2025

Glebe Hill Bushland

Reserve Management Plan

2025-2035

City of Clarence

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Contents

Contents **1**

1 Introduction **3**

1.1 Background 3

1.2 Aims of this Reserve Management Plan 6

1.3 Natural Area Strategic Flowchart 9

2 Review of reserve plans and community consultation **10**

2.1 Glebe Hill Bushland Reserve Activity Plan 2014-2018 10

2.2 Nature Conservation Plan (reproduced from 2014 RAP) 10

2.3 Glebe Hill Reserve Bushfire Mitigation Plan (2023-2028) 11

2.4 Community engagement – issues and opportunities 12

3 Natural Values Assessment **14**

3.1 Landscape Setting 14

3.2 Vegetation Communities 16

3.3 Flora Values 18

3.4 Fauna values 24

4 Social Values Assessment **25**

4.1 Aboriginal heritage 25

4.2 European heritage 26

4.3 Recreation and connectivity 26

4.4 Educational Values 28

5 Management issues and recommendations **29**

5.1 Vegetation management 29

5.2 Bushfire management and vegetation management zones 30

5.3 Weed management 30

5.4 Domestic animal management 32

5.5 Fauna habitat management 34

5.6 Aboriginal heritage management 35

5.7 Track management and development 35

5.8 Entrances, signs and infrastructure 36
5.9 Community participation, education and awareness 38
6 Monitoring program 40
6.1 Vegetation condition assessments 40
6.2 Standardized bird survey in line with Birdlife Australia 41
6.3 Wildlife camera and acoustic monitoring 41
7 Review and reporting 42
8 Implementation plan 43
9 References 50
10 Appendices 52
Appendix 1 – Description of vegetation communities occurring in the Reserve 53
Appendix 2 – Plant list for Reserve 56
Appendix 3 – Weed photos and controls 61
Appendix 4 – Bird list 67
Appendix 5 – Glebe Hill Bushland Reserve Visitor Amenity Plan and Reserve Stone Wall / Seating Concept (Inspiring Place) 68
Appendix 6 – Assessment criteria to determine level of dog access in Glebe Hill Bushland Reserve 70
Appendix 7 – Natural Areas Assessment criteria to determine the level of dog access in bushland and coastal reserves reference 72
Appendix 8 – Vegetation condition assessments 74

1 Introduction

The **Glebe Hill Bushland Reserve Management Plan (RMP) 2025–2035** provides a strategic framework for the management of Glebe Hill Bushland Reserve's (GHBR) natural, recreational, and cultural values.

It includes recommendations for GHBR and a 0.6-hectare patch of important remnant bushland at Minno Street, Howrah.

1.1 Background

GHBR is located on Glebe Hill in the suburb of Howrah. The main reserve is approximately 19 hectares in area with a separate 0.6 ha parcel located off Minno Street (Minno Street Reserve).

The reserve occurs at the southern end of a range of hills running from Mornington to Rokeby and is part of the "scenic rim" of hills behind the suburbs of Bellerive and Howrah. The reserve borders new housing estates to the south and east, an existing developed area to the west and bushland on private property to the north.

GHBR is managed by Clarence City Council (CCC) in conjunction with the Glebe Hill Bushland Reserve Landcare Group (henceforth referred to as the Landcare Group).

The reserve contains a mixture of dry forest communities, open grassland, and rockplate areas. There is a well-developed track network through the reserve with several entrances from adjacent residential areas. The natural value of the reserve network and the recreational opportunities that it provides are highly valued by the local community.

An assessment of the natural, recreational, social, and cultural attributes of the reserve was undertaken as part of the original Reserve Activity Plan (RAP) developed in 2014 (North Barker 2014). As part of the RAP review, additional site surveys were undertaken to update weed distributions and determine vegetation condition, and a new round of community consultation was undertaken. In addition, the RAP has been rebranded as a Reserve Management Plan (RMP) to align with other Council reserve management plans.

The format of this RMP follows the format of the 2014-2018 RAP with similar headings and layout. The RMP includes updated management activities to maintain and enhance the reserve's values. The management objectives and priorities are based strongly on the outcomes of community consultation.

1.1.1 Brief history of reserve

GHBR is located on the traditional lands of land originally occupied by the Mumirimina band of the Oyster Bay Nation. The Aboriginal community is likely to have used this area widely. Information related to Aboriginal heritage is provided in Section 4.1.

Following European colonisation, the Glebe Hill reserve formed part of a 400-acre land parcel allocated to supplement the income of the clergy of St David's parish. Known as a 'glebe', this land generated income through rent and agricultural production. The Goodwin family purchased St David's glebe in 1923 and farmed it for nearly a century. Subsequently, the larger area was subdivided for private residential use, with the reserve retained for public use.

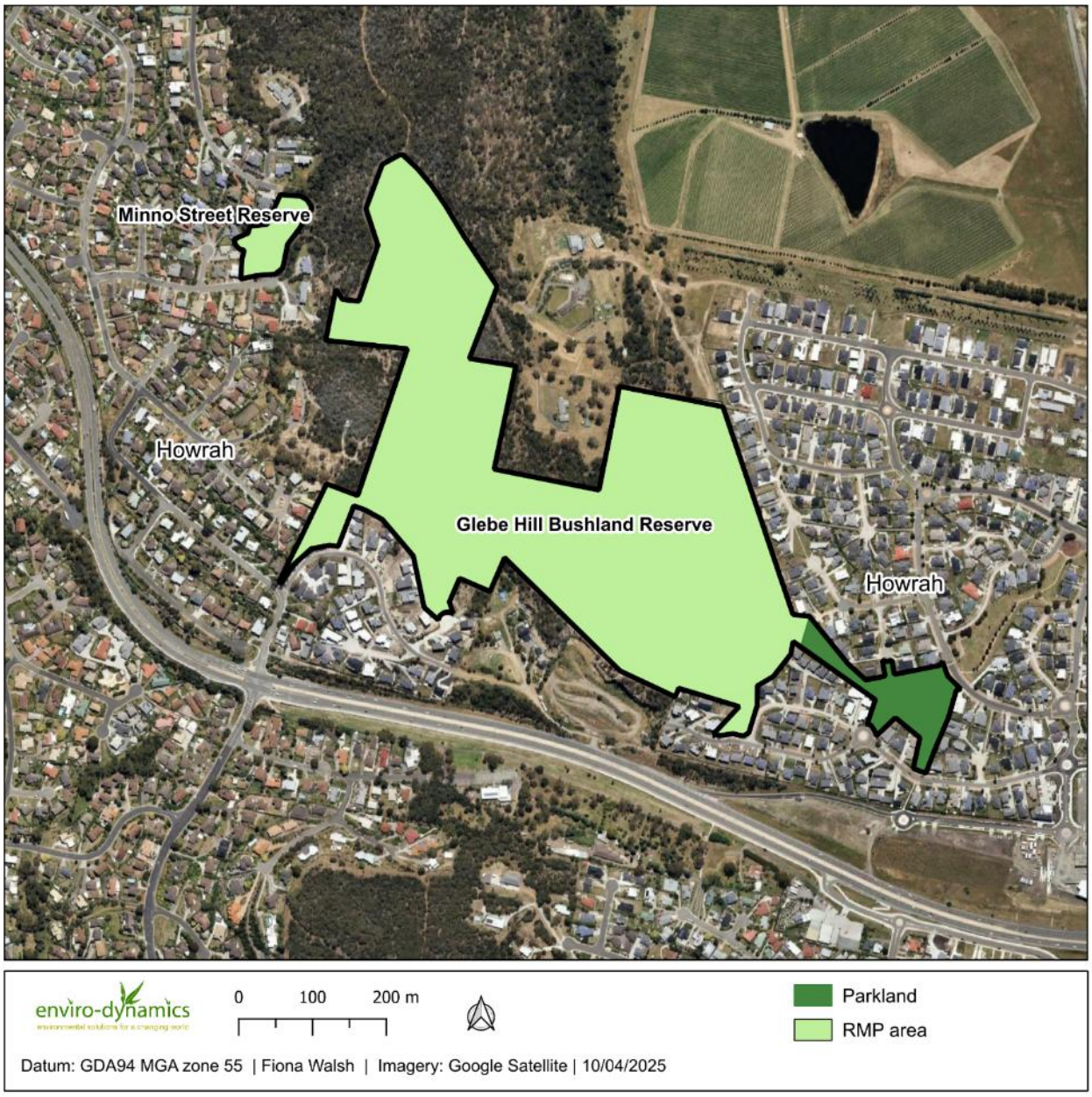

Figure 1 – Location Plan – Glebe Hill Bushland Reserve and Minno Street Reserve.

1.1.2 Overview of previous management

Since the reserve's establishment, Clarence City Council Environment and Recreation staff have directed the management of the reserve, with contributions from the local Landcare Group, Howrah Primary School, and some of the large landholders adjoining the reserve.

1.1.3 Planning zones and overlays

The southern portion of the reserve is zoned Open Space, and the northern portion is zoned Landscape Conservation. The priority vegetation overlay is shown in Figure 2, and other overlays applied to the reserve are listed below:

- Priority vegetation area
- Bushfire-prone areas
- Flood-prone areas
- Low and Medium landslip hazard band, and
- Airport obstacle limitation area.

1.2 Aims of this Reserve Management Plan

The aims of this RMP (2025-2035) are to:

1. Ensure the reserve is sustainably managed to preserve and enhance its natural, cultural, and social values.
2. Identify priority management activities to be undertaken within the reserve by the Council and/or volunteers and contactors as resources become available during 2025-35.
3. Encourage community engagement through raising awareness of the reserve's values and encouraging activities that minimise threats to these values.

The development of this RMP involved the following actions:

- Conducting a follow-up assessment of the reserve's natural, recreational, and cultural values, and identifying existing or potential management issues.
- Undertaking a two-stage community consultation process to capture local knowledge and interests, and to provide opportunities for the community to raise and prioritise issues. This process encouraged understanding of the reserve and management needs while actively involving the community in management planning.

- Liaising with CCC staff and the local Landcare Group to review the actions and recommendations contained within the GHBR Action Plan 2013- 2018.
- Reviewing existing documents and specialised reports related to issues such as weed control, erosion, and vegetation condition in the reserve.
- Providing updated priority management actions for the 2025-2035 RMP based on community consultation, review of existing plans, and current understanding of reserve's values and threats.

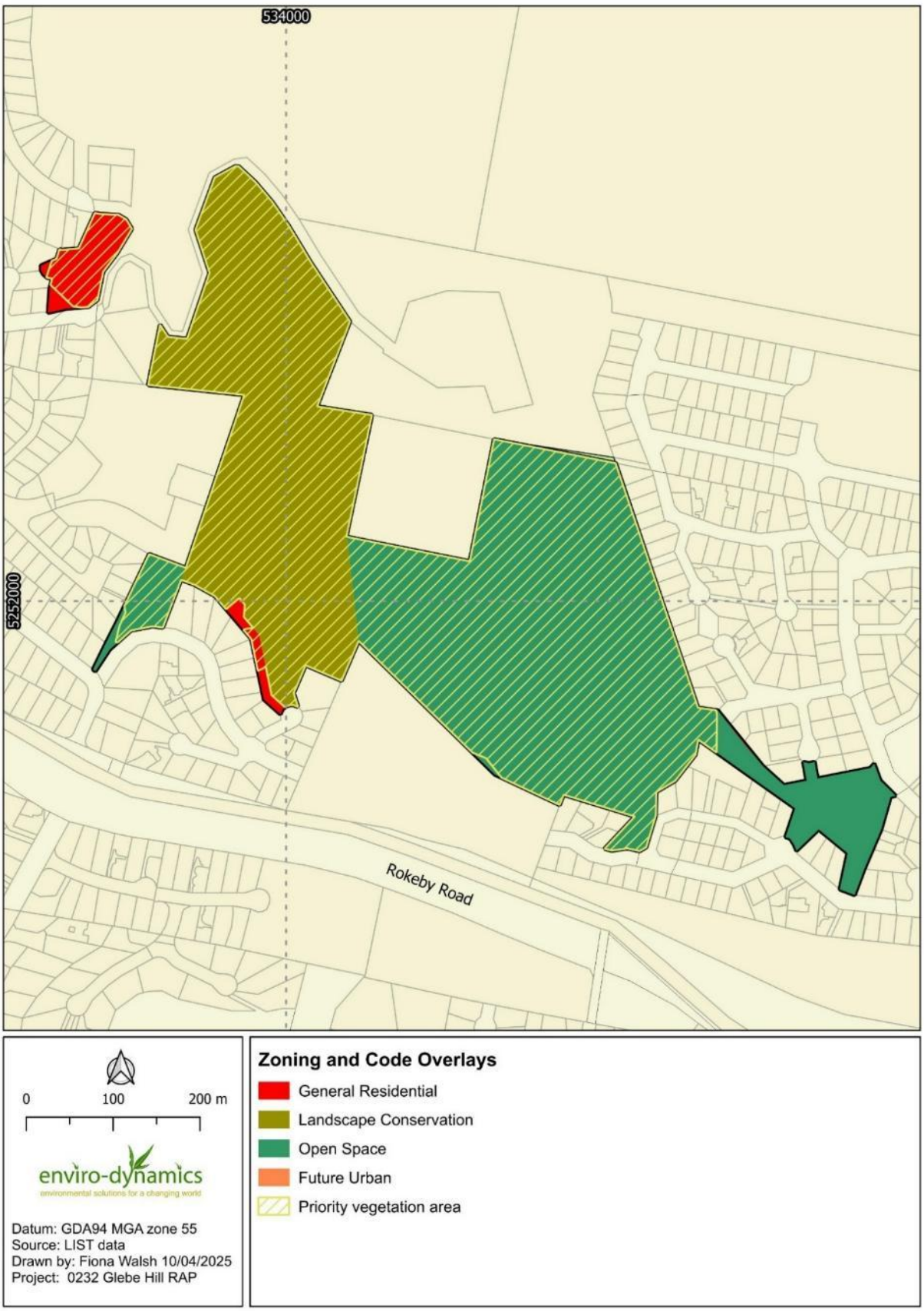

Figure 2 – Tasmanian Planning Scheme zones and overlays on Glebe Hill Bushland Reserve.

1.3 Natural Area Strategic Flowchart

The following flowchart (*Figure 3*) illustrates how the RMP integrates within the Council's related strategies and plans for natural areas.

