

Appendix 2 - Natural Values Report (North Barker)

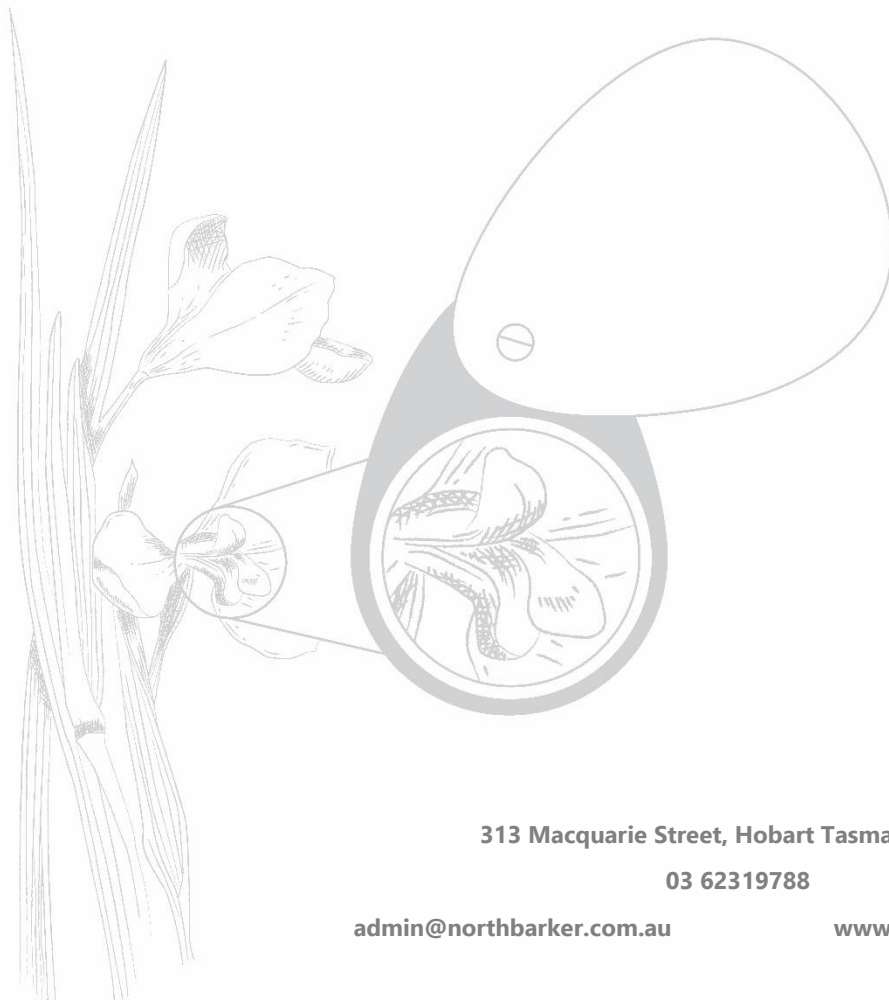


Boyer Road Precinct Structure Plan **NATURAL VALUES CONSTRAINTS**

21st November 2024

For Holmes Dyer Pty Ltd
on behalf of Brighton Council

HOD001



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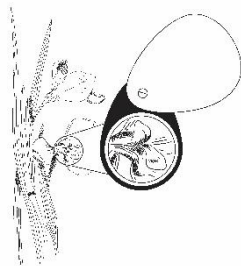
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V0.1	1/11/2024	Drafted by Aleida Williams & Cameron Geeves	Senior Ecologist
V1.0	8/11/2024	Reviewed and delivered to client by Jared Parry	Senior Ecologist
V1.1	21/11/2024	Minor edits. Delivered to client by Jared Parry	Senior Ecologist



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EXECUTIVE SUMMARY

In order to maintain a sustainable housing supply for population growth and housing requirements into the future, Brighton Council has commissioned a Holmes Dyer Pty Ltd (herein referred to as Holmes Dyer) to prepare a precinct structure plan, infrastructure funding framework, and planning scheme amendment for an area approximately 103 ha in size between Boyer Road and Cobbs Hill Road, 1 km west of Bridgewater. Within the study area, the land zoned 'Future Urban' under the Brighton Local Provision Schedule has always been intended for residential development once the time arrived that it was required to help accommodate Hobart's growth.

North Barker Ecosystem Services (NBES) has been commissioned by Holmes Dyer to undertake a high level, strategic assessment of the flora, fauna and environment aspects of this project. The precinct structure plan is primarily focussed on the planning for the 'Future Urban' zoned part of the study area, however constraints and recommendations associated with existing natural values are considered for the entirety of the study area.

Five native vegetation communities and three non-native or modified land units were identified in the study area. Native vegetation accounts for 40.87 % of the study area and is restricted to the northern (balance) half of the study area where the land is zoned 'Landscape Conservation', and partly under conservation covenant (reserved under the Tasmanian *Nature Conservation Act 2002* [NC Act]). The proposed precinct area of the study area (southern extent) is generally agricultural land, while the interface between the native and modified land units has been largely mapped improved pasture with native tree canopy.

Three native vegetation communities are Tasmanian NC Act listed threatened ecological community: *Eucalyptus amygdalina* forest and woodland on sandstone (DAS), *Eucalyptus globulus* dry forest and woodland (DGL), and *Eucalyptus risdonii* forest and woodland (DRI). The areas of DAS and DRI vegetation occur entirely within the conservation covenant and are likely to extend beyond the study area boundary to the west. The DGL community occurs mostly (2.36 ha, 69.66 %) within the conservation covenant at the southern interface with agricultural land. The balance of this community is outside the conservation covenant and within the proposed precinct area. No Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) listed communities are present in the study area.

One threatened flora species listed under the Tasmanian *Threatened Species Protection Act 1995* (TSP Act), *Eucalyptus risdonii* (TSP Act rare), and was observed in abundance within the forested part of the study area outside the proposed precinct area. An additional threatened flora species, *Asperula scoparia* subsp. *scoparia* (TSP Act rare) has been recorded previously within the study area. The lower grassy slopes of the *Eucalyptus amygdalina* forest on mudstone (DAM) and DGL vegetation provide excellent habitat for orchids and though no threatened orchid species have been recorded within the study area. Furthermore, the *Bursaria-Acacia* woodland and scrub (NBA) mapped vegetation may also support grassland and grassy woodland threatened species. It is highly unlikely that any threatened species occur within the FAG and FUR areas within the proposed precinct area.

At least four species listed as declared under the Tasmanian *Biosecurity Act 2019* (African boxthorn, blackberry, gorse, and white weed) were detected within the agriculture (FAG) vegetation. These species are classified as Class B weeds in the Brighton Council region, where the management objective is containment of infestations.

Numerous additional declared weeds are known from the broader area, most notably, espartillo which is highly invasive. Other weeds known from the area include boneseed, bridal creeper, and fennel.

At minimum, the PSP must include provisions for weed and hygiene management through the implementation of a weed and hygiene management plan throughout any staged developments, with particular focus on the management and prevention of introducing espartillo within the study area.



Suitable habitat for the threatened Tasmanian devil, spotted-tailed quoll, eastern quoll, blue-winged parrot, swift parrot, and eastern barred bandicoot is available within the study area predominantly within the balance area outside the proposed precinct area. Only the eastern barred bandicoot, if present, are likely to utilise the ungrazed paddock areas within the agricultural areas.

While 25 ha of native vegetation is protected by a conservation covenant, the adjacent land, including the threatened DGL community, represents good quality habitat for a range of threatened fauna species including Tasmanian devils, quolls, blue-winged and swift parrots and potentially eastern barred bandicoots. Therefore, it is recommended that the balance of the native vegetation outside the conservation covenant is appended to the covenant to afford this vegetation and threatened fauna habitat the same protection. Furthermore, it is recommended that the modified area in the northeast of the Project Area (NBA and FAG) is also protected, as rehabilitation of this area will provide a mosaic of vegetation types for fauna and extend the connectivity of native vegetation. In addition, the areas of FAC (native trees over pasture) should be retained and protected to provide a buffer to the high-quality vegetation and threatened fauna habitat and in particular, any blue gum (*E. globulus*) or hollow bearing trees should be protected as they represent critical habitat for swift parrots.

