HOLMES DYER

BOYER ROAD PRECINCT STRUCTURE PLAN & INFRASTRUCTURE FUNDING FRAMEWORK

Brighton Council

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Project Team & Associated Reports

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European Heritage Report (Appendix 3)	**Cultural Heritage Management Australia** Stuart Huys (Director)
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Bushfire Risk Analysis Report (Appendix 5)	**Novaland** James Stewart (Senior Town Planner / Accredited Bushfire Practitioner)
Site Contamination Risk Report (Appendix 6)	**ES&D** Rod Cooper (Principal Consultant)
Agricultural Land Assessment Report (Appendix 7)	**Pinion Advisory** Jason Lynch (Senior Consultant)
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Traffic and Transport Report (Appendix 9)	**Midson Traffic** Keith Midson (Director)
Preliminary Costings Report (Appendix 10)	**Matrix Management Group** Chad Freeman

Contents

1. Background & Context

1.1 Housing Shortage

Australia is in the midst of a serious housing crisis. Tasmania has been particularly hard hit, with the largest increase in homelessness in the nation, a social housing wait list that has doubled, and an unprecedented increase in rent and house prices.
Brighton Council is experiencing strong population growth, however there is an inadequate supply of zoned residential land to meet anticipated demand over the next 20 years.

1.2 Greenfield Development Precinct

The Tasmanian Government has prepared a Southern Tasmania Regional Land Use Strategy (STRLUS), which identifies opportunities for additional land for housing within the Greater Hobart Urban Growth Boundary, including within Brighton Council.

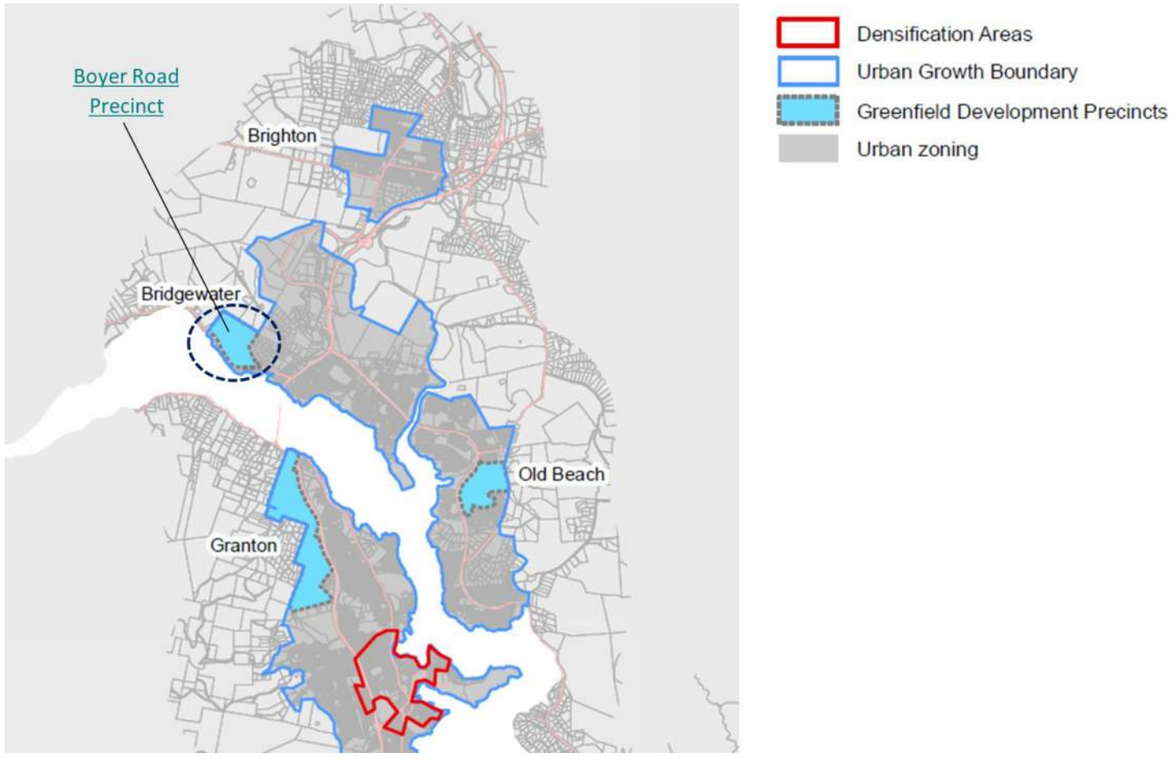
Referred to as Greenfield Development Precincts, this land has previously been zoned 'Future Urban' to ensure it is set aside for future residential development.

As shown in Figure 1, the Boyer Road Precinct is one of the last remaining Greenfield Development Precincts within Brighton Council.

1.3 Delivery of Land for Housing

To address the constrained availability of residential land within the region, Brighton Council has commissioned the preparation of a Precinct Structure Plan (PSP) to guide the future rezoning of the Boyer Road Precinct and an Infrastructure Funding Framework to detail how the precinct will be serviced by the necessary infrastructure to facilitate the coordinated delivery of land to market.

Figure 1: STRLUS 2010 - 2035 Residential Development Areas Map 10 (Excerpt)



Brighton Council will then be in a position to initiate a Planning Scheme Amendment over the Boyer Road Precinct to rezone those areas of the precinct that have been identified as appropriate for residential development. The Planning Scheme Amendment will introduce a Specific Area Plan to guide where future housing will go and at what density; and identify areas that should be kept free of development.

The Specific Area Plan will incorporate the findings and recommendations of Precinct Structure Plan, providing development standards and associated mapping to guide where elements such as roads, cycle and pedestrian paths, parks and other open space, schools, and community infrastructure should be located.

1.4 The Boyer Road Precinct

The Boyer Road Precinct comprises six allotments under separate, private ownership with a combined area of 109 hectares. The Precinct is bound by Boyer Road to the south, Cobbs Hill Road to the north, rural living allotments situated along Serenity Drive to the east, and rural land to the west.

Of the six allotments within the precinct, three front Boyer Road (50, 170 and 182 Boyer Road) and three front Cobbs Hills Road (25, 27 and 31 Cobbs Hill Road). Refer to Figure 2. Particulars of the precinct are discussed in more detail in Section 2.

1.5 Purpose

1.5.1 Precinct Structure Plan

A Precinct Structure Plan (PSP) is a high-level master plan prepared for a specific area of land (or 'precinct') that identifies the preferred location of land uses and infrastructure to facilitate the future development of the precinct.

A PSP is tailored to take into consideration the unique features of the land and surrounding area, relevant state and local government policy, aspirations of the community, and the views of landowners within the precinct. A PSP can detail such elements as the location of future activity centres, roads, cycle and pedestrian paths, heritage places, parks, waterways and other open spaces, schools, and community infrastructure.

To take effect, a PSP must be incorporated into the relevant local Planning Scheme through a Planning Scheme Amendment as part of a Specific Area Plan. Once incorporated into the Tasmanian Planning Scheme – Brighton (Brighton Planning Scheme), any future planning applications to subdivide or develop the land must generally accord with the Specific Area Plan.
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1.5.2 Precinct Structure Plan

A Boyer Road Specific Area Plan (SAP) will be drafted for inclusion in the Brighton Planning Scheme to provide site specific planning provisions to capture the unique elements of the Boyer Road Precinct and include the PSP in the policy framework to ensure the structure plan is embedded in the Planning Scheme. Importantly, the SAP will include specific reference to the delivery of required infrastructure as a prerequisite to development.

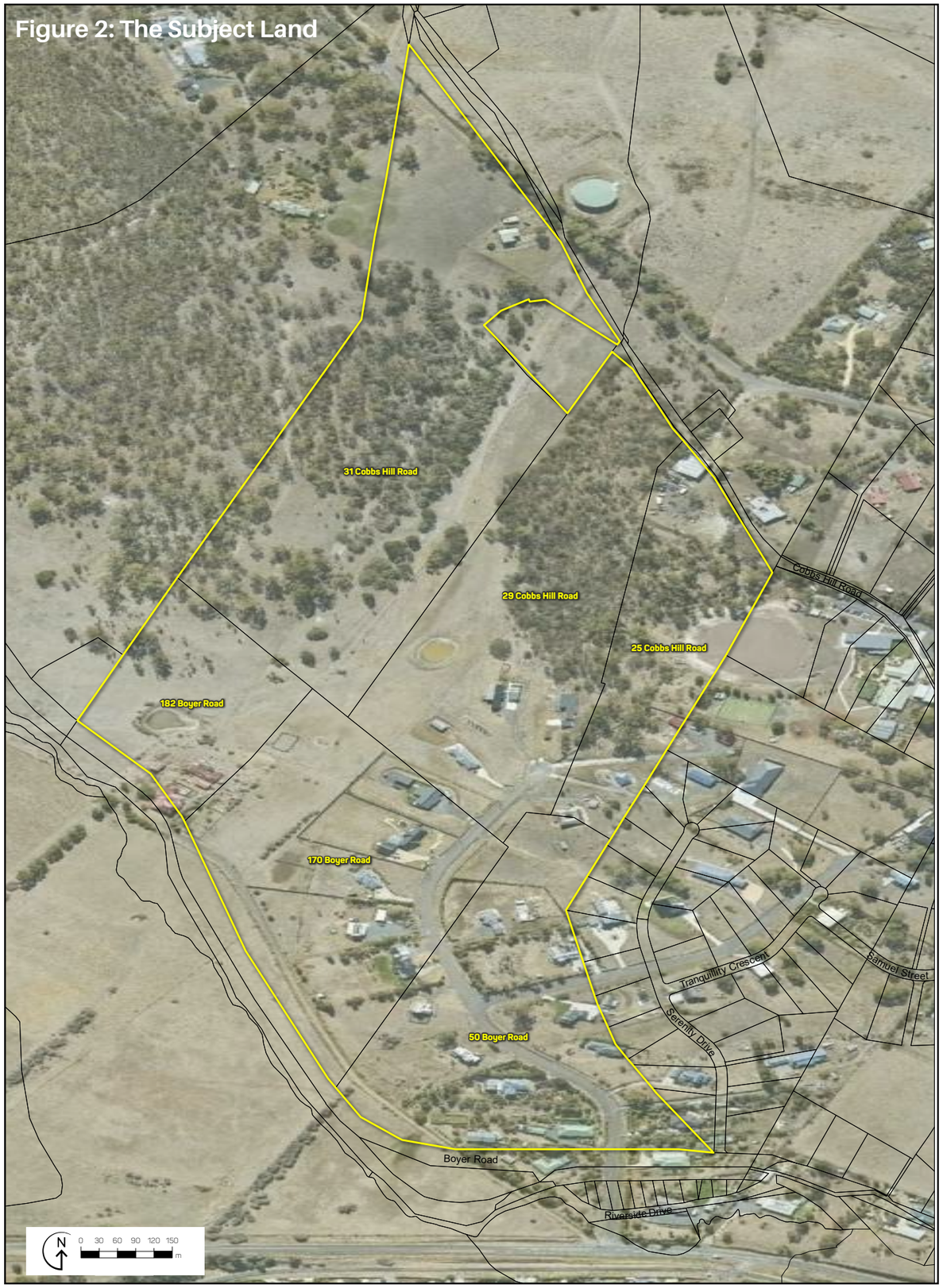
1.5.3 Infrastructure Funding

Critical to the future development of the Boyer Road Precinct is the availability of infrastructure, particularly water, sewer, electricity and roads. A key part of this project is therefore to investigate existing infrastructure availability and capacity to gain an understanding of what upgrades might be required and when, how the upgrades will be funded and by whom. Based on the findings of these investigations, it is likely that an Infrastructure Deed will be developed to commit the relevant parties to a contributions and timing mechanism to ensure infrastructure is delivered at the appropriate time.

1.6 Study Limitations

This report is informed by a range of high-level investigations which have occurred across the six identified landholdings. It is acknowledged that a small number of these investigations are subject to data limitations due to restricted access imposed by the landowner(s) which limited the scope of relevant investigations. Where this has occurred investigations have been supplemented by desktop investigations and/or through visual analysis of the site from neighbouring properties.

Figure 2: The Subject Land



1.7 Process Outline

A comprehensive analysis process has occurred to inform the Boyer Road Precinct Structure Plan, which has included extensive communication with Brighton Council and relevant service providers, along with a suite of high-level investigations to ascertain site opportunities and constraints. This process has resulted in the development of a suite of analysis plans which will be utilised to inform Brighton Council and infrastructure agency decision making regarding a preferred development position for the Boyer Road Precinct. Once a preferred position has been formed a Planning Scheme Amendment and Section 40k report will be prepared.

2. Site Analysis

2.1 Locality

The site is conveniently located near Bridgewater's retail and community services. To the north lies the Brighton industrial hub (13), while Hobart's CBD is a 30-minute drive to the south. The proposed mixed-use Bridgewater Bridge precinct (1) and ferry terminal (4) are within walking distance.

Three sides of the site remain undeveloped with bushland bordering the northern ridgeline, the Derwent River running along the southern boundary, and rural and bushland areas defining the western edge. Overall, the setting has a rural ambiance with picturesque views.

Figure 3: Site Analysis

1. New proposed mixed use precinct and high street*
2. New proposed open space precinct*
3. New proposed foreshore connection*
4. New proposed ferry terminal*
5. Existing foreshore trail
6. Bridgewater foreshore park and playground
7. Bridgewater community park
8. Bridgewater LINC community centre
9. Green Point Shopping Centre
10. Jordan River Learning Federation
11. Cove Hill Shopping Centre
12. Weily Park
13. Brighton Hub
14. New Bridgewater bridge
15. New Brighton High School

Source: Playstreet - Landscape Report

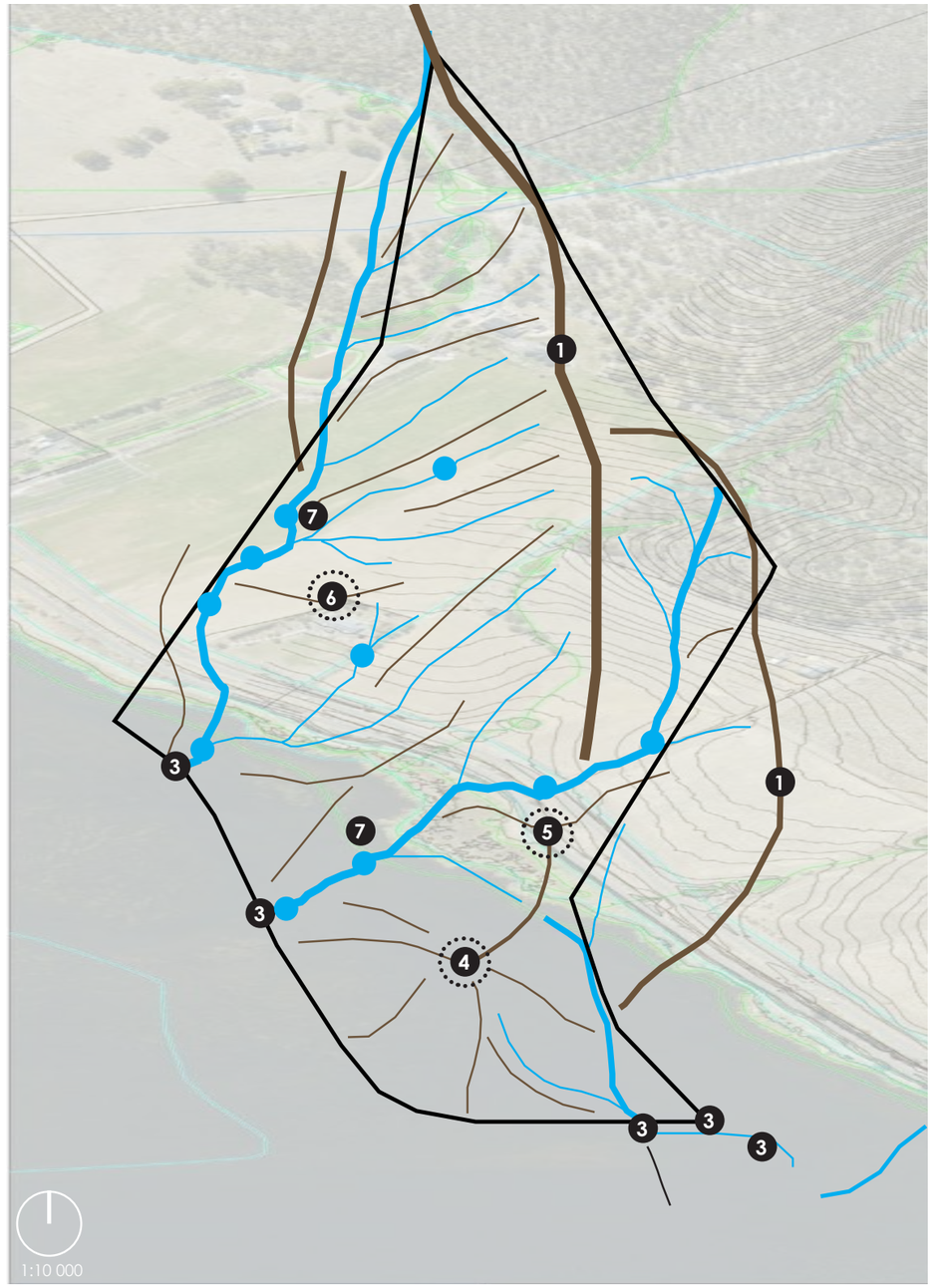
2.2 Landform

The site contains a strong ridgeline that defines 2 primary stormwater catchments. Along the stormwater valley invert is a series of manmade dams that hold water. A heritage property (Genappe) is strategically positioned on a low-lying knoll that allows for 180° views of the Derwent River, making it a significant landmark within the landscape.
In front of the heritage property is paddock which has a visually prominent knoll that provides 360° views from south to the west to the river, but also north to the bushy ridgeline.