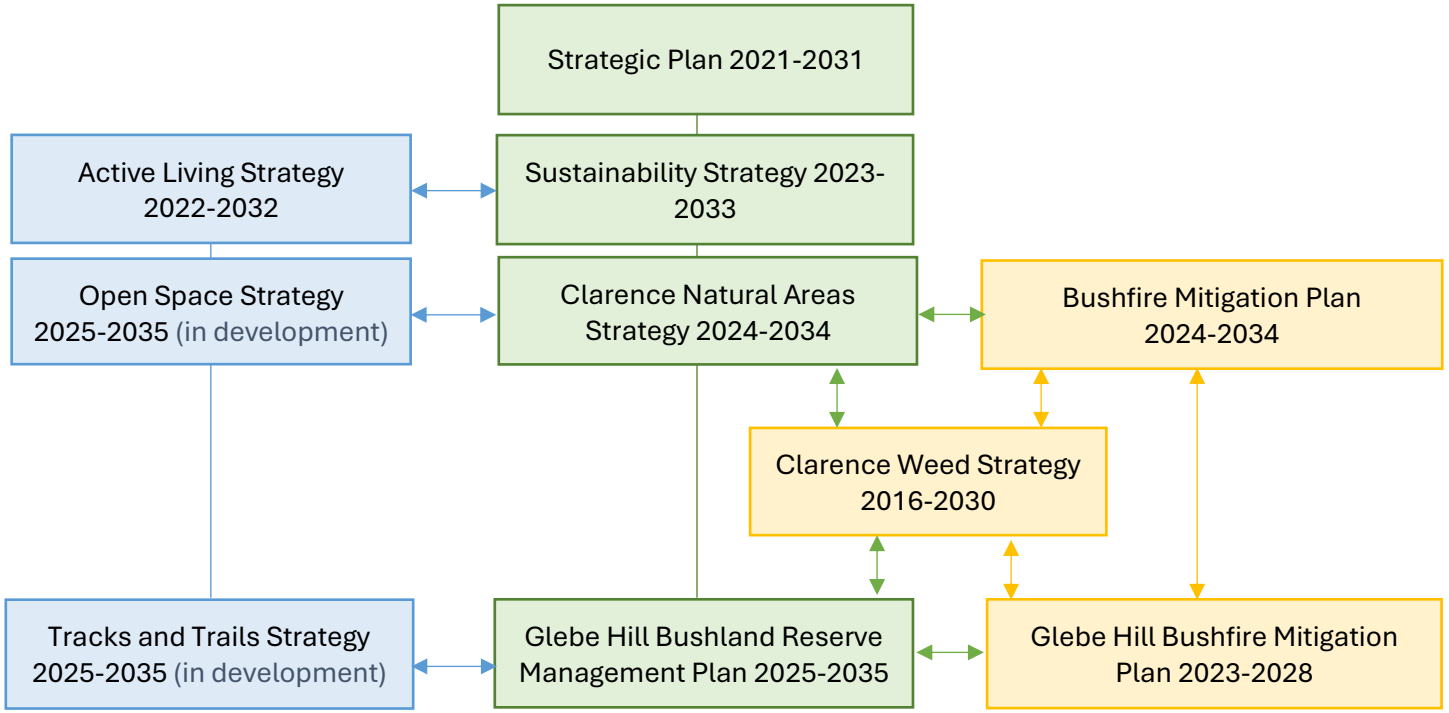

Figure 3 – Clarence City Council's natural areas strategic flowchart.

2 Review of reserve plans and community consultation

This section presents reviews of three Glebe Hill Bushland Reserve (GHBR) plans, and the outcomes of recent community and stakeholder consultation.

2.1 Glebe Hill Bushland Reserve Activity Plan 2014-2018

The content and structure of the 2014 Reserve Activity Plan (RAP) has been referenced for the current plan. Assessment of values and development of management actions for the Minno Street Reserve (MSR) is an addition to the 2025-2035 Reserve Management Plan.

The 2014 RAP implementation plan successes include:

- Execution of weed control measures. However, ongoing maintenance is needed due to the suburban nature of the reserve, where weeds are common in adjoining properties.
- All reserve entrances have received some level of landscaping consistent with the 2014 RAP, except for the two entrances at Watton Place and the stone wall feature intended to deter access to private property at 1 Monique Street, via the Mookara Entrance. Additionally, most of the recommended track works and signage improvements have been completed.
- The establishment of the Landcare Group in 2015.

Actions that have yet to be completed and are still relevant to the management of the reserve are included in this RMP. For example, the Dogs in Natural Areas Criteria as mandated by the 2021 Dog Management Policy is applied, which was supported with reserve-specific consultation.

2.2 Nature Conservation Plan (reproduced from 2014 RAP)

GHBR is made up of two land parcels. The majority of the bushland reserve (17 Watton Place) is protected by a conservation covenant under the Tasmanian *Nature Conservation Act 2002*. As such, this area has a corresponding nature conservation plan that details management prescriptions and describes activities and restrictions that will ensure that the reserve's natural values are maintained and enhanced. The smaller land parcel at 8 Merindah Street is not protected by a conservation covenant.

Under the covenant system, the specific management objectives are:

- To maintain the structure of vegetation communities and allow for regeneration of native species under the proposed management regime.
- To implement appropriate fire regimes.
- To protect the habitat of threatened and/or priority species.
- To eradicate or control weeds and feral animals and prevent any further introductions of exotic species.

There is an obligation under this system that the landowner will protect and enhance the natural values of the reserve and implement management actions that aim to achieve this. The success, or otherwise, of the management regimes will be monitored by the Department of Natural Resources and Environment (NRE) Stewardship Officers, who can also offer advice on appropriate management and monitoring techniques.

Management prescriptions and recommendations from the nature conservation plan are in broad agreement and of a similar intent to the management recommendations that follow within this plan.

2.3 Glebe Hill Reserve Bushfire Mitigation Plan (2023-2028)

The original Glebe Hill Bushfire Management Plan (2012-2016) was revised in January 2017 and was reviewed again in 2023. At the time of revision, the name was changed to Bushfire Mitigation Plan (2023-2028) (BMP). The plan is a tactical level planning document that focuses on addressing bushfire hazards and improving the survivability of communities and assets. The BMP identifies key areas for fuel management, and provides tactical guidance regarding planned burning, fuel management, fire trails, fuel breaks, hazard management areas, and asset protection work.

The aims of the revised BMP are consistent with the aim of the initial plan which was “to lessen the risks posed by wildfires by minimising the risk of fires starting in the reserve and minimising the risk of injury or damage to assets in and surrounding the reserve.”

Planned burns were successfully carried out in 2015 and 2023 on the southern and eastern aspects of GHBR. The current BMP has a schedule of burns according to vegetation management units and vegetation types within those units across the period between 2023 and 2028.

2.4 Community engagement – issues and opportunities

Community consultation plays an integral role in the development of RAPs and RMPs. It provides an opportunity to gather input on the values and management issues that matter most to the community. This feedback helps to establish shared management priorities and encourages community ownership, ultimately supporting practical actions and measurable outcomes. The following community consultation activities were undertaken as part of the review of the 2014 RAP:

- A 'walk and talk' event was held in 2020, with seven participants attending.
- Feedback forms were distributed and an online survey (via the 'Have Your Say' website) made available to residents, with further responses provided via email to the Council.
- The following key stakeholders and user groups provided feedback:
    - The Landcare Group
    - Howrah Primary School
    - Clarence City Council Environment and Recreation staff
    - Four large landholders adjoining the reserve.

Following the initial community consultation process, further consultation was sought following the release of Draft GHB RAP. The GHB Reserve Report Card was distributed to the community to facilitate further input on key recommendations. The results of this consultation are incorporated into this Final Reserve Management Plan.

The following is a summary of the main management issues raised during the community consultation process and the number of representations received for each category. Many of the respondents provided feedback on multiple issues and hence the total number of responses received on all issues exceeds the number of respondents.

The number of responses is recorded in brackets:

- Support for developing new tracks and maintenance of existing tracks within the reserves to improve access, provide connectivity, increase recreational opportunities and improve safety (16)
- Management of the natural values of the reserve (7)
- Concerns with motorbike access, impacts of mountain bikes (5)
- Develop infrastructure - playground/parkland/shelter/signage etc. (5)
- Domestic animal management/wildlife impacts (5)

- Access/safety issue with fencing off Monique Street (4)
- Impacts of mountain bikes on reserve values (3)
- Bushfire management (2)

While all relevant community feedback has been considered in the review and updated in the 2025-2035 RMP, some issues identified during the consultation process are beyond the scope of this plan or pertain to management issues outside the areas covered by the plan. These issues have been noted and will be addressed through other processes where feasible.

3 Natural Values Assessment

This section presents a summary of the existing natural values across including the landscape setting, vegetation communities, flora and fauna values.

3.1 Landscape Setting

The hilltop reserve provides the green back drop to the suburbs of Howrah and Rokeby. The landscape setting and connectivity of the reserve was described in the original Reserve Activity Plan (North Barker 2014) (RAP) as follows:

> *"The reserve is a central component and link in an almost constant chain of native vegetation forming the Rokeby Hills. The upper slopes and ridgeline of the Rokeby Hills remain as intact bushland while the lower slopes and valleys have, since European settlement, succumbed to agriculture or residential development. The Rokeby Hills historically would have been connected to the larger Meehan Range to the north. However, this link has been broken by vegetation clearance largely for agriculture and more recent housing development and roads."*

In terms of the immediate surrounding environment, the reserve is adjacent to residential suburbs to the west, south, and east. Large areas of intact native bushland, which are the continuation of the Rokeby Hills, are contiguous with the reserve to the north. These bushland areas are interspersed with some isolated houses. Tenuous links with the southern extension of the Rokeby Hills occur to the south of the reserve, as Rokeby Road and further suburban development has fragmented these connections.

Figure 5 illustrates the recreational links and ecological connectivity across Glebe Hill Bushland Reserve, Rokeby Hills Reserve Tranmere foreshore reserve, Howrah Beach, and Clarence Plain Riparian Reserve.

Figure 4 – Landscape and recreation connectivity.

3.2 Vegetation Communities

The vegetation communities occurring in GHBR, including those in the Minno Street Reserve (MSR), are listed below, and their distribution is shown in Figure 5. Classification of vegetation communities is in accordance with Kitchener and Harris (2013) and TASVEG 4.0.

- *Eucalyptus amygdalina* forest on mudstone (DAM)
- *Eucalyptus risdonii* forest and woodland (DRI)
- *Eucalyptus viminalis* grassy forest and woodland (DVG)
- Rockplate grassland (GRP)
- Urban Land (FUR)

Native vegetation community descriptions from the 2014 RAP are provided in **Appendix 1**.

The vegetation condition and species diversity within the different native vegetation communities vary depending on factors such as aspect, slope, level of disturbance, and neighbouring land use. Certain vegetation communities and areas of the reserves are affected by degrading processes, including weed invasion, erosion, construction of informal tracks, and dieback.

3.2.1 Conservation significance of vegetation communities

There is one threatened vegetation community within the reserve network listed under the *Nature Conservation Act 2002: Eucalyptus risdonii* forest and woodland (DRI). This vegetation type has a highly restricted range and is only found in the Meehan Range and Rokeby Hills of Tasmania.

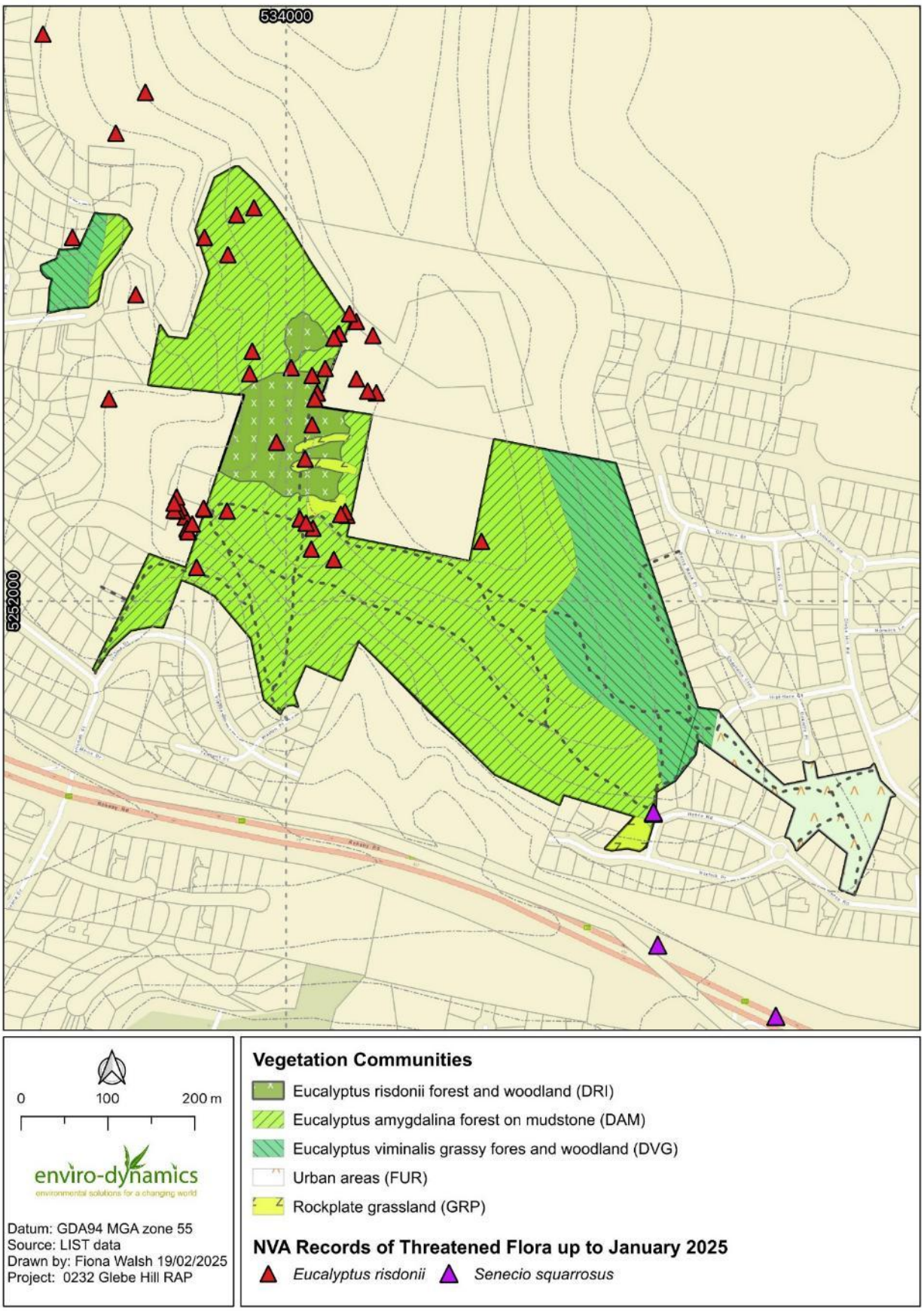

Figure 5 – Vegetation communities and threatened flora at Glebe Hill Bushland Reserve and Minno Street Reserve, including the parkland in the south-east portion.

3.3 Flora Values

A total of 129 species of vascular plants have been recorded within GHBR and MSR, including 16 introduced species. A full species list is given in **Appendix 2**. Taxonomic nomenclature for flora follows the latest Census of Vascular Plants of Tasmania (Baker & de Salas 2024).