Although facilitating wildlife corridors within the precinct area may not be warranted based on the likelihood of threatened fauna species utilising a corridor, and the added risk to threatened species it may present, the retention of vegetation and fauna habitat has ecological value. Considered rehabilitation and revegetation of green space areas will provide shelter and protection to wildlife, and use of plants that increase the availability of critical resources for threatened fauna will result in positive ecological and conservation outcomes. The existing drainage lines within the proposed precinct area provide opportunities to rehabilitate and revegetate the waterbodies, drainage lines and adjacent land to reintroduce native flora and habitat for fauna. The scale of the green spaces retained should depend on the achievable management expectations as positive ecological outcomes in such a modified landscape will depend on ongoing management. Weed management during restoration and rehabilitation of all green space, should aim to eradicate declared weeds.

Opportunities to enhance and provide refuge and critical resources and reduce potential impacts for/to wildlife within the planning design of the precinct area are provided. These include but are not limited to:

- Lower housing density and larger lot sizes along the northern precinct boundary adjacent to core habitat areas;
- Ensure water sources outside the precinct area are retained;
- Reduction of roadkill by provision of wildlife road-crossing points;
- Retain and improve waterway corridors, road verges, and other greenspace;
- Consider fencing to minimise impact of domestic predators on wildlife; and
- Consider internal road layout and design with respect to decreasing likelihood of wildlife entering roadways.



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1. PROJECT DETAILS

1.1. STUDY AREA

In order to maintain a sustainable housing supply for population growth and housing requirements into the future, Brighton Council has commissioned a Holmes Dyer Pty Ltd (herein referred to as Holmes Dyer) to prepare a precinct structure plan, infrastructure funding framework, and planning scheme amendment for an area approximately 103 ha in size between Boyer Road and Cobbs Hill Road, 1 km west of Bridgewater (Figure 1). The precinct structure plan will contribute to the *Bridgewater Bridge Waterfront Masterplan* which integrates considerations of heritage, culture, ecology and economy, and aims to create a mixed-use development area, new open spaces, and enhance water access. North Barker Ecosystem Services (NBES) has been commissioned by Holmes Dyer to undertake an assessment of the flora, fauna and environment aspects of this project.

The study area, as defined by Brighton Council, is made up of six titles with three fronting onto Boyer Road and three onto Cobbs Hill Road (Figure 1).

Current land use within the study area is agricultural with the exception of one title (31 Cobbs Road, . CT 152364/2) which is best described as natural and cultural values management, as it lacks residential use and protected through the mechanism of a conservation covenant (Figure 2). The remaining titles contain single dwellings and are presently used for livestock grazing.

The study area is currently zoned 'Future Urban' (58 ha or ~60 % study area) and 'Landscape Conservation' (being the balance - the 45 ha northern portion of the study area fronting Cobbs Hill Road) (Figure 2). Three of the subject titles (with frontages to Cobbs Hill Road) have split zoning between 'Future Urban' and 'Landscape Conservation'.

Much of the 'Landscape Conservation' zone of these titles is also under a 'Priority Vegetation' overlay under the Natural Assets code (Figure 2). There are several small dams and natural drainage lines within the study area which are subject to the 'Waterways and Coastal Protection Area' overlay under the Natural Assets code (Figure 2).

The land zoned 'Future Urban' has always been intended for residential development once the time arrived that it was needed to help accommodate Hobart's growth. With the current crisis in housing supply and costs, it has been determined that the time is right to commence investigation of this land for its suitability for urban development. The Precinct Structure Plan (PSP) is primarily focussed on the planning of the Future Urban zoned part of the study area and a proposed precinct plan has been provided for consideration during assessments (with 2 options provided to NBES by Holmes Dyer, October 2024 – Appendix A). However, NBES has been engaged as part of the planning process to provide information on any constraints and recommendations associated with existing natural values for the entirety of the study area. Particular consideration of constraints and recommendations with regard to the following has been requested:

- Natural values; vegetation and fauna habitat;
- Wildlife corridors; and
- Vegetation and fauna habitat protection zones.

1.2. METHODS

A site visit was undertaken by two ecologists on October 21st 2024. The purpose of this visit to field verify vegetation mapping, assess potential presence of threatened flora and fauna habitat, and assess likelihood of limitations to the design of the PSP.

The study area was surveyed using a meandering area search technique¹. Vegetation was mapped in accordance with units defined in TASVEG 4.0². Suitability of habitats for threatened flora and fauna species was noted, and evidence of threatened flora, threatened fauna (e.g., scats and tracks), and presence of potential threatened fauna habitat elements was opportunistically recorded during the field visit. Presence of 'declared' weeds listed under the Tasmanian *Biosecurity Act 2019* was noted.

Any location data were recorded with a handheld GPS and/or GPS mobile app (± 5 m accuracy). Botanical nomenclature follows the current census of Tasmanian plants³.

The Natural Values Atlas (NVA) database was consulted for records of threatened species and vegetation types within a 5 km radius. The possibility of the study area supporting threatened natural values known from within this radius has been considered in the interpretation of results and discussion.

1.3. LIMITATIONS

The field survey was undertaken in late spring. Values that are seasonal or require specific germination triggers may have been absent or undetectable. Fauna habitat, including the presence of hollows and nests, was assessed from ground level only.

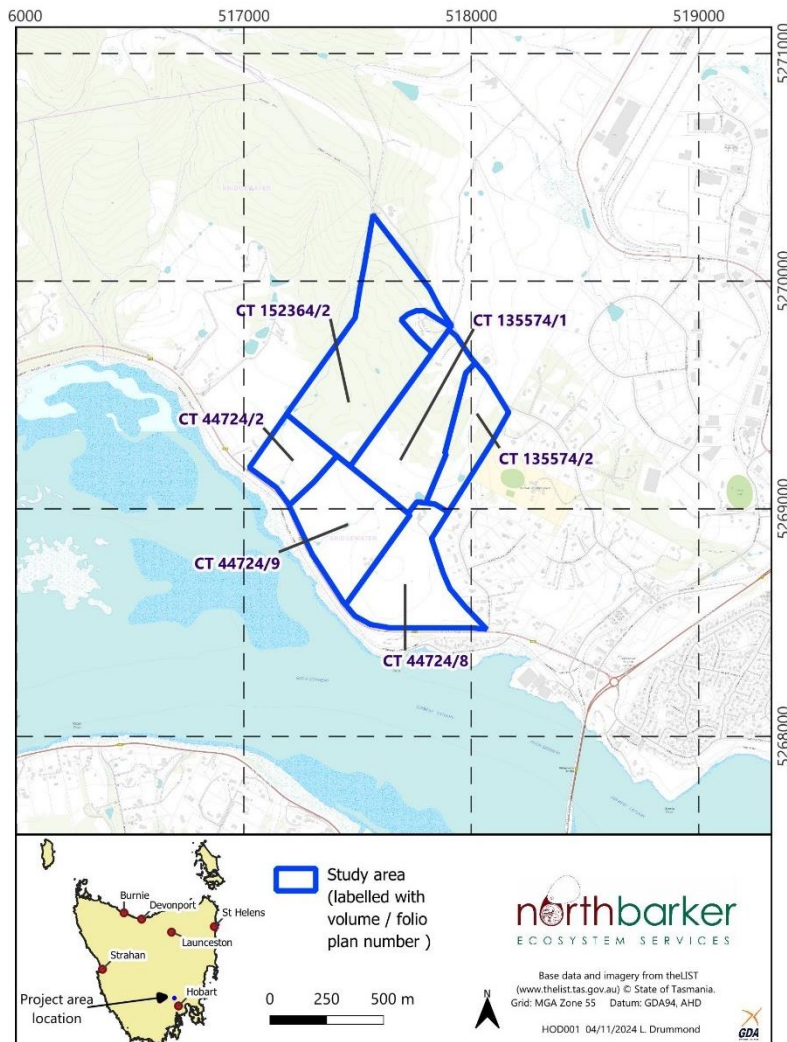


Figure 1: Locality of the Project Area

¹ Goff *et al.* (1982)