Legend

1. Primary ridgline
2. Primary drainage lines / overland flow
3. Existing culvert
4. Knoll - open space
5. Knoll - heritage property
6. Knoll - bush
7. Existing dams varying sizes

Figure 4: Landform

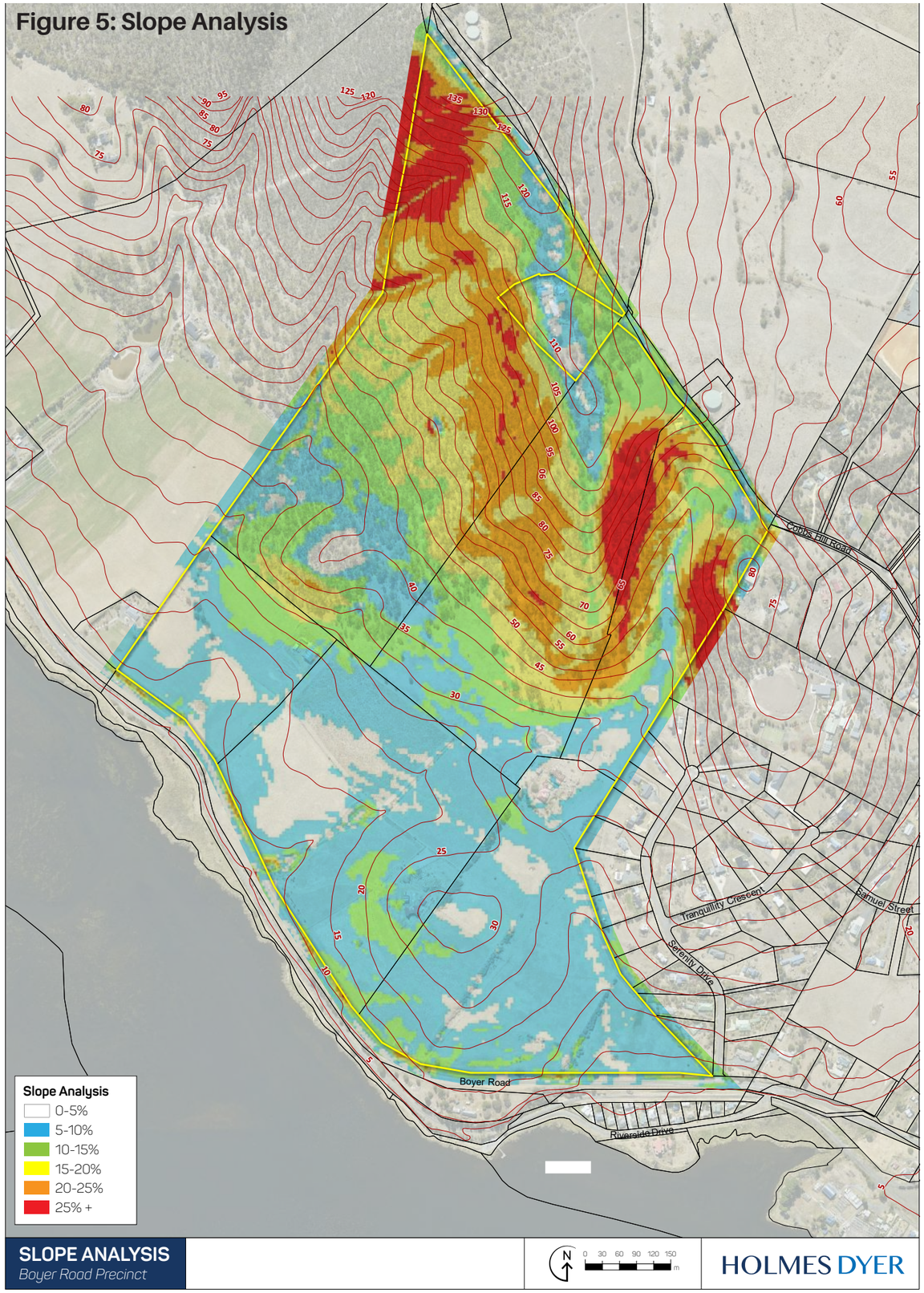


Source: Playstreet - Landscape Report

2.2.1 Slope Analysis

The site is primarily defined by hilly terrain in its upper (northern) areas, with a native canopy layer, and sloping paddocks in the lower (southern) sections. Valleys run through the site, directing water towards the River Derwent. Flatter areas of land with slopes of up to 10% (as shown in the figure below) are best suited for development, including smaller allotments, and will have a lower visual impact on surrounding areas. On the edge of the forest areas where the terrain has slopes of 10-15%, the land is better suited to larger block sizes to reduce the need for cut and fill. Land further north, where slopes exceed 15% and vegetation is denser, is less suitable for housing and should remain undeveloped.

Figure 5: Slope Analysis



2.3 Landscape

The Boyer Road Precinct contains uninterrupted views across the Derwent River to many of Hobart's peaks, including Kunanyi and Mt Dromedary to the west. The precinct is defined by a predominantly rural character with acreage and low density lifestyle blocks, sloping hills with riparian corridors that follow the valleys, and a native canopy layer in the hilly reaches of the site.

Vegetation within the site is characterised by open woodland plantings, primarily in the upper (northern) reaches of the site. The canopy layer is predominantly Eucalyptus with other mixed natives including Wattles, Native Cherry, and pockets of Sheoak clusters. The ground plane in the upper reaches of the site is typically grazed with pockets of native grasses along riparian corridors, and scatterings of groundcover plantings including Matted Bush Pea. The lower (southern) reaches of the site are typically pastures used traditionally for livestock grazing. Some large native canopy trees located on margins between bushland and pasture areas remain.

Figure 6: Landscape Analysis

2.4 Natural Values

A high-level assessment of natural values has been undertaken by North Barker (refer to Appendix 2) to ascertain potential impacts to native fauna and flora as part of the proposed Boyer Road Precinct rezoning. This assessment identified three non-native / modified land uses and five native vegetation communities, with native vegetation accounting for 40.8% of the study area. Areas of native vegetation are contained within the northern half of the site which is currently subject to 'Landscape Conservation' zoning, and partially covered by a Conservation Covenant (refer to Section 2.9 for more detail). The southern portion of the site is generally agricultural land, with the interface between the native and modified land consisting of improved pasture with native tree canopy.

Three of the native vegetation communities are listed threatened ecological communities under the *Tasmanian Nature Conservation Act 2002* (NC Act), which includes Eucalyptus amygdalina forest and woodland on sandstone (DAS), Eucalyptus globulus dry forest and woodland (DGL), and Eucalyptus risdonii forest and woodland (DRI). Areas of DAS and DRI vegetation occur entirely within land subject to the conservation covenant and are likely to extend beyond the precinct's boundary to the west. 2.36ha (69.6%) of the DGL community occurs within the conservation covenant at the southern interface with agricultural land, whilst the balance of DGL community is outside the conservation covenant and within the proposed precinct area. Refer to Figure 6.

No *Commonwealth Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) listed communities are present within the precinct.

One threatened flora species listed under the *Tasmanian Threatened Species Protection Act 1995* (TSP Act) is observed in abundance within the forested part of the study area outside of the Boyer Road Precinct, consisting of Eucalyptus risdonii (TSP Act rare). An additional threatened flora species, Asperula scoparia subsp. scoparia (TSP Act rare) has also been previously recorded within the study area. The lower grassy slopes of the Eucalyptus amygdalina forest on mudstone (DAM) and DGL vegetation provide excellent habitat for orchids, although no threatened orchid species have been recovered within the precinct. Furthermore, the Bursaria-Acacia woodland and scrub (NBA) vegetation may also support grassland and grassy woodland threatened species.

At least four species listed as declared under the *Tasmanian Biosecurity Act 2019* were detected within the agricultural vegetation, which included African boxthorn, blackberry, gorse, and white weed. These species are classified as Class B weeds in the Brighton Council region, where the management objective is containment of infestations. Numerous additional declared weeds are known from the broader area, most notably, espartillo which is highly invasive. Other weeds known from the area include boneseed, bridal creeper, and fennel.

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

Suitable habitat for the threatened Tasmanian devil, spotted-tailed quoll, eastern quoll, blue-winged parrot, swift parrot, and eastern barred bandicoot is available within the precinct, predominantly within the balance area outside of the Future Urban zone. Only the eastern barred bandicoot, if present, is likely to utilise the un-grazed paddock areas within the agricultural areas.

While 25ha of native vegetation is protected by a conservation covenant, the adjacent land, including the threatened DGL community, represents good quality habitat for a range of threatened fauna species including Tasmanian devils, quolls, blue-winged and swift parrots, and potentially eastern barred bandicoots. Therefore, the natural values assessment recommends that the balance of native vegetation outside of the conservation covenant is appended to the covenant to afford this vegetation and threatened fauna habitat the same protection.

Furthermore, the natural values assessment recommends that the modified area in the northeast of the precinct is also protected, as rehabilitation of this area will provide a mosaic of vegetation types for fauna and extend the connectivity of native vegetation. In addition, the areas of FAC (native trees over pasture) should be retained and protected to provide a buffer to the high-quality vegetation and threatened fauna habitat and in particular, any blue gum (E. globulus) or hollow bearing trees should be protected as they represent critical habitat for swift parrots.

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

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

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

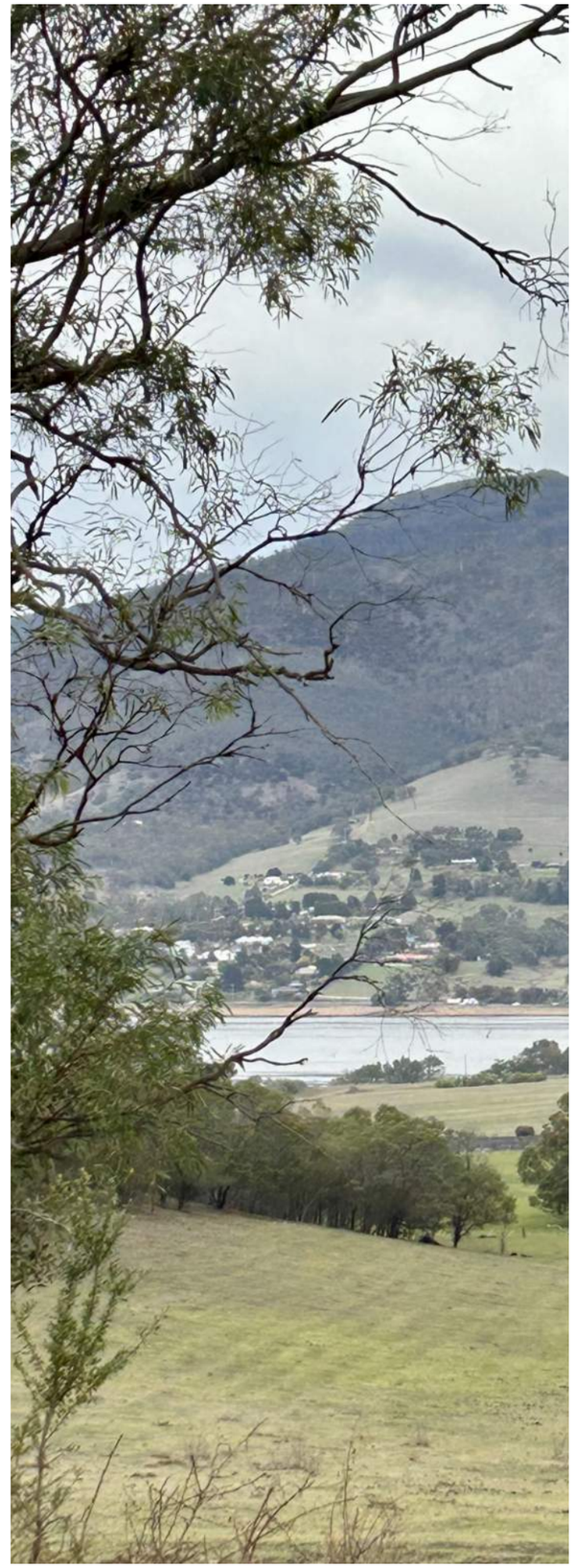
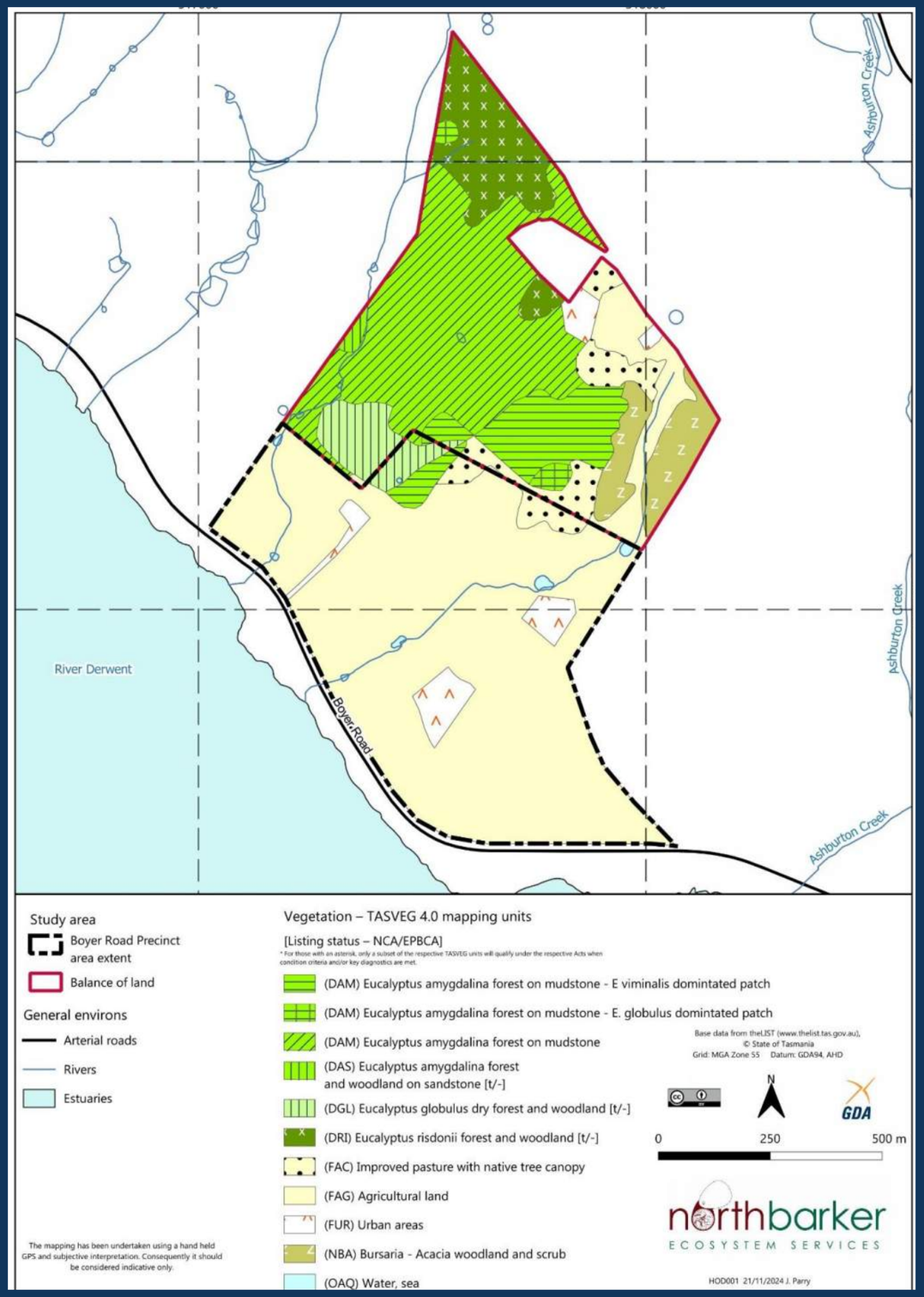
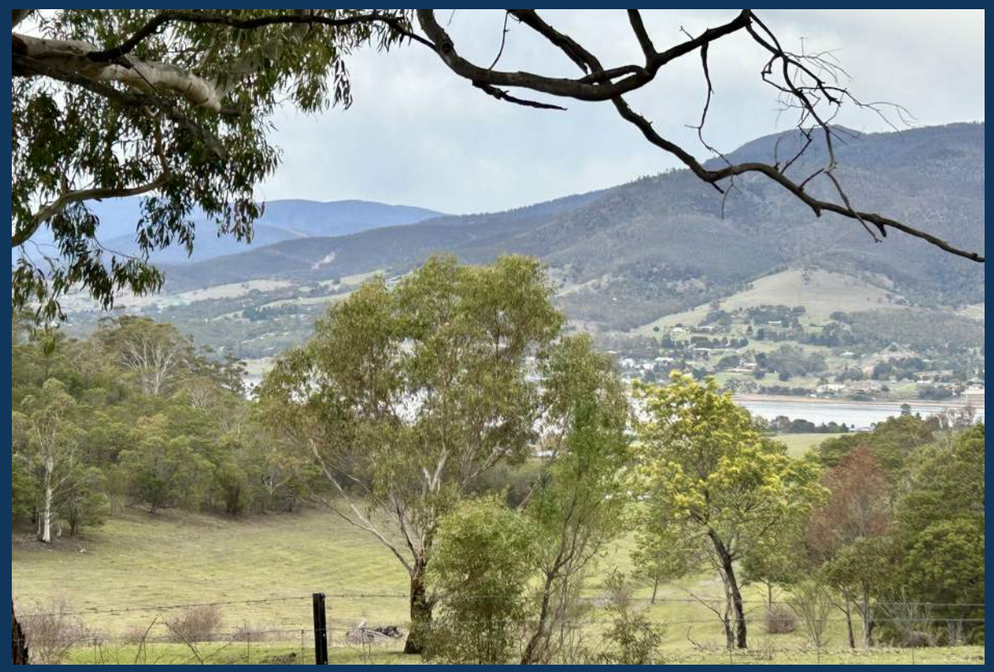


Figure 7: Natural Values



Source: North Barker



2.5 European Heritage

An Historic Heritage Assessment has been undertaken by CHMA (refer to Appendix 3) in order to identify any potential heritage constraints which will require consideration as part of the development of the Boyer Road PSP. A search of various historic heritage registers determined the presence of one heritage registered property situated within the boundaries of the Boyer Road Precinct, referred to as the Genappe Homestead Complex('Genappe').

