning Scheme.

2. Background

2.1 Property description

The 5.2ha site straddles two north east spur which extend from a line of hills between Woodbridge Hill and Dear Ridge towards the D'Entrecasteaux Channel (Figure 1). It is accessed from Cripps Road and is approximately 3km from the township of Woodbridge. The property contains a small area of cleared land adjacent to Cripps Road on the ridgeline, with the remaining land on the southern slope, drainage line and adjacent north facing slope contains intact native forest vegetation (Figure 2). The adjacent properties to the east and west contain similar cleared land on the ridgeline and intact vegetation to the south. The adjacent property to the north slope down the north face of the ridge and contains cleared land with intact vegetation on the opposite hillside.

The site is accessed directly off Cripps Road. There is a ROW through the southern portion of the site with a rough existing track however there are no cleared areas in this portion of the site.

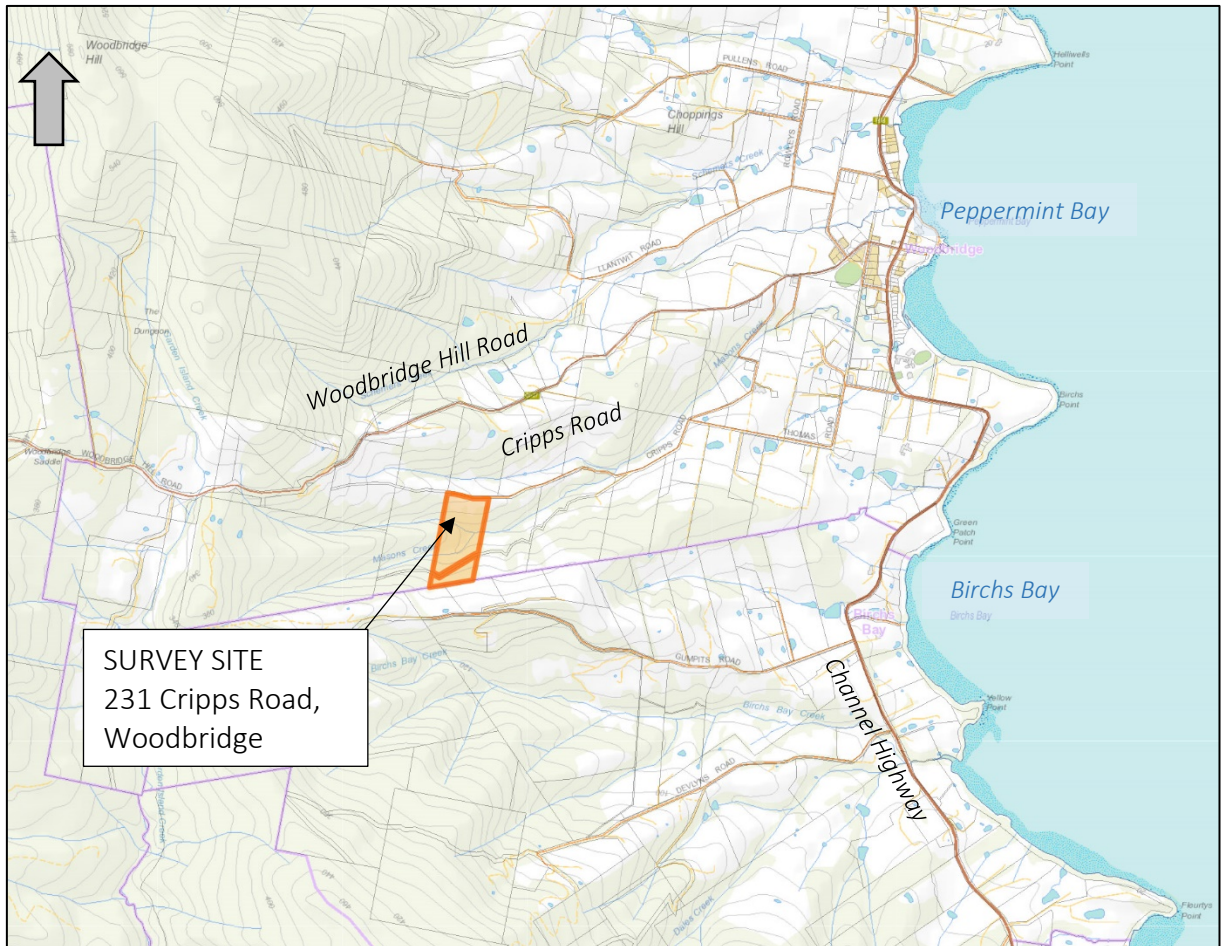


Figure 1 – Location Plan (Image source: TheList 2017)

The proposal is for the initial construction of a temporary dwelling/shed with a new dwelling to be constructed adjacent in the future. The report covers the construction of both proposed buildings. Both structures will be located within the existing cleared land on the ridgeline adjacent to Cripps Road (Figure 3).

The site is bushfire-prone and as such the dwelling need to comply with bushfire regulations (refer to Bushfire Report, GES, July 2017). The dwelling will need to have hazard management areas established around the structures.

3. Methods

The natural values assessment was undertaken using a desktop analysis and field survey.

3.1 Desktop analysis

The desktop analysis involved extracting data from a variety of sources, including:

- Natural Values Atlas (DPIPWE 2017)
- Protected Matters Search Tool (DEE 2017)
- LIST map

3.2 Field survey

The field survey was undertaken by a single observer on the 1st August 2017 using a timed-meander method. The survey concentrated around the proposed location of the dwelling and the surrounding vegetation. Vegetation communities in this area were mapped and classified according to TASVEG 3.0. All vascular plant species encountered were recorded, with an emphasis on detecting rare and threatened species. Searches for potential threatened fauna habitat e.g. tree hollows and den sites, and other evidence e.g. scats, diggings and tracks was also undertaken. No detailed fauna surveys were conducted.