² Kitchener and Harris (2013)

³ de Salas & Baker (2024)

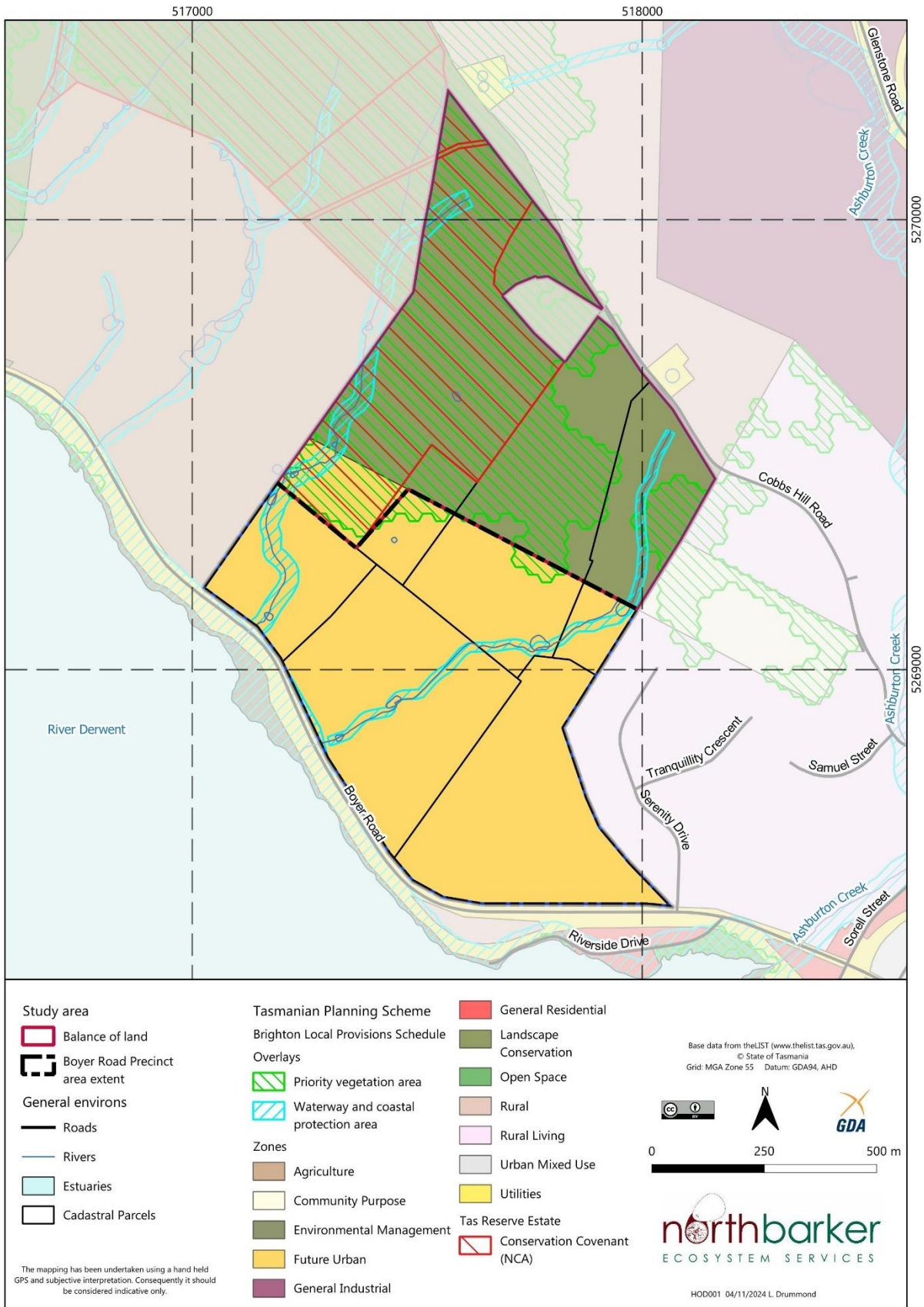


Figure 2: Zoning and code overlays within the Study Area

2. NATURAL VALUES

2.1. VEGETATION COMMUNITIES

Five native vegetation communities and three non-native or modified land units were identified in the study area (Figure 3). Native vegetation accounts for 40.87 % of the study area, 58.85 % is modified land, and 0.28 % is water. Native vegetation is restricted to the northern extent of the study area where the land is zoned 'Landscape Conservation', and within a conservation covenant. The proposed precinct area (southern extent) is generally agricultural land, while the interface between the native and modified land units has been largely mapped as improved pasture with native tree canopy (FAC).

Three native vegetation communities are NC Act listed threatened vegetation communities: *Eucalyptus amygdalina* forest and woodland on sandstone (DAS), *Eucalyptus globulus* dry forest and woodland (DGL), and *Eucalyptus risdonii* forest and woodland (DRI). No EPBC Act listed communities are present in the study area.

2.1.1. *Eucalyptus amygdalina* forest on mudstone (DAM)

This vegetation is the dominant native vegetation type, covering 27.53 ha (65.04 % of native vegetation, 26.58 % of total study area vegetation). It occurs as two mappable facies: DAM dominated by *E. amygdalina* (Plate 1) and patches of DAM dominated by *E. viminalis* (Plate 2). TASVEG 4.0⁴ allows for DAM to include areas where *E. viminalis* is locally dominant and within the study area, 6.04 ha of this vegetation community facies exists. *Eucalyptus globulus* trees also occur scattered through this community and are locally dominant in small patches. These patches are too small to be mapped as a separate facies of DAM, or as DGL community, but nevertheless represent threatened fauna habitat (Section 2.3).

Eucalyptus amygdalina trees are typically small throughout the community, however, through the *Eucalyptus viminalis* dominant patches there are scattered trees (*E. viminalis*) that are large enough to have hollows that potentially provide nesting habitat for threatened bird species.

Across its mapped extent, this community has an almost completely open understorey dominated by native grasses. The upper, drier slopes tend to have more bare ground (Plate 1) but also ground cover shrubs such as *Pultenaea pedunculata*, while the lower slopes had a higher grass cover. Community structure and understorey composition did not vary markedly between areas under covenant and the adjacent properties grazed by livestock.

This community is not listed as threatened under the Tasmanian NC Act or the Commonwealth EPBC Act.

This community occurs mostly within the conservation covenant area (16.86 ha, 61.20 %), however 5.18 ha of the *E. viminalis* facies of this community occurs outside the conservation covenant and 0.43 ha of this facies is currently within the precinct area (Figure 3).

⁴ Kitchener and Harris (2013)



Plate 1: Typical composition of DAM dominated by *E. amygdalina* on upper slopes



Plate 2: Typical composition of DAM dominated by *E. viminalis*

2.1.2. *Eucalyptus amygdalina* forest and woodland on sandstone (DAS)

This vegetation community occurs as one small patch (0.33 ha) within the conservation covenant area at the western boundary of the study area. It is most likely the eastern extent of a larger patch of DAS that occurs outside the study area. A sharp transition from the adjacent DAM vegetation is evident at a creek line by the presence of *Pteridium esculentum* (Plate 3) and likely due to a change in geology.

This community is listed as threatened under Schedule 3A of the Tasmanian NC Act.