3.3.1 Threatened species

Four threatened species were recorded in the reserve in 2014, and an additional species recorded in 2015 (Natural Values Atlas):

- tall wallaby-grass (*Rytidosperma indutum*)
- chocolate lily (*Arthropodium strictum*)
- risdon peppermint (*Eucalyptus* risdonii)
- sheathing yellowstar (*Hypoxis vaginata*), and
- leafy fireweed (*Senecio squarrosa*).

Tall wallaby-grass, sheathing yellow star, and chocolate lily have been delisted from the schedule of the *Threatened Species Protection Act 1995* since the 2014 RAP was written. These species remain abundant in the reserve and, while they are no longer considered to be threatened, they remain an important component of the reserve values. The presence of large populations of these species in secure and managed reserves such as the GHBR has contributed to these species being delisted.

Risdon peppermint and leafy fireweed remain in the reserve. Risdon peppermint is restricted to the northwest portion of the reserve, while the leafy fireweed is restricted to the rockplate grassland in the southeast corner of the reserve off Norfolk Drive (Figure 5).

Orchids

The reserve contains a diverse range of orchids (Figure 6). Surveys carried out in November 2020 and January 2021 identified nine species in addition to the five identified during the 2014 surveys.

The wet spring of 2020 provided favourable conditions for many species of orchid which may explain the increase in species number and abundance recorded in the 2021 surveys.

Species recorded included leopard and tiger orchids, sun orchids, greenhoods, onion orchids, spider orchid, helmet orchid, and hyacinth orchids.

Thelymitra pauciflora (slender sun orchid

Thelymitra rubra (pink sun orchid)

Diuris sulphurea (tiger orchid)

Microtis unifolia (common onion orchid)

Caladenia clavigera (plain-lip spider orchid)

Dipodium roseum (pink hyacinth-orchid)

Figure 6 – Range of orchid species recorded in Glebe Hill Bushland Reserve.

3.3.2 Introduced species

The reserve contains diverse infestations of introduced species that range from highly invasive environmental weeds to more benign introduced pasture grasses, herbs, and some garden escapees.

The 2014 RAP identified six declared weed species and up to 14 environmental weeds within the reserve and provided several actions for the control of the weeds (North Barker 2014). As part of the 2025-2035 Reserve Management Plan (RMP), the Clarence City Council (CCC) and Landcare Group were consulted about weed actions that have occurred within the reserve since the

implementation of the 2014 RAP and outstanding or ongoing weed control issues were identified. Additional site assessments were carried out in 2020/21 and the council provided updated weed data within the reserves in 2024.

The Clarence Local List (CLL) weeds are incorporated into the priority rating system along with an updated Action Plan for 2023-2028. The Clarence Weed Strategy (CWS) 2016-2030 should be cross referenced for weed management actions in GHBR. Nine weed species declared weed species and five environmental weeds were recorded in the reserve since 2021 with seven declared weed species recorded in 2024 in GHBR.

The species which require ongoing monitoring and maintenance are listed below, including weeds recorded in both the GHBR and MSR.

- blackberry (*Rubus fruticosus*)
    - Scattered infestations occur in MSR. Most infestations recorded in GHBR have been controlled.
- boneseed (*Chrysanthemoides monilifera* ssp. *monilifera*)
    - Scattered plants were recorded in a small gully at the southern end of GHBR in 2014 and treated. Additional small seedlings were also recorded and removed by Landcare Group closer to Highclere Track and in the central part of western boundary.
- crow garlic (*Allium vineale*)
    - Crow garlic has become established in GHBR since the 2014 RAP was developed. There is an infestation along the edge of the main fire trail in grassland among the Texas needlegrass, as well as scattered plants at the Wendy Andrews and Norfolk Drive entrances.
- fennel (*Foeniculum vulgare*)
    - Isolated plants are recorded near Merindah Street entrance of GHBR. These have since been controlled and were not recorded in 2020 surveys.
- gorse (*Ulex europaeus*)
    - A small infestation located on the southern boundary of GHBR appears to be spreading through the fence from an adult plant on private property. The Landcare group is monitoring and removing small plants.
- Montpellier broom (*Genista monspessulana*)
    - Largely controlled within GHBR. Seedlings were recorded near the southern boundary of Vienne Drive and plants were recorded in MSR during the 2021 survey.

- serrated tussock (*Nassella trichotoma*)
    - Serrated tussock was recorded along the eastern boundary of GHBR and along the Glebe Hill Track in 2024. The Council continues to monitor and treat this highly invasive species.
- slender thistle (*Carduus pycnocephalus and Carduus tenuiflorus*)
    - Slender thistle populations are predominantly concentrated near the Betsy Mack, Wendy Andrew, and Norfolk Drive entrances of GHBR, and also occur in MSR.
- Texas needlegrass (*Nassella leucotricha*)
    - Texas needlegrass has been recorded in the eastern portion of the GHBR, predominantly located around the Wendy Andrew entrance and parkland, the Betsy Mack entrance, and the fire break behind the houses between these two entrances. This highly invasive species continues to be monitored and treated by the council in the greater Glebe Hill area as it represents the only known infestation in the municipality and Tasmania. Considerable efforts have been undertaken to control this species.

The location of the declared and environmental weeds recorded in 2021 and 2024 in GHBR and MSR are indicated in Figure 7. Table 1 lists all declared and environmental weeds recorded in the two reserves in 2014, 2021 and 2024, and provides comments on weeds that have been controlled and those which require ongoing monitoring and maintenance. **Appendix 3** includes photos of all the weeds found in the reserves since 2014 and a table of the control methods and timing by species.

Control actions by the council and the Landcare Group since 2014 have significantly reduced the occurrence of the most prominent woody weeds such as blackberry, gorse and montpellier broom.

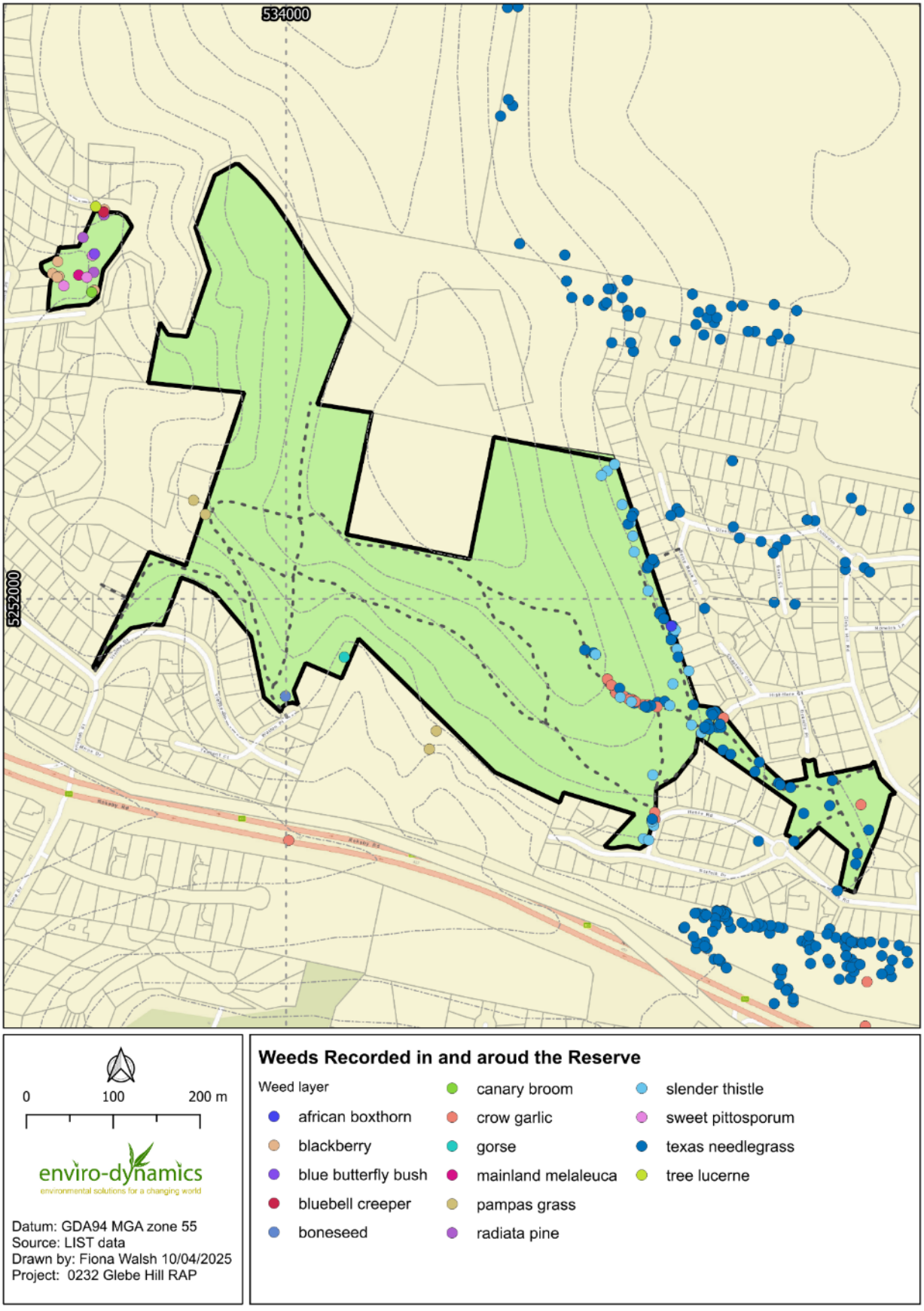

Figure 7 – Weed locations in Glebe Hill Bushland Reserve and Minno Street Reserve.

Table 1 – Environmental and declared weed species recorded within the reserve between 2014 and 2024

Common Name	Scientific Name	Status	CWS status*	2021, 2024 update
African boxthorn	*Lycium ferocissimum*	D, WONS	3	Recorded in 2024
blackberry	*Rubus fruticosus*	D, WONS	4	Controlled in GHBR Recorded MR
boneseed	*Chrysanthemoides monilifera* subsp. *monilifera*	D, WONS	3	Controlled, monitor
crow garlic	*Allium vineale*	D	2	New record in 2021
fennel	*Foeniculum vulgare*	D	4	Controlled, monitor
gorse	*Ulex europaeus*	D	3	Controlled, monitor
Montpellier broom	*Genista monspessulana*	D, WONS	3	Controlled in GHBR Recorded MR
slender thistle	*Carduus pycnocephalus* and *Carduus tenuiflorus*	D	3	In GHBR and MR
Texas needlegrass	*Nassella leucotricha*	D	1	Remains in GHBR
aeonium	*Aeonium sp.*	E		Not recorded
bluebell creeper	*Billardiera heterophylla*	E	CCL	Controlled GHBR Recorded MR
blue butterfly bush	*Psoralea pinnata*	E		Recorded edge MR
cotoneaster	*Cotoneaster* sp.	E	CCL	Controlled, monitor
fuchsia	*Fuchsia magellanica*	E	CCL	Controlled, monitor
garden geranium	*Geranium* sp.	E		Controlled, monitor
grevillea	*Grevillea rosmarinifolia*	E		Controlled, monitor
himalayan firethorn	*Pyracantha* sp.	E		Controlled, monitor
mirror bush	*Coprosma repens*	E	CLL	Controlled, monitor
pampas grass	*Cortaderia sp.*	D	2	Recorded in 2024 Controlled, monitor
radiata pine	*Pinus radiata*	E	CCL	Controlled GHBR Recorded MR
red valerian	*Centranthus ruber*	E	CCL	Controlled, monitor
serrated tussock	*Nassella trichotoma*	D	3	Recorded in 2024
sweet briar	*Rosa rubiginosa*	E	CCL	Largely controlled
sweet pittosporum	*Pittosporum undulatum*	E	CCL	Controlled GHBR Recorded MR
tree lucerne	*Chamaecytisus palmensis*	E	CCL	Controlled GHBR Recorded MR

*CWS: Clarence Weed Strategy

3.4 Fauna values

The native vegetation communities within the reserve provide a range of habitats for native mammals, woodland birds, reptiles, and invertebrates. The reserve's connection to a large area of intact vegetation on private land to the north extends the habitat available to fauna species.

3.3.3 Mammals

The habitat values of the bushland reserve were outlined as follows in the 2014 RAP:

> *'The bushland in the reserve forms part of an extensive area of dry forest that would provide a range of habitat opportunities for smaller mammals, birds, reptiles and invertebrates. There is plenty of dead wood and fallen timber and some trees contain small hollows providing suitable habitat for hollow nesting birds and mammals. Patches of dense cover occur throughout the site, particularly in the gullies and areas of thicker grass which would provide shelter for mammals. There is little access to water in the form of creeks or standing water and no dens or rocky outcrops have been observed during surveys. The relatively open nature of much of the forest and woodland on site, particularly the grassy woodland areas provide opportunities for grazing, hunting and foraging for many fauna species.'* (North Barker 2014)

The reserve retains the habitat values outlined in the original RAP, with weed control works improving habitat in some areas. The Landcare Group has undertaken camera trapping and acoustic monitoring in the reserve to improve understanding of faunal occupancy. Camera trapping recorded bettongs, brown bandicoots, brush tailed possums, and Bennetts wallabies, as well as introduced hares and domestic cats.

Acoustic night surveys recorded the little forest bat (*Vespadelus vulturnus*) in the black peppermint forest on the southern slope of the reserve. The little forest bat, Tasmania's smallest bat, roosts in tree hollows and produces a single young. The reserve provides foraging habitat for bats and shelter habitat such as under the bark of large trees. It is important that large trees are retained to preserve bat habitat in the reserve.

Additional camera trapping and acoustic surveys will be carried out to improve knowledge of species occupancy within the reserve and inform management of their habitat and threats (such as cats and dogs).

3.3.4 Birds

Bird surveys undertaken in 2013 identified 17 species of bird within the reserve. A further four species were recorded during 2021 surveys of the reserve, although no targeted survey has been carried out. Refer to **Appendix 4** for a cumulative bird list based on surveys conducted in 2013, 2014, and 2021. The maintenance of a diverse understorey and dense shrub layer across portions of the reserve is important to provide habitat for small bird species that can be driven off by more aggressive species such as wattlebirds, honeyeaters, and noisy miners. The retention of large and hollow-bearing trees is critical for maintaining the reserve's diverse assemblage of avian species.

4 Social Values Assessment

This section summarises the GHBR's social values including heritage, recreation and connectivity with nearby green spaces and the educational values provided by the reserve.