Locations of threatened flora, fauna habitat and significant weeds were mapped with a handheld GPS and population data was captured e.g. numbers of individuals, area occupied etc. Geographic datum used was GDA94 Zone 55.

Taxonomic nomenclature for flora follows the latest Census of Vascular Plants of Tasmania (Baker & de Salas 2016). Classification of vegetation communities is in accordance with Kitchener and Harris (2013) and TASVEG 3.0.

3.3 Limitation of the survey

The site survey looked at the portion of the site that is to be impacted only. Whilst every effort was made to compile a complete list of vascular plants for the property, a single survey is unlikely to detect all species present due to seasonal/temporal variations.

Some plants could not be identified to a species level due to a lack of flowers e.g. orchids, and others may have been overlooked due to a lack of fertile material. It is also possible that additional species are present but were dormant at the time of survey e.g. annuals, ephemerals.

4. Natural Values Assessment

This section outlines the findings of the desktop analysis and field survey, including a description of the vegetation communities, occurrence of threatened flora, fauna habitat and weeds.

4.1 Vegetation communities

The field survey identified one native vegetation community and one disturbance induced community within the vicinity of the proposed development. Two additional forest communities are mapped across the remainder of the site as per TASVEG 3.0 classification system (Figure 2).

***Eucalyptus globulus* forest and woodland (DGL)**

Eucalyptus globulus forest and woodland occurs on the upper slope to the south of the proposed dwellings. The vegetation is dominated by blue gums (*E. globulus*) trees with scattered stringybarks (*E. obliqua*) further down the slope. Mature trees occur around the cleared land with dense smaller trees amongst the more intact vegetation. The tall shrub layer contains silver wattle (*Acacia dealbata*), dogwood (*Pomaderris apetala*), prickly moses (*Acacia verticillata*), teatree (*Leptospermum scoparium*) and cheesewood (*Pittosporum bicolor*). The understorey is sparse with bracken (*Pteridium esculentum*) present in more open areas with access to more light. The vegetation structure is not

typical of DGL as there is no grassy layer present however it is more consistent with dry *E. globulus* forest than wet *E. globulus* forest (WGL).