Located at 50 Boyer Road, Genappe is a permanently listed property on the Tasmanian Heritage Register (THR ID 620), with its listing comprising of a Georgian, two-storey brick farm house with associated outbuildings and 1ha curtilage – with this listing also applying to the entirety of the property boundaries. It is noted that the property is further identified within Table C6.1 Local Heritage Place of the Tasmanian Planning Scheme – Brighton (Local Provisions Schedule).

An assessment of the Genappe property confirmed the presence of a number of non-listed heritage features includes three hedgerows and red brick feature. These items are summarised in Table 1.

Table 1: Summary of Recorded Historic Features Associated with 50 Boyer Road, Bridgewater

Procurement / Delivery	Pros / Advantages
Genappe Homestead Complex	Main Genappe Homestead complex, which includes outbuildings, sheds and garden plantings that are confined to within an approximate 1ha area.
Hedgerow 1	Hawthorn Hedgerow on Genappe property. Approximately 230m in length and runs along fence line on western boundary of property. Hedgerow is mature and reasonably intact.
Hedgerow 2	Hawthorn Hedgerow on Genappe property. Approximately 270m in length and runs along an internal property fence line. Hedgerow is mature and reasonably intact.
Hedgerow 3	Hawthorn Hedgerow on Genappe property. Approximately 270m in length and runs along an internal property fence line. Hedgerow is mature and reasonably intact.
Red Brick Feature	An 8m x 2m red clay brick feature located just north of fence line and 35m west of Genappe property boundary. Possible foundation feature associated with Genappe property. May also be a later reuse and repurposing of brick.

Source: CHMA

Figure 8: Heritage Features - 50 Boyer Road

Source: CHMA

2.5.1 Heritage Management Plan Recommendations

The following recommendations have been provided as part of the Historic Heritage Assessment:

Recommendation 1 (The Genappe Property)
The Genappe property is a permanent registration on the Tasmanian Heritage Register (THR 620). The THR heritage listing applies to the whole of the property boundaries, which are entirely within the bounds of the Boyer Road Precinct study area.

The Genappe homestead complex (comprising an area of approximately 1ha) incorporates the main homestead and associated out buildings, sheds and garden plantings. It would seem that the main significance values attributed to Genappe are predominantly confined to this area. It is recommended that at a minimum, this area incorporating the main homestead complex should be excluded from any future development.

The three recorded hedgerow features are also situated within the registered boundaries of the Genappe property and are a component of the early pastoral development of the property. As such, these hedgerows retain a level of associated significance as part of the broader setting of the property. It is recommended that consideration also be given to the retention of these hedgerow features.

Recommendation 2 (Red Clay Brick Feature)
The recorded red clay brick feature is situated outside the heritage listed boundaries of the Genappe property and is not listed on the Local Heritage Places of the Tasmanian Planning Scheme Brighton (Local Provisions Schedule).

At this point it is unclear what this feature is and whether it is associated with the Genappe property. As such, it is not possible at this stage to accurately assess the significance of the feature.

If there is the potential that this feature may be impacted by future development within the Boyer Road precinct, then it is recommended that a detailed archival recording should be carried out for this feature, together with additional background research. The aim being to more accurately determine the origins, extent and significance of this feature. Future management decisions for the feature will be predicated on the outcomes of these additional investigations.

Recommendation 3 (Unanticipated Discoveries of Historic Features)
No other historic sites or suspected features were identified during the field survey assessment of the AFL High Performance Centre study area and it is assessed that there is a low to very low potential for undetected Historic heritage sites to occur within the study area. However, as per the Practice Note No 2 by the Tasmanian Heritage Council, processes must be followed should any unexpected archaeological features and/or deposits be revealed during works. An Unanticipated Discovery Plan has been prepared as part of the Historic Heritage Assessment.

Recommendation 4 (Provision of Report to Heritage Tasmania)
Copies of the Historic Heritage Assessment Report should be provided to Heritage Tasmania for review.

Figure 9: Heritage Features - Genappe Homestead

Source: CHMA

Figure 10: Heritage Features - Hedgerows

Source: CHMA

2.6 Indigenous Heritage

An Aboriginal Heritage Assessment has been undertaken by CHMA (refer to Appendix 4) in order to identify any potential Aboriginal heritage constraints which will require consideration as part of the development of the Boyer Road PSP.

2.6.1 Aboriginal Heritage Register

A desktop search was conducted via the Aboriginal Heritage Register (AHR) to determine the extent of registered Aboriginal heritage sites within and in the general vicinity of the Boyer Road Precinct.

AHR search results indicate that there are 29 registered Aboriginal heritage sites that are located within an approximate 1km radius of the Boyer Road Precinct, with 8 of these within a 100m radius of the precinct. Based upon available information, these sites are situated just outside the south-west boundary of the site. Table 2 details these identified sites.

More fundamentally, it is noted that AHR results indicated the additional presence of two registered sites within the Boyer Road Precinct. These registered sites are identified within Table 3.

2.6.2 Survey Results

A field survey of the Boyer Road Precinct was conducted which resulted in the recording of two stone artefacts. Both artefacts were situated within the area where Stanton (2001)[1] described recording site AH8815. For this reason, these two artefacts are deemed to be a component of site AH8815. There are no accurate spatial boundaries available for the Stanton recording of site AH8815, with the boundaries of this site estimated based upon site descriptions provided by Stanton.

In addition to site AH8815, one area of High Potential Archaeological Sensitivity (PAS1) was identified within the precinct, with this location considered to have a high potential for the presence of undetected artefact deposits. PAS1 encompasses a broad, flat benched slope area on the mid slope of a hill (measuring approximately 90m x 90m), with this area immediately abutting the northern end of the site AH8815. Refer to Figure 10.

Table 2: Registered Aboriginal Sites within 100m Radius of the Boyer Road Precinct

AH Number	Site Type	Descriptions
191	Shell Midden	Site recorded in 1977 (recorder unknown) and described as a large concentration of midden material exposed across an area measuring 36m x 4m. Site exposed in rail cutting and partly covered by Boyer Road. Midden material comprised mud oyster and mussel. Site is possibly a component of site AH1386 and AH11485. Site is located just to the south-west of study area.
11484	Shell Midden	Site recorded by CHMA (2011) and described as a shell midden with an associated stone artefact. Site is described as being within rail reserve, on north cutting of rail line across an area 50m x 10m. Site noted to be heavily disturbed, with potential for additional material to be present. Site is possibly a component of site AH1387. Site is located just to the south-west of study area.
11485	Shell Midden	Site recorded by CHMA (2011) and described as a large shell midden that extends across an area measuring 350m x 50m. Site noted to be primarily within rail reserve, with midden material exposed within embankment cuttings and erosion scalds on north and south side of rail line. Some midden material also noted to extend on to embankment cutting on north side of Boyer Road. Site is possibly a component of site AH1386 and AH191. Site is located just to the south-west of study area.
11520	Shell Midden	Site recorded by CHMA (2011) and described as a low-density dispersed scatter of mud oyster shell that was exposed along the northern embankment of Boyer Road. Site is located just to the south-west of study area.
1385	Shell Midden	Site recorded by Officer (1980) and described as four huge shell midden mounds located on point, on bank, above shore, and exposed in rail cutting. Site is located just to the south-west of study area.
1386	Shell Midden	Site recorded by Officer (1980) and described as a large shell midden extending for 600m from point. Midden exposed in rail cutting, ion bank above the shore. And extending to top side of bank cutting of Boyer Road in parts. Site is possibly a component of site AH191 and AH11485. Site is located just to the south-west of study area.
1387	Shell Midden	Site recorded by Officer (1980) and described as extending from creek, NW for 200m on shore up to shallow point on bank. Midden material exposed in rail cutting and in parts of the bank cutting of Boyer Road. Site is possibly a component of site AH11484. Site is located just to the south-west of study area.
1388	Shell Midden	Site recorded by Officer (1980) and described as being located just NW of small point on bank above shore. Site is located around 100m to the south-west of study area.

Table 3: Registered Aboriginal Sites within the Boyer Road Precinct

AH Number	Site Types	Descriptions
11483	Isolated Artefact	Site recorded by CHMA (2011) and described as a brown waterworn quartzite top grindstone that was located on the basal slopes of a hill, 20m north of Boyer Road and 100m north of Derwent River.
8815	Artefact	Site recorded by Stanton (2001) and was described as a large artefact scatter (25+ artefacts) extending across an area measuring around 300m x 50m, either side of a row of box thorns within a farm paddock. Majority of artefacts were cherry hornfel flakes. High potential for additional artefacts to be present.

[1] Stanton (2001) - *Tasmania Natural Gas Project: Report on the Aboriginal Heritage Study*. A report to Duke Energy International

A second registered site, consisting of AH11483, is also present within the Boyer Road Precinct. Despite an extensive search as part of on-site investigations the field team were unable to locate this artefact. The grid reference provided by CHMA (2011) was taken with a handheld GPS, so is likely to be accurate to within 5m. The fact that the artefact could not be found is therefore most likely to be a product of surface visibility. It is very likely that the artefact is still present in this area, but is obscured by grass or covered by soil deposits.

It was further noted that there are eight other registered Aboriginal sites that appear to be located within a 100m radius of the Boyer Road Precinct boundaries. All eight of these sites are classified as Aboriginal shell middens and are clustered along the margins of the River Derwent estuary, close to the south-west boundary of the precinct. Based on available information there is no evidence to indicate that any of these eight sites extend into the boundaries of the study area. The main concentration of midden deposits from these sites appear to be confined within 100m of the foreshores, on the south side of Boyer Road. However, midden material from a few of these sites were observed to be present within the embankment cutting on the northern side of Boyer Road, immediately outside the south-west boundary of the precinct. This, of course, means that there is the potential that cultural deposits associated with these sites may extend into the Boyer Road Precinct itself.

During the current field survey a number of survey transects were walked along the basal slopes of the hill, close to the south-west boundary of the precinct; however no Aboriginal cultural deposits were identified in this area. Surface visibility across the basal slopes was generally restricted to 20% or less due to grass cover. Because there is some potential for cultural deposits to occur within the south-west portion of the precinct (along the basal hill slopes) this area has been assessed as being a zone of moderate sensitivity.

Besides the sites and areas discovered above, no other Aboriginal heritage sites, suspected features, or specific areas of elevated archaeological potential were identified within the Boyer Road Precinct. The field survey was able to confirm that there are no large outcrop features present, with bedrock outcrop only exposed to up to a metre above ground level, which eliminates the possibility of Aboriginal rock shelters being present.

These sites are identified in Figure 10.

Figure 11: Location and Extent of Identified Aboriginal Heritage

2.6.3 Management Recommendations

Site AH8815

Site AH8815 is an artefact scatter that is located within the Boyer Road Precinct. Preferred management option is for the site area to be plotted onto the zoning plans for the project and it noted that the site is required to be avoided and protected in open space. Short, Medium and Long Term management plan should be developed for the precinct.

If there is the potential for the site complex to be impacted by future rezoning and development, then it is recommended that further sub-surface investigations should be undertaken within the precinct and its immediate surrounds. Aim of investigations will be to more accurately clarify the spatial extent and nature of artefact deposits present, and to develop informed management and mitigation options for the site. Scope and methodology for investigations is to be ratified with AHT. A permit will be required.

Site AH11483

Site AH11483 is an isolated artefact that is located within the Boyer Road Precinct. This artefact could not be found during the current survey but is likely to be still present in the area. Preferred management option is for the site area to be plotted onto the zoning plans for the project and it noted that the site is required to be avoided and protected.
If the site cannot be avoided, then a permit will have to be sought to impact the site.

Area PAS1

PAS1 is an area of High Potential Archaeological sensitivity that is situated within the Boyer Road Precinct. Preferred management option is for the PAS1 area to be plotted onto the zoning plans for the project and it noted that PAS1 is required to be avoided and protected.

If there is the potential that the PAS1 area may be partially or entirely impacted, then undertake program of sub-surface investigations to more accurately determine presence and/or absence, nature and extent of cultural deposits that may be present. Scope and methodology for investigations is to be ratified with AHT. No permit initially required to commence investigations. Permit may be required pending findings.

Zone of Moderate Sensitivity

A zone of moderate archaeological sensitivity is present along the south-west boundary of the Boyer Road Precinct.

It is recommended that a limited program of sub-surface investigations is undertaken in this area, scope and methodology for investigations is to be ratified with AHT. No permit initially required to commence investigations. Permit may be required pending findings.

General Recommendations

- No additional site specific Aboriginal heritage constraints or requirements apply to the remainder of the Boyer Road Precinct.
- Develop an Aboriginal Cultural Heritage Interpretation Plan for the precinct.
- If previously undetected Aboriginal sites or suspected features are located within the Boyer Road Precinct during any future works, the processes outlined in the Unanticipated Discovery Plan should be followed.
- Copies of the Aboriginal Heritage Report should be submitted to AHT and the ACH for review and comment.

2.7 Bushfire

The entirety of the Boyer Road Precinct has been identified as a bushfire prone area within the Tasmanian Planning Scheme – Brighton, with bushfire events occurring within the site, or within its immediate vicinity, considered likely to impact future development through considerable radiant heat and ember attack.

To ascertain a required Bushfire Attack Level (BAL) separation for future development, an assessment has been undertaken by Novaland (refer to Appendix 5) of vegetation located both internal and within 120m of the site has occurred to identify vegetation considered to be bushfire prone. The southern half of the precinct predominantly consists of pastures which contain low-lying grassland with no overstorey present, along with individual occasional trees and a single windbreak hedge; whilst vegetation situated within the central and northern portions of the site consist of woodland.

Based upon the presence of this vegetation a BAL rating of 19 has been assigned to the Boyer Road Precinct, which defines the level of fire risk to the site as 'increasing ember attack and burning debris ignited by windborne embers together with increasing heat flux between 12.5–19 kW / m2'.

The following BAL 19 setbacks have been determined for the Boyer Road Precinct:

- Future dwellings in the north of the Future Urban Zone should provide a minimum of 20m to the north;
- Future dwellings in the west of the Future Urban Zone should provide a minimum separation of 12m to the west; and
- Any lot to the north of the land associated with the heritage registered dwelling at 50 Boyer Road should provide a minimum separation of 14m to the south.

To ensure appropriate management of bushfire risk it is recommended that Brighton Council, as the relevant authority, consider taking ownership of any future areas of public open space to ensure its revegetation with low threat vegetation. Alternatively the Specific Area Plan (SAP) should include details about how the interface will be managed to provide an appropriate bushfire protection zone.

Furthermore, envisaged road layout plans should provide a minimum of two new road points onto Boyer Road to ensure multiple avenues of escape in a bushfire event, whilst perimeter roads are recommended to provide a buffer between residential development and a bushfire threat.