4.1 Aboriginal heritage

The Glebe Hill Bushland Reserve (GHBR) is situated on the land originally occupied by the Mumirimina people, a band of the Oyster Bay Nation. According to the Tasmanian Aboriginal Centre's Palawa Kani map of Lutruwita/Tasmania, the area encompassing the reserve is known as *Naniyilipata* — a name used by the Mumirimina to describe the stretch of Country along the eastern shore of the Derwent River, between Cambridge and Rokeby. The results of the Aboriginal Heritage Tasmania (AHT) search of the Tasmanian Aboriginal Site Index for the GHBR in 2014 indicated that there is no Aboriginal heritage site recorded within the reserve boundary and previous reports indicate a low probability of Aboriginal heritage being present. No additional Aboriginal heritage searches have been carried out since 2014.

All Aboriginal heritage is protected under the *Aboriginal Relics Act 1975*. If at any time during works in the reserve items of potential Aboriginal cultural significance, such as stone artefacts, cave/shelter sites, burial sites, middens, or other cultural material, is/are present, cease works immediately and contact AHT for advice. An Unanticipated Discovery Plan, which explains what steps should be followed if any of the above items are discovered while working on a site, should be on hand during ground disturbing works, to aid in meeting requirements under the Act should Aboriginal heritage be uncovered.

4.2 European heritage

The Glebe Hill area has had an interesting and varied history since European settlement. The name 'Glebe Hill' came from a 400-acre allotment of land allocated to supplement the income of the clergy of St David's parish. Known as a 'glebe', this land generated income through rent and agricultural production. The Goodwin family purchased St David's glebe in 1923 and farmed it for nearly a century. For those interested in the European history of the area, a book by Wendy Andrew called "Footprints - The People and Places of Early Clarence Plains and Rokeby", is an excellent resource.

No European heritage items were identified in the 2014 Reserve Activity Plan (North Barker 2014), and no items from the reserve are listed on the Tasmanian Heritage Register.

No additional heritage searches have been carried out as part of the review.

4.3 Recreation and connectivity

4.3.1 Recreation

The reserve contains several fire trails that are used by the local community for walking, running, dog walking, and mountain bike riding. There are six entries into the reserve which are all linked with formal tracks for walking and biking. Several tracks have been upgraded by the council since the 2014 RAP was developed, including the Merindah Track, Watton Track, Glebe Hill Track, and Betsy Mack Track (Figure 8).

Dog access in the reserve was 'under effective control' until the 2024 assessment using standard criterion under the Dog Management Policy 2021, refer to Section 5.4. Camera trap recordings of bettongs and bandicoots underscore the reserve's significance for small mammals and the need to manage dog and cat access. Refer to Section 5.4 for recommendations regarding the management of domestic animals.

The 2014 RAP emphasized the importance of track linkages to the reserves, which remains crucial due to urban growth in the Pass Road, Rokeby, and Clarendon Vale areas (North Barker 2014). These linkages are important for ecological and recreational connectivity. The Glebe Hill Bushland Reserve Visitor Amenity Plan (**Appendix 5**) illustrates where and how visitors may choose to enjoy the reserve while providing guidance for future work, including the illustration of the Reserve Stone Wall / Seating Concept.

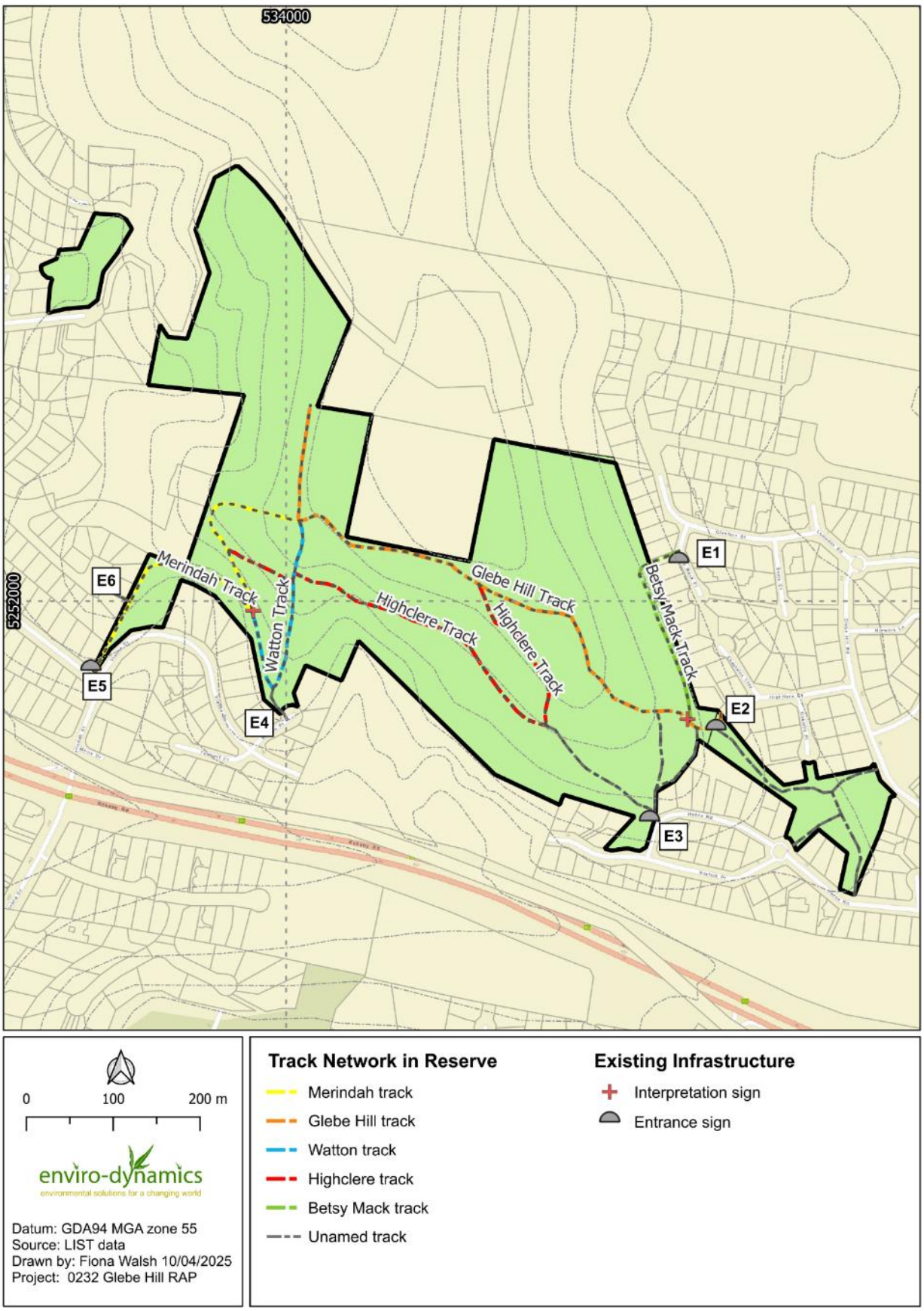

Figure 8 – Track network, entrances, and infrastructure in Glebe Hill Bushland Reserve.

4.3.2 Connectivity

As a condition of the Vineyard Estate development to the east of the reserve, a native revegetation buffer has been created between this new suburb development and intensive viticulture to the north. This buffer is approximately 30 m wide and forms a potential corridor between the reserve and native vegetation remnants along the Clarence Plains Rivulet. This corridor is more likely to be of benefit to birds and invertebrates that can fly over Pass Road and associated vehicles. Mammals and reptiles are much more susceptible to vehicle collisions, making road crossings more hazardous and potentially limiting the corridor's effectiveness for these species.

With the Clarence Plain Riparian Reserve to the east (Figure 4) there is an opportunity to strengthen the pedestrian link north from Clarence Plain Rivulet to GHBR.

The broad track linkages to the reserves provided in the 2014 RAP remain important. The rate of urban growth in the Pass Road, Rokeby, and Clarendon Vale areas makes the formation/retention of ecological connectivity and recreational linkages across the landscape and between urban areas even more important for future natural and social sustainability.

The Glebe Hill Bushland Reserve Visitor Amenity Plan by Inspiring Place, along with the Reserve Stone Wall / Seating Concept design, illustrate both the spatial connectivity of the reserve and the location and design of existing and improved amenities. The Visitor Amenity Plan also identifies opportunities for future enhancements (see **Appendix 5**).

4.4 Educational Values

Since the 2014 RAP, GHBR has developed into a hub for education, community engagement, and recreation. Interpretive signage installed throughout the reserve, along with the outdoor classroom space at the Wendy Andrew entrance, supports these activities. The Landcare Group, established in 2014, has played a key role in fostering community involvement. Howrah Primary School actively utilise the reserve for planting projects, Indigenous knowledge initiatives, and species monitoring through citizen science platforms such as iNaturalist. The wider community, local schools, and the Landcare Group are encouraged to continue engaging with and exploring these educational and conservation opportunities.

5 Management issues and recommendations

The 2014 Reserve Activity Plan (North Barker 2014) (RAP) outlined eight key management issues – Weeds; Natural Regeneration and Revegetation; Fauna and Habitat Protection; Vegetation and Fauna Management; Reserve Entrances; Tracks; Infrastructure; Bushfire Management; and Community Participation.

These issues remain current and have been reviewed and updated in this plan. A summary of all recommended actions is provided in the implementation table in Section 8 (Table 2).

5.1 Vegetation management

The Glebe Hill Bushland Reserve (GHBR) remains in a largely intact and natural condition and the requirement for revegetation activities is limited. Areas where weeds are removed appear to be regenerating naturally and as such the ongoing monitoring and control of weeds in these areas is recommended as the primary management priority.

The Minno Street Reserve (MSR) contains some degraded and weed infested areas that may benefit from revegetation activities. It is recommended that declared and environmental weeds are removed, followed by active revegetation if no natural regeneration is observed after 12-18 months.

Ecological burns can help maintain the integrity of native grasslands and promote the regeneration of shrubs and trees in woodland vegetation communities. Balancing the ratio of grassland to shrub/woodland can be important for maintaining habitat heterogeneity. However, this balance can be challenging to achieve through burns alone, as reduced numbers of native browsing animals limit the natural suppression of woody vegetation, allowing shrubs and trees to dominate over time. It is therefore preferable to create a mosaic of uneven-aged burn patches to support a diversity of habitats. Patch burning can ensure fuel loads are varied, and losses of recruits are localised (North Barker 2014). The ongoing implementation of the current Glebe Hill Reserve Bushfire Mitigation Plan (BMP) will help to ensure this is maintained.

Recommendations:

1. Encourage natural regeneration of native species in Minno Street Reserve following initial weed control and ensure follow up control protects this regeneration.
2. Focus on the planned burning program to provide the recruitment of native grasses and native ground cover while minimising recruitment of woody shrubs in the existing open grasslands.

5.2 Bushfire management and vegetation management zones

Bushfire management is a critical issue in the reserve, particularly due to the potential for loss of assets and life, but it also has implications for flora and fauna management. The implications and management of bushfire are thoroughly addressed in the BMP (2023-2028). Consequently, the issue will not be addressed in detail here.

Recommendation:

3. Implement the management actions recommended in the Glebe Hill Bushland Reserve Bushland Mitigation Plan (2023-2028) in consultation with this plan.

5.3 Weed management

Management of weeds remains one of the major issues in maintaining the integrity of the natural values present within GHBR and MSR. Weeds invade native vegetation and out-compete or smother native species, resulting in the death or decline of native plants and the fauna that depend on them. If weeds are not actively managed there will be a gradual decline in the condition and diversity of species and a potential decline in threatened flora populations and fauna habitat value (North Barker 2014).

Weed species present

The 2014 RAP identified a range of environmental weeds within the reserve which were predominantly limited to its margins and wetter south-facing slopes (North Barker 2014). Surveys of the reserve undertaken in 2020/21 recorded fewer weeds than recorded in 2014.

The reserve is in good condition with relatively few environmental weeds and exotic species present due to significant control works undertaken by the council and the Landcare Group. As a result of their efforts, infestations of boneseed, cotoneaster, blackberry, mirror bush, and briar rose have largely been controlled.

During this review, seven declared and 15 environmental weeds were recorded in GHBR, with details and control methods outlined in **Appendix 3**. Control efforts since 2014 have focused on blackberry, gorse, and Texas needlegrass, and have resulted in some success managing boneseed, fennel, and pampas grass. Recent infestations of crow garlic (Figure 9) near the Wendy Andrews entrance require prioritisation over preserving chocolate lilies where both species coexist. Weed control has involved contractors, council, and the Landcare group, supported by successful funding initiatives.

MSR contains a range of environmental weeds including slender thistle, radiata pine, blackberry, Montpellier broom, and bluebell creeper. Limited control actions have been undertaken in MSR and, as such, weed management is an important action of this Reserve Management Plan 2025-2035 (RMP).

Figure 9 – Crow garlic seed head and plants amongst the grassy vegetation.

Control of declared and environmental weeds and the follow-up control of previous works

The recommendations of the 2014 RAP remain relevant to the RMP. In addition, the Clarence Weed Strategy is applicable and should be referenced during management of GHBR and MSR.

Through ongoing control works and monitoring, it is considered possible to eradicate some of the declared weeds and manage the environmental weeds. Reinfestation from outside sources and the soil seed bank will always be an issue.

Management of minor herbaceous and grassy weed species should only be considered once all other declared and environmental weeds have been controlled and upon review of this plan after five years (North Barker 2014).

Weed control through fire management

Carried out incorrectly or without proper planning, planned burning can exacerbate weed problems. Weed control activities integrated with the management burning program are recommended within the 2023-2028 BMP to prevent exacerbating the weed infestations.

Weed education

Since the writing of the 2014 RAP, a significant number of new houses have been developed in the local area, including directly adjacent to the reserve. The education of residents (particularly those that adjoin the reserve) is important to promote responsible gardening practices and to encourage a sense of stewardship of the reserve.

Recommendations:

4. Monitor and control Texas needlegrass, crow garlic, and pampas grass in the reserve as they are priority 1 and 2 declared weeds as per the Clarence Weed Strategy 2023.
5. Control all declared and environmental weeds in Minno Street Reserve in an initial control effort.
6. Undertake follow-up control of weeds in areas previously treated.
7. Continue to integrate weed control activities with the management burning program.
8. Monitor the reserve for new weed infestations in conjunction with weed control efforts.
9. Review weed management after five years of weed management activities.
10. Undertake an awareness raising campaign with residents about responsible gardening in relation to bushland weeds.

5.4 Domestic animal management

Domestic animals, primarily cats and dogs, can pose a significant threat to fauna species that occur within the reserve and adjoining bushland. Dogs and cats can impact native species through predation and harassment, disturbance of foraging, and by leaving scent and droppings that discourage native animals from some areas. Cats are also vectors of diseases such as toxoplasmosis.

Uncontrolled dog activity emerged as a key concern during public consultation. Reports included dogs chasing wildlife and both dogs and their owners trampling sensitive vegetation within the reserve. Camera trapping in the reserve by the local Landcare Group also identified a population of bandicoots and bettongs which are particularly susceptible to disturbance by dogs.