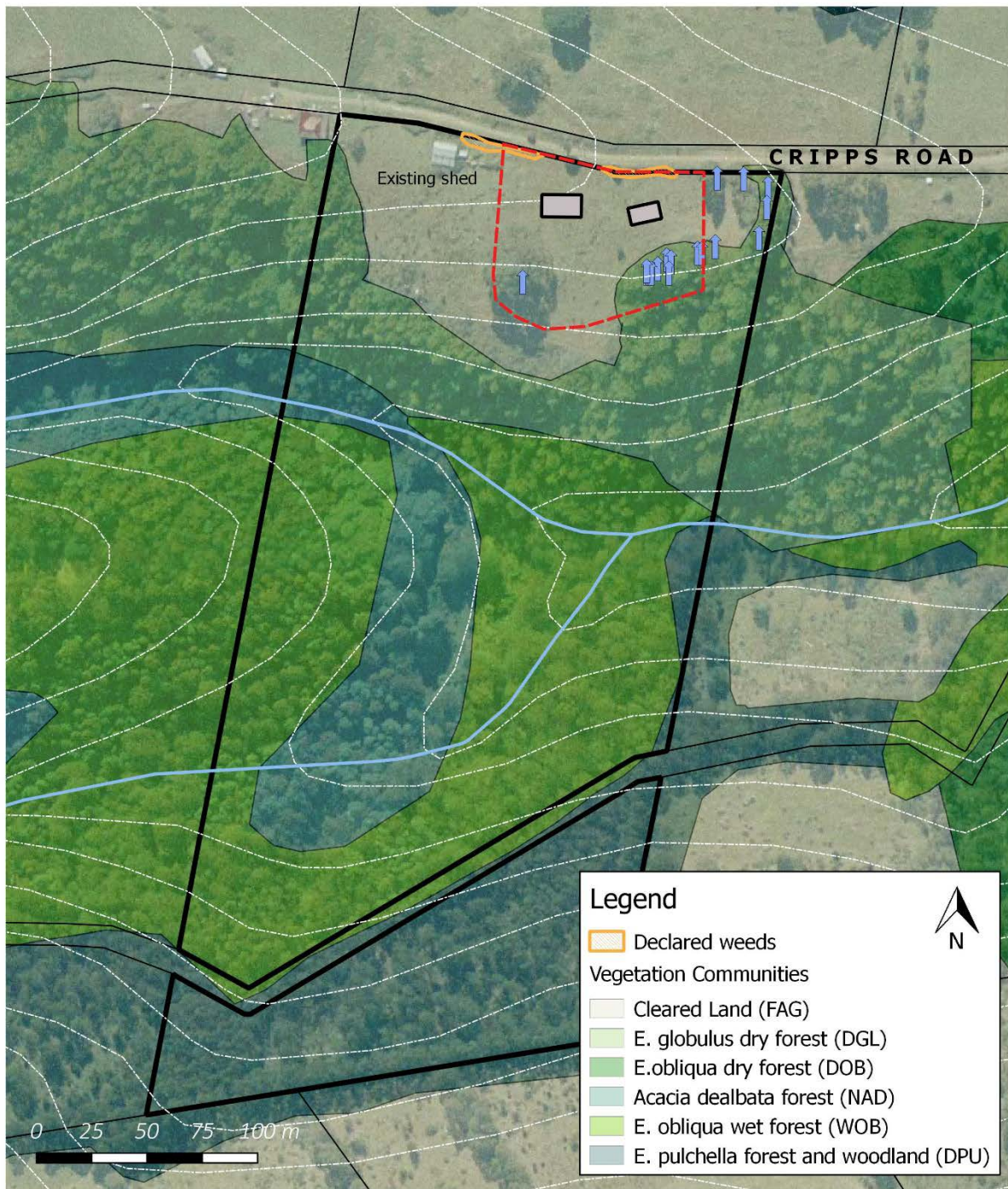


Figure 2 – Vegetation Communities recorded on site.