2.8 Contamination

To ascertain whether the Boyer Road Precinct has been subject to any potential contamination a Preliminary Site Investigation (PSI) has been undertaken by ES&D (refer to Appendix 6) to determine if there are any contamination risks and, should it be required, appropriate remediation measures.

The land has historically been used in association with rural land uses, with groundwater flows from the precinct running off the site and under nearby rail and road infrastructure towards the River Derwent. Site contamination investigations were conducted via desktop investigation, field investigations, and on-site sampling, which confirmed that the precinct is not subject to any contamination.

It is noted that the PSI recommends that precautionary remediation through the placement of a clean soil barrier occur in relation to a remnant sheep dip located within the site; with sheep dip areas having the potential to contain heavy metal contamination alongside organchloride and organphosphates compounds.

2.9 Agriculture

2.9.1 Boyer Road Precinct

An agricultural assessment has been undertaken by Pinion Advisory (refer to Appendix 7) to determine the agricultural qualities and use of the land covered by the Boyer Road Precinct.

Each of the properties captured within the precinct and associated landowners were visited and interviewed to obtain information on the past and current agricultural land use activities and management practices which has and is conducted on the property.

In summary, none of the properties are involved in any commercial scale agricultural land activity, with all properties effectively used for residential purposes with the exception of 31 Cobbs Hill Road which is burdened by a conservation covenant (refer to Section 2.11). Whilst the land has the potential to be utilised for pastoral activities, this is considered rather restricted due to a combination of the prevailing land capability of the ground and low rainfall environment (annual rainfall of 518mm). Due to the current and future lack of access to irrigation water, the range of crops that could be grown is severely restricted, and is effectively limited to low rainfall dryland cereal production such as wheat or barley.

The Boyer Road Precinct is situated within the north-west peri-urban rural area of Bridgewater, with it reasonable to consider that it holds a negligible level of local and regional prominence.

Table 4 provides an overview of the prominence of the precinct in terms of the area and quality of the land within the Derwent land capability mapping area – with it noted that the precinct accounts for less than 0.05% of this area.

The precinct clearly holds a negligible level of agricultural prominence, with any current and future potential agricultural land uses subject to a number of factors that severely constrain its agricultural ability including:

- The precinct is subject to 'low' and 'very low' land capabilities which severely limit the scope of agricultural activities, and effectively restricts the scale and intensity of all forms of agricultural activities including low intensity livestock grazing enterprise. It is noted that no prime agricultural land is located within 1km of precinct.
- Lack of access to irrigation both currently and in the future:
  - » Only a very small amount of irrigation water (3.8ml of combined high and mid-availability irrigation water entitlements) is available.
  - » The precinct is not located within an irrigation district and not serviced by an irrigation scheme.
  - » No operational bores are located within the precinct, and groundwater yields in this locale are often unreliable.
  - » Sourcing irrigation water from TasWater comes at a particularly high cost and limited surety, with both of these factors making this irrigation water option unrealistic; and
  - » In reality, agricultural land use activity for the precinct is restricted to dryland activity only.
- The precinct contains six properties under individual ownership, with these allotments containing areas ranging from 7.6ha to 31.3ha. The largest allotment (31 Cobbs Hill Road) is burdened by a conservation covenant and therefore can not be considered for

Table 4: Local and Regional Importance of the Boyer Road Precinct

Land Capability	Derwent Mapping Area		Boyer Road Precinct	
	Area (Ha)	Mapping Area (%)	Area (Ha)	Mapping Area (%)
Prime	144	0.007	0	0
Non-Prime	173,451	82.14	103	0.590
Exempt	37,726	17.85	0	0.059%
Total	**211,321**	**100%**	**103**	

agricultural purposes. The remaining properties consist of smaller land holdings which are of a scale not suitable to undertake agricultural activities at a larger scale to justify the investment and use of infrastructure to undertake more intensive grazing and/or cropping activities.

- The precinct's proximity to existing sensitive uses (e.g. residential dwellings and Northern Christian School to the east) applies a degree of constraint and heightened risk of issues relating to incompatible land use activity, as per agricultural versus residential issues including complaints and objections against:
  - Noise from normal farming practices such as the use of machinery, gas guns, and livestock;
  - Odours from the use of fertiliser (e.g. organic and/or biological products), compost, and soil conditioners;
  - The application of agricultural chemicals and associated risk of spray drift and chemical trespass, which can include both actual and perceived threats;
  - Dust when paddocks are being cultivated and the application of fertilisers and soil conditioners;
  - Trespass by unauthorised visitors; and
  - Biosecurity issues primarily associated with weed infestation due to the movement of garden weeds and challenges associated with managing weed incursions from multiple sources.

It is therefore reasonable to consider that the Boyer Road Precinct is incapable of being used to support meaningful agricultural activities and no type of commercial scale agriculture could be undertaken.

2.9.2 Adjacent Agricultural Uses

Agricultural land uses within the vicinity of the Boyer Road Precinct include landholdings to the north-east and north-west.

North-East: 158 Cobbs Hill Road

- 158 Cobbs Hill Road incorporates two property titles (127385/1 and 127216/1) of 'Rural' zoned land which encompasses an area of 36 hectares. This landholding forms part of a larger parcel of rural land which covers a total area of 620 hectares divided amongst 102 separate property titles. It is noted that title 127385/1 contains 23 hectares of rural land, whilst title 127216/1 comprises 13 hectares of rural land along with 13 hectares of 'General Industrial' zoned land.
- Rural zoned land is predominantly in associated with grazing livestock, albeit at a low intensity and typically on degraded and rundown land, with it noted that extensive areas of land within this zone are covered by remnant native vegetation and include patches of threatened native vegetation communities.
- No commercial standalone agricultural land use activity is undertaken within 158 Cobbs Hill Road.

North-West: 194 Boyer Road & 232 Boyer Road

- 194 and 232 Boyer Road forms 'Agriculture' zoned land which encompasses an area of 42 hectares, with 194 Boyer Road containing an area of 1 hectare, whilst 232 Boyer Road comprises 30.4 hectares of agricultural land along with 11.6 hectares of 'Landscape Conservation' zoned land. These landholdings form part of a larger parcel of agriculture zoned land which covers a total area of 56.5 hectares divided amongst a total of 4 separate property titles.
- Both of these properties contain a residential dwelling, with their use primarily in association with grazing livestock and a small market garden enterprise. Irrigated pasture production and market gardening occur albeit the extent of irrigation is limited and does not occur on a broadscale (e.g. using centre pivot irrigators), with the agricultural land not located within a declared irrigation district, serviced by an irrigation scheme, or containing a registered dams.
- No commercial standalone agricultural land use activity is undertaken on these properties.

It is considered that these properties could be subject to possible negative impacts in association with the development of the Boyer Road Precinct, which include trespass, biosecurity issues (weeds), and dogs menacing livestock.

In terms of managing possible negative impacts to 194 Boyer Road and 232 Boyer Road appropriate mitigation measures have been recommended which include:

- An appropriately designed fence constructed from sturdy materials and provided with ongoing maintenance which provides security, privacy, and screening for all land owners;
- Weed management via a commitment that during the development and construction phase of the Boyer Road Precinct that weed control activities will be undertaken, with all declared weeds and weeds of national significant to be managed according to best practice and in collaboration with an appropriately experienced agronomist;
- The enforcement of dog management laws by Brighton Council, with any reports of dogs menacing livestock to be responded to and addressed promptly;
- The establishment and ongoing maintenance of shelter belt vegetation along the western boundary of 182 Boyer Road for a length of 275m. The shelter belt should comprise mixed native species which includes hardy short shrubbier and taller tree species which provide screening from the ground up to 8 – 10m in height, with a width of 3 – 4 metres; and
- The incorporation of sufficient boundary setback buffers in accordance with the applicable sections of the Tasmanian Planning Scheme.

In terms of managing possible negative impacts to 158 Cobbs Hill Road it is important to consider that a substantial buffer (approximately 350 – 700m wide) which is largely covered by native vegetation already separates the rural land and the land zoned Future Urban within the precinct. It is therefore reasonable to consider that the width of separation distance and presence of native vegetation would significantly mitigate and be expected to mitigate any negative impacts between any future residential development within the precinct and rural land in association with 158 Cobbs Hill Road.

2.10 Interfaces

The Boyer Road Precinct is situated 800m west of the main Bridgewater township, with the Midson Highway acting as a buffer between peri-urban land to the west and urbanised land to the east. The site is unique in the fact that it shares interfaces to a range of residential, education and agricultural land uses which will require consideration as part of the precinct's future development.

Most notably, the precinct's western boundary abuts land utilised for agricultural purposes, being 194 Boyer Road and 232 Boyer Road. Both of these properties contain a residential dwelling, with their use primarily in association with grazing livestock and a small market garden enterprise. Irrigated pasture production and market gardening occur albeit the extent of irrigation is limited and does not occur on a broadscale (e.g. using centre pivot irrigators). It is therefore essential that the future development of the Boyer Road Precinct remain sensitive to this interface. As discussed within Section 2.9, the establishment of a 3-4m wide shelter belt for a length of 275m along the boundary of 182 Boyer Road is considered suitable to mitigate possible negative impacts associated within this interface.

The precinct's northern boundary further contains agricultural interfaces adjacent Cobbs Hill Road in association with 158 Cobbs Hill Road. This landholding is predominantly in association with grazing livestock, albeit at a low intensity and typically on degraded and rundown land. It is noted that a substantial buffer of native vegetation has already been provided for within the Boyer Road Precinct which is considered to suitably mitigate any negative impacts associated within this interface.

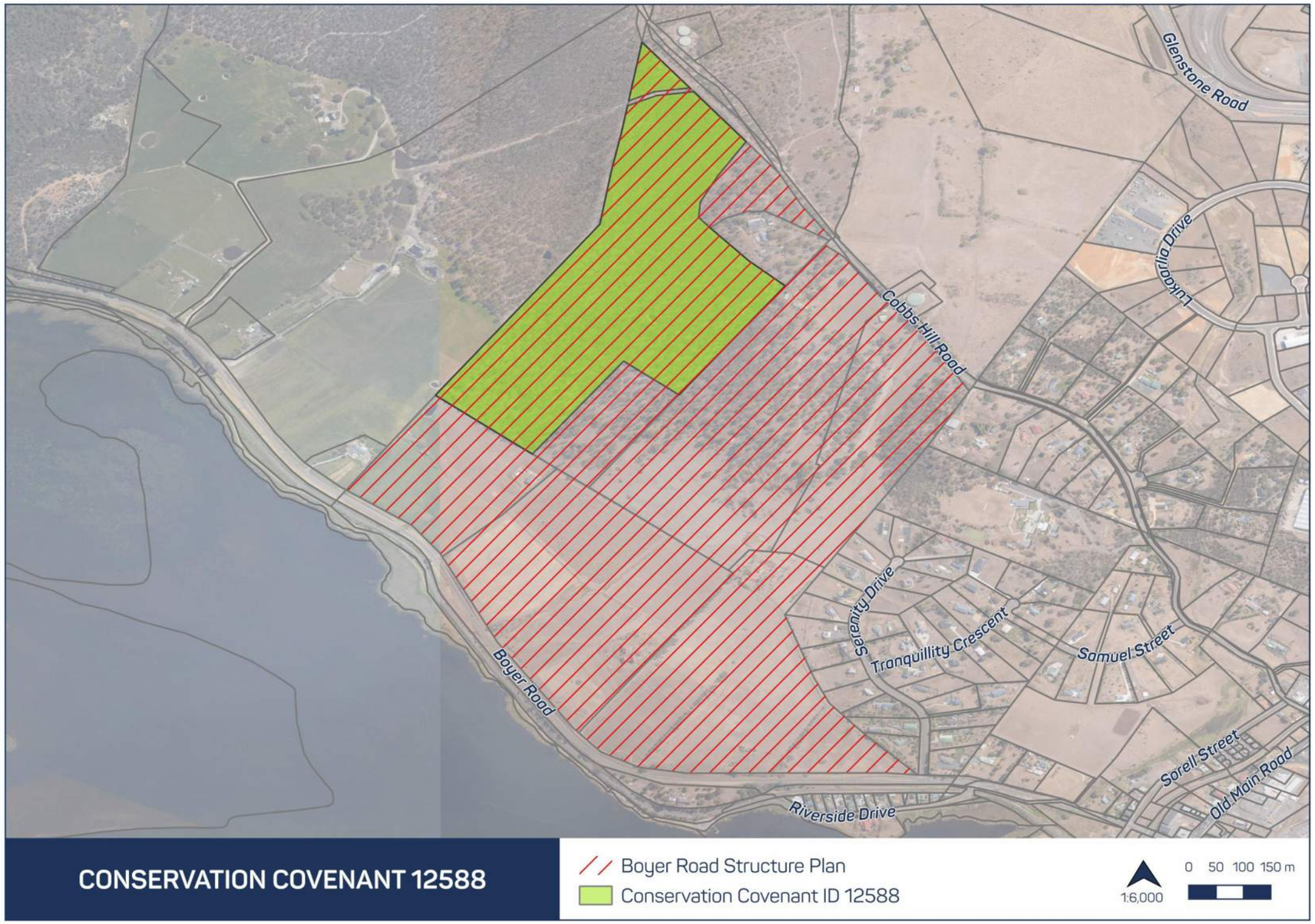
To the east the precinct abuts residential dwellings situated along Serenity Drive and the Northern Christian School. It is noted that residential dwellings are in the form of rural living allotments, with the existing paddocks located within the Boyer Road Precinct providing unrestricted views from these dwellings towards the River Derwent and Mt Faulkner Conservation Area. Any future development within the Boyer Road Precinct therefore should be mindful about retaining the existing rural living setting of dwellings within the vicinity of Serenity Drive. A buffer should therefore be considered along a portion of the eastern boundary, ideally in the form of a linear reserve, to provide for some separation between these dwellings and future development within the precinct.

2.11 Covenant

31 Cobbs Hill Road is burdened by a Conservation Covenant made under the *Nature Conservation Act 2002* which covers approximately 25.10ha of the site. This is due to the property being identified as containing a threatened vegetation community consisting of Eucalyptus globulus dry forest and woodland, which is listed under Schedule 3A of the *Nature Conservation Act 2002*.

The covenant places heavy restriction upon a range of activities that are deemed to may cause damage to, or degradation of, the natural values of the site, which includes clearance of native vegetation and subdivision activities. This effectively prohibits any future development activity occurring within this portion of the site.

Figure 12: Conservation Covenant



2.12 Planning Controls

2.12.1 Zoning

The Landscape Conservation Zone and Future Urban Zone are applicable across the site which presents some opportunities and limitations in terms of the precinct's overall development capacity. Approximately 57ha of the site's northern half (comprising 25, 29 and 31 Cobbs Hill Road) is subject to the Landscape Conservation Zone which is relatively restrictive in terms of subdivision potential.

The Landscape Conservation Zone seeks to provide for the protection, conservation, and management of landscape values through the provision of compatible uses or developments that do not adversely impact upon the landscape values. Whilst residential subdivision can be accommodated, acceptable standards seek allotments with a minimum area of 50ha and a minimum frontage of not less than 40m, albeit it is noted that performance criteria enables a reduction in minimum site area to 20ha. It is noted that each of these landholdings has been identified as containing priority vegetation consisting of Eucalyptus tenuiramis forest and woodland on sediment which would require retention, thereby further restricting development potential.

The remainder of the site (comprising the southern portions of 25, 29 and 31 Cobbs Hills Road, along with Lot 182 Boyer Road, 170 Boyer Road, and 50 Boyer Road in their entirety) is zoned Future Urban, which identifies land intended for future urban use and developed for urban purposes in the future, subject to having regard to a suitable zone and the expense of inflation. The main purpose of this zone is to ensure that development does not compromise the potential for the land to be delivered. However, a portion of this land (3.373 ha) is covered by the aforementioned conservation covenant (refer to Section 2.11) and is not available for future urban development.

The extent of the current zoning is depicted in Figure 12.

2.12.2 Codes

2.12.2.1 Landslip Hazard Code

Portions of 25, 29 and 31 Cobbs Hill Road are identified as containing a landslip hazard within the Tasmanian Planning Scheme, with the Landslip Hazard Code therefore applicable to these properties. The purpose of this Code is to ensure that a 'tolerable risk' can be achieved and maintained for the type, scale, intensity, and intended life of use or development on land within a landslip hazard area.

The Landslip Hazard Code requires development activities, including subdivision and building works, to demonstrate how the likelihood of triggering a landslip event can be minimised to achieve and maintain a tolerable risk of landslip. The provision of a landslip hazard report to justify development within land subject to this Code is required under the relevant performance criteria.