Plate 3: Typical composition of DAS, interface with DAM on right hand side of image

2.1.3. *Eucalyptus globulus* dry forest and woodland (DGL)

This vegetation community has been previously mapped within the conservation covenant area. The southern patch has been extended but the patch previously mapped upslope within the DRI/DAM complex, has been remapped as DAM. While *E. globulus* trees in this area were locally dominant in a small patch (0.07 ha), this does not constitute a patch of DGL. The re-mapped DGL (Figure 3) represents 3.27 % (3.39 ha) of total vegetation and 8.01 % of the total native vegetation.

The vegetation in this community is relatively open, with a canopy of *E. globulus*, and occasional *E. amygdalina* and *E. viminalis*. The understorey is open with almost no shrubby layer by rather dominated by grasses (Plate 4).

This community is listed as threatened under Schedule 3A of the Tasmanian NC Act; however, it is not listed as threatened under the Commonwealth EPBC Act.

This community occurs almost entirely within the conservation covenant area (2.36 ha, 69.66 % within the conservation covenant), however the 0.95 ha previously mapped as GCL has been re-mapped as DGL. This area is currently outside of the conservation covenant. The floristic composition of this area matches that of DGL despite the canopy cover being lower, and there is evidence of *E. globulus* seedling recruitment (Plate 5). This area (0.95 ha) is not only outside the conservation covenant but is currently within the proposed precinct area (Figure 3). A further 0.07 ha of DGL is outside the conservation covenant but also outside the proposed precinct area.



Plate 4: Southern edge of DGL within the conservation covenant area



Plate 5 :DGL previously mapped as GCL, young *E. globulus* evident

2.1.4. *Eucalyptus risdonii* forest and woodland (DRI)

This vegetation community has been previously mapped in the northwestern corner of the study area within the conservation covenant. This was confirmed during the field surveys, although the extent of the community has been refined and extended to accurately reflect the on-ground observations. The DRI community covers 6.65 ha, which equates to 6.42 % of the study area and 15.71 % of the total native vegetation in the study area.

This community occurs on the higher, drier slopes of the study area. The canopy of this community is a dense cover of *Eucalyptus risdonii* only, and the understorey is extremely sparse with no shrub layer and only occasional ground species. The ground under this community is predominantly bare or covered by leaf litter (Plate 6).

This community is listed as threatened under Schedule 3A of the Tasmanian NC Act; however, it is not listed as threatened under the Commonwealth EPBC Act. It occurs entirely within the conservation covenant and likely extends beyond the study area boundary to the west (Figure 3).



Plate 6: Typical composition of DRI

2.1.5. *Bursaria–Acacia* woodland and scrub (NBA)

This community has been mapped in the northeastern corner of the study area and covers 4.43 ha (4.28 % of the total native vegetation cover, 10.47 % of total study area).

The community is dominated by *Acacia dealbata*, *A. mearnsii*, and *Dodonaea viscosa* species in the shrub and tree layer, with a mixture of heavily grazed native and exotic grasses and herbs in the understorey (Plate 7).

The NBA mapped within the study area is a transitional community and is the product of past clearance and disturbance. Patches of this community were previously mapped regenerating cleared land (patch on the west facing slope) and agricultural land (east facing slope). These patches are likely to have been DVG (*Eucalyptus viminalis* grassy forest and woodland) prior to disturbance and would likely return to this community if allowed to regenerate, as evidenced by recruitment of *E. viminalis* seedlings (Plate 8).

This community is not listed as threatened under the Tasmanian NC Act or the Commonwealth EPBC Act.

This community occurs entirely outside the proposed precinct area and conservation covenant and represents a buffer and link to adjacent native vegetation communities.



Plate 7: NBA on west facing slope in the northeast corner of the Project Area



Plate 8: NBA transitional community between agricultural land unmodified vegetation communities, *E. viminalis* recruitment in foreground

2.1.6. Grassland communities

The lowland grassland complex (GCL) grassland community has been previously mapped within the study area. This community can form part of an EPBC Act listed critically endangered ecological community "Lowland Native Grasslands of Tasmania" (LNGT) if condition criteria are met⁵. However, no native grassland communities were mapped within the study area. Previously mapped patches were reassigned as non-native pasture (FAG), or other native communities where it was determined that the key floristic elements of those communities were present.

The NBA community can also form part of the LNGT ecological community if condition criteria are met⁶. However, the NBA within the study area does not contain sufficient cover of the key grass species *Themeda triandra* or *Poa labillardierei* and does not meet condition criteria. Therefore, this threatened grassland community is not considered to occur in the study area.

2.1.7. Modified land (FUR, FAG & FAC)

Approximately 60.94 ha (58.85 %) of the study area is modified land and has been mapped as urban areas (FUR), agricultural land (FAG) and improved pasture with native tree canopy (FAC) (Figure 3). These mapping units are described below.

Urban areas (FUR)

Each property within the study area has a single dwelling on development on it, with the exception of 31 Cobbs Hill Road.(CT 152364/2) which has had the dwelling excised from the study area. As such only 3.51 ha is mapped as FUR. These areas are currently occupied by private residences and contain a mixture of built infrastructure, such as sheds and houses, and planted gardens/lawns.

Agricultural Land (FAG)

The southern half of the study area is largely agricultural land and consists of cleared paddocks. The area is heavily modified with vegetation intensively grazed (Plate 9) or left unmanaged after historical

⁵ Department of the Environment, Water, Heritage and the Arts (2010)

⁶ Department of the Environment, Water, Heritage and the Arts (2010)

agriculture use (Plate 10). Small areas of FAG exist in the 'Landscape Conservation' zone where the land is used for stock grazing.

The composition of the vegetation is dominated by introduced pasture grasses, such as *Avena* sp., *Hordeum* sp., *Dactylis glomerata* and *Cynosurus* spp., and agricultural weeds such as capeweed and large patches of sweet briar. Scattered blackberry and gorse are present as well as large thickets of African boxthorn particularly within drainage lines.



Plate 9: Typical composition of the FAG used for livestock grazing



Plate 10: Ungrazed FAG area north of Boyer Road with infestation of woody weeds

Improved pasture with native tree canopy (FAC)

The interface between the native and modified land units has been largely mapped FAC. This modified land unit is comprised of a native tree canopy, mostly *E. amygdalina*, over open pasture grass, and is missing the structure and floristic composition of the native community. It is distinguished from the native communities within the study area that have been grazed by the lack of native floristic elements (Plate 11).

While FAC is a modified community, it still holds ecological value as a buffer to the native communities from agricultural land. In addition, retained trees may provide habitat for threatened fauna.



Plate 11: Typical FAC native trees over pasture at the interface between native forest and pasture