Figure 3 – *E. globulus* forest downslope of proposed development area.

Agricultural Land (FAG)

The cleared land on the hilltop adjacent to the road is classified as cleared or agricultural land (FAG). It has been historically cleared of vegetation and cultivated with exotic grasses planted. Due to a change in land use over the last 10-20 years (less grazing by stock) a range of emergent native species occur in the cleared land.

Introduced species recorded included exotic grasses such as silvery hairgrass (*Aira caryophyllea*), sweet vernal (*Anthoxanthum odoratum*) and cocksfoot (*Dactylis glomerata*), thistle species (*Cirsium vulgare*, *Carduus* sp.), gorse (*Ulex europaeus*), blackberry (*Rubus fruticosus*) (Figure 3) and deadly nightshade (*Solanum nigrum*).

Native species recorded in the open and included silver wattles, yellow bottlebrush (*Melaleuca pallida*), sword sedge (*Lepidosperma* sp.), bracken, rush species (*Juncus* sp. x 3), cutting grass (*Gahnia grandis*),



Figure 4 – Cleared land (FGA) with *Juncus* and regrowth shrubs.

4.1.1 Conservation status of the vegetation communities

DGL is listed as a threatened vegetation community under the *Nature Conservation Act 2002*. The community is also considered to be a ‘high’ priority biodiversity value under the Kingborough Interim Planning Scheme 2015 (Biodiversity Code) due to this listing and as it provides foraging habitat for the endangered swift parrot.

4.2 Flora

A total of 29 vascular plants were recorded during the survey, of which 8 are introduced species. Additional flora species are likely to occur within the site in other areas not surveyed, and some plants could have overlooked due to the inherent limitations of the survey e.g. timing, timed meander method.

4.2.1 Threatened flora

No threatened flora species listed under the *Threatened Species Protection Act 1995* or the *Environmental Protection and Biodiversity Conservation Act 1999* were recorded during the survey.

A search of the Natural Values Atlas (DPIPWE database) revealed that two threatened flora species have been recorded within 500 m and 2000m of the site. These species are listed in Table 1 including a likelihood of them occurring at this site.

Table 1 – Threatened flora recorded within a 2km radius of site

Species	Status TSPA	Status EPBCA	Comments
<i>Epacris virgata</i> Pretty heath		v	Not recorded, distinctive species unlikely to be overlooked. May occur on north facing slope at southern end of the site.
<i>Westringia angustifolia</i> Narrowleaf westringia	r		Not recorded, distinctive species unlikely to be overlooked. May occur on north facing slope at southern end of the site.

4.2.2 Introduced Plants

The cleared land contains a range of common grasses and herbs as well as blackberry and gorse. The blackberry and gorse is restricted to the roadside and along the boundary where it occurs in dense clusters (Refer to Figures 2 and 5).

Gorse and blackberry are declared weeds under the *Weed Management Act 1999*. Under the act landowners are required to prevent the spread of these weeds into uninfested areas or onto neighbouring land.



Figure 5 – Gorse infestation along edge of Cripps Road.

4.3 Fauna

4.3.1 Threatened fauna

No threatened fauna species listed under Schedule 3, 4 or 5 of the *Threatened Species Protection Act 1995* or under the *Environmental Protection and Biodiversity Act 1999* were recorded during the survey.

4.3.2 Threatened fauna habitat

The search of the Natural Values Atlas revealed that four threatened fauna species have been recorded within a 1000 m radius of the site. The species are listed in Table 2 including a comment on the likelihood of them occurring at this site. No raptor nests or sightings have been recorded within 500m.

Table 2 – Threatened Fauna recorded within a 1000m radius of site.