Under the Dog Management Policy 2021, the impacts of domestic animals within a Council reserve are assessed using a standard criterion when RAPs are developed or reviewed. The criteria assess the values of each reserve, the potential impacts of dogs on these values, and consider the council's responsibilities under the *Environmental Protection and Biodiversity Conservation Act 1999, Threatened Species Protection Act 1995, Nature Conservation Act 2002,* and *Dog Control Act 2000*.

Cats have also been captured on camera within the reserve. Feral and domestic cats are known to have significant impacts on native fauna through the predation of small mammals (including eastern-barred bandicoots), birds, and lizards, and the spread of diseases like toxoplasmosis. Clarence City Council supports the *Cat Management Act 2012*, which requires de-sexing, microchipping, and keeping cats under control and inside at night. The Landcare Group has expressed interest in exploring the feasibility of designating the reserve as a cat-free area.

Results of Assessment

GHBR supports populations of native orchid and lily species, as well as sensitive fauna such as bandicoots and bettongs, all of which are particularly vulnerable to disturbance from domestic animals. Under the Clarence Dog Management Policy 2021, the presence of sensitive native species is assessed, and corresponding management controls are applied based on the level of risk each species faces. Once all species and their recommended controls are identified and tabulated, appropriate access restrictions are assigned to areas containing these species (see definitions in the Assessment Criteria Matrix – **Appendix 6** and **Appendix 7**).Based on the natural values recorded within the reserve and the application of the dog access criteria, it is recommended that all 'bushland' areas containing native vegetation be designated as 'on-lead' zones. In contrast, the Glebe Hill Parkland area—located between Highclere Court, Glebe Hill Road, and Hance Road through to the Wendy Andrew Entry (E2)does not contain significant natural values and is therefore recommended to be classified as a 'dog under effective control' area.

Recommendations:

11. In accordance with the Clarence Dog Management Policy 2021, declare GHBR "on-lead" dog zone and promote responsible pet ownership.
12. Support and promote the requirements of the *Cat Management Act 2012*, including mandatory desexing and microchipping, and encourage local residents to keep cats indoors at night.

5.5 Fauna habitat management

The fauna and fauna habitat of the reserve are outlined in Section 3.4 Fauna values The following is taken from the 2014 RAP and describes the habitat opportunities in GHBR:

> *"The reserve provides a range of habitat opportunities for smaller mammals, birds, reptiles and invertebrates. A diversity of vegetation types, plant structures (e.g. logs, hollows) and terrain (e.g. creeks, rocky outcrops) is considered ideal in providing a variety of habitat opportunities for native fauna. Maintaining this diversity will provide the best opportunity for fauna to persist and thrive."* (North Barker 2014)

The 2014 RAP also identified uncontrolled wildfire burning large parts of the reserve in a single event as the greatest threat to fauna species and their habitat:

> *"Implementation of the Glebe Hill Bushland Reserve BMP will help to ensure this does not happen by managing fuel loads and burning different management units in different years. The plan considers the need to have a variety of different age structures of vegetation within the reserve, and if implemented correctly will ensure a mosaic of habitat types and regrowth levels over the reserve."* (North Barker 2014)

Weed infestation can also threaten the fauna habitat in the reserve by changing the composition of the vegetation and attracting aggressive introduced birds. Weed control actions will prevent weeds from becoming established and altering the vegetation and should continue.

Recommendations:

13. Ensure the burning management program considers fauna habitat requirements.
14. Maintain fauna habitat values by implementing weed control actions.

5.6 Aboriginal heritage management

As noted in Section 4.1, there are no records of existing Aboriginal heritage in the reserve and its presence is unlikely. Nonetheless, a precautionary approach must be adopted to ensure that any Aboriginal heritage values are not inadvertently disturbed or removed during management activities.

Recommendation:

15. When any earthworks are planned and undertaken (e.g. track building or reserve entrance modifications), an Unanticipated Discovery Plan (UDP) must be on site. Works will cease if any items of potential cultural significance are discovered, and workers will follow the UDP.

5.7 Track management and development

Several tracks have been developed or formalised within GHBR as part of the implementation of the 2014 RAP. The Betsy Mack Track and the Merindah Track have been newly constructed, while the Watton Track and Glebe Hill Track have undergone upgrades (Figure 8). The informal Highclere Track now extends to the Norfolk Drive entrance. Although this track was initially identified for upgrades, the presence of diverse orchid species and important habitat for eastern bettongs in this area has led the Landcare Group to recommend that it remain informal to minimise disturbance.

The development of informal mountain bike tracks was raised as a concern during the community consultation. Mountain bike riding is permitted on all formal tracks in the reserve (Figure 8), however no construction of additional tracks is planned and all informal tracks are to be closed, with the exception of the informal link between Highclere track and Norfolk Drive which council will monitor.

There was some concern regarding motorbikes entering the reserve and tyre tracks were noted during the site assessment. Motorbike access is prohibited, however access to the reserve is possible as all entrances allow for mountain bike access. Resolving this issue will require a combination of changes to entrance treatments, education, and additional regulation.

Several representatives from the community called for more running tracks and better track connectivity. The 2014 RAP identified the potential to develop a northern loop track, pending negotiations with adjacent landowners. Although this has not yet progressed, a northern track—

along with a connection to Pass Road and the Clarence Plains Rivulet—remains a sought-after link to enhance pedestrian connectivity (**Appendix 5**).In the short term, a formal track through MSR between Minno Street and Skyline Drive will provide a connection to Bandicoot Reserve. A broader recreation link from the reserve north to Knopwood Hill is also identified as a future link which may be established through landholder negotiations and as part of future subdivision development.

Recommendations:

16. Maintain official track network and close all informal tracks except for the informal link between Highclere track and Norfolk Drive. Monitor use of this informal track to ensure no further damage to the sensitive area.
17. Construct a walking track from Minno Street to Skyline Drive, providing a link to Bandicoot Reserve.
18. Identify opportunities for track connection to Knopwood Hill through future subdivision development and negotiation with landholders.

5.8 Entrances, signs and infrastructure

GHBR has six entrances on the eastern, southern, and western sides: Betsy Mack, Wendy Andrew, Norfolk Drive, Vienne Drive, Merindah Street, and Mookara Street entrances.

The 2014 RAP recommended landscaping key entrances, installing signage, and adding dog bag dispensers (North Barker 2014). Upgrades were made to Betsy Mack, Wendy Andrew, and Merindah Street entrances, and dog bag dispensers and bins were added to the Norfolk Drive and Merindah Street entrances. Interpretative signage was also installed throughout the reserve. Refer to the implementation plan in Section 8 for more details.

Inspiring Place designed entrance concept plans for four Glebe Hill entrances and Minno Street entrance as part of the RMP review, excluding Mookara Street (E6) and Vienna Drive (E5) entrances. Additionally, an entry concept plan was created for the Merindah Track junction, with landscaping designed to direct users away from private land. Site works, guided by these concept plans, have since commenced to the extent described in the updated Visitor Amenity Plan. The plan includes landscaping, signage, seating, and sculptures. The Mookara Street entrance has been soft landscaped and will be upgraded with a basic directional sign.

The entrance upgrades are to be undertaken as finances become available and based on user feedback over the course of the RMP.

The reserve's infrastructure includes directional, interpretative, and entrance signage, as well as dog bags and bins at entrances. The Council has installed track signage with color-coded markers (Figure 10). The community and Landcare Group support installing track maps at entrances.

Figure 10 – Coloured track marker (Merindah Track – yellow) and small interpretive sign.

While traditional seating is absent, informal seats (large rocks) are at the Wendy Andrew Entrance, and "resting rocks," are near most interpretation signs. Inspiring Place's Reserve Stone Wall Seating Concept outlines a design for informal seating intended for future implementation *(**Appendix 5**)*.

The Council should arrange for the construction of a stone-arch bridge in MSR to provide access over a watercourse on the track between Minno Street and Skyline Drive.

The 2014 RAP emphasised the need to balance the provision of visitor infrastructure with the protection of the reserve's natural values (North Barker 2014). Community consultation revealed a range of views, with some supporting additional amenities such as BBQ areas and shelters, while others preferred to maintain the reserve in its natural state. However, the Nature Conservation Plan applicable to the reserve restricts the development of substantial infrastructure. As a result, any new infrastructure is better suited to the adjacent parkland areas or to the east of the Wendy Andrew Entrance.

Recommendations:

19. Undertake entrance landscaping at Watton Place in accordance with the Reserve Stone Wall / Seating Concept (**Appendix 5**).
20. Implement Minno Street Reserve Stone Wall / Seating Concept.
21. Upgrade Minno Reserve entrance off Skyline Drive with standard sign.
22. Install entrance sign at Mookara entrance and upgrade the Mookara Street entrance (E6) with standard directional sign.
23. Implement infrastructure upgrade recommendations as per Glebe Hill Bushland Reserve Visitor Amenity Plan and Reserve Stone Wall / Seating Concept (**Appendix 5**).
24. Install track maps at entry points.
25. Construct a stone-arch bridge across the intermittent watercourse on the track between Minno Street and Skyline Drive.
26. Consider development and implementation of landscape plan for parkland off Glebe Hill Road parkland.

5.9 Community participation, education and awareness

The 2014 RAP recommended that the council support and facilitate the formation of a 'care' group to help with the management of the reserve (North Barker 2014). The Landcare Group was formed in 2015. The group has undertaken weed management actions, contributed to the installation of signage for the reserve, undertaken fauna monitoring, and facilitated a relationship with the Howrah Primary School. The school participates in plantings in the reserve and the corridors surrounding it, alongside other nature-based education projects. They are also strongly committed to fostering deeper Indigenous knowledge partnerships, engaging both Indigenous and non-Indigenous students at the school.

The Landcare group holds walk and talk events on an annual basis and is active in citizen science programs. As such, the group utilises apps such as iNaturalist, which help build knowledge and records of flora and fauna that occur within the reserve.

Recommendations:

27. Council to continue to support the Landcare Group with maintenance projects.
28. Undertake further nature-based education projects with Howrah Primary School and promote activities to other local primary schools.
29. Develop an Indigenous interpretation program with Howrah Primary School.
30. Promote citizen science activities, such as species monitoring, through apps like iNaturalist.

6 Monitoring program

The monitoring of vegetation and fauna in the reserve was identified in the 2014 Reserve Activity Plan (RAP) as an important action to assess the ongoing health of the ecosystem and monitor the results of management actions being undertaken (North Barker 2014).

The 2014 RAP recommended that the following monitoring actions be undertaken:

- Establish vegetation monitoring plots and photo points (associated with burn units)
- Re-survey weeds, and
- Re-survey birds.

Vegetation monitoring plots and photo points were set up and will be monitored as per the Glebe Hill Reserve Bushfire Mitigation Plan (BMP) recommendations.

Should funding be available, additional monitoring of soil carbon, soil mycorrhizal diversity, and microbats should be considered.

6.1 Vegetation condition assessments

As part of the review of the RAP, a vegetation condition assessment (VCA) was undertaken in the *Eucalyptus amygdalina* forest and woodland on mudstone (DAM) at the centre of the site. The following is an excerpt from the 2014 RAP describing the VCA process:

> "*The vegetation condition analysis methodology has been created by NRE to assess vegetation condition. This methodology uses a scoring system to objectively assess vegetation condition for different vegetation types across Tasmania. Vegetation is scored according to attributes including the density of trees, species diversity, species recruitment, landscape context and weeds. Once a site has been assessed and assigned a vegetation condition score, this score is used as a baseline for the site. Future measurements of the vegetation condition score can then be compared to this baseline to monitor changes in the score and hence changes in condition of the vegetation at the site*." (2014 RAP)

The VCA score for DAM vegetation community was 78/100 (**Appendix 8**), with the remnant scoring well for lack of weeds, understorey, recruitment, and logs, but it lacked tree canopy and large trees. There is scope to increase the VCA to incorporate DRI and DVG, thereby conducting three VCAs in total.

Weed surveys were redone as part of the RAP review. Specific surveys for high priority declared weeds such as Texas needlegrass have been undertaken on a regular basis to determine control actions. The Landcare Group successfully obtained a Weed Action Fund grant to survey the whole reserve for Texas needlegrass and map infestations in late 2019.

6.2 Standardized bird survey in line with Birdlife Australia

Bird surveys were redone as part of the RAP review. A cumulative bird list from 2014 to present is provided in **Appendix 4**.

6.3 Wildlife camera and acoustic monitoring

The Landcare Group has undertaken fauna monitoring using remote cameras and acoustic monitoring. The monitoring has identified bandicoots, wallabies, and bettongs in the reserve. There have also been potential sightings of potoroos, and the presence of little forest bats was confirmed through acoustic monitoring. Camera trapping also identified introduced species in the reserve, including cats and hares. Monitoring cameras can also inform which areas of the reserve are most important for foraging, breeding, and sheltering, which can in turn guide management decisions such as where to locate future tracks and guide dog access protocols.

Recommendations:

31. Following burn events in the Glebe Hill Bushland Reserve, monitor DAM vegetation plot and add two new VCA sites in DRI and DVG as part of the 5-year review.
32. Assess and report on vegetation condition and bird and mammal population trends.

7 Review and reporting

The Glebe Hill Bushland Reserve Management Plan 2025–2035 (RMP) will be reviewed at the end of the 10-year period (2035). To maintain the currency of the recommendations and implementation plan, a review and update involving the key stakeholders will be carried out after five years (2030).

Regularly review the management of remnant vegetation to support natural regeneration and recruitment within the reserve, guided by the findings of VCA monitoring.Ongoing monitoring and maintenance of works (e.g. weed control and track maintenance) should be undertaken by the council's responsible officers. Weed management priorities may need to be updated to incorporate new information, such as new weed incursions.

Recommendations:

33. Review the recommendations and implementation plan after five years (2030) and undertake complete review of the RMP in 2035.

8 Implementation plan

The following implementation plan summarises all the recommendations made in the revised Reserve Management Plan (RMP). All recommendations made in the 2014 Reserve Activity Plan (North Barker 2014) are also provided as either actions that have been completed, or actions that are still current and have been adapted or copied to the current RMP. Each recommendation has an associated performance measure and responsible group for implementation. Recommendations are also assigned a priority ranking based on the system used in the initial RAP, with timelines extended to reflect the 10-year plan period:

- Priority 1 – short term activities (1-2 years)
- Priority 2 – medium term activities (3-5 years)
- Priority 3 – long term activities (6-10 years)

The implementation plan is intended as a guiding framework for the progression of tasks based on priority. Recommendations represent an aspirational, best-case scenario assuming unlimited funding. Given funding is limited, it will be necessary to assess what can be realistically achieved with current resourcing, and alternative funding, such as government grants, may need to be sought to achieve some of the recommendations.

Table 2 – Implementation Plan 2025-2035.