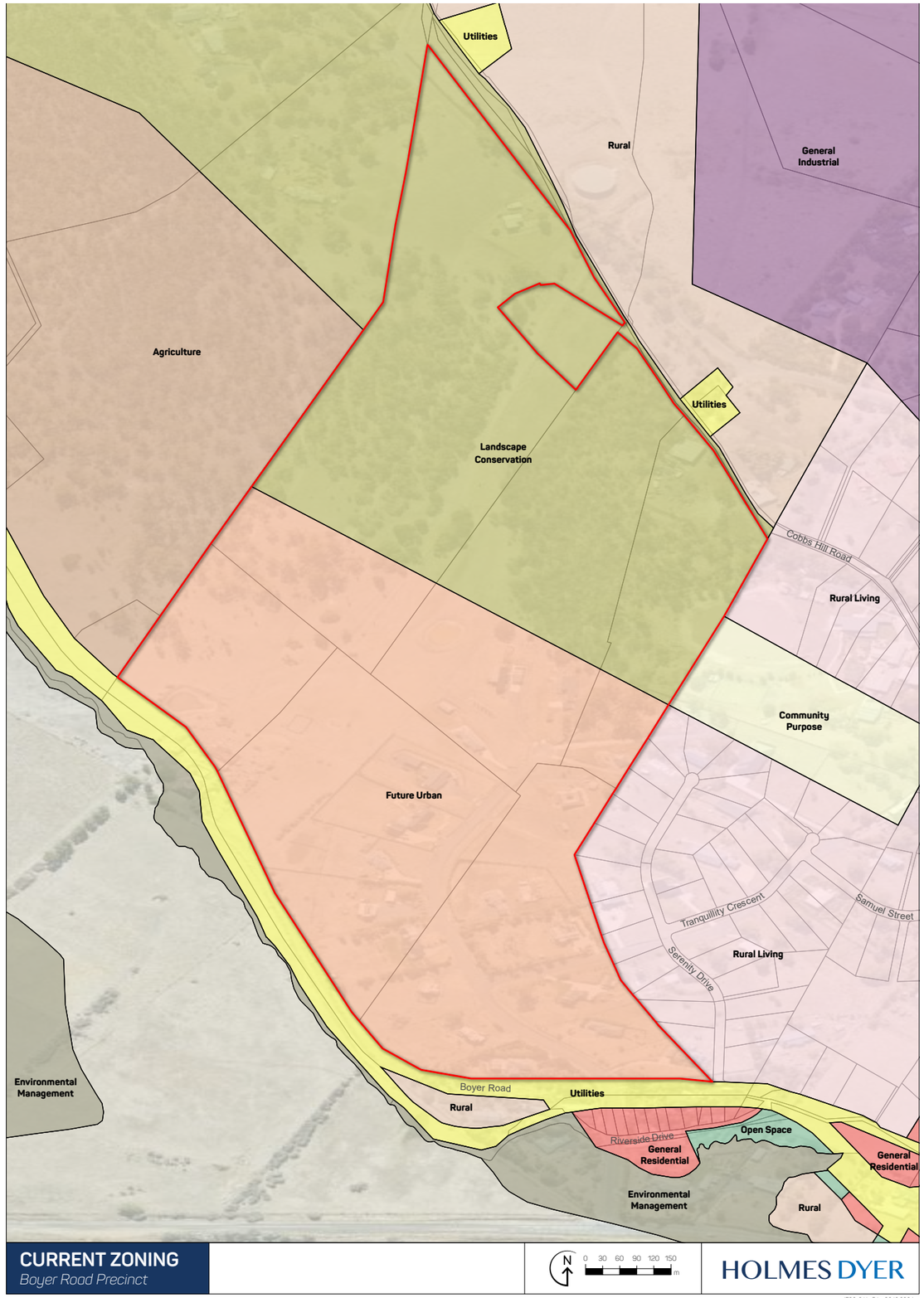
2.12.2.2 Bushfire Prone Areas Code

As detailed in Section 2.6, the entirety of the precinct is identified as being prone to bushfire risk – with the Bushfire-Prone Areas Code applicable to development within the site. The purpose of the Code is to ensure that proposed uses and development is appropriately designed, located, serviced, and constructed to reduce the risk to human life, property, and the cost to the community caused by bushfire. In particular, the Code is specifically relevant to subdivision proposals, vulnerable uses (e.g. custodial facility, education and occasional care, hospital services, residential) and hazardous uses (e.g. hazardous chemical and explosive storage).

Where development for residential purposes is proposed, the Code requires demonstration of the following:

- Vulnerable uses can only be located on land within a bushfire-prone area where tolerable risks are achieved through mitigation measures that take into account the specific characteristics of both the vulnerable use and the bushfire hazard;
- That subdivision provides for hazard management areas that:
  - » Facilitate an integrated approach between subdivision and subsequent building on a lot;
  - » Provide for sufficient separation of building areas from bushfire-prone vegetation to reduce the radiant heat levels, direct flame attack and ember attack at the building area; and
  - » Provide protection for lots at any stage of a staged subdivision.
- Access roads to, and the layout of roads, tracks and trails in a subdivision:
  - » Allow safe access and egress for residents, fire fighters and emergency service personnel;
  - » Provide access to the bushfire-prone vegetation that enables both property to be defended when under bushfire attack, and for hazard management works to be undertaken;
  - » Are designed and constructed to allow for fire appliances to be manoeuvred;
  - » Provide access to water supplies for fire appliances; and

Figure 13: Current Zoning



» Are designed to allow connectivity, and where needed, offering multiple evacuation points.

- An adequate, accessible and reliable water supply for the purposes of firefighting can be demonstrated at the subdivision stage to allow for the protection of life and property associated with the subsequent use and development of bushfire-prone areas.

2.12.2.3 Natural Assets Code

The Natural Assets Code is applicable across the precinct due to the presence of two waterways and areas of priority vegetation. The Code covers a variety of ecological matters including coastal and foreshore assets, riparian and native littoral vegetation, priority vegetation, threatened fauna species, and watercourses, wetlands and lakes. The extent of matters captured within the Natural Assets Code has resulted in a number of core purposes, with those most relevant to the Boyer Road precinct identified below:

- To minimise impacts on water quality, natural assets including native riparian vegetation, river condition and the natural ecological function of watercourses, wetlands and lakes;
- To minimise impacts on identified priority vegetation; and
- To manage impacts on threatened fauna species by minimising clearance of significant habitat.

2.12.2.4 Local Historic Heritage Code

As detailed in Section 2.5 50 Boyer Road contains a permanently registered local heritage item (Genappe). The core objective of the Local Historic Heritage Code is to recognise and protect the local historic heritage significance of local places, precincts, landscapes, and areas of archaeological potential, in addition to significant trees.

2.12.2.5 Electricity Transmissions Infrastructure Code

Due to the presence of overhead powerlines along Cobbs Hill Road the entire northern boundary of the precinct is subject to the Electricity Transmissions Infrastructure Protection Code.

The purpose of this Code is to:

- Protect use and development against hazards associated with proximity to electricity transmission infrastructure;
- Ensure that use and development near existing and future electricity transmission infrastructure does not adversely affect the safe and reliable operation of that infrastructure; and
- Maintain future opportunities for electricity transmissions infrastructure.

Figure 14: Codes

3. Infrastructure

3.1 Service Infrastructure

Rare Engineering (refer to Appendix 8) has undertaken a the following infrastructure investigations.

3.1.1 Electricity

Early Engagement with TasNetworks has indicated that there are no supply concerns for this locality, subject to augmentation of existing connection. The design may include a looped supply especially if there is connectivity to Cobbs Hill Road. The internal requirements for supply are a 750kVa substation per 100 lots. Preferable substation locations are central to the lots being supplied.

TasNetworks typically does not engage in the pre-planning or pre-subdivision phase, however have indicated their obligation to supply electrical infrastructure to the Boyer Road Precinct. Any costs relating to network augmentation or upgrades will be incorporated into the standard developer expenses for a subdivision, which would incorporate costs relating to HV lead-in, substations, and underground reticulation.

3.1.2 Communications

Communication infrastructure, in the form of NBN, is available to the precinct within the Boyer Road and Serenity Drive intersection. It is noted that existing NBN connections via Fixed Wireless to the NBN network are already provided to 50 and 170 Boyer Road.

Additional connection into this infrastructure is considered readily achievable.

3.1.3 Sewer

To inform investigations regarding sewer infrastructure calculations have been prepared for Equivalent Tenements (ET's) based upon the three natural catchments within the precinct. Each catchment has a low point adjacent to Boyer Road and will require a sewer pump station in the following locations:

- Pump Station 1 – 50 Boyer Road
- Pump Station 2 – 170 Boyer Road
- Pump Station 3 – 182 Boyer Road

The ET's for each catchment and pump station are listed within the Table 5, and includes a typical allowance for a 20% growth rate.

Table 5: Sewage Pump Station Performance

Pump Station ID	Developed Equivalent Tenements (ET's) (+20% Growth Rate)	Pump Station Volume	Pump Flow Rate
1 - 50 Boyer Road	134	20.1m^3	10.62 L/s
2 - 170 Boyer Road	248	37.2m^3	18.04 L/s
3 - 182 Boyer Road	71	10.6m^3	5.95 L/s

The sewer pump stations have been sized at the highest level for environmental sensitivity based on their close proximity to the Derwent Estuary, meaning the storage time will be 8 hours (in accordance with TasWater Supplement to WSA 04-2005 2.1 WSAA Sewage Pumping Code of Australia) and hence the pump station size will be larger than a regular pump station with low environmental rating. The default environmental rating may be lowered subject to further risk assessments in consultation with Taswater, however due to the proximity to the Derwent Estuary, it is assumed that a high rating is appropriate and is likely to be required.

Consideration was given to a common rising main to allow each pump station to discharge into a common line before being discharged into a gravity manhole outside 24 Boyer Road. A discussion with TasWater took place to investigate the possibility of achieving this outcome. It was determined that it would not be possible to achieve this. There are two other possible ways to achieve the discharge requirements of the three pump stations. The first is to install an individual rising main to each sewer pump station. This means a common trench can be used from near Serenity Drive all the way to 24 Boyer Road. The other possible solution is to daisy chain the pump stations, that is one pumps to the other and then the next one.

This means the pump stations would have to increase in size to accommodate the additional effluent discharged by the previous pump station and the inflow from the local catchment. It is noted that TasWater assumes connection to the existing Riverside Drive Sewage Pumping Station, which represents another option for a connection location – however this location would require several upgrades to the existing piped network and sewage pumping station.

Additional discussions were held with TasWater on 22 November 2024 which explored the potential to connect all three pump stations via a common rising main. While this may alter their configuration, it is noted that this will be subject to future design considerations. However, the overall capacity requirements for the pump stations are expected to remain unchanged.

TasWater also provided additional details on their downstream infrastructure, noting significant strain on the gravity system, existing sewer pump stations, and rising mains; whilst the Green Point Sewerage Treatment Plant (STP) has sufficient capacity to accommodate the development.

Upgrades to the gravity main are required between the receiving manhole and the Nielsen Parade Sewage Pumping Station (SPS). Further gravity and rising main upgrades may also be necessary between the Nielsen Parade SPS and the Green Point STP. The Nielsen Parade SPS requires a capacity upgrade to 52.6kL, with TasWater allocating 30.1kL of this to the Boyer Road Precinct. Additionally, pump upgrades will be needed to support the increased flow rate, necessitating a larger rising main.

3.1.4 Water Supply

The creation of a reticulated water supply network to service the development will require connection to the existing Taswater supply network. The closest connection location is at the intersection of Serenity Drive and Boyer Road to an existing DN100 PVC main. Preliminary comment from Taswater (included in Appendix B) has indicated that the existing DN100 main will be too small to service the development with a DN200 connection (or 2 x DN150) typically required for a development of this size. The existing Taswater network within a reasonable proximity to the site (developed areas to the east) consists entirely of DN100 or less sized mains, meaning no suitable connection is in close proximity to the site from this area.

The existing developed area to the east is supplied from the single Bridgewater Reservoir (ID: HOBWS017), which is located adjacent to Cobbs Hill Road to the north of the site. Taswater has advised that connection for the site will likely be required directly from the existing DN375 main (ID: A203814) at the reservoir. Connection at this location would mean the new water supply will be required to run through areas of 29 Cobbs Hill Road not previously included for development. Taswater has also advised that the creation of a new road reserve would be required to house the new main as new water mains cannot be located within private property. It is likely that the new mains servicing the site will also require connection back into the existing network at Serenity Drive to create a closed loop.

No other existing infrastructure suitable for direct connection is present within the surrounding areas. Several large bulk transfer mains are located further north of the site as well as a DN630 irrigation main that partially runs through 50 Boyer Road, however these are not suitable nor available for connection. This means that TasWater's initial comments on connection location nearby the reservoir are very likely to be the required solution for the site.

In preliminary assessment of possible connections to Serenity Drive, an EPANET model has been undertaken which has been adjusted to include supply from the Bridgewater Reservoir. Preliminary results from the model show that adequate pressures and flows are expected to be available to all lots on the site inclusive of both residential and fire flows to the most hydraulically disadvantaged lot. A screenshot of the EPANET model is provided in the below figure. This model provides DN 200 lead in from the reservoir spreading to a DN100 network within the subdivision.

Additional correspondence with TasWater on 22 November 2024 indicated that the capacity of the reservoir is not adequate to maintain existing servicing and supply of the proposed subdivision. To this end, TasWater will require additional capacity, either by rebuilding the existing reservoir with additional capacity or by building a second reservoir to give the additional capacity. If there is adequate land area, a second reservoir is the likely outcome as this will limit supply disruption.

3.1.5 Gas Infrastructure

TasGas have reticulation of natural gas on the eastern side of the Midland Highway in Bridgewater. The supply of natural gas is not considered to be an essential service but rather an optional service.

3.1.6 Irrigation Pipelines

There is a DN630 irrigation line that runs from the north at Cobbs Hill Road into 25 Cobbs Hill Road and then into 50 Boyer Road before leaving the property crossing Boyer Road, under the rail corridor and into the Derwent Estuary crossing the river to Granton. The proposed layout keeps this irrigation infrastructure in proposed public lands areas.

3.2 Stormwater

3.2.1 Stormwater Discharge and Onsite Detention

The Boyer Road Precinct contains three stormwater catchments which each discharge into Boyer Road via the following arrangements:

- Catchment 1 (50 Boyer Road) discharges via a twin DN375 under Boyer Road into a table drain which runs towards the railway crossing point at Riverside Drive;
- Catchment 2 (170 Boyer Road) discharges via a DN900 under Boyer Road and then under the railway corridor and finally to the Derwent Estuary; and
- Catchment 3 (Boyer Road) discharges via a DN1200 under Boyer Road and then under the railway corridor to the Derwent Estuary.

Catchments 2 and 3 have defined gullies, with the rural nature of the precinct resulting in farm dams which capture flows at various locations. With the presence of an existing gully within Catchment 2, the topography is expected to lend itself to the creation of a suitable detention basin. The topography adjacent to the outlet for Catchment 1 is less well defined in regard to an existing low point / watercourse and would likely require additional earthworks to construct a suitable detention basin.

Table 6 provides an overview of likely detention sizes required to control flows up to the 1% AEP event, noting that Catchment 3 does not require any detention due to the presence of an existing DN1200 pipe and roadside depression which are considered adequate to building driving head and discharge of post-development flows.

To manage stormwater for both the site and existing catchments, stormwater detention is proposed within the two eastern-most catchments 1 and 2 with approximately 1,300m3 and 2,360m3 of detention volume expected to be required respectively. The western-most catchment 3 is not expected to require detention. All three catchments are to discharge through existing culverts beneath Boyer Road. Stormwater treatment is recommended to be provided at the source, either at the discharge from each developed area or on an individual lot basis to effectively treat highly polluted flows and minimise required infrastructure.

3.2.2 Stormwater Quality

Treatment of stormwater flows from developed areas is expected to be required in accordance with the pollutant reduction targets specified within the Tasmanian Stormwater Policy Guidance and Standards for Development document. Due to the significant portion of external undeveloped catchment flows and the nature of the development having the potential for staged or partial development of individual land parcels, it is expected to provide a better outcome to provide at source treatment / control. This would involve treatment at the localised discharges from the major development areas before discharging into the existing gullys and watercourses, and/or by providing treatment at the time of development of each individual site.

By allowing the large portion of external catchment flows to discharge directly to Boyer Road, bypassing treatment, more efficient removal of pollutants from developed areas can be carried out with less dilution of pollutant flows. This may assist in lowering the total sizes of treatment infrastructure required.

It is expected that with the inclusion of the open space / watercourse areas that sufficient space will be available for treatment devices to meet the required pollutant reduction targets at the outlets from individual developed areas. The configuration of treatment devices may include both the use of 'natural' WSUD solutions (e.g. sediment ponds, swales, bioretention) and proprietary treatment devices (e.g. gross pollutant traps, filtration systems) with further assessment required to determine treatment sizes dependant on selected methods.