Species	Status TSPA	Status EPBCA	Comments
Grey goshawk <i>Accipiter novaehollandiae</i>	e		Usually nests in riparian habitats in wet and dry forest in mature and old growth trees particularly blackwoods. Site contains riparian vegetation along Creek lines through cten fot he site. This habiat will not be impacted.
<i>Lathamus discolor</i> Swift Parrot	e	CR	Species has strong association with blue gum and black gum. The site supports number of blue gums. These trees provide important foraging habitat for the swift parrot.
<i>Lissotes menalcas</i> Mt. Mangana stag beetle	v		Generally found in wet forest which contains large decaying logs. Area to be impacted contains no large fallen logs.
<i>Sarcophilis harrisii</i> Tasmanian devil	e	VU	Occurs across forest, woodland and agricultural areas. Overall property contains habitat for this species however proposed development will not significantly impact this species.

Swift parrot

There are a number of mature blue gums across the top or northern end of the site which provide foraging habitat for the endangered swift parrot when they flower during the breeding season (August – February). The proposed development will encroach into a small area of the DGL vegetation and required some thinning of you trees for bushfire hazard reduction. The majority of the mature trees can however be retained within the HMA including a very large tree in the cleared land below building 2 (Figure 6).

5. Development Impacts

The following section outlines the impacts of the proposed development on natural values, and provides an assessment of the proposal against the relevant codes of the Kingborough Interim Planning Scheme 2015.

The development proposal includes the construction of a new dwelling/s (with associated bushfire hazard management area). The dwelling is to be located amongst cleared land however a small portion of the HMA will encroach into DGL vegetation downslope of the dwellings (Figure 6).

Impact of dwelling/s

The proposed dwelling/s are located in the cleared land (Figure 6) and as such no significant natural values will be impacted as a direct result of the buildings.

Impacts of bushfire hazard management zones

As the dwelling is located within a bushfire-prone area (as defined under E1.0 Bushfire-Prone Areas Code, KIPS 2015) a hazard management area is required to be established around the dwelling to minimum separation distances. A bushfire risk assessment was carried out during the site visit (refer to Bushfire Report, GES, July 2017) to determine a BAL rating and width of separation distances.

A BAL 29 rating is to be applied to dwelling 1 and a BAL 19 rating to dwelling 2. The separation width of the hazard management area for the buildings can be contained predominantly within existing cleared land however some vegetation will need to be managed south of building 1 (refer to the Bushfire Hazard Management Plan, GES July 2017).

- The HMA in this direction will need to be 37m wide for building 1 and 51 m wide for building 2.