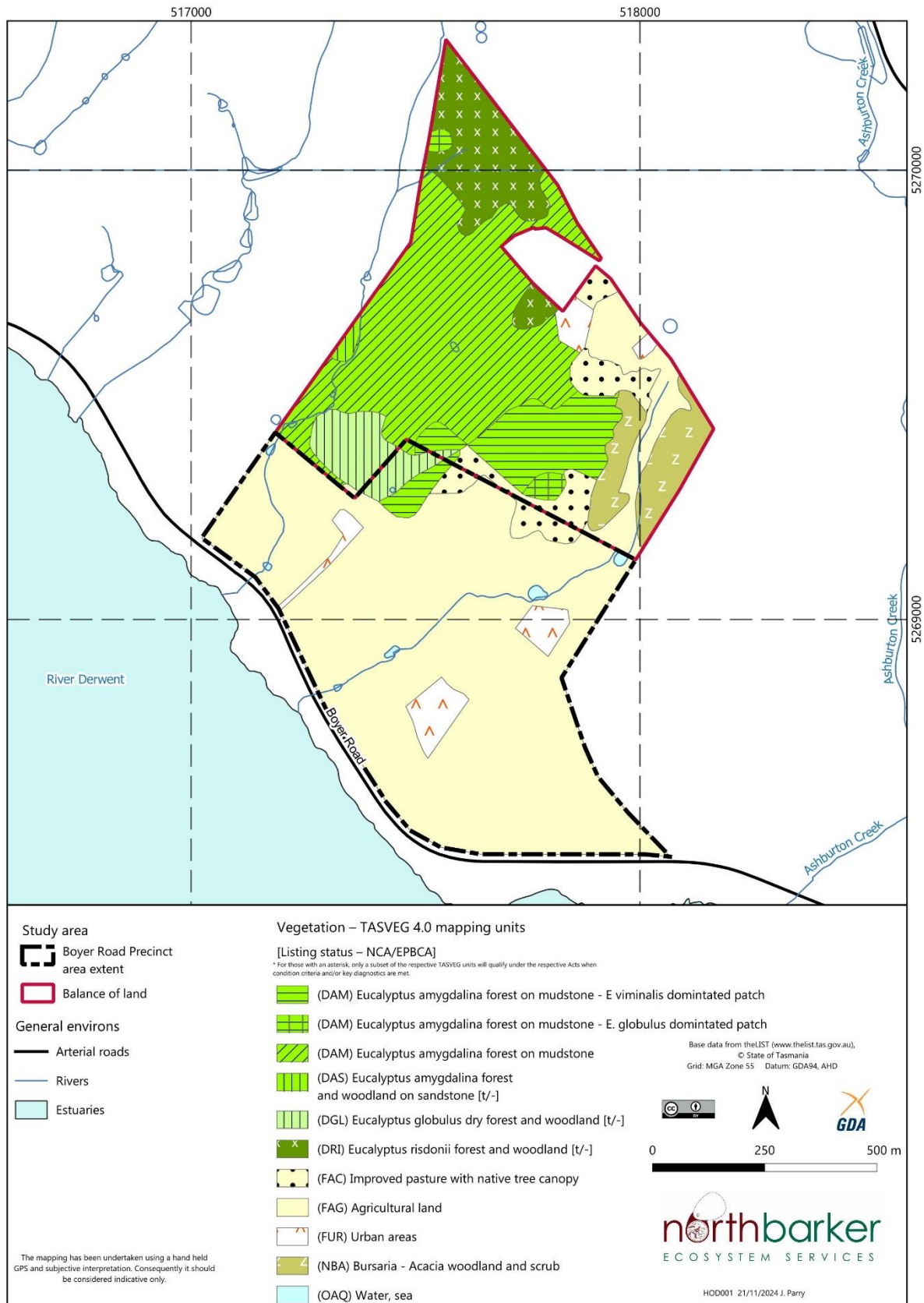


Figure 3: Vegetation mapped by NBES and classified using TASVEG 4.0 units within the Project Area

2.2. CONSERVATION SIGNIFICANT FLORA

The Natural Values Atlas database⁷ shows records of four threatened flora species within 500 m of the study area (Table 1). *Eucalyptus risdonii* is listed as rare under the TSP Act and was observed in abundance within the forested part of the study area outside the proposed precinct area. This species is the dominant tree species of the threatened DRI vegetation community and was also noted as scattered individuals within other forest communities surrounding the mapped DRI.

Asperula scoparia subsp. *scoparia* is a TSP Act rare listed species that has also been recorded within the study area within the NBA vegetation community. It is a widespread species in a diverse range of habitats from grassy woodland to tall eucalypt forest but only occasionally found. It was recorded in 2000 and may still to occur within the study area, although wasn't observed during the site visit.

The other two species recorded within 500 m (*Stuckenia pectinata* and *Thesium australe*) are unlikely to occur in the study area.

Table 1: Verified threatened flora records from within 500 m of the Project Area. Sourced from the Natural Values Atlas (Department of Natural Resources and Environment, 2023)

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Asperula scoparia</i> subsp. <i>scoparia</i>	prickly woodruff	r		n	1	30-Nov-2000
<i>Eucalyptus risdonii</i>	risdon peppermint	r		e	53	12-Dec-2012
<i>Stuckenia pectinata</i>	fennel pondweed	r		n	1	06-Feb-1869
<i>Thesium australe</i>	southern toadflax	x	VU	n	1	01-Jan-1804

Forty-nine threatened flora species listed under the TSP Act (with nine also listed under the EPBC Act) have previously been recorded within 5 km of the study area⁸ (Attachment A, Natural Values Atlas search report). The lower grassy slopes of the DAM and DGL vegetation provide excellent habitat for orchids and though no threatened orchid species have been recorded within the study area, a number of common species were noted during the reconnaissance visit. The NBA vegetation may also support the grassland and grassy woodland threatened species, however at the time of field visit, these areas were so heavily grazed no assessment on the likelihood of presence could be made.

Threatened flora species known from within 5 km of the study area have been considered, however due to the highly modified nature of the FAG and FUR vegetation units, it is highly unlikely that any of these species occur within the proposed precinct area.

2.3. CONSERVATION SIGNIFICANT FAUNA

The Natural Values Atlas database⁹ shows records of six threatened fauna species within 500 m of the study area. A further 26 threatened fauna species are known from within 5 km of the study area (Attachment A). Of the species recorded within 500 m, there is no habitat in the study area for the Australasian bittern or shy albatross. The grey goshawk, wedge-tailed eagle, white-bellied sea-eagle, and masked owl (recorded within 5 km) are likely to be transient visitors, and may use the forest areas to perch, but there is no suitable nesting habitat for these species within the study area.

The Tasmanian devil, spotted-tailed quoll, eastern quoll, eastern barred bandicoot, blue-winged parrot, and swift parrot considered to have suitable habitat available in the study area and are discussed below.

⁷ Department of Natural Resources & Environment (2024)

⁸ Department of Natural Resources & Environment (2024)

⁹ Department of Natural Resources & Environment (2024)

Table 2: Verified threatened fauna records from within 500 m of the Project Area. Sourced from the Natural Values Atlas (Department of Natural Resources and Environment, 2023)

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Accipiter novaehollandiae</i>	grey goshawk	e		n	1	01-May-1911
<i>Aquila audax</i>	wedge-tailed eagle	pe	PEN	n	2	14-Oct-2022
<i>Botaurus poiciloptilus</i>	australasian bittern		EN	n	1	11-Jun-1981
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	v		n	7	16-Jan-2023
<i>Sarcophilus harrisii</i>	tasmanian devil	e	EN	e	4	12-Mar-2024
<i>Thalassarche cauta</i>	shy albatross	v	EN	ae	1	23-Nov-1884

2.3.1. Tasmanian devil, eastern quoll & spotted-tail quoll

Tasmanian devils (*Sarcophilus harrisii*) have been recorded within 500 m of the study area and eastern quoll (*Dasyurus viverrinus*) and spotted-tail quolls (*Dasyurus maculatus* subsp. *maculatus*) within 5 km. The forest vegetation types within the study area are dry and open and are not highly suitable denning habitat. Irrespective of denning opportunity these species may use the study area, particularly the forest areas, as foraging habitat as the study area is contiguous with extensive areas of native vegetation outside of the site boundaries. The modified land within the proposed precinct area may be visited by foraging animals but is not considered to be core or optimal habitat.

2.3.2. Eastern barred bandicoot

Foraging habitat exists for the eastern barred bandicoot (*Perameles gunnii*) within the paddock areas and grassy understorey of the native vegetation with the study area¹⁰. The open nature of the native vegetation communities and grazed areas do not provide sufficient vegetation cover of tussocks and sedges to provide suitable nesting habitat for this species¹¹. However, the ungrazed agricultural land (Plate 10) within the proposed precinct area, may provide nesting habitat for this species if it is present in the area.

2.3.3. Swift parrot

Potential nesting habitat for the swift parrot (*Lathamus discolor*) occurs within the *E. amygdalina*, *E. globulus*, and *E. viminalis* dominated vegetation types, including the FAC vegetation where trees have been retained. While not numerous, there are scattered trees that either contain hollows, or have potential to contain hollows (Plate 11) within the study area, particularly *E. globulus* and *E. viminalis* individual trees. *Eucalyptus globulus* trees also represent foraging habitat for swift parrot and are present scattered through the DAM vegetation as well as the DGL.