Recom #	Action	Performance Measure	Responsibility	Priority
Natural Regeneration and Revegetation				
1	Encourage natural regeneration of native species in Minno Street Reserve following initial weed control and ensure follow up control protects this regeneration.	Natural regeneration of tree and shrub species evident.	Council, Landcare Group	2
2	Focus on the planned burning program to provide the recruitment of native grasses and native ground cover whilst minimising recruitment of woody shrubs in existing open grasslands.	Minimal number of woody species regenerating or persisting in open grasslands.	Council, contractor or Landcare Group	1- 3
Bushfire Management				
3	Implement the management actions recommended in the bushfire mitigation plan in consultation with this plan.	Improved habitat diversity e.g. tree hollows and logs through implementing the bushfire mitigation plan actions.	Council	1-3
Weed Management				
4	Monitor and control Texan needlegrass, crow garlic and pampas grass in reserve as they are priority 1 and 2 declared weeds as per the CWS 2023.	Substantial reduction in number of plants. Eradication over the period of plan.	Council, contractor or Landcare Group (monitoring)	1
5	Control all declared and environmental weeds in Minno Street Reserve in an initial control effort.	Initial control of weeds completed.	Council, contractor or Landcare Group	1

Recom #	Action	Performance Measure	Responsibility	Priority
6	Undertake follow-up control of weeds in areas previously treated.	Areas previously treated remain weed free.	Council, contractor or Landcare Group	1
7	Continue to integrate weed control activities with the planned burning program.	Planned burn areas have weed control before and after the burn event.	Council, contractor, TFS	1, 3
8	Monitor the reserve for new weed infestations in conjunction with weed control efforts.	Reserve remains free of new declared and environmental weeds and new areas of infestation are controlled promptly.	Council, contractor or Landcare Group	1-3
9	Review weed management after five years.	Weed management strategies and treatment methods are effective and native species are regenerating.	Council, contractor or Landcare Group	2
10	Undertake an awareness raising campaign with residents about responsible gardening in relation to bushland weeds.	Residents are engaged in caring for the natural values of the reserve. Reduction in dumping of garden waste into reserve and no new incursions of garden escapees into the reserve.	Council, Landcare Group	2
Domestic Animal Management				
11	Under the Clarence Dog Management Policy (2021), Bushland areas of the Reserve to be declared as a “dogs on lead” area to protect native flora and fauna.	The reserve is declared as a “dogs on lead” area under the Dog Management Policy 2021.	Council	1

Recom #	Action	Performance Measure	Responsibility	Priority
12	The council promotes requirements of the *Cat Management Act 2012* including de-sexing and microchipping, promoting cats being kept inside at night in the local community.	Awareness raising campaign implemented for local residents.	Council	1
Fauna Habitat Management				
13	Ensure the burning management program considers fauna habitat requirements.	A mosaic of habitat types and regrowth levels are created through the planned burn program.	Council or contractor	2, 3
14	Maintain fauna habitat values by implementing weed control actions.	Weed control program implemented.	Council, contractor or Landcare Group	1-3
Aboriginal Heritage Management				
15	When any earthworks are planned and undertaken (e.g. track building or reserve entrance modifications), an Unanticipated Discovery Plan (UDP) must be on site. Works will cease if any items of potential cultural significance are discovered, and workers will follow the UDP.	Properly administered UDP resulting in no damage to Aboriginal heritage artefacts or relics.	Council or Contractor	2
Track Management and Development				
16	Maintain official track network and close all informal tracks except for the informal link between Highclere track and Norfolk Drive.	Official track network maintained to designated track class standard.	Council	1, 2

Recom #	Action	Performance Measure	Responsibility	Priority
	Monitor use of this informal track to ensure no further damage to the sensitive area.			
17	Construct a walking track from Minno Street to Skyline Drive providing a link to Bandicoot Reserve.	Track is constructed between Minno Street and Skyline Drive.	Council	3
18	Identify opportunities for track connection to Knopwood Hill through future subdivision development and negotiation with landholders.	Any future subdivision to the north includes public open space to facilitate linkages between reserves.	Council	3
Reserve Entrances, Signs and Infrastructure				
19	Undertake entrance landscaping at Watton Place in accordance with the Reserve Stone Wall / Seating Concept (**Appendix 5**).	Entrances upgraded and maintained.	Council	1
20	Implement Minno Street Reserve Entry Concept Plan.	Minno Street entrance upgraded and maintained.	Council	1
21	Upgrade Minno Reserve entrance off Skyline Drive with standard sign.	Minno Street entrance upgraded and maintained.	Council	1
22	Install entrance signs at Mookara entrance and upgrade the Mookara Street entrance (E6) with standard directional signs.	Mookara Street entrance upgraded and maintained.	Council	1

Recom #	Action	Performance Measure	Responsibility	Priority
23	Implement infrastructure upgrade recommendation as per the Glebe Hill Reserve Visitor Amenity Plan and Reserve Stone Wall / Seating Concept.	Infrastructure such as seats and sculptures proposed in entry plans is installed.	Council or contractor	1, 2
24	Install track maps at entry points.	Six track map signs installed.	Council or contractor	1 ,2
25	Construct a stone-arch bridge across the intermittent watercourse on the track between Minno Street and Skyline Drive.	Linkages provided.	Council	1
26	Consider development and implementation of landscape plan for parkland off Glebe Hill Road parkland.	Landscape plan designed and implemented.	Council, consultant	1, 2
Community Participation, Education and Awareness				
27	Council to continue to support the Landcare Group with maintenance projects.	Landcare Group supported by the council to complete recommendations.	Council, Landcare Group	1, 3
28	Undertake further nature-based education projects with Howrah Primary School and promote activities with other local primary schools.	Additional nature-based education programs undertaken in reserve.	Council, Howrah Primary School, Landcare Group	1, 3
29	Develop an Indigenous interpretation program with Howrah Primary School.	Program developed and implemented.	Council, Howrah Primary School, Landcare Group	2, 3

Recom #	Action	Performance Measure	Responsibility	Priority
30	Promote citizen science activities, such as species monitoring through apps like iNaturalist.	Program developed and implemented.	Council, Howrah Primary School, Landcare Group	2, 3
Vegetation and Fauna Monitoring				
31	Following burn events in the Glebe Hill Bushland Reserve, monitor DAM vegetation plot and add two new VCA sites in DRI and DVG as part of the 5-year review.	Three vegetation monitoring plots (including 2 new VCAs undertaken in 2 different vegetation communities) and photo points monitored. Results of monitoring were used to inform bushfire management.	Council, contractor	2
32	Assess and report on vegetation condition and bird and mammal population trends.	VCA and bird/mammal surveys repeated, and results used to inform management decisions in reserve.	Council, contractor, Landcare Group	2
Review and Reporting				
33	Review the recommendations and implementation plan after five years (2030) and undertake complete review of the RMP in 2035.	RMP reviewed in 2030, and recommendations altered as required.	Council, consultant	2, 3

9 References

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10 Appendices

Appendix 1 – Description of vegetation communities occurring in the Reserve

Appendix 2 – Plant list for Reserve

Appendix 3 – Weed photos and controls

Appendix 4 – Bird list

Appendix 5 – Glebe Hill Bushland Reserve Visitor Amenity Plan and Reserve Stone Wall / Seating Concept

Appendix 6 – Assessment criteria to determine level of dog access in Glebe Hill Bushland Reserve

Appendix 7 – Natural Areas Assessment criteria to determine the level of dog access in bushland and coastal reserves reference

Appendix 8 – Vegetation condition assessments

Appendix 1 – Description of vegetation communities occurring in the Reserve

The following descriptions are reproduced from the 2014 RAP (North Barker, 2014).

Eucalyptus amygdalina forest on mudstone (DAM)

Eucalyptus amygdalina forest on mudstone (DAM) is the dominant vegetation community within the reserve covering approximately 15.5 hectares. It is found throughout the reserve on mudstone soils. DAM is not threatened under the Tasmanian *Nature Conservation Act 2002*.

This community is comprised of two eucalypt species – the dominant eucalypt being white gum (*E. viminalis*) with black peppermint (*E. amygdalina*) co/sub-dominant. The shrub layer is dominated by bull oak (*Allocasuarina littoralis*), with silver wattle (*Acacia dealbata*), prickly box (*Bursaria spinosa*) and native hop bush (*Dodonaea viscosa*) all frequent. The lower shrub layer is diverse and includes several low growing and prostrate species including peachberry (*Lissanthe strigosa*), broad leaf bitter pea (*Daviesia latifolia*), yellow everlasting bush (*Ozothamnus obcordatus*) and native cranberry (*Astroloma humifusum*). Prominent graminoids include sagg (*Lomandra longifolia*) and black anther flax lily (*Dianella revoluta*). Native grasses include speargrass (*Austrostipa* spp.) and wallabygrass (*Rytidosperma* spp.). There is a moderate diversity of native herbs.

The condition is predominantly good with some degradation through tracks, and some weed infestations on the interface with suburban areas and previously the agricultural land.

Eucalyptus risdonii forest and woodland (DRI)

Eucalyptus risdonii forest and woodland (DRI) is less abundant within the reserve covering approximately 1.9 hectares. It is found only on the upper west facing slopes of Glebe Hill, on rockier, shallower mudstone soils. DRI is listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NCA).

Risdon peppermint (*Eucalyptus risdonii*) is the dominant canopy species. There is a prominent tall shrub layer that includes bull oak (*Allocasuarina littoralis*), native hop bush (*Dodonaea viscosa*) and hairy dogwood (*Pomaderris pilifera*) over a diverse assemblage of low shrub that include spreading wattle (*Acacia genistifolia*), yellow everlasting bush (*Ozothamnus obcordatus*), matted bushpea (*Pultenaea pedunculata*), glandular pinkbells (*Tetratheca labillardierei*), hop bitterpea (*Daviesia latifolia*), and common heath (*Epacris impressa*). Relative abundances of these species vary across the slope, as does the understorey dominance which is a mixture of native herbs, grasses and orchids.

The condition is predominantly good with little to no weed infestations.

Eucalyptus viminalis grassy forest and woodland (DVG)

Eucalyptus viminalis grassy forest and woodland (DVG) is less abundant within the reserve covering approximately 2.6 hectares. It is found only on the mid to lower east facing slopes of Glebe Hill, where dolerite soils are dominant. *Eucalyptus viminalis* grassy forest and woodland are not threatened under the *Nature Conservation Act 2002*. It is, however, considered to be locally significant within the Clarence municipality, with low reservation status within the south-east bioregion and Tasmania. As this community is not listed under any state legislation, there may be a clearing bias towards it when developments are planned. This may lead to excessive clearance of this community which may be detrimental in the long term and highlights the importance of conserving areas of DVG within Council and other reserves.

This community consists of short mature regrowth trees of E. viminalis. There is a relatively sparse tall shrub layer dominated by prickly box (*Bursaria spinosa*) and with occasional silver wattle (*Acacia dealbata*), black wattle (*A. mearnsii*), drooping sheoak (*Allocasuarina verticillata*) and native hop bush (*Dodonaea viscosa*). Low shrubs are scarce, with occasional occurrences of native cranberry (*Astroloma humifusum*), creeping bossiaea (*Bossiaea prostrata*), peachberry heath (*Lissanthe strigosa*) and dwarf riceflower (*Pimelea humilis*). Grass species dominate the ground cover with *Austrostipa* sp., being most prominent with kangaroo grass (*Themeda triandra*) and velvet tussockgrass (*Poa rodwayi*) also frequent. Graminoids and herbs are insignificant, with fan sedge (*Lepidosperma inops*) and grassland woodsorrel (*Oxalis perennans*) possibly being the most frequent species of the first and latter categories.

The condition is predominantly good with some typical agricultural weeds invading adjacent to the interface with the previous agricultural land (now housing).

Rockplate grassland (GRP)

Immediately to the west of Glebe Hill small patches of rockplate grassland (GRP) occur, covering approximately 0.3 hectares. Another small patch occurs on the south-eastern edge of the reserve. This grassland is likely to be disturbance induced because of vegetation clearance for rough grazing or may be a consequence of shallow soils inhibiting tree establishment. Rockplate grassland is not threatened under the *Nature Conservation Act 2002*.

This community is dominated by native species in particular *Austrostipa* spp. with kangaroo grass (*Themeda triandra*) subdominant and supports good populations of the chocolate lily

(*Arthropodium strictum*). Other frequent herbs are native flax (*Linum marginale*), scaly buttons (*Leptorhynchos squamatus*) and tracking native primrose (*Goodenia lanata*).

The condition is predominantly good with little to no weed infestations.

Appendix 2 – Plant list for Reserve

This plant list was derived from surveys by North Barker 2014 and Enviro-dynamics 2020 and 2021.

Table 3 – Glebe Hill Bushland Reserve plant list.

Status codes:

ORIGIN	NATIONAL SCHEDULE	STATE SCHEDULE
i - introduced	EPBC Act 1999	TSP Act 1995
d - declared weed *Biosecurity Act 2019*	CR – critically endangered	e – endangered
en – endemic to Tasmania	EN – endangered	v – vulnerable
	VU – vulnerable	r - rare

Name	Common name	Status
DICOTYLEDONAE		
APIACEAE		
Hydrocotyle foveolata	yellow pennywort	
ASTERACEAE		
Bedfordia salicina	tasmanian blanketleaf	en
Brachyscome aculeata	hill daisy	
Carduus pycnocephalus *and* Carduus tenuiflorus	Slender thistle	d
Chrysanthemoides monilifera subsp. monilifera	boneseed	d
Chrysocephalum apiculatum	common everlasting	
Chrysocephalum semipapposum	clustered everlasting	
Cirsium vulgare	Scotch thistle	i
Coronidium scorpioides	curling everlasting	
Craspedia glauca	common billybuttons	en
Euchiton collinus	common cottonleaf	
Hypochoeris radicata	rough catsear	i
Leptorhynchos nitidulus	shiny buttons	
Leptorhynchos squamatus	scaly buttons	
Ozothamnus obcordatus	yellow everlastingbush	
Ozothamnus purpurascens	columnar everlastingbush	en
Ozothamnus scutellifolius	buttonleaf everlastingbush	en
Senecio glomeratus subsp. globeratus	shortfruit purple fireweed	
Senecio hispidulus	rough fireweed	
Senecio quadridentatus	cotton fireweed	
Sonchus oleraceus	common sowthistle	i
CAMPANULACEAE		
Wahlenbergia sp.	bluebell	
CASUARINACEAE		
Allocasuarina littoralis	black sheoak	
CRASSULACEAE		
Crassula sieberiana	stone-crop	
Crassula tetragona	miniature pine tree	i
DILLENIACEAE		
Hibbertia hirsuta	hairy guineaflower	en