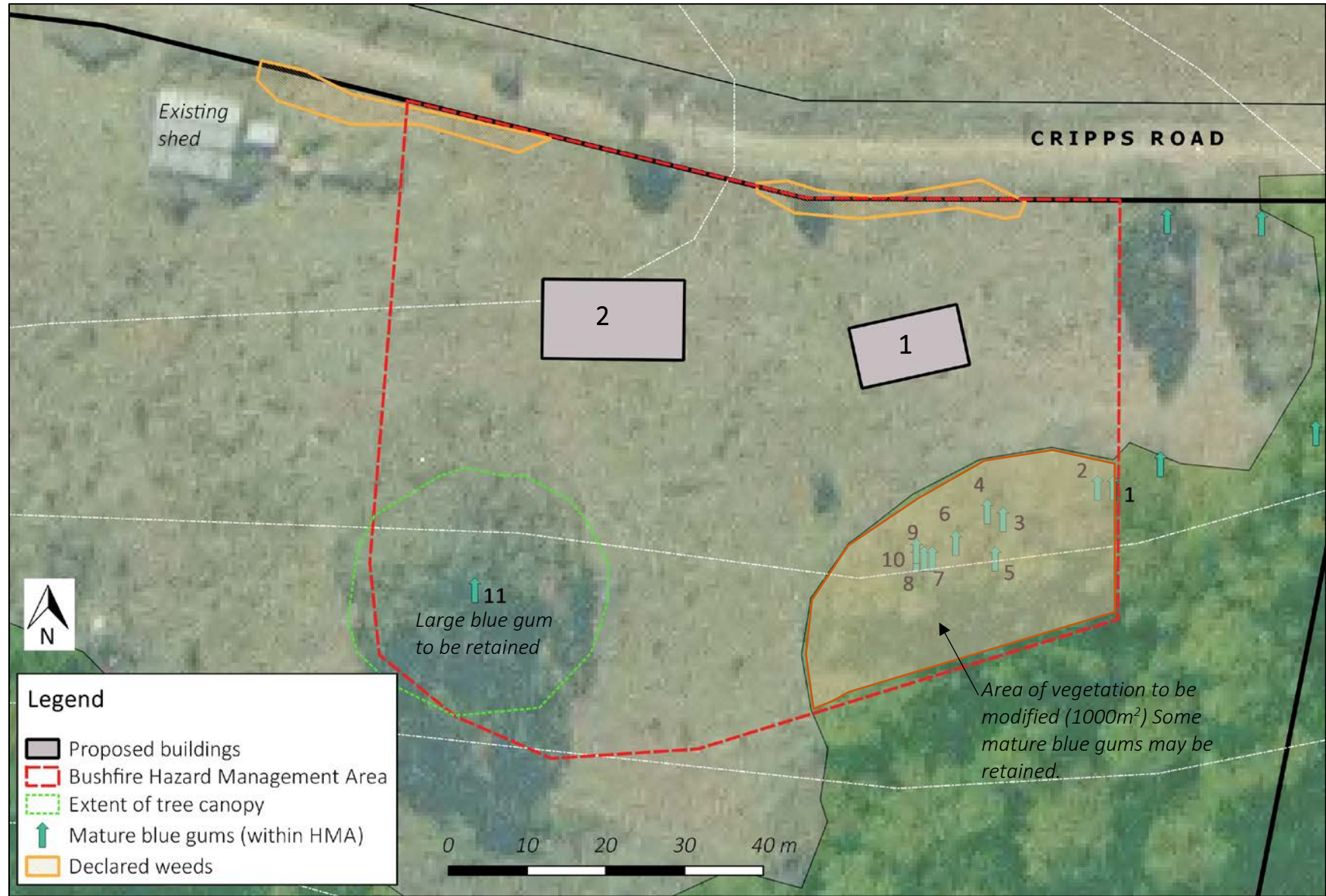


Figure 6 – Location of building/s and associated bushfire hazard management areas and mature trees.

Within the HMA fuel levels are to be significantly reduced by the removal of most ground fuels including native and exotic grasses, sedges, low shrubs and small trees. Some mature blue gums within the HMA can be retained (refer to BHMP) provided ground fuels under are managed removed and there is separation between individual canopies. Vegetation removal around trees is to be undertaken carefully to prevent damage to the root zone of the retained trees. This may include removal of plants within drip zone by hand.

The large blue gum to the south of Building 2 will be retained.

An estimated 1000m² of DGL vegetation will need to be modified. This will include the removal of up to 80 small blue gums (generally with a DBH <25cm) and the removal of up to 5 large trees.

5.1 Requirements of Biodiversity Code (E10.0)

The entire site is within a Biodiversity Protection Area (KIPS). As the development will impact on the natural values of the site the performance criteria of the Biodiversity Code need to be addressed.

The dwelling/s and the majority of the HMA will be within cleared land with a small portion of the HMA within the DGL vegetation. This vegetation is classified as having 'High Priority Biodiversity Value' (Table E10.1).

To meet the overall objective of the Biodiversity Code the development must comply with the acceptable solutions or otherwise address the performance criteria for impacts on high priority vegetation. The current development proposal is able to comply with Acceptable Solution A1, b, (i) - (iv) as detailed below:

(b) If high priority biodiversity values:

- (i) development is designed and located to minimise impacts, having regard to constraints such as topography or land hazard and the particular requirements of the development; **The dwelling is located within cleared land at the northern end of the site and as such there will be no direct impacts on biodiversity values. The site is located***

adjacent to the road and at a distance to allow the HMA to be contained within the boundaries of the site.