This habitat is largely outside the proposed precinct area, however some DGL and potential nesting habitat trees fall within the proposed precinct area (Figure 4). Efforts should be made to retain hollow-bearing trees that may provide nesting habitat in the PSP design.

2.3.4. Blue-winged parrot

This species was listed as a vulnerable species under the EPBC Act in March 2023¹². Suitable foraging habitat for this species is present, as it is known to forage in paddocks to feed on seeds of native and introduced grasses, herbs, and shrubs¹². Suitable nesting habitat for this species is equivalent to that of the swift parrot and exists within study area. Efforts should be made to retain hollow-bearing trees that may provide nesting habitat in the PSP design.

¹⁰Department of the Environment, Water, Heritage and the Arts (2008)

¹¹ Department of the Environment, Water, Heritage and the Arts (2008)

¹² Department of Climate Change, Energy, the Environment and Water (2023)



Plate 12: Hollow bearing tree within the FAC vegetation. This tree is within the proposed precinct area

2.4. INTRODUCED PLANTS AND PATHOGENS

Four species listed as declared under the Tasmanian *Biosecurity Regulations 2022* (which is in effect under the Tasmanian *Biosecurity Act 2019*) were detected during the site visit. All declared weed species were noted within the agriculture vegetation.

- African boxthorn (*Lycium ferocissimum*). Abundant and forms thick patches in the agricultural paddocks, along fence lines and in drainage lines;
- Blackberry (*Rubus fruticosus* aggregate). Scattered patches;
- Gorse (*Ulex europaeus*). Scattered occasional bushes; and
- White weed (*Lepidium draba*). Large patches along road edges, drive edges, and in ungrazed paddocks.

These species are classified as Class B weeds in the Brighton Council area. According to the provisions of the Tasmanian *Biosecurity Regulations 2022*, administered under the Tasmanian *Biosecurity Act 2019*, Class B municipalities are those which host moderate or large infestations of the declared weed that are not deemed eradicable because the feasibility of effective management is low at this time. Therefore, the objective is containment of infestations. This includes preventing spread of the declared weed from the municipality or into properties currently free of the weed, or for which a locally integrated weed management plan for that species has been developed or is being implemented. There is also a requirement to prevent spread of the weeds to properties containing sites for significant flora, fauna, and vegetation communities.

Numerous additional declared weeds are known from the broader area, most notably, espartillo (*Amelichloa caudata*) which is highly invasive. Other weeds known from the area include boneseed (*Chrysanthemoides monilifera* subsp. *monilifera*), bridal creeper (*Asparagus asparagoides*), and fennel (*Foeniculum vulgare*).

In addition to the declared weeds above, the environmental weed sweet briar (*Rosa rubiginosa*) was locally abundant within ungrazed paddocks.

Any future planning permits should ensure best-practice guidelines for weed and hygiene management are undertaken to manage existing weed infestations and to prevent the establishment of any new infestations in the project area. At minimum, the PSP must include provisions for weed and hygiene management through the implementation of a weed and hygiene management plan throughout any staged developments, with particular focus on the management and prevention of introducing espartillo within the study area.

The weed and hygiene management plan must include provisions from the following best-practice guidelines:

- *Keeping it clean - A Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens* (Allen and Gartenstein, 2010); and
- *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania* (DPIPWE, Stewart and Askey-Doran, 2015).

3. CONSTRAINTS SUMMARY AND OPPORTUNITIES

This section provides recommendations regarding potential impacts and opportunities that the PSP may present. A summary of constraints to natural values is provided in Table 3.

3.1. VEGETATION AND FAUNA HABITAT PROTECTION ZONES

The vegetation of the study area has been verified and adjusted to reflect the current distribution. The majority of native vegetation is within the balance to the study area, outside the precinct area. The native vegetation also represents habitat for native fauna including mammal and avian threatened fauna. However, adjusted vegetation falls in the proposed precinct area, namely DGL vegetation which is listed as threatened under the NC Act (Figure 4).

While 25 ha of native vegetation is protected by a conservation covenant, the adjacent land, including the threatened DGL community, represents good quality habitat for a range of threatened fauna species including Tasmanian devils, quolls, blue-winged and swift parrots and potentially eastern barred bandicoots. On a landscape scale, this vegetation not only supports potential nesting/denning and foraging habitat but also provides connectivity between habitat areas and a refuge buffer around cleared land. Therefore, it is recommended that the balance of the native vegetation outside the conservation covenant (Figure 4) is appended to the covenant in order to afford this vegetation and threatened fauna habitat the same protection. It is recommended that the modified area in the northeast of the study area (NBA and FAG) is also protected as rehabilitation of this area will provide a mosaic of vegetation types for fauna and extend the connectivity of native vegetation.

The Boyer Road Concept Plan option 2 (Appendix A) layout will assist in reducing impacts to threatened vegetation and threatened fauna habitat.

Retaining intact and connected existing habitat has significant conservation value, therefore retaining, and in some areas improving, the vegetated areas outside the precinct area will maintain ecological value and facilitate wildlife movement to the rural living zoned area to the east and forested areas to the west of the study area.

Furthermore, it is recommended that the areas FAC (native trees over pasture) are retained and protected to provide a buffer to the high-quality vegetation and threatened fauna habitat to the north. In particular, any blue gum (*E. globulus*) or hollow bearing trees should be protected as they represent critical habitat for swift parrots.

3.2. WILDLIFE CORRIDORS

Wildlife corridors are connections across the landscape that link up areas of habitat. They support natural processes that occur in a healthy environment, including the movement of species to find resources, such as food and water¹³.

The proposed PSP is situated within largely modified agricultural land between native forest vegetation to the north and the Derwent estuary to the south. While native wildlife may venture into this area to feed or use water sources, or occasionally pass through to the estuary, the forest vegetation represents primary core habitat and restricted movement opportunity into or through the PSP does not represent a key threat to fauna. Indeed, encouraging wildlife into the proposed precinct area once developed as a residential area may increase potential impacts to fauna species by, for example, increasing interaction of fauna with domestic predators, suburban roads and traffic, and poisons. Providing movement corridors from the forested areas through the Precinct Area towards the Derwent Estuary will also increase the wildlife around the Boyer Road, which will also undergo a significant increase in traffic volumes due to the construction of the proposed PSP. Therefore, providing corridors for wildlife movement through the precinct area is not warranted and will provide little ecological or conservation value.

3.3. RESTORATION, REHABILITATION AND WEED MANAGEMENT

Although facilitating wildlife corridors within the precinct area may not be warranted based on the likelihood of threatened fauna species utilising a corridor, and the added risk to threatened species it may present, the retention of vegetation and fauna habitat has ecological value, particularly within natural the drainage lines. While the drainage lines within the proposed precinct area are currently dominated by introduced agricultural species and herbaceous and woody weeds, there are opportunities to rehabilitate and revegetate the waterbodies and drainage lines to reintroduce native flora and create habitat for aquatic and semi aquatic fauna including aquatic birds. The scale of the green spaces retained should depend on the achievable management expectations as positive ecological outcomes in such a modified landscape will depend on ongoing management. However, it is recommended that the waterway protection area be taken as a minimum, that is 10 m either side of the stream bank.

Weed management should be a focus of restoration and rehabilitation of all green space, with the aim to eradicate declared weeds within the proposed precinct area to prevent the spread, particularly to the largely weed-free balance of the study area. Buffer areas between the precinct area and native forest areas will help reduce the spread of weeds and exotic garden plants into these areas.

The PSP must also include provisions for weed and hygiene management through the implementation of a weed and hygiene management plan throughout any staged developments, with particular focus on the management and prevention of introducing espartillo within the study area.