Table 6: Stormwater Flows and Detention Requirements

Catchment ID	Existing Pipe Discharge Size	Peak 1% AEP Post-Development Flow (Generated by Catchment)	Approximate Detention Volume Required	Peak 1% AEP Post-Developed Flow Through Culvert (With Detention)
Catchment 1 (50 Boyer Road Discharge)	2 x DN375	1.04 m^3/s	1,300 m^3 (Approx. 1400m^2 2m max. depth)	0.358 m^3/s
Catchment 2 (170 Boyer Road Discharge)	DN900	3.57 m^3/s	2,360 m^3 (Approx. 2000m^2 3m max. depth)	2.23 m^3/s
Catchment 3 (Boyer Road Discharge)	DN1200	3.56 m^3/s	Nil (sufficient pipe capacity / inlet storage)	3.35 m^3/s

3.3 Site Access

An assessment of potential vehicular access points has been undertaken by Midson Traffic (refer to Appendix 9), which includes Boyer Road to the south and Cobbs Hill Road to the north.

Boyer Road is situated along the southern boundary of the Boyer Road Precinct and is a State Growth owned road which connects the Midland Highway in Bridgewater and Rocks Road in New Norfolk. It features a two-lane configuration with a sealed pavement width of 6-metres, with edge and centre lines provided along its length near the subject site. Boyer Road is not proclaimed as a Limited Access Road.

Under the Tasmanian Road Hierarchy Boyer Road is categorised as a Category 5, which is defined as an access road primarily used for access to private properties, albeit some may be used for comparatively low frequency heavy freight vehicle transport. Boyer Road currently carries 3,500 vehicles per day near the subject site, with a peak flow of approximately 450 vehicles per hour (PM peak), with a heavy vehicle traffic making up 11.5%.

Cobbs Hill Road is a low volume rural / residential access road that has a variable pavement width between 5 and 6 metres, and is not considered appropriate for vehicular access for the following reasons:

- The existing construction of Cobbs Hill Road is not suitable for the modest increase in traffic anticipated to occur from the Boyer Road Precinct; and
- The existing rail level crossing near Old Main Road is a low volume standard with warning lights and limited storage between the crossing and Old Main Road, and would likely require upgrading.

On this basis Boyer Road is considered the most appropriate access point for vehicular movements, with it noted that Boyer Road contains substantial spare capacity which can accommodate the potential traffic generation in association with the future development of the Precinct.

3.4 Existing Road Infrastructure Performance

3.4.1 Serenity Drive

Serenity Drive is a local cul-de-sac that services a small residential catchment area. It is approximately 600 metres in length, connecting to Boyer Road at a T-junction at its southern end and a cul-de-sac at its northern termination. The general urban speed limit of 50-km/h is applicable to Serenity Drive. The traffic volume is estimated to be approximately 300 vehicles per day.

3.4.2 Old Main Road / Boyer Road - New Bridgewater Bridge

Old Main Road is a local collector road that once formed part of the Midland Highway corridor. It now serves as access to residential and commercial properties for a short length to the north of the Midland Highway. Traffic volumes are very low, in the order of 300 vehicles per day near the subject site.

It is noted that Old Main Road will be retained as a roundabout with similar layout as existing conditions as a result of the construction of the new Bridgewater Bridge. The Old Main Road / Boyer Road roundabout forms part of the northern interchange associated with the new Bridgewater Bridge.

Traffic modelling undertaken for the Bridgewater Bridge project indicates that traffic flows on Old Main Road will increase to 4,500 vehicles per day to the north of the Boyer Road roundabout. The peak volume will be 350 vehicles per hour (afternoon peak period).

The distribution of traffic at the roundabout will alter as a result of the completion of the Bridgewater Bridge, particularly increased traffic from the southern approach providing a more balanced flow from all approaches.

3.4.3 Boyer Road

Boyer Road currently carries 3,500 vehicles per day near the subject site, with a peak flow of approximately 450 vehicles per hour (PM peak), with a heavy vehicle traffic making up 11.5%.

Crash data can provide valuable information on the road safety performance of a road network. Existing road safety deficiencies can be highlights through the examination of crash data, which can assist in determining whether traffic generation from the Boyer Road Precinct may exacerbate any identified issues.

Crash data was obtained from the Department of State Growth for a 5+ year period between 1st January 2019 and 31st August 2024 for the portion of Boyer Road between Old Main Road and Tongatabu Road.

The findings of the crash data are summarised as follows:

- A total of 16 crashes were reported during this 5-year period;
- Reported crashes had a relatively low severity, with only 2 crashes involving minor injury whilst the remaining 14 crashes involved property damage only;
- Crashes were disbursed throughout the day as follows:
  - 9 crashes between 8.00am and 5.00pm
  - 2 crashes prior to 9.00am
  - 5 crashes after 6.00pm.
- Crashes were disbursed throughout the week as follows:
  - 5 crashes were reported on Fridays
  - 3 crashes were reported on Mondays and Sundays
  - 2 crashes were reported on Wednesday
  - 1 crash was reported on a Tuesday and a Saturday
- Crashes were relatively evenly disbursed along Boyer Road as follows:
  - 5 crashes were reported at the Boyer Road / Old Main Road intersection
  - 1 crash was reported at the Boyer Road / Riverside Drive intersection
  - 1 crash was reported at the Boyer Road / Sorell Street / Wallace Street junction
  - 9 crashes were reported at mid-block locations
  - 2 crashes reported involved motorcyclists which resulted in minor injury
  - 1 crash at the Boyer Road / Old Main Road junction
  - 1 crash approximately 800m west of the Serenity Drive junction

Based upon the above there is no indication that there are any pre-existing safety deficiencies in the transport network near the subject site. Whilst Boyer Road has a posted speed limit of 80km/hr, the severity of crashes reported is relatively low.

3.4.4 Derwent Valley Rail Line

The Derwent Valley Line connects between Maydena and Bridgewater along the western and northern side of the Derwent River. The railway has been closed north of New Norfolk since 1995. It connects to the South Line at Bridgewater, where it continues to Western Junction where it connects to the Western Line. The Derwent Valley Railway Line crosses Boyer Road and Cobbs Hill Road within the vicinity of the Boyer Road Precinct.

4. Demographics, Social Infrastructure & Community Needs

4.1 Demographics Characteristics & Population Growth

4.1.1 Population Growth

Since 2016 Brighton Council has experienced the highest proportional population growth in comparison to the Southern Region and Greater Hobart, with this trend forecasted to continue well into the future. As of 30 June 2023 the region had an estimated population of approximately 19,988 residents, which represented growth of 1.57% (+310 persons) when compared to a 30 June 2022 population of 19,688. As depicted within Figure 9, the Brighton Council area has experienced percentage growth at a higher rate than compared to Greater Hobart since 2018, which has a current growth rate of 0.46%.

Tables 7 and 8 provide a summary of population growth projections for Brighton LGA.

Figure 15: Percentage Change in ERP 2007 to 2023

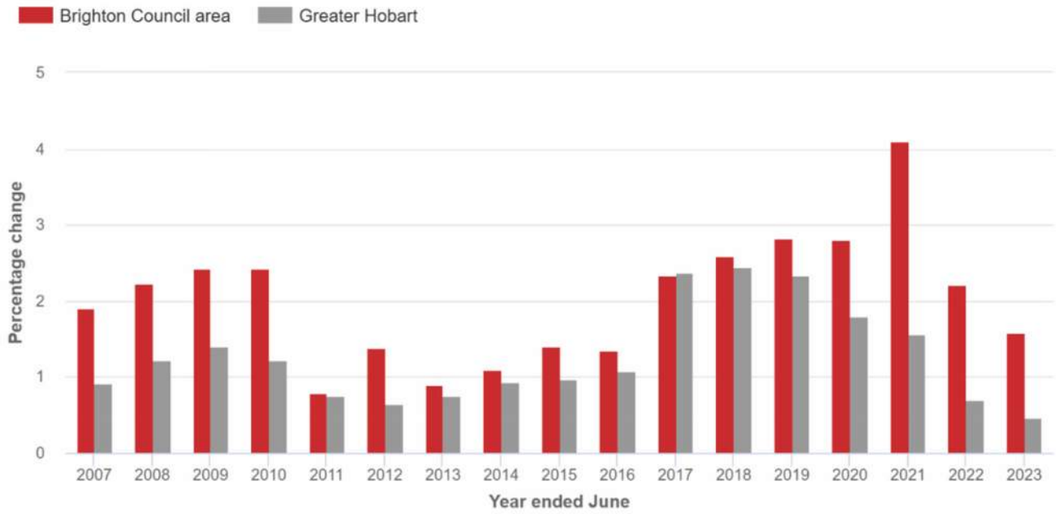


Table 7: Percentage Change in ERP 2007 to 2023

Location	2023	2028	2033	2038	2043	2048	2053
Medium Series Population Projections							
Brighton LGA	19,998	21,370	22,759	24,011	25,137	26,150	27,068
Greater Hobart	249,247	258,430	268,035	276,219	283,179	289,112	294,234
Tasmania	573,156	587,747	603,475	616,180	626,358	634,481	641,045
High Series Population Projections							
Brighton LGA	19,998	21,764	23,598	25,348	27,019	28,614	30,150
Greater Hobart	249,247	263,193	277,908	291,604	304,382	316,358	327,729
Tasmania	573,156	598,639	625,705	650,501	673,256	694,275	714,020

Table 8: Population Projections for Brighton LGA, 2023 - 2053 (Annual Breakdown)

	Medium Series Population Projections			High Series Population Projections		
Year	Brighton LGA	Greater Hobart	Tasmania	Brighton LGA	Greater Hobart	Tasmania
2023	19,998	249,247	573,156	19,998	249,247	573,156
2024	20,253	250,929	575,473	20,305	251,466	576,934
2025	**20,518**	**252,533**	**578,081**	**20,664**	**254,329**	**582,218**
2026	20,786	254,293	580,827	21,025	257,227	587,626
2027	21,079	256,371	584,305	21,394	260,200	593,109
2028	21,370	258,430	587,747	21,764	263,193	598,639
2029	21,658	260,456	591,119	22,134	266,183	604,177
2030	21,941	262,434	594,386	22,504	269,163	609,682
2031	22,219	264,360	597,542	22,873	272,134	615,121
2032	22,492	266,228	600,576	23,237	275,045	620,466
2033	22,759	268,035	603,475	23,598	277,908	625,705
2034	23,020	269,782	606,248	23,955	280,728	630,846
2035	23,276	271,471	608,899	24,308	283,506	635,893
2036	23,526	272,106	611,434	24,658	286,244	640,850
2037	23,771	274,687	613,859	25,005	288,943	645,718
2038	24,011	276,219	616,180	25,348	291,604	650,501
2039	24,246	277,702	618,401	25,689	294,228	655,203
2040	24,475	279,138	620,525	26,026	296,818	659,828
2041	24,700	280,528	622,557	26,360	299,373	664,379
2042	24,921	281,875	624,500	26,691	301,894	668,854
2043	25,137	283,179	626,358	27,019	304,382	673,256
2044	25,348	284,443	628,135	27,343	306,837	677,588
2045	25,555	285,666	629,832	27,665	309,261	681,854
2046	25,757	286,852	631,454	27,984	311,655	686,055
2047	25,955	288,000	633,002	28,301	314,020	690,193
2048	26,150	289,112	634,481	28,614	316,358	694,275
2049	26,340	290,192	635,898	28,925	318,671	698,304
2050	26,527	291,241	637,256	29,234	320,962	702,288
2051	26,710	292,263	638,563	29,541	323,234	706,231
2052	26,891	293,260	639,824	29,846	325,488	710,139
2053	27,068	294,234	641,045	30,150	327,729	714,020

4.1.2 Age Structures

Age data is essential to producing accurate population estimates based on the Census count. The age of people living in one geographical area can be broken down into service age groups, which divide the population into age categories that reflect typical life-stages. These stages include:

- Babies and pre-schoolers (0 to 4);
- Primary schoolers (5 to 11);
- Secondary schoolers (12 to 17);
- Tertiary education and independence (18 to 24);
- Young workforce (25 to 34);
- Parents and homebuilders (35 to 49);
- Older workers and pre-retirees (50 to 59);
- Empty nesters and retirees (60 to 69);
- Seniors (70 to 84); and
- Elderly aged (85 and over).

These age groups then have a (generalised) correlation to housing requirements as outlined in Table 9.

Brighton LGA is defined by a relatively young population with 49.9% of residents aged 34 years and under. The region's population is largely defined by parents and homebuilders (18.8%), young workforce (14.7%), older workers and pre-retirees (11.7%), primary schoolers (10.9%), and empty nesters and retirees (10.6%), which indicates that the region forms an attractive location throughout the various life-stages.

As evidenced within the Table 7, the largest changes observed in Brighton LGA between 2016 and 2021 were in the service age groups of:

- Young Workforce (25 to 34 years) – An additional 619 residents;
- Seniors (70 to 84) – An additional 484 residents;
- Parents and Homebuilders (35 to 49) – An additional 322 residents; and
- Older Workers and Pre-Retirees (50 to 59) – An additional 233 residents.

Assuming continued growth in these cohorts, we anticipate the need to provide smaller affordable allotments, townhouses, and units for the young workforce, larger detached dwellings on larger lots for the parents and homebuilders, moderately sized detached dwellings on mid-size lots for the older workers and pre-retirees, and units for seniors.

A retirement village could be developed for seniors, although the site's relative remoteness from public transport and services suggests the locality may not be a priority for a seniors village unless core services and a community bus (or similar) are provided as part of the development.

Table 9: Age Group Generalised Housing Requirements

Age Group	Living Arrangements	Dwelling Structure	Number of Bedrooms
Babies and pre-schoolers (0 to 4) Primary schoolers (5 to 11) Secondary schoolers (12 to 17)	Family home	Detached	3-4 bedrooms
Tertiary education and independence (18 to 24)	Group home	Detached	3 bedrooms
	Student Accommodation	Multi-unit	1 bedroom
	Apartment	Multi-unit	1-2 bedrooms
Young workforce (25 to 34)	First home	Detached / Unit Apartment	2-3 bedrooms 1-2 bedrooms
Parents and homebuilders (35 to 49) Older workers and pre-retirees (50 to 59)	Family home	Detached	3-4 bedrooms
Empty nesters and retirees (60 to 69)	Downsizer home	Detached Unit	2-3 bedrooms
Seniors (70 to 84)	Retirement living	Detached Unit Complex	2 bedrooms
Elderly aged (85 and over)	Aged care	Complex	1 bedroom

Table 10: Service Age Groups (2021 Census)

Service Age Group	Brighton LGA (2021)		Greater Hobart (2021)	
	No.	%	No.	%
Babies and preschoolers (0 to 4)	1,355	7.1%	12,856	5.2%
Primary schoolers (5 to 11)	2,079	10.9%	19,904	8.1%
Secondary schoolers (12 to 17)	1,589	8.4%	16,970	6.9%
Tertiary education and independence (18 to 24)	1,681	8.8%	19,988	8.1%
Young workforce (25 to 34)	2,798	14.7%	39,761	16.1%
Parents and homebuilders (35 to 49)	3,568	18.8%	46,375	18.8%
Older workers and pre-retirees (50 to 59)	2,230	11.7%	29,723	12.0%
Empty nesters and retirees (60 to 69)	2,006	10.6%	28,913	11.7%
Seniors (70 to 84)	1,520	8.0%	26,968	10.9%
Elderly aged (85 and over)	176	0.9%	5,631	2.3%

Table11: Service Age Groups (2016 Census)

Service Age Group	Brighton LGA (2016)		Greater Hobart (2016)	
	No.	%	No.	%
Babies and preschoolers (0 to 4)	1,324	8.0%	12,995	5.8%
Primary schoolers (5 to 11)	1,896	11.5%	19,395	8.7%
Secondary schoolers (12 to 17)	1,382	8.4%	15,837	7.1%
Tertiary education and independence (18 to 24)	1,537	9.3%	19,472	8.8%
Young workforce (25 to 34)	2,179	13.2%	28,485	12.8%
Parents and homebuilders (35 to 49)	3,246	19.7%	42,363	19.1%
Older workers and pre-retirees (50 to 59)	1,992	12.1%	30,270	13.6%
Empty nesters and retirees (60 to 69)	1,776	10.8%	26,779	12.0%
Seniors (70 to 84)	1,036	6.3%	21,478	9.7%
Elderly aged (85 and over)	144	0.9%	5,275	2.4%

4.1.3 Household Income

Household income is the combined gross income of all persons residing in the dwelling, and is a helpful tool in measuring the economic health of an area or to compare living conditions between geographic regions.

Brighton LGA has a median weekly income of $1,368, with the majority of households earning between $2,000 - $2,499 (11.0%) a week, followed by $1,000 - $1,249 (8.9%), and $1,250 - $1,499 (8.4%). Brighton LGA households predominantly earnt a moderate weekly income of between $800 and $2,999 (53.4%), albeit it is noted that a significant proportion (26.6%) of households were classified as low income (those earning less than $800 per week); whilst 11.3% of households has a high weekly income (those earning $3,000 per week or more).