- (ii) *impacts resulting from bushfire hazard management measures are minimised as far as reasonably practicable through siting and fire-resistant design of habitable buildings;* The impacts of the bushfire hazard areas is minimised by locating dwellings within the cleared land. Due to the slope of the land to the south some vegetation will need to be removed in this direction for building 1 however it will be constructed to BAL 29 standard to minimise clearance. Within the vegetation to be modified some large blue gums can be retained and hence forging habitat for the swift parrot can be retained. Smaller trees will however need to be removed.
- (iii) *Remaining high priority biodiversity values on the site are retained and improved through implementation of current best practice mitigation strategies and ongoing management measures designed to protect the integrity of these values;* The majority of the natural values of the site are to the south of the development area and will not be impacted. Declared weeds recorded along the roadside should be controlled to prevent their spread into the intact bushland.
- (iv) *residual adverse impacts on high priority biodiversity values not able to be avoided or satisfactorily mitigated are offset in accordance with the Guidelines for the Use of Biodiversity Offsets in the Local Planning Approval Process, Southern Tasmanian Councils Authority 2013 and Council Policy 6.10.* The development will require the modification of an estimated 1000m² of DGL vegetation. This community is classified as of high priority biodiversity value. This loss may be offset through a Part V Agreement on intact vegetation elsewhere on the site or due to the relatively minor impacts could be offset through the control of weeds on the site will which improve the natural values of the site.
- (v) *Special circumstances exist; Special circumstances may exist whereby (c) the extent of proposed removal of high priority biodiversity values on the site is insignificant relative to the extent of that community elsewhere in the vicinity.* An estimated 1000 m² of DGL will be impacted by the development. The impact of this area will require the removal of all small trees and thinning or large trees however a number of large trees (<10) can be retained. There is an estimated 4.0ha of DGL retained in the same patch and an estimated 9.5ha (TASVEG mapping) on the adjacent hillside of DGL. In addition, there is 68.9 ha (TASVEG mapping) of WGL on the adjoin hills which will have a very similar structure to the DGL on the site and may well be classified as the same vegetation. Based on these number the area to be modified is <0.1% of the blue gum forest in the vicinity will be impacted.
- (vi) *Clearance and conversion or disturbance will not substantially detract from the conservation status of the biodiversity value(s) in the vicinity of the development. Refer to (v).*

Impact on Threatened Species

No threatened flora species were recorded at the site.

The proposed dwellings are located within cleared land and will have no direct impacts on threatened fauna species. The HMA will however require the modification of up to 1000m² of blue gum forest. An estimated 60-80 saplings or small trees <25cm DBH will need to be removed or thinned however large trees can be retained provided there is separation between the ground and the canopy and the canopies of the trees are separated horizontally (min 2m). Table 3 contains a list of the large trees that are located within the HMA and a comment on their likely retention or removal.

Provided that the mature trees are retained within the HMA the overall impact on the swift parrot is considered to be minimal due to the abundance of blue gum trees in the local area; it does however contribute to the incremental loss of habitat for this species.

Table 3 - Mature trees within the HMA

Tree #	Common Name	Species Name	DBH (cm)	Height (m)	Notes/ Conservation value under 6.10
1	Blue gum	<i>Eucalyptus globulus</i>	70cm	20m	Retain / High
2	Blue gum	<i>Eucalyptus globulus</i>	100cm	20m	Retain / very high
3	Blue gum	<i>Eucalyptus globulus</i>	80cm	20m	Remove so tree 4 can be retained / very high
4	Blue gum	<i>Eucalyptus globulus</i>	120	30m	Retain / very high
5	Blue gum	<i>Eucalyptus globulus</i>	80cm	25m	Retain / very high
6	Blue gum	<i>Eucalyptus globulus</i>	80cm	20m	Remove / very high
7	Blue gum	<i>Eucalyptus globulus</i>	50cm	18	Remove / High
8	Blue gum	<i>Eucalyptus globulus</i>	70cm	25m	Retain / High
9	Blue gum	<i>Eucalyptus globulus</i>	90cm	25m	Retain / very high
10	Blue gum	<i>Eucalyptus globulus</i>	50cm	20m	Remove / High
11	Blue gum	<i>Eucalyptus globulus</i>	250cm	30m	Retain – very large paddock tree / very high.