Considered rehabilitation and revegetation of green space areas will provide shelter and protection to wildlife. Furthermore, use of plants that increase the availability of critical resources for threatened fauna will result in positive ecological and conservation outcomes. For example, blue gum trees will provide additional food sources for swift parrots.

3.4. IMPACTS TO WILDLIFE

Opportunities are available to enhance and provide refuge and critical resources and reduce potential impacts for / to wildlife within the planning design of the precinct area. These include but are not limited to:

¹³ Department of Climate Change, Energy, the Environment and Water (2024)

- Lower housing density and larger lot sizes along the northern precinct boundary adjacent to core habitat areas. This will provide opportunities for animals such as bandicoots to utilise these areas.
- Ensure water sources outside the precinct area are retained. Maintaining or increasing available water, especially during the drier months provide a valuable resource to wildlife and may decrease the number of animals moving into urban areas.
- Reduction of roadkill by provision of wildlife road-crossing points. In particular, wildlife underpasses should be considered under Boyer Road to facilitate movement of water birds, amphibians and reptiles between water bodies that may be retained within the precinct area, and the Derwent estuary.
- Retain and improve waterway corridors, road verges, and other greenspace with diverse native vegetation as above to provide cover, refuge and protection to animals in order to reduce potential impacts from traffic strike and domestic predators.
- Consider fencing to minimise impact of domestic predators (namely cats and dogs) on wildlife.
- Consider internal road layout and design with respect to decreasing likelihood of wildlife entering roadways.

3.5. REZONING

Brighton Council intends to apply to have the 'Future Urban' zone rezoned to 'General Residential' under the Tasmania Planning Scheme and in doing so implement the PSP into the Brighton Local Provisions Schedule. It is recommended that as part of the rezoning application, the area currently under conservation covenant is rezoned as 'Landscape Conservation' or 'Environmental Management'. In addition, any natural values constraint areas currently zoned 'Future Urban' (Figure 4) that will not be included in the Boyer precinct area should also be rezoned as 'Landscape Conservation' or 'Environmental Management' to provide for adequate protection of the natural values that are present.

The rezoning of the balance of the 'Future Urban' zone to any of the residential zone classes will not have any impact on natural values provided the following are undertaken:

- Recommendations for avoidance of vegetation and threatened fauna habitat adhered to;
- Provisions for weed and hygiene management through the implementation of a weed and hygiene management plan included within the PSP, with particular focus on the management and prevention of introducing spartillo within the study area; and
- Maintain legislative overlays including the natural assets code overlays and conservation covenants.

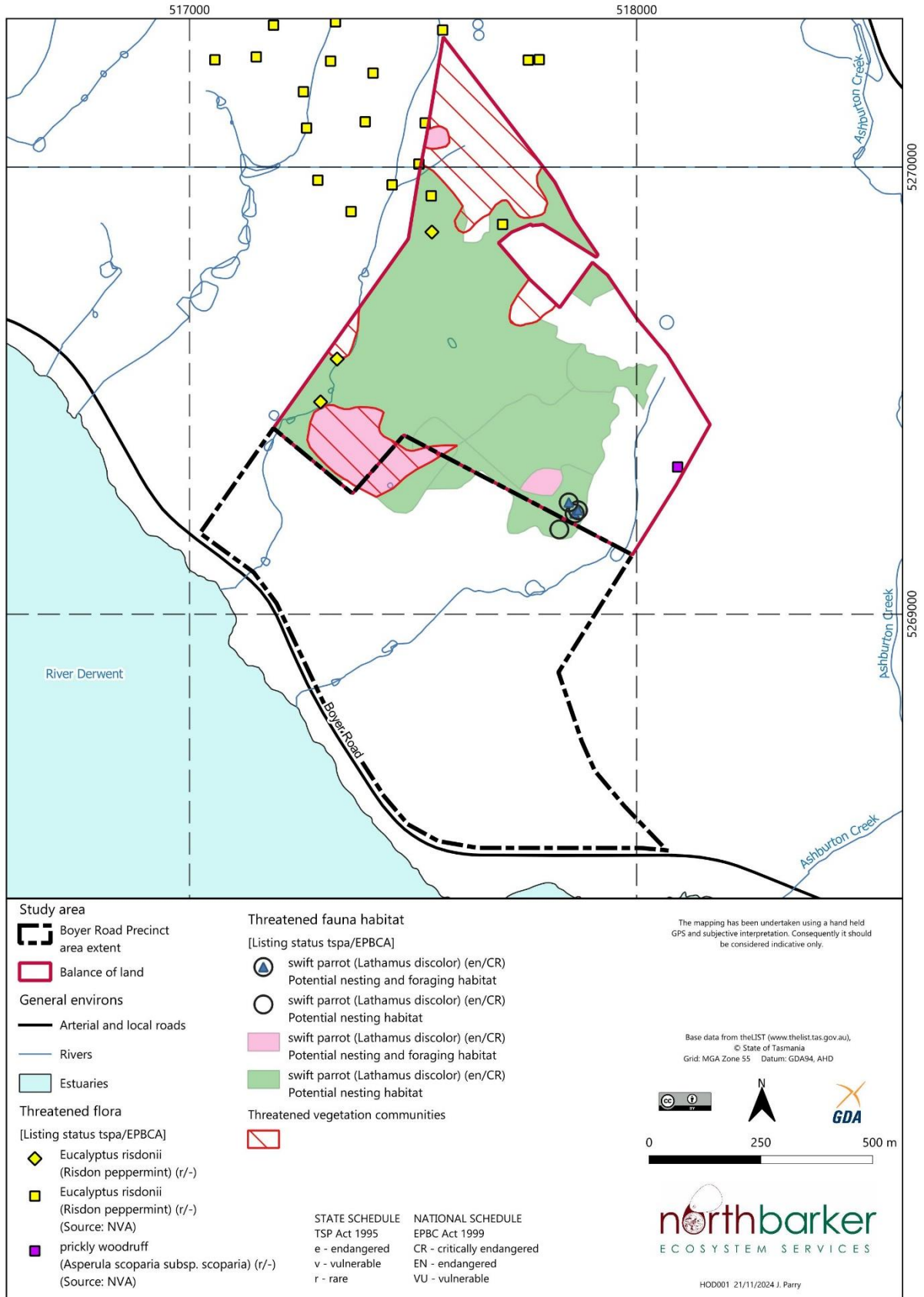


Figure 4: Natural values constraints to the Project: Threatened vegetation, threatened flora, and threatened fauna habitat of the study area

Table 3: Summary of potential implications on natural values

Natural Value	Potential Constraint	Context & Potential Implications to Natural Values ¹⁴
EPBCA threatened ecological communities		
None present	No constraints anticipated	<p>The community NBA can form part of an EPBC Act critically endangered ecological community if certain criteria are satisfied¹⁵. The patch of NBA present in the study area does not satisfy these criteria¹⁶ because:</p> <ul style="list-style-type: none"> it does not have sufficient cover of the indicator tussock grass species, it has more than 30% solid crown cover of <i>Bursaria spinosa</i>
NCA threatened vegetation communities		
DAS – <i>Eucalyptus amygdalina</i> forest and woodland on sandstone	No constraints anticipated 0.33 ha present	<p>This vegetation community occurs as one small patch (0.33 ha) within the conservation covenant area at the western boundary of the study area.</p> <p>There is no likelihood of impacts to this community through the future developments within the PSP.</p>
DGL – <i>Eucalyptus globulus</i> dry forest and woodland	Minimal constraints anticipated 3.39 ha present	<p>This vegetation community has been previously mapped within the conservation covenant area. The southern patch has been extended but the patch previously mapped upslope within the DRI/DAM complex, has been remapped as DAM.</p> <p>This community occurs almost entirely within the conservation covenant (2.36 ha, 69.66 % within the conservation covenant). A small area is located with the precinct area, however if the concept plan option 2 (Appendix A) was selected, impacts to this vegetation community would be negligible.</p>

¹⁴ Includes statements from Department of Natural Resources and Environment's Threatened Species Link summaries and note sheets.