The existence of lower income households in the area suggests the potential need for affordable land and housing opportunities to be provided. Paradoxically, the strong representation of higher income households also supports the provisions of higher value land and housing products.

Table 12: Household Income - Brighton LGA & Greater Hobart

Household Income	Brighton LGA (2021)		Greater Hobart (2021)	
	No.	%	No.	%
Negative / Nil Income	82	1.2%	1,209	1.3%
$1 - $149	26	0.4%	488	0.5%
$150 - $299	103	1.5%	1,174	1.2%
$300 - $399	188	2.7%	2,243	2.3%
$400 - $499	522	7.5%	6,430	6.7%
$500 - $649	345	5.0%	4,743	4.9%
$650 - $799	573	8.3%	6,113	6.4%
$800 - $999	505	7.3%	6,388	6.6%
$1,000 - $1,249	619	8.9%	7,489	7.8%
$1,250 - $1,499	585	8.4%	7,611	7.9%
$1,500 - $1,749	424	6.1%	5,897	6.1%
$1,750 - $1,999	407	5.9%	5,454	5.7%
$2,000 - $2,499	759	11.0%	10,629	11.1%
$2,500 - $2,999	481	6.9%	6,835	7.1%
$3,000 - $3,499	294	4.2%	5,400	5.6%
$3,500 - $3,999	175	2.5%	3,387	3.5%
$4,000 - $4,500	96	1.4%	1,879	2.0%
$4,500 - $4,999	99	1.4%	2,700	2.8%
$5,000 - $5,999	66	1.0%	1,758	1.8%
$6,000 - $7,999	38	0.5%	1,346	1.4%
$8,000 or more	17	0.2%	497	0.5%
Not stated	522	7.5%	6,434	6.7%

4.1.4 Household Size

Average household size (AHD) is the average number of adults and children living in a home. This measure is a key determinant of underlying demand for housing. For example, a decline in AHS typically means more households are being formed and there is, therefore, greater demand for housing for a given level of population growth. Changes in AHS can be driven by shifts in demographics and household preferences for how much space people want, as well as market conditions, such as changes in housing prices and rents. The average household size in the Brighton Council area is 2.6 persons per household. The most common household sizes are 2 persons (33.5%), followed by lone person households (22.1%), 3 person households (19.2%) and 4 person households (15.1%).

This suggests a need for 2-3 bedroom dwellings as a priority, albeit the market preference is likely to be for 3 – 4 bedrooms to allow for guests and work from home capability.

Table 13: Household Size (2021 Census)

Household Size	Brighton LGA (2021)		Greater Hobart (2021)	
	No.	%	No.	%
1 person	1,526	22.1%	26,263	27.6%
2 persons	2,314	33.5%	32,599	34.3%
3 persons	1,324	19.2%	15,229	16.0%
4 persons	1,044	15.1%	13,194	13.9%
5 persons	444	6.4%	5,226	5.5%
6 or more persons	246	3.6%	2,473	2.6%

Table 14: Household Size (2016 Census)

Household Size	Brighton LGA (2016)		Greater Hobart (2016)	
	No.	%	No.	%
1 person	1,293	22.2%	24,847	29.0%
2 persons	1,936	33.2%	29,750	34.7%
3 persons	1,103	18.9%	13,161	15.4%
4 persons	953	16.3%	11,575	13.5%
5 persons	371	6.4%	4,400	5.1%
6 or more persons	174	3.0%	1,891	2.2%

4.1.5 Household Composition

Household composition is determined by the people living together and their relationship to one another. The term household refers to all individuals who live in the same dwelling, who may or may not be related by blood or marriage. A household is distinct from the less inclusive category of family as it includes lone persons and group households. Household composition is one of the most important demographic indicators as it reveals the residential role and function of an area, era of settlement, and provides key insights into the level of demand for services and facilities which are directly correlated to age and household types.
The most common household typology within the Brighton Council area is couples with children (28.7%), followed by couples without children (23.2%), lone person households (21.2%), and one parent families (19.0%).

There is clearly a strong emphasis on family accommodation and significant demand for single person residences.

Table 15: Household Composition (2021 Census)

Household Composition	Brighton LGA (2021)		Greater Hobart (2021)	
	No.	%	No.	%
Couples with children	2,063	28.7%	25,493	25.8%
Couples without children	1,667	23.2%	26,488	26.8%
One parent family	1,370	19.0%	11,673	11.8%
Group households	174	2.4%	4,007	4.1%
Lone person	1,525	21.2%	26,256	26.6%
Other family	71	1.0%	1,053	1.1%
Visitor only	39	0.5%	1,127	1.1%

Table 16: Household Composition (2016 Census)

Household Composition	Brighton LGA (2016)		Greater Hobart (2016)	
	No.	%	No.	%
Couples with children	1,825	29.5%	23,046	25.5%
Couples without children	1,401	22.7%	22,878	25.4%
One parent family	1,105	17.9%	10,607	11.8%
Group households	142	2.3%	3,371	3.7%
Lone person	1,295	20.9%	24,851	27.5%
Other family	68	1.1%	878	1.0%
Visitor only	43	0.7%	1,043	1.2%

4.1.6 Tenure

Tenure type describes whether a dwelling is owned, being purchased or rented by a household, or being occupied under another arrangement. Housing tenure provides insights into an area's socio-economic status as well as the role it plays in the housing market. Tenure can also reflect built form, with a significantly higher share of renters in high density housing and a substantially larger proportion of homeowners in separate housing, although this is not always the case. Brighton LGA has a large proportion of dwellings owned with a mortgage (38.4%) and a considerable portion owned outright (24.1%). Social housing rental is very significant relative to the typical provision across Greater Hobart. While more social housing is always needed, affordable key worker accommodation is probably a greater priority in this area given the relative undersupply of private rental housing in Brighton LGA.

Table 17: Tenure (2021 Census)

Tenure	Brighton LGA (2021)		Greater Hobart (2021)	
	No.	%	No.	%
Owned Outright	1,739	24.1%	32,574	33.0%
Mortgage	2,765	38.4%	32,843	33.3%
Renting – Social Housing	1,015	14.1%	5,764	5.8%
Renting – Private	1,234	17.1%	21,774	22.0%
Other	61	0.8%	1,656	1.7%
Tenure Type Not Stated	76	5.4%	3,956	4.0%

Table 18: Tenure (2016 Census)

Tenure	Brighton LGA (2016)		Greater Hobart (2016)	
	No.	%	No.	%
Owned Outright	1,368	22.1%	28,537	31.6%
Mortgage	2,399	31.8%	30,282	33.6%
Renting – Social Housing	875	14.1%	5,307	5.9%
Renting – Private	1,109	16.4%	18,721	20.8%
Other	59	1.0%	1,400	1.6%
Tenure Type Not Stated	481	7.7%	5,786	6.4%

4.1.7 Dwelling Typology

Dwelling typology is an important determinant of Brighton Council area's residential role and function. A greater concentration of higher density dwellings is likely to attract more young adults and smaller households (often renting), whilst larger, detached or separate dwellings are more likely to attract families and prospective families. The residential built form often reflects market opportunities or planning policy, such as building denser forms of housing around public transport nodes or employment centres. Brighton LGA is predominantly characterised by separate housing (88.2%), followed by medium density (11.7%) dwellings. Current dwelling typology in Brighton LGA would suggest that there is acceptance of medium density housing but that the far greater emphasis should be on the delivery of separate houses.

Table 19: Dwelling Typology (2021 Census)

Dwelling Typology	Brighton LGA (2021)		Greater Hobart (2021)	
	No.	%	No.	%
Separate House	6,637	88.2%	89,124	83.8%
Medium Density	884	11.7%	14,079	13.2%
High Density	0	-	2,165	2.0%
Caravans, cabin, houseboat	0	-	353	0.3%
Other	0	-	338	0.3%

Table 20: Dwelling Typology (2016 Census)

Dwelling Typology	Brighton LGA (2016)		Greater Hobart (2016)	
	No.	%	No.	%
Separate House	5,783	88.2%	82,418	83.2%
Medium Density	728	11.1%	13,503	13.6%
High Density	0	-	2,144	10.1%
Caravans, cabin, houseboat	8	0.1%	284	0.2%
Other	20	0.3%	415	0.3%

4.1.8 Number of Bedrooms

Dwellings in Brighton Council have an average occupancy rate of 95.7%, where dwellings are usually made up of 3 bedrooms and occupied by 2.6 people.

There has been a notable shift towards 2 bedroom dwellings over the 2016 - 2021 intercensal period, with the overall proportion increasing from 12.9% to 16.4% of all houses (475 additional 2-bedroom dwellings). At the same time, 3-bedroom dwellings increased by 367, and 4 or more bedroom dwellings increased by 308 dwellings.

This suggests ongoing demand for a range of housing products and sizes.

Table 21: Number of Bedrooms (2021 Census)

Number of Bedrooms	Brighton LGA (2021)		Greater Hobart (2021)	
	No.	%	No.	%
0 or 1 bedrooms	142	2.0%	5,400	5.5%
2 bedrooms	1,181	16.4%	20,601	20.9%
3 bedrooms	4,032	56.0%	45,854	46.4%
4 bedrooms	1,183	16.4%	18,011	18.2%
5 bedrooms or more	260	3.6%	4,923	5.0%

Table 22: Number of Bedrooms (2016 Census)

Number of Bedrooms	Brighton LGA (2016)		Greater Hobart (2016)	
	No.	%	No.	%
0 or 1 bedrooms	140	2.3%	4,806	5.3%
2 bedrooms	706	12.9%	18,634	20.7%
3 bedrooms	3,665	59.2%	41,886	46.4%
4 bedrooms	948	15.3%	15,351	17.0%
5 bedrooms or more	187	3.0%	4,028	4.5%

4.2 Existing Social Infrastructure

4.2.1 Community Facilities

The Brighton LGA is well serviced by both general and specialised community facilities which include:

- Brighton Council Chambers
- Brighton Civil Centre
  - A 1,170m2 council-owned and operated facility located in the heart of Bridgewater which caters for a variety of community uses, including meeting rooms to a large bookable hall.
- Bridgewater Library
  - A non-Council owned facility which is co-located with the civic centre. The library has bookable computers, WiFi services, along with 3 meeting rooms of various capacities.
- Brighton Municipal Memorial Hall
  - Municipal hall containing one medium-sized meeting room for the Women's Country Association, one medium sized meeting room for general community use, and one larger hall with a stage.
- Old Beach Community Centre
  - A small multi-purpose hall co-located with Lennox Park which is somewhat utilised by the local Old Beach community as a bookable space.
- Old Council Chambers
  - Often referred to as the Senior Citizens Centre, this facility operates as a community centre which provides spaces for casual or long-term rent. It currently serves as a hub for Jobs Tasmania and the South Central Workforce Network.
- Dromedary Hall
  - The Dromedary Hall is a community centre which provides a bookable event space for social gatherings and community events. This facility is somewhat underutilised and is non-Council owned.
- Gagebrook Community Centre
  - The Gagebrook Community Centre is owned by the Jordan River Service (JRS), and hosts various JRS programs and initiatives including Water Food Co-op and community garden, skills training programs, community activities and other social services.
- Tea Tree Hall
  - Tea Tree Hall is a non-Council owned and operated community centre featuring bookable spaces. It hosts several community events throughout the year including cards, community drinks, footy tipping, high tea, and social nights.
- Coronation Hall
  - The Coronation Hall is home to the Veterans Memorial Centre, and is available for rent for events or other functions. The Veterans Memorial Centre offers assistance to the ex-service community and holds charitable events to raise funds for the operation of the centre and its members.
- Tagari Lia Child and Family Centre
  - A child and family learning centre which provides free and specialised services for children aged 0 to 5 years.
- Pete's Community Workshed
  - Pete's Community Workshed provides woodwork and metalwork skills training for socially disadvantaged and culturally isolated people including people with disability and 'at-risk youth' from the Bridgewater-Gagebrook area.

These facilities are considered to remain suitable up to 2042.

4.2.2 Childcare

There are six registered childcare centres within the Brighton LGA which deliver 326 childcare places and are operated under a mixture of privately owned and operated, and Council owned and private lease arrangements. These facilities are split across Brighton and Bridgewater, and include Brighton Child Care & Early Learning Centre, Lady Gowrie-Brighton Outside School Hours Care, Dollery Park Child Care Centre, Discovery Early Learning Centre and OSHC – Green Point, Brighton Family Day Care, and St Pauls Long Day Care.

By 2042 there will be a considerable deficiency in childcare places of 322 spaces, which will arise due to forecasted population growth and the inability of current supply to match the influx of children aged 0-4 driven by the development of new release areas.

A childcare facility could be developed on the Boyer Road land, although a site on Old Main Road would probably better serve a wider population base.

4.2.3 Primary, Secondary & Tertiary Education

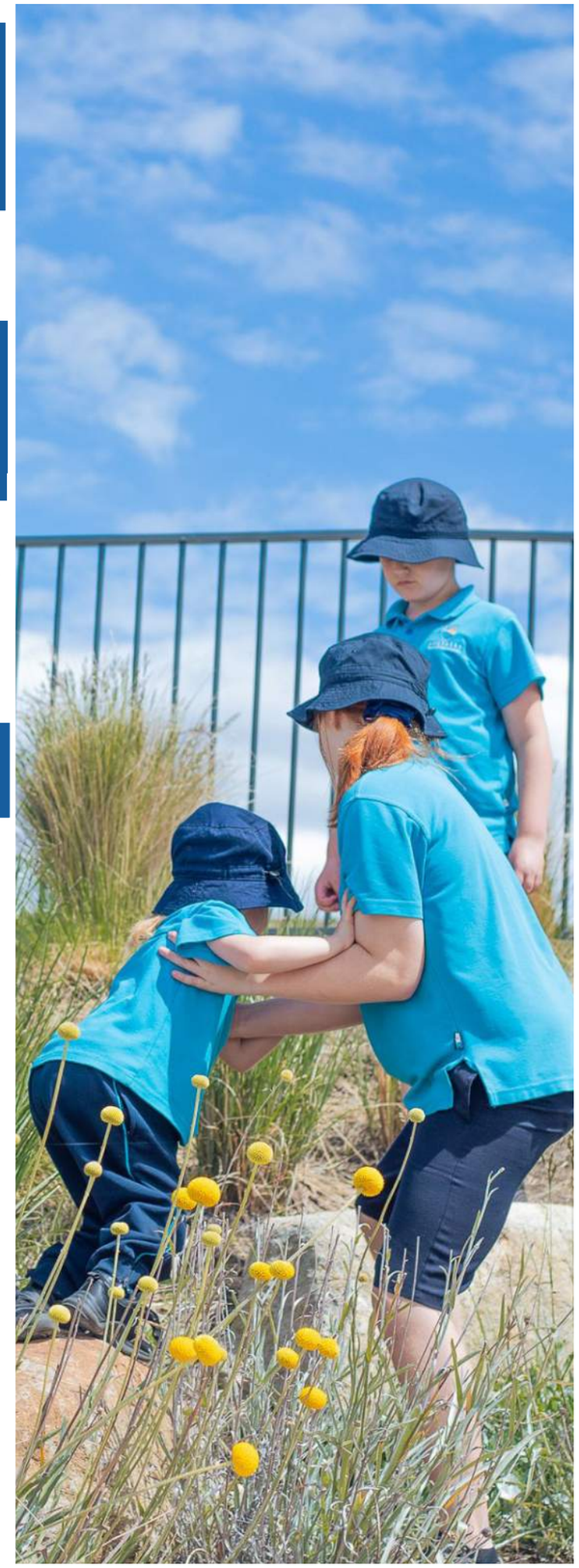
Brighton LGA is well serviced by educational facilities, with six primary schools located across Brighton, Bridgewater, Gagebrook and Herdsmans Cove. These facilities include two private schools (St Paul's Catholic School and Northern Christian School), and four public schools (Brighton Primary School, JRLF – Gagebrook Primary School, JRLF – East Derwent Primary School and JRLF – Herdsmans Cove Primary School).

By 2042 there is expected to be a shortfall of three public primary schools to meet forecasted demand, however, it was identified within Council's 'Brighton Social Infrastructure Plan' that the existing facilities are of a larger than average size and therefore have additional capacity to accommodate future growth. Further, we note that Northern Christian School immediately abuts the Boyer Road site and could be reached by pedestrian / cycle path from the newly proposed urban area.

The JRLF – Senior School located within Bridgewater is the only secondary school currently servicing the region, and is considered sufficient to meet benchmarked demand by 2031. It is noted that a new $50 million secondary school (Brighton High School) funded by the Department of Education is being constructed along Elderslie Road, Brighton. The new facility will open for Term 1 in 2025, and will accommodate an additional 600 students from Years 7 to 12.

Tertiary opportunities are provided via the Trade Training Centre (TasTAFE) in Bridgewater, which enables school students and the broader community to undertake accredited training across a range of trade industries. The facility is considered an important community employment asset within the Brighton LGA.

The proposed developed population of the Boyer Road land would not support a junior school or senior school at this location.