DROSERACEAE		
Drosera auriculata	tall sundew	
EPACRIDACEAE		
Acrotriche serrulata	ants delight	
Styphelia humifusa	native cranberry	
Epacris impressa	common heath	
Lissanthe strigosa	peach berry	
EUPHORBIACEAE		
Poranthera microphylla	small poranthera	
FABACEAE		
Bossiaea prostrata Daviesia latifolia	creeping bossiaea	
Daviesia ulicifolia subsp. Ulicifolia	hop bitterpea	
Daviesia sejugata	yellow spiky bitterpea	
Dillwynia cinerascens	leafy spiky bitterpea grey parrotpea	
Pultenaea pedunculata	matted bushpea	
Pultenaea daphnoides	large leaf bushpea	
Ulex europaeus	gorse	d
GENTIANACEAE		
Centaurium erythraea	common centaury	i
GERANIACEAE		
Geranium sp.	native geranium	
GOODENIACEAE		
Goodenia lanata Goodenia ovata	trailing native-primrose hop native-primrose	
HALORAGACEAE		
Gonocarpus tetragynus	common raspwort	
HYPOXIDACEAE		
Hypoxis vaginata	sheath yellow star	
LAMIACEAE		
Prostanthera lasianthos var. lasianthos	christmas mintbush	
LAURACEAE		
Cassytha pubescens	downy dodderlaurel	
LINACEAE		
Linum marginale Linum trigynum	native flax french flax	i
MIMOSACEAE		
Acacia baileyana	cootamundra	i
Acacia dealbata subsp. dealbata	wattle silver	
Acacia genistifolia	wattle spreading wattle	
Acacia mearnsii	black wattle	
Acacia melanoxylon	blackwood	
MYRTACEAE		
Eucalyptus amygdalina	black peppermint	en
Eucalyptus globulus	Tasmanian blue gum	en
Eucalyptus risdonii	risdon peppermint white gum	en r
Eucalyptus viminalis subsp. viminalis		

OXALIDACEAE		
Oxalis perennans	grassland woodsorrel	
PITTOSPORACEAE		
Bursaria spinosa subsp. spinosa	prickly box	
Pittosporum undulatum	sweet pittosporum	i
Rhytidosporum procumbens	starry appleberry	
PLANTAGINACEAE		
Plantago varia	variable plantain	
POLYGALACEAE		
Comesperma volubile	blue lovecreeper	
PROTEACEAE		
Grevillea rosmarinifolia	grevillea	i
RHAMNACEAE		
Pomaderris apetala	common dogwood yellow dogwood	
Pomaderris elliptica		
Pomaderris pilifera	hairy dogwood	
ROSACEAE		
Acaena echinata	sheep's burr	i
Rosa rubiginosa	sweet briar	d
Rubus fruticosus	blackberry	
RUBIACEAE		
Galium aparine	cleavers	i
Galium gaudichaudii	rough bedstraw	
Opercularia varia	variable stinkweed	
SANTALACEAE		
Exocarpos cupressiformis	common native-cherry	
SAPINDACEAE		
Dodonaea viscosa subsp. spatulata	broadleaf hopbush	
STYLIDIACEAE		
Stylidium graminifolium	narrowleaf triggerplant	
THYMELAEACEAE		
Pimelea humilis	dwarf riceflower	
TREMANDRACEAE		
Tetratheca labillardierei	glandular pinkbells	
VIOLACEAE		
Viola hederacea	ivyleaf violet	

MONOCOTYLEDONAE

AMARYLLIDACEAE		
Allium vineale	crow garlic	d
CYPERACEAE		
Carex breviculmis	Asian shortstem sedge	
Lepidosperma gunnii	swordsedge variable	
Lepidosperma laterale	swordsedge common	

Schoenus apogon	bog-rush	
JUNCACEAE		
Juncus pallidus	pale rush	
IRIDACEAE		
Diplarrena moraea	white flag-iris	
LILIACEAE		
Arthropodium milleflorum	pale vanilla-lily	
Arthropodium strictum	chocolate lily	
Dianella revoluta	spreading flax lily	
Thysanotus patersonii	twining fringe lily	
Wurmbea dioica subsp. dioica	early nancy	
ORCHIDACEAE		
Caledenia carnea	pink fingers	
Caledenia clavigera	plain-lip spider orchid	
Calochilus herbaceous	pale beard orchid	
Chiloglottis sp.	bird orchid	
Corybus sp.	helmet orchid	
Dipodium roseum	hyacinth orchid	
Diuris pardina	leopard orchid	
Diuris sulphurea	tiger orchid	
Glossodia major	wax-lip orchid	
Microtis unifolia	common onion orchid	
Pterostylis nutans	nodding greenhood	
Pterostylis sp	greenhood	
Thelymitra pauciflora	slender sun orchid	
Thelymitra rubra	pink sun-orchid	
Thelymitra sp.	sun-orchid	
POACEAE		
Agrostis sp.	blown grass	
Aira elegantissima	delicate hairgrass	
Rytidosperma caespitosa	common wallabygrass	
Rytidosperma setacea	bristly wallabygrass	
Rytidosperma sp.	wallabygrass	
Austrostipa mollis	soft speargrass	
Austrostipa pubinodis	tall speargrass southern	
Austrostipa rudis subsp. australis	speargrass speargrass	
Austrostipa sp.	corkscrew speargrass	
Austrostipa stuposa	bearded speargrass	
Austrostipa semibarbata		
Briza maxima	greater quaking-grass	i
Briza minor	lesser quaking-grass	i
Cynosurus echinatus	rough dogstail	i

Dactylis glomerata	Cocksfoot	i
Deyeuxia monticola	mountain bentgrass reed	
Deyeuxia quadriseta	bentgrass common	
Dichelachne rara	plumegrass weeping grass	
Microlaena stipoides	rough wheatgrass	
Elymus scaber	yorkshire fog	i
Holcus lanatus	velvet tussockgrass	
Poa rodwayi	tussock grass	
Rytidosperma indutum	tall wallabygrass	
Themeda triandra	kangaroo grass	
XANTHORRHOEACEAE		
Lomandra longifolia	sagg	

PTERIDOPHYTA

ASPIDIACEAE	
Polystichum proliferum	mother shieldfern
DENNSTAEDTIACEAE	
Pteridium esculentum	bracken

Appendix 3 – Weed photos and controls

African boxthorn (*Lycium ferocissimum*) WONS D

blackberry (*Rubus fruticosus*) D, WONS

boneseed (*Chrysanthemoides monilifera subsp. monilifera*) D, WONS

canary broom (*Genista monspessulana*) D, WONS

crow garlic (*Allium vineale*) D

slender thistle (*Carduus pycnocephalus and Carduus tenuiflorus*) D

aeonium (*Aeonium* sp.) E

bluebell creeper (*Billardiera heterophylla*) E

cotoneaster (*Cotoneaster* sp.) E

fuchsia *(Fuchsia magellanica) E*

fennel (*Foeniculum vulgare*) D

garden geranium (*Geranium* sp.) E

grevillea (*Grevillea rosmarinifolia*) E

Gorse (*Ulex europaeus*) D WONS

himalayan firethorn (*Pyracantha* sp.) E

mirror bush (*Coprosma repens*) E

Pampas (*Cortaderia selloana*) D, WONS

Montpellier broom (*Genista monspessulana) D WONS*

radiata pine (*Pinus radiata*) E

red valerian (*Centranthus ruber*) E

Serrated tussock (*Nassella trichotoma*) D WONS

sweet briar (*Rosa rubiginosa*) E

sweet pittosporum (*Pittosporum undulatum*) E

tagasaste (*Chamaecytisus palmensis*) E

Texas needlegrass (*Nassella leucotricha*)

Common Name	Species Name	Weed Status	Life Form	How Spread	Control Methods	Control Timing
aeonium	*Aeonium sp.*	Environmental	succulent	seed, stem rooting, vegetative reproduction	spray, dig out	all year
African boxthorn	*Lycium ferocissimum*	WONS, Declared	shrub	seed, stem rooting, vegetative reproduction	hand pull seedlings, cut & swab larger plants	all year
blackberry	*Rubus fruticosus*	WONS, Declared	shrub/ scrambler	seed, stem rooting, suckering	spray, cut & swab, stem scrape	all year
bluebell creeper	*Sollya heterophylla*	Environmental	climber	seed, stem and root fragments	hand pull seedlings, cut & swab larger plants	spring/ summer/ autumn
boneseed	*Chrysanthemoides monilifera*	WONS, Declared	shrub	seed	hand pull seedlings, cut & swab larger plants	all year
crow garlic	*Allium vineale*	WONS, Declared	Herb, bulb	bulbs	spray, dig out	spring/summer
cape Leeuwin wattle	*Paraserianthes lophantha*	Environmental	shrub	seed	hand pull seedlings, cut & swab larger plants	spring/ summer/ autumn
cotoneaster	*Cotoneaster sp.*	Environmental	shrub	seed	spray, cut & swab	all year
fennel	*Foeniculum vulgare*	Declared	herb	seed	spray, cut & swab	winter/ spring/ summer
fuschia	*Fuchsia magellanica*	Environmental	shrub	seed	spray, cut & swab	all year
garden geranium	*Geranium sp.*	Environmental	shrub	seed, stem and root fragments	hand pull seedlings, cut & swab larger plants	spring/ summer/ autumn
grevillea	*Grevillea rosmarinifolia*	Environmental	shrub	seed	cut & swab	spring/ summer/ autumn
Himalayan firethorn	*Pyracantha sp.*	Environmental	shrub	seed, berries spread by birds and water	cut & swab	spring/ summer/ autumn
mirrorbush	*Coprosma repens*	Environmental	shrub	seed, berries spread by birds and water	cut & swab	spring/ summer/ autumn
Montpellier broom	*Genista monspessulana*	WONS, Declared	shrub	seed	hand pull seedlings, cut & swab larger plants	all year

Common Name	Species Name	Weed Status	Life Form	How Spread	Control Methods	Control Timing
pampas grass	*Cortaderia selloana*	Declared	shrub	seed	hand pull or dig out plant ensuring all root material is removed and/or foliar spray	spring/ summer/ autumn
radiata pine	*Pinus radiata*	Environmental	tree	seed	hand pull seedlings, cut down, ring bark	all year
red valerian	*Centranthus ruber*	Environmental	herb	seed	hand pull, cut and swab or spray	spring/ summer/ autumn
slender thistle	*Carduus pycnocephalus and Carduus tenuiflorus*	Declared	herb	seed	hand pull, spray	winter/ spring/ summer
sweet briar	*Rosa rubiginosa*	Environmental	shrub	seed	spray, cut & swab, stem scrape	all year
sweet pittosporum	*Pittosporum undulatum*	Environmental	tree	seed	cut & swab, drill & fill	all year
tagasaste	*Chamaecytisus palmensis*	Environmental	tree	seed	cut & swab, drill & fill	spring/ summer/ autumn
Texas needlegrass	*Nassella leucotricha*	Declared	grass	seed	spray	Spring/summer

Appendix 4 – Bird list

The following bird list for the Glebe Hill Bushland Reserve includes species recorded from surveys conducted by Birds Tasmania in 2013, North Barker Ecosystem Services survey observations from 2014, and Enviro-dynamics observations from 2021. The surveys have been undertaken across the woodland and grassland habitat during a series of 20-minute surveys over several years on a voluntary basis.

All data collected has been added to BirdLife Australia's Birdata web portal by Mike Newman.

Status 'i' indicates introduced species to Tasmania.

Table 4 – Bird list for Glebe Hill Bushland Reserve.

Common Names	Species Name	Count	Status
Australian magpie	*Gymnorhina tibicen*	2	
Blackbird	*Turdus merula*	1	i
Brown thornbill	*Acanthiza pusilla*	1	
Common bronzewing	*Phaps chalcoptera*	3	
Eastern rosella	*Platycercus eximius*		
Forest raven	*Corvus tasmanicus*	4	
Green rosella	*Platycercus caledonicus*	2	
Grey currawong	*Strepera versicolor*	4	
Grey fantail	*Rhipidura fuliginosa*	1	
Golden Whistler	*Pachycephala pectoralis*		
Laughing kookaburra	*Dacelo novaeguineae*	1	i
Musk lorikeet	*Glossopsitta concinna*	3	
New Holland honeyeater	*Phylidonyris novaehollandiae*	1	
Noisy Miner	*Manorina melanocephala*		
Pallid cuckoo	*Cuculus pallidus*	2	
Shining bronze cuckoo	*Chalcites lucidus*	1	
Silvereye	*Zosterops lateralis*	2	
Spotted pardalote	*Pardalotus punctatus*	3	
Spotted turtle-dove	*Streptopelia chinensis*	3	i
Striated pardalote	*Pardalotus striatus*	1	
Superb fairy-wren	*Malurus cyaneus*	1	

Minno Bushland Reserve

Minno Street

Monique St.

Mookara St.

Vienne Drive

Merindah Street

Watton Place

Betsy Mack Place

Norfolk Drive

Glebe Hill Rd.

South Arm Highway

Key:

Reserve Entries

1. Trailhead formation at Minno Bushland Reserve entrance has commenced with vehicle limiting boulders, landscaped stone wall and embedded seat with entrance sign to be installed. Minor entry with small directional signage proposed from Skyline Drive, with small trail map and use guide symbols.
2. Existing trailhead at Merindah Street entry improved with entry sign, soft landscaping, mulching and terraced stone walling. Opportunity to embed large trail map and seat at higher vantage point. Refer to Trailhead Concept Plan.
3. Mookara Street access improved with planting. Opportunity to mulch Hazard Management Area with mudstone toned rock mulch. At services juncture establish walling, seating and directional boulders to clarify path entry into reserve (to east) away from road heading north as it heads into private property.
4. Establish minor trailhead for Watton Place entry heading north, stone wall, seat, small embedded trail map and use guide symbols. Entry heading south to be unobstructed to enable upgrade to fire trail as per Clarence City Council Managed Vehicular Fire Trail Categories
5. Betsy Mack Place entry upgrade work has been undertaken including, stone wall, seat, and soft landscaping. Opportunity to add trail map and explore WSUD designs for existing open drains.
6. Trailhead for Wendy Andrew entry improved with addition of stone wall, embedded seat, gravel hardstand, reserve sign and interpretation elements. Opportunity to provide WSUD designs for existing open drains.
7. Norfolk Drive entry improved with mudstone walls, upgraded staircase, embedded seat, reserve entry sign with use guide symbols.
8. Proposed opportunity to embed sculptural interpretation element within stone walling. Five locations suggested to communicate targeted stories relating to specific locations and their outlooks.
9. Existing flora and fauna interpretation totem signs with boulder seating.
10. Existing interpretation map signs. Broader themes targeted at locations.
11. Opportunity to strengthen revegetation corridor within 60 Glebe Hill Road parkland. Potential for swathes of understorey endemic planting, with clusters of mid-storey and overstorey native vegetation.