¹⁵ NBA can form part of the EPBCA-listed community "Lowland Grasslands of Tasmania" if specific criteria are met; Department of the Environment, Water, Heritage and the Arts (2010)

¹⁶ Department of the Environment, Water, Heritage and the Arts (2010)

Natural Value	Potential Constraint	Context & Potential Implications to Natural Values ¹⁴
DRI – <i>Eucalyptus risdonii</i> forest and woodland	No constraints anticipated 6.65 ha present	This community occurs on the higher, drier slopes of the study area. It occurs entirely within the conservation covenant and likely extends beyond the study area boundary to the west. There is no likelihood of impacts to this community through the future developments within the PSP.
Native vegetation communities (TASVEG 4.0 units)		
DAM – <i>Eucalyptus amygdalina</i> forest and woodland on mudstone	No constraints anticipated 27.54 ha present	This vegetation is the dominant native vegetation type across the study area. It occurs as two mappable facies: DAM dominated by <i>E. amygdalina</i> (Plate 1) and patches of DAM dominated by <i>E. viminalis</i> . <i>Eucalyptus globulus</i> trees also occur scattered through this community and are locally dominant in small patches. These patches are too small to be mapped as a separate facies of DAM, or as DGL community, but nevertheless represent threatened fauna habitat. A small area is located with the precinct area, however if the concept plan option 2 (Appendix A) was selected, impacts to this vegetation community would be negligible.
NBA – <i>Bursaria-Acacia</i> woodland and scrub	No constraints anticipated 4.43 ha present	This community occurs northeastern corner of the study area and is outside of the proposed precinct area and is not at risk of impacts. This community does not qualify as LNGT under the EPBC Act, as detailed above. This community represents a buffer and link to adjacent native vegetation communities and should be retained to maintain this connectivity across the landscape.
Modified vegetation communities (TASVEG 4.0 units)		
FAC – Improved pasture over native tree canopy FAG – Agricultural land FUR – Urban areas	No constraints anticipated 60.92 ha present	These modified land areas cover most of the study area (Figure 3) and have a very low number of natural values present. As such, future development will not lead to direct impacts on observed natural values.

Natural Value	Potential Constraint	Context & Potential Implications to Natural Values ¹⁴
		It is recommended that areas of FAC are retained to provide an ecotonal buffer between existing agricultural and native forest vegetation.
EPBCA and/or TSPA listed threatened flora		
<p><i>Eucalyptus risdonii</i> Risdon peppermint EPBCA: not listed TSPA: rare</p>	No constraints anticipated	This species occurs within DRI forest vegetation and occurrences of this species within the study area are contained entirely within the conservation covenant. There is no likelihood of impacts to this species through the future developments within the PSP.
Threatened fauna and threatened fauna habitat		
<p><i>Perameles gunnii</i> Eastern barred bandicoot EPBCA: VULNERABLE TSPA: not listed</p>	No constraints anticipated Minimal impact to foraging and nesting habitat	<p>This species is widespread in Tasmania and resilient to disturbance¹⁷. Suitable habitat for this species was observed within the study area. Further investigations would be needed to reliably determine the presence of the species in the study area.</p> <p>It is considered unlikely that any future development options would reduce the carrying capacity of the habitat at all given that this species is known to be successful in peri urban environments and the extent of suitable habitat in the broader area.</p> <p>There is some potential for indirect impacts associated with future occupation of the residential homes and the introduction of cats and dogs. Given the presence of rural residences these threats are likely already present in the study area. As stated above the species is also known to be successful in peri urban environments. Also, the creation of green space along the creek lines may provide protection and cover for this species.</p> <p>Regardless of which PSP option is selected, it is unlikely that any future development would warrant referral under the EPBC Act based on potential impacts to this species.</p>

¹⁷ Department of the Environment, Water, Heritage and the Arts (2008)

Natural Value	Potential Constraint	Context & Potential Implications to Natural Values ¹⁴
<p><i>Dasyurus maculatus subsp. maculatus</i> Spotted-tail quoll EPBCA: VULNERABLE TSPA: Rare</p> <p><i>Dasyurus viverrinus</i> Eastern quoll EPBCA: ENDANGERED TSPA: not listed</p> <p>AND</p> <p><i>Sarcophilus harrisii</i> Tasmanian devil EPBCA: ENDANGERED TSPA: endangered</p>	<p>Minimal constraints anticipated</p> <p>Minimal impact to denning and foraging habitat</p>	<p>The forest vegetation types within the study area are dry and open and are not highly suitable denning habitat. Irrespective of denning opportunity these species may use the study area, particularly the forest areas, as foraging habitat as the study area is contiguous with extensive areas of native vegetation outside of the site boundaries. The modified land within the proposed precinct area may be visited by foraging animals but is not considered to be core or optimal habitat.</p> <p>Regardless of which PSP option is selected, it is unlikely that any future development would warrant referral under the EPBC Act based on potential impacts to this species.</p>
<p><i>Lathamus discolor</i> Swift parrot EPBCA: CRITICALLY ENDANGERED TSPA: Endangered</p> <p>AND</p> <p><i>Neophema chrysostoma</i> Blue-winged parrot EPBCA: VULNERABLE</p>	<p>Minimal constraints anticipated</p> <p>Potential impact to nesting and foraging habitat</p>	<p>Suitable foraging habitat for both species is present. The swift parrot forages on blue gums, and the blue-winged parrot is known to forage in paddocks to feed on seeds of native and introduced grasses, herbs and shrubs¹⁸.</p> <p>Any future developments that could potentially arise from the PSP are unlikely to have the potential to lead to a decline in the species population, as there is abundant alternative foraging habitat in the immediate surrounds for these highly mobile species.</p> <p>Efforts should be made to retain any hollow-bearing trees that may provide nesting habitat for these species.</p>

¹⁸ Department of Climate Change, Energy, the Environment and Water (2023)

Natural Value	Potential Constraint	Context & Potential Implications to Natural Values ¹⁴
TSPA: not listed		Regardless of which PSP option is selected, it is unlikely that any future development would warrant referral under the EPBC Act based on potential impacts to this species.
Introduced flora		
<p>Declared, WoNS and Environmental weed species</p> <p><i>See Section 2.4 for details of weed species present and/or likely to be present</i></p>	<p>Spread of weed species and contamination of nearby private land and other areas through the spreading of propagules.</p>	<p>Four Class B declared weeds¹⁹ were observed in the study area.</p> <p>The PSP concept plan options will not change the legislative requirement to manage declared weed species.</p> <p>Any future developments associated with changes to the zoning are likely to increase the risk of spreading weeds locally (or further) through creating new disturbance niches in the project area or spreading propagules through contaminated soil, equipment and/or machinery.</p> <p>Any future planning permits should ensure best-practice guidelines for weed and hygiene management are undertaken to manage existing weed infestations and to prevent the establishment of any new infestations in the project area. At minimum, the PSP must include provisions for weed and hygiene management through the implementation of a weed and hygiene management plan throughout any staged developments, with particular focus on the management and prevention of introducing spartillo within the study area.</p> <p>The weed and hygiene management plan must include provisions from the following best-practice guidelines:</p> <ul style="list-style-type: none"> • <i>Keeping it clean - A Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens</i> (Allen and Gartenstein, 2010) • <i>Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania</i> (DPIPWE, Stewart and Askey-Doran, 2015)

¹⁹ In Brighton Council, according to the relevant Statutory Weed Management Strategies accessed via the Department of Natural Resources and Environment website.

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APPENDIX A – BOYER ROAD PRECINCT CONCEPT PLAN



Figure A1: Boyer Road Precinct Concept Plan Option 1



Figure A2: Boyer Road Precinct Concept Plan Option 2