Four of the 11 larger trees in the HMA are recommended to be removed to reduce fuel loads and open the canopy up so that the larger trees can be retained. Under the Council Policy 6.10 Tabel 2 *E. globulus* trees >70cm are of 'very high' conservation value and trees >40cm and <70cm DBH are o 'High' conservation value. Two of the trees

proposed to be removed are of 'very high conservation significance and the other two are 'high' conservation significance.

The proposed dwelling/s are located on the top of a small ridgeline surrounded by swift parrot foraging habitat and as such represent a bird strike risk. As such it is recommended that measures to minimise bird strike risk are considered with the design of the residence. These measures may include;

- avoiding large areas of uninterrupted glass.
- avoiding corner windows or windows that align and allow birds to see through the dwelling.
- avoid windows that reflect the sky.

Other measures than can be utilised to reduce bird strike and break up glass surfaces include the following:

- *use visual noise on large windows to reduce the bird strike. Visual noise can be achieved in numerous ways:*
 - *attaching external screens to operable windows;*
 - *designing façades with elements that are visually interesting and create a physical barrier. For example, vines will not only obscure reflections but also provide shading and reduced cooling loads in summer, and passive solar heating and lighting in winter;*
- *in years when there is strong flowering in blue gums along the ridgeline, and hence a high chance that birds will occur in the area, temporary visual noise could be used during the breeding period from November to March to minimise strike risk.*

6. Conclusion and recommendations

The proposed development of a new dwelling and ancillary unit at a site on Cripps Road, Woodbridge was assessed to determine the potential impacts on environmental values.

The site assessment determined that the site contains cleared area adjacent to Cripps Road with the remainder of the land containing blue gum and stringybark forest. No threatened flora species were recorded and threatened fauna habitat is restricted to foraging habitat for the swift parrot (blue gums). There are infestations of gorse and blackberry along the roadside.

The proposed buildings are located within existing cleared land and as such will not impact any significant values. Due to proximity of bushfire prone vegetation the building will however require bush hazard management area to be established around the buildings. An area blue gum forest (approximately 1000m²) will need to be modified to the south of the dwelling to meet these requirements.

The entire site is within a Biodiversity Protection Area as per the Kingborough Interim Planning Scheme. The removal of the vegetation is able to meet the performance criteria associated with a high priority biodiversity value as outlined in the report. The loss of vegetation will however need to be offset under the provision of the biodiversity code. As the impacts are limited to the modification of 1000m² of vegetation it is recommended that the offset be the control of the declared weeds on the site to prevent further spread and degradation of the sites values. In a formal offset is required however the protection of vegetation elsewhere on the site is recommended.

The following recommendations are provided to minimise impacts on the natural values of the site and improve the condition of the retained vegetation.

Recommendations

- Clearance of blue gums to be limited to thinning of smaller trees within the HMA and removal of trees outlined in impacts section.
- All mature trees outside the HMA should be retained.

- Retained trees are to be protected during the construction phase of the development by the erection of temporary exclusion fencing around the tree protection zone (12x DBH). No building materials or soil is to be stored within the tree protection zone and no vehicles are to enter this area.
- Vegetation outside the hazard management area is to be retained in its current condition.
- Design measures outlined to reduce the risk of bird strike are to be incorporate into dwelling.
- Declared and environmental weeds occurring on the site to be controlled to prevent their further spread and to improve the condition of the retained vegetation. This measure will prove a partial offset to the small loss of vegetation associated with the project.
- Any soil or gravel imported to the site for construction or landscaping purposes should be from a weed free source to prevent the establishment of further introduced species on the site.