Trailhead Entry

Interpretation opportunity

Glebe Hill Bushland Reserve Visitor Amenity Plan

Glebe Hill, Howrah |

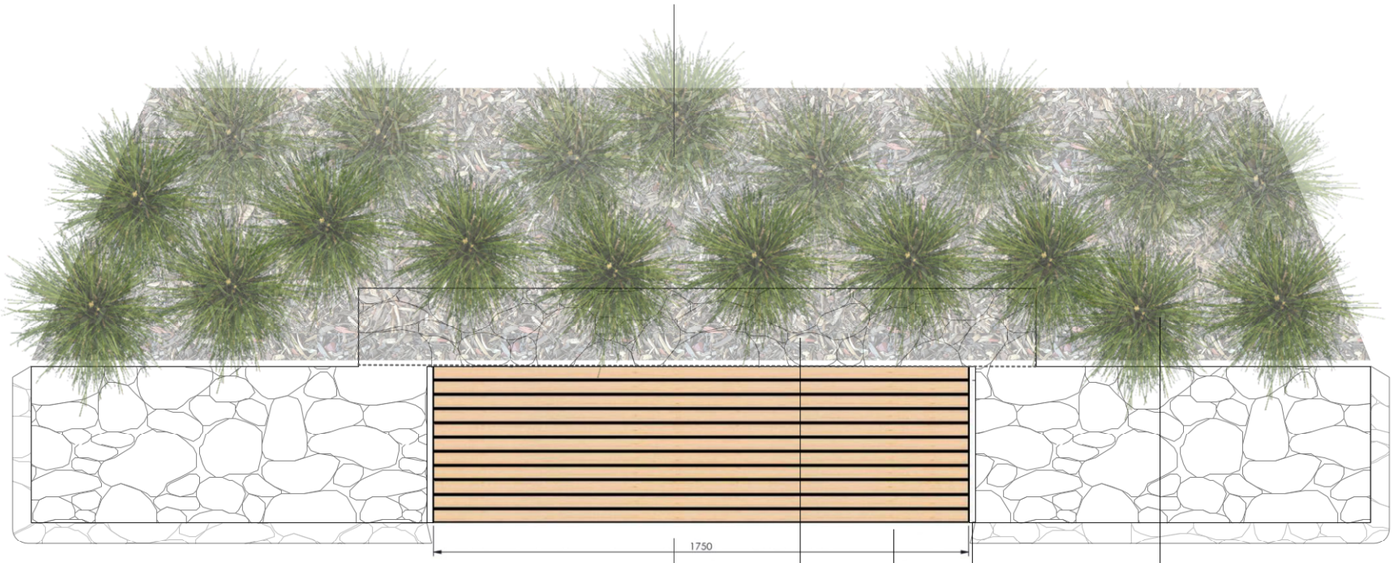
PREPARED FOR ENVIRO-DYNAMICS / CLARENCE CITY COUNCIL

inspiring place

NORTH

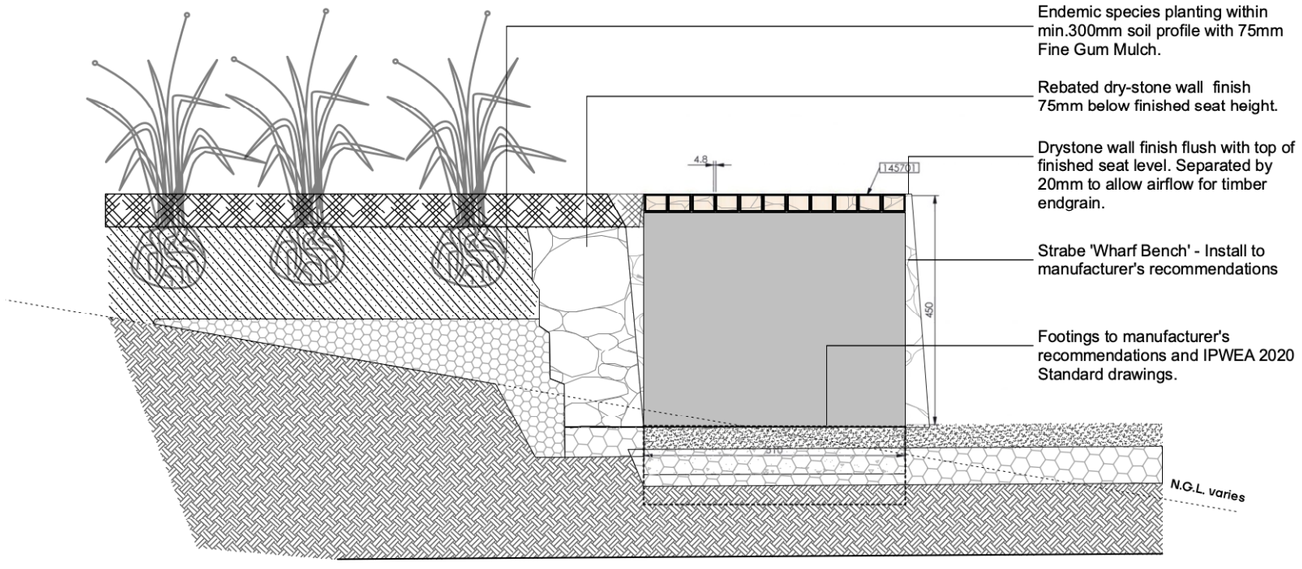
Date 20/ 01 / 2025

Scale 1:3000 @ A3



1 SK-001 WALL / SEAT PLAN 1:20

2 SK-001



2 SK-001 WALL / SEAT CROSS-SECTION 1:20

3 SK-001 Strabe 'Wharf Bench' 3D 1:100

Reserve Stone Wall / Seating Concept

Glebe Hill Bushland Reserve |
PREPARED FOR CLARENCE CITY COUNCIL

inspiring place

Date 19/2/2025
Scale 1:20 @ A3

Appendix 6 – Assessment criteria to determine level of dog access in Glebe Hill Bushland Reserve

Table 5 – Natural values and recommended dog control regulation – assessment criteria for Glebe Hill bushland reserve - adapted from Natural Areas: Assessment criteria to determine level of dog access in bushland and coastal reserves by Enviro-dynamics (2021).

Threatened Species	**Group**	**Threatened Species Status**		**Observations/Records**	**Sensitive Species**	**Recommended Dog Control Regulation**	**Area to be applied to**
Scientific name / common name	*Flora/ mammal/ bird/ reptile*	*TSPA 1995*	*EPBC Act 1999*	*List records and method of collection – NVA, other report, survey, wildlife camera etc*	*Example - Susceptible* to trampling (flora) and sensitive# to predation and stress (fauna)*	*Control 1 - 6*	*Parts of reserves can be declared as different dog control regulation*
risdon peppermint (*Eucalyptus risdonii*)	Flora	Rare		NVA, previous surveys	No sensitive to impacts from dogs	Control 5	Bushland areas
sheathing yellowstar (*Hypoxis vaginata*)	flora			NVA, previous surveys	Susceptible to trampling although risk is low	Control 3	Bushland areas
leafy fireweed (*Senecio squarrosa*)	flora	rare	n/a	NVA, previous surveys	Low sensitivity to trampling	Control 5	Bushland areas
Regionally Significant species	**Group**	**Conservation Significance**		**Observations/Records**	**Sensitive Species**	**Recommended Dog Control Regulation**	**Area to be applied to**
Range of orchid species	flora	Locally significant population			Orchid susceptible to trampling. Impact on species likely to be minor	Control 3	Bushland areas
Chocolate lily	flora	Locally significant population			Susceptible to trampling. Due to size of population trampling unlikely to significantly impact population in reserve	Control 3	Bushland areas

Habitat - terrestrial	Is there suitable habitat?	Description	Is there *sensitive fauna present?	What sensitive fauna is present?	Observations/ Records	Recommended Dog Control Regulation	Area to be applied to
Suitable shelter or foraging habitat for native mammal species	Yes	Grassy and shrubby woodland which provides foraging and sheltering habitat for small mammal species	Yes	Bettongs, southern brown bandicoots, brush tailed possum.	Wildlife camera recording diggings in reserve	Control 3	Bushland areas
	No	Parkland area off Highclere Street	Potentially at night	Bandicoots may forage in parkland from dusk to dawn	No observations in parkland areas	Control 6	Parkland areas
					Final Recommended Dog Control Regulation	**3 – Dogs on lead on formal tracks**	**Bushland areas**
						6 – Dogs off lead exercise (under eff control)	**Parkland areas**

Definitions

** Susceptible flora species – flora – small delicate species such as orchids and lilies which may not reproduce consistently, have short flowering times and are restricted in their distribution and where a relatively small impact could prevent reproduction of a significant proportion of a population.*

 # Sensitive fauna species – smaller mammals that are more likely to be killed by dogs including bandicoots, bettongs, potoroos, antechinus, pademelons, possums, native rodents, juvenile Bennett's wallabies and quolls.

Appendix 7 – Natural Areas Assessment criteria to determine the level of dog access in bushland and coastal reserves reference

Natural Areas Assessment criteria to determine the level of dog access in bushland and coastal reserves			
(* Note – this table is for assessing environmental values only and does not include recreational values or risk management requirements, which need to be assessed separately, and does not apply to the Tangara Trail except where it passes through a reserve.			
Environmental conditions assessed in accord with: • *Environmental Protection and Biodiversity Conservation Act 1999,* • *Threatened Species Protection Act 1995,* • Wildlife Regulations under the *Nature Conservation Act 2002*	**Application** *(*Note – some reserves may have more than one level of control in different parts of a reserve)*	**Recommended dog walking Classification**	**Example**
Highly sensitive areas such as beaches, saltmarshes or wetlands where there are migratory waders, breeding shorebirds or permanent burrows of shorebirds.	Applicable to beaches, saltmarshes and wetlands	Control 1 - Dogs Prohibited	Lauderdale saltmarsh, Dorans Road Saltmarsh, Pipeclay Lagoon Coastal Reserve
Discrete breeding/nesting areas for shorebirds during breeding season or flowering periods for threatened species	Applicable to shorebird breeding/nesting areas and threatened flora species locations	Control 2 - Dogs on lead outside time-specific restricted areas	Mortimer Bay Coastal reserve
Bushland reserves where there are known populations of threatened or sensitive / susceptible flora and fauna species	Applicable to reserves with a formal track network	Control 3 - Dogs on lead on tracks	Glebe Hill Bushland area
Bushland reserves where there are known populations of threatened or sensitive / susceptible flora and fauna species	Applicable to reserves that do not have a formal track network	Control 4 - Dogs on lead	Single Hill

Natural Areas Assessment criteria to determine the level of dog access in bushland and coastal reserves			
(* Note – this table is for assessing environmental values only and does not include recreational values or risk management requirements, which need to be assessed separately, and does not apply to the Tangara Trail except where it passes through a reserve.			
Environmental conditions assessed in accord with: • *Environmental Protection and Biodiversity Conservation Act 1999,* • *Threatened Species Protection Act 1995,* • Wildlife Regulations under the *Nature Conservation Act 2002*	**Application** *(*Note – some reserves may have more than one level of control in different parts of a reserve)*	**Recommended dog walking Classification**	**Example**
Reserves with no recorded susceptible flora and fauna species and no potential habitat	Applicable to reserves with formal track network.	Control 5 - Dogs off lead & under effective control on tracks	Glebe Hill Parkland area Risdon Vale and Grass Tree Rivulets Riparian reserves
Bushland or parkland reserves with no recorded susceptible flora and fauna species and no potential habitat Open reserves with minimal native habitat and no record sensitive or threatened flora and fauna species.	Applicable to reserves with no formal track network.	Control 6 - Dogs off lead & under effective control	Richmond Recreational Reserve

Definitions

Sensitive fauna is defined as fauna that are sensitive to the impacts of dogs (e.g. disturbance, predation etc.) and may be negatively affected by dogs in terms of a significant displacement from suitable habitat, a loss of resources or reduction of population as a consequence of interactions with dogs or impacts from disease carried by dogs. Smaller mammals such as bandicoots, bettongs, potoroos, antechinus, possums, pademelons, native rodents, quolls or juvenile Bennett's wallabies are more likely to be injured or killed by dogs.

Susceptible flora species are defined as small delicate species such as orchids and lilies which may not reproduce consistently, have short flowering times and are restricted in their distribution and where a

relatively small impact could prevent reproduction of a significant proportion of a population. Species that are listed as threatened under the *Environmental Protection and Biodiversity Conservation Act 1999* or the *Threatened Species Protection Act 1995* will receive the highest priority.

Appendix 8 – Vegetation condition assessments

Site 1: *Eucalyptus amygdalina* forest on mudstone (DAM)							
Location	Glebe Hill. Upper south-facing slope.						
Grid Reference	534251 E	5251948 N	Date	02-Nov-2020			
Area			Recorder	Nick Fitzgerald			
SITE CONDITION ATTRIBUTES							
Large Trees		Understorey Life Forms					
Number of Large Trees #/ha	0	Life Forms		No. species	Cover %	Present	Modified
Proportion Healthy Canopy	N/A	Immature canopy tree		2	30	Y	N
Tree Canopy Cover		Tree (sub canopy) or large shrub		3	60	Y	N
Tree Canopy Cover (%)	0	Medium shrub/small shrub		4	2	Y	N
Proportion Healthy Canopy	N/A	Prostrate and mat shrubs		2	2	Y	N
Lack of Weeds		Herbs		13	2	Y	N
Weed Cover (%)	<1	Grasses		4	20	Y	N
High Threat Weeds (%)	0	Large sedge/rush/sagg		2	10	Y	N
Recruitment		Medium sedge/rush/sagg		2	2	Y	N
Adequate Canopy Recruitment	Yes	Tiny sedge/rush/sagg		-	-	-	
Proportion of native woody plants with adequate recruitment (%)	91	Ground ferns		0	0	N	
Woody Species Diversity	High	Tree Ferns		-	-	-	
Organic litter (%)		Scrambler/Climber and Epiphytes		1	<1	-	
Litter Cover (%)	80	Mosses and Lichen		-	25	Y	N
Litter – native or non-native	Native						
Logs		% Benchmark life forms present		91%			
Length of Logs (m/ ha)	58						
Large logs present	No						
LANDSCAPE CONTEXT ATTRIBUTES							
Patch Size		Neighbourhood		Distance to Core Area			
Area of native vegetation continuous with assessment zone	>50 ha	% Native Vegetation within 100 m	100	Distance to Core Area >50 ha			Contiguous
Significantly disturbed	Yes	% Native Vegetation within 1 km	24	Core area significantly disturbed			Yes
		% Native Vegetation within 5 km	40				

FINAL VEGETATION CONDITION SCORE				
Site Condition Score		Landscape Context Score		TOTAL
Large Trees	**0**10	Patch Size	**10**/10	**78**/100
Tree Canopy Cover	**0**/5	Neighbourhood	**5**/10	
Lack of Weeds	**15**/15	Distance to Core Area	**4**/5	

FINAL VEGETATION CONDITION SCORE			
Understorey Summary	**25**/25	Landscape Context Score	**17**/25
Recruitment	**10**/10		
Organic Litter	**5**/5		
Logs	**4**/5		
Site Condition Total	**48**/75