4.2.4 Aged Care and Healthcare Facilities

Brighton LGA is reasonably serviced with healthcare facilities, which includes four medical facilities (Brighton Regional Doctors, Bedford Street Medical Centre, Greenpoint Medical Services and Brighton Community Health Centre) and one pathology clinic located within Brighton and Bridgewater. Whilst these facilities remain suitable, there is a significant gap in the number of general practitioners in Brighton LGA, with a gap of eight in 2027 increasing to 20 in 2042 unless existing supply in increased.

Wellington Views (operated by Respect Aged Care) is the only aged care facility located within the Brighton LGA. The facility has a capacity of 80 beds divided into 10 houses, with 22 rooms in the secure dementia unit. It operates 24 hours a day and offers a comprehensive range of services such as residential aged care, palliative care, secure dementia care and respite care.

A medical centre could be developed on the Boyer Road land but is more likely to serve a wider population is located on Old Main Road.

4.2.5 Emergency Services

The Bridgewater Police Station is the only police department located within Brighton LGA, whilst four fire brigade services located in Brighton, Old Beach, Tea Tree and Bridgewater service the region. These facilities are strategically located to appropriately service the community.

4.2.6 Creative and Cultural Infrastructure

4.2.6.1 Creative and Cultural Spaces

There is currently no identified infrastructure for creative and cultural practice. There is likely to be an unmet gap of three local community practice spaces by 2032 if current supply is not augmented.

A local community space could be provided on the Boyer Road frontage of the proposed development.

4.2.6.2 Performance Facilities

There are currently three facilities for creative and cultural performances, including Epsom House in Brighton, Jorden River Learning High School, and Tassie Open Air. Additionally Brighton Civic Centre and the Memorial Hall have performance capacity.

It is considered that there is a gap in district scale creative infrastructure, with one community arts / performing arts centre required by 2042. It is noted that the performing arts facility incorporated in the Brighton High School may satisfy demand by the general community.

The subject site is not a suitable location for the development of a performance facility.

4.2.6.3 Participation Facilities

There are currently five facilities for creative and cultural participation in Brighton. These include Pavilion Inn Historic Site, Bridgewater Memorial Reserve, Zoodoo Zoo located in Tea Tree, Lythgow's Row Colonial Cottages and Baskerville Raceway. Additionally, it is understood that Bond Place and Eddington Street Nursery / the Materials Institute are operated by MONA and provide creative participation opportunities to the local community.

4.2.6.4 Co-working and Creative Commerce Facilities

There is a significant gap in co-working and business incubator spaces, with no facilities currently situated within the Brighton LGA. It is considered that at least one business incubator space should be provided by 2027 to meet existing community demand.

Logically, this would be part of the Brighton Civil precinct.

4.2.7 Places of Worship

There are numerous places of worship located within the Bridgewater LGA which include:

- Sri Ganesha Cultural Centre and Worship Place Hindu Temple (Bridgewater)
- Hindu Temple by Hindu Society of Tasmania (Bridgewater)
- St Mark's Anglican Church (Pontville)
- St Matthew's Catholic Church (Brighton)
- Saint Paul's Catholic Church (Bridgewater)
- St Thomas Anglican Church (Tea Tree)

A place of worship could be provided within the development but we do not anticipate likely demand.

4.2.8 Recreation, Parks and Public Open Space

There are approximately 85 Council owned public open spaces throughout the Brighton LGA, which equates to a total provision of 218.16ha. Broadly, there is an adequate level of land provided for recreation and open space, with it noted that open space provision within the Council area is higher than that usually found within the Hobart urban region. This provision is centred around several key sites including:

- Weily Park – 25 Weily Park, Bridgewater;
- Pontville Park – 325 Brighton Road, Brighton;
- Cris Fitzpatrick Community Park – 35 Tottenham Road, Gagebrook;
- Cove Creek Oval – 39 Laurence Place, Gagebrook;
- Childs Drive Park – 5 Childs Drive, Old Beach;
- Seymour Street / Ted Jeffries Memorial Park – 65 Racecourse Road, Brighton;
- Lennox Park – 84 Jetty Road, Old Beach; and
- Bridgewater Parklands – Bridgewater.

Most of the remaining open space land is managed as general parkland, providing minimal amenities (such as shade or seating) and low impact on maintenance resources. There is also a large amount of waterway related open space, with recent initiatives to improve access to and through foreshore reserves supporting an established trail system throughout the municipality. This is further aided by numerous linear / linkage reserves that serve to provide a connection to and between areas of open space and residential areas.

There are 45 active recreation assets which are council owned within the municipality, with more than a quarter consisting of playgrounds (28%), with the next highest provision being sports fields (16%), pavilions (12%), outdoor courts (12%), and skate park / BMX facilities (12%). It is noted that by 2042 there will be the following anticipated deficiencies:

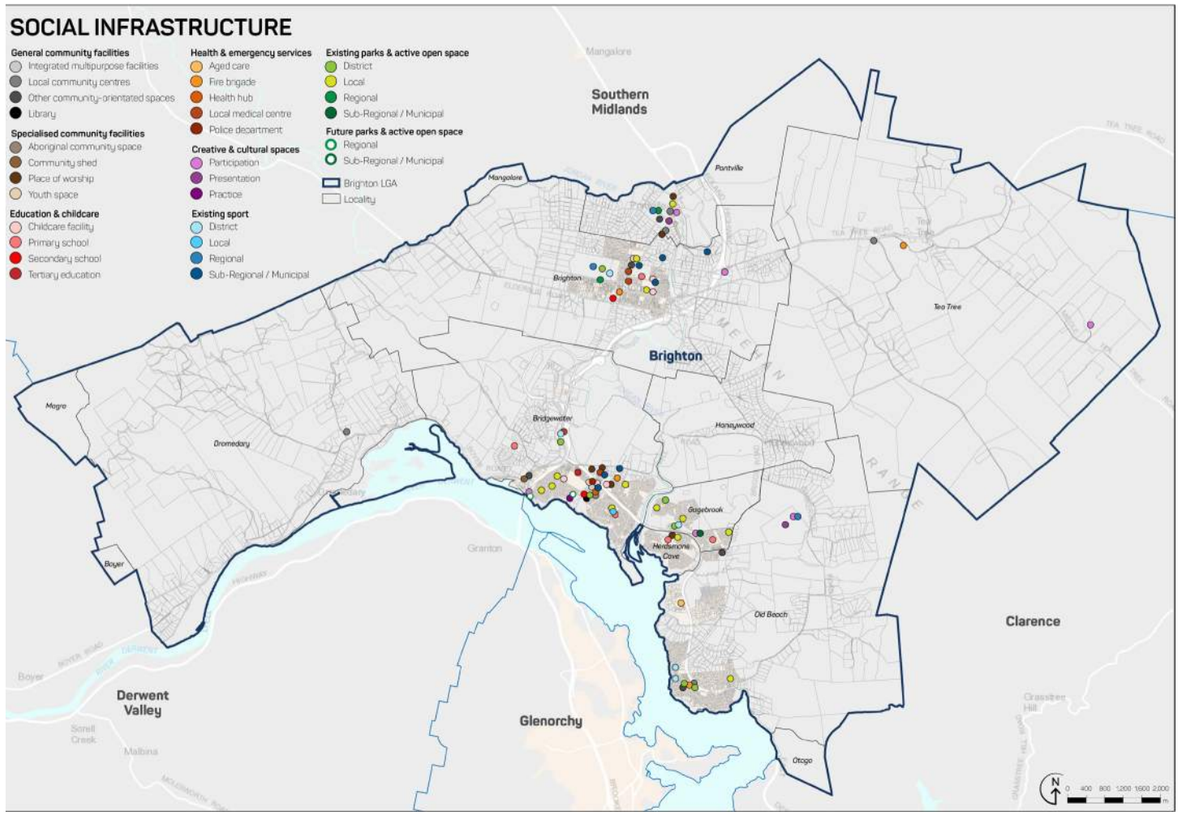
- A deficiency of 12 tennis courts;;
- A deficiency of 6.5 rebound walls
- A deficiency of 5.5 outdoor fitness stations;
- A deficiency of 6.6 play spaces;
- A deficiency of 4.5 off-leash dog areas; and
- A deficiency of 4.5 cricket nets.

There are a range of dedicated community sports facilities within the municipality which include:

- Brighton Regional Sports Pavilion
  - A regional hub for sporting and recreation, the Brighton Sports Pavilion is a state-of-the-art facility located along Brighton Road, Pontville. Situated between two main ovals, the Pavilion serves as a headquarters for local cricket and football clubs. This facility also has a gymnasium, bookable meeting rooms, club rooms, events space, dining areas and commercial kitchen.
- Brighton Bowls and Community Club
  - A non-Council owned facility which provides lawn bowling facilities as well as events space available for site. The function room has capacity for approximately 120 people, full commercial kitchen and other facilities.
- Bridgewater Police and Community Youth Club (PCYC) Community Centre
  - Bridgewater PCYC Community Centre provides sporting, recreational, social and cultural programs, including after school care and vacation care. It also offers sporting programs, basketball, futsal, netball, boxing, judo, and swimming.

The Boyer Road precinct can readily provide for passive and informal recreational uses. Small scale active recreational uses are also possible but major sports fields are limited by the slope of the land.

Figure 15: Brighton LGA - Existing Social Infrastructure



4.3 Demographic Characteristics of New Development and Consequences for Facility Development

The population and demographic characteristics of the incoming households to the Boyer Road precinct will be influenced by the type of land and housing product offered on site.

On the basis that the future development seeks to respond to a wide range of market segments, but does not include social housing (refer to the discussion in Section 6.4.2), then it is anticipated that development will target a combination of first home buyers (couples and couples with young families), key workers in rental housing (singles, couples and families), mid-market family housing (singes and couples with children), larger family housing (singles and couples with children) and downsizers (mature couples and singles no longer with children at home).

Having regard to the demographic profiles of similar growth areas at Brighton Estate and Glebe Hill (refer to Appendix 11 for details), we anticipate that the characteristics of the incoming population can be estimated as follows within Tables 23 and 24

Assuming that around 350 dwellings are delivered on the subject land, with an average household size of 2.6 persons per household, the total population of the fully developed Boyer Road precinct would be 910 persons. Key characteristics of this population could be expected as follows:

- 165 households with children
- 98 couples and 74 lone person households
- 91 preschool age children (0 – 4 years)
- 155 school age children, comprising 100 primary (5 - 11 years) and 55 secondary students (12 – 17 years)
- 45 empty nesters and retirees (60 – 69 years) and 45 seniors and aged residents (70+ years)

These numbers, which will only be achieved over a period of years, as development of the site progresses, are unlikely to generate the need for new schools or aged care facilities, albeit expansion of existing facilities would be necessary to accommodate population growth.

Childcare facilities are already in demand and a new centre could be supported in the locality. Similarly a new GP clinic could be supported due to wider demand. A site in the south eastern corner of the Boyer Road precinct has been identified as a possible location for these facilities, however, a location further to the east of the subject land, which better serves a wider population base, is likely to be more appropriate.

Additional sport and recreation facilities could be provided on site, notably tennis courts, rebounds walls, outdoor fitness stations, playgrounds / play spaces and cricket nets. Informal and passive recreation spaces are also suitable, including walking trails, seating, small pavilions and barbeque areas. The site also lends itself to regeneration of native vegetation landscapes, increased canopy cover, riparian land restoration and Indigenous landscape and trail development.

4.4 Retail & Commercial Space Requirements

Empirical standards suggest a typical retail floorspace provision of around 2.1m^2 per person. At a maximum predicted population of approximately 1,000 persons within the development, a demand for some 2,100m2 of retail floorspace could be anticipated. Typically, at least half of this demand would be absorbed by high order centres, such as the Hobart CBD, Glenorchy, Moonah and major big box retail outlets, leaving only around 1,000m2 of additional retail floorspace at the neighbourhood or local level. The existence of full-sized supermarket offerings at Green Point and Cove Hill, together with a selection of speciality shopping and services, suggests that the subject property would not generate sufficient trade to compete with those centres and would be relegated to a very localised service function if any retailing at all were to be provided.

In our estimation, probably only 5% - 10% of retail expenditure could be expected to be captured locally representing only 100 – 200m2 of retail floorspace. This would equate to a café and/or general store only.

In view of the desire to create a Main Street Precinct along Old Main Road, only a few hundred metres from the subject site, our belief is that any locally generated retail spending would be better directed to this precinct to assist in its establishment as a small, but meaningful, convenience centre serving Bridgewater West.

Table 23: Service Age Groups Breakdown Predictions for Boyer Road Precinct

Service Age Group	No of Persons	%
Babies and preschoolers (0 to 4)	91	10%
Primary schoolers (5 to 11)	100	11%
Secondary schoolers (12 to 17)	55	6%
Tertiary education and independence (18 to 24)	73	8%
Young workforce (25 to 34)	255	28%
Parents and homebuilders (35 to 49)	182	20%
Older workers and pre-retirees (50 to 59)	64	7%
Empty nester and retirees (60 to 69)	45	5%
Seniors (70 to 84)	45	5%
Elderly aged (85+)	0	0%
Total	**910**	**100%**

Table 24: Household Composition Breakdown Predictions for Boyer Road Precinct

Household Composition	No. of Households	%
Couples with children	**119**	34%
Couples without children	**98**	28%
One parent families	**46**	13%
Group households	**10**	3%
Lone person	**74**	21%
Other	**3**	1%
Total	**350**	**100%**

5. Market Analysis

5.1 Current & Recent Residential Sales Data

Table 25 identifies the number, median area and median value of land, units / flats and houses across the whole of Brighton Council area for the three years of 2022, 2023 and 2024 (until 30 November 2024). Note that all of the following data excludes any properties where incomplete data was made available to Core Logic RP Data, hence the count is under enumerated by those incomplete sales data. This information is then broken down in Table 26 by individual year to establish recent trends in consumer behaviour.

This information suggests relatively consistent sales activity over the period with growth in land and unit / flat pricing and static house prices (which increased and then declined during the period).

The relatively small number of allotment sales relative to projected long term demand for housing suggests that either existing lots are being developed for units / flats to bolster supply or there is a shortfall in the delivery of land to the market. Price rises in land supply tend to support that notion.

The predominant new lot land size is 749m2, with few lots less than 500m² in area but some 35 sales being for lots greater than 5,000m2 in area. Most units are on lots less than 500m² (with a median of 308m²), while the predominant house lot size is in the 500 – 749m² category (medium of 655m²). A significant number of houses are in the 750 – 999m² category (with a medium area of 823m²). Some 129 sales were for dwellings on allotments of 5,000m² upwards. Refer to Table 27.

House and allotment prices have then been established for Bridgewater suburb in 2024 (to 30 November) alone. These identify a general correlation between size and price of land and housing, with both land values and housing values increasing with the size of the allotment. Because many of the fields involve very small sales volumes, the median sales values must be viewed with great caution, however, the largest land sales band of 2,000 – 4,999m² provides a very healthy median land value of nearly $550,000, while the two dominant housing bands of 500 – 749m² and 750 – 999m² indicate a value of around $450,000 for established 3 bedroom 1 bathroom detached housing. Note that unit / flat sales activity in Bridgewater was too small to provide reliable median values. Refer to Table 28.

Table 25: Brighton Council - All Sales (Nov 2022 - 2024)

	Brighton Council, All Sales 2022-2024 (November)		
	Land	Unit / Flat	House
Count	128	161	676
Median Area	799 sqm	295 sqm	724 sqm
Median Sale Price	$280,000	$480,000	$560,000
Median Bedrooms	-	2	3
Median Bathrooms	-	1	1

Table 26: Brighton Council - All Sales by Year (Nov 2022 - 2024)

Brighton Council, All Sales by Year 2022-2024 (November)					
Year	Count	Median Area	Median Sale Price	Median Bedrooms	Median Bathrooms
Land					
2022	44	661 sqm	$265,000	-	-
2023	46	748 sqm	$270,000	-	-
2024 (Nov)	38	1,998 sqm	$347,500	-	-
Unit / Flat					
2022	42	291 sqm	$450,000	2	1
2023	57	277 sqm	$465,000	2	1
2024 (Nov)	62	311 sqm	$505,500	2	1
House					
2022	206	715 sqm	$545,000	3	1
2023	230	737 sqm	$600,000	3	1.5
2024 (Nov)	240	721 sqm	$542,500	3	1

Table 27: Brighton Council - All Sales by Land Size (Nov 2022 - 2024)

Land Size Category	Count	Median Area	Median Sale Price	Median Bedrooms	Median Bathrooms
Land					
<250	0	-	-	-	-
250-499	1	496 sqm	$ 290,000	-	-
500-749	57	566 sqm	$ 260,000	-	-
750-999	12	799 sqm	$ 280,000	-	-
1,000-1,999	5	1,660 sqm	$ 360,000	-	-
2,000-4,999	18	3,978 sqm	$ 530,035	-	-
5,000-9,999	11	5,005 sqm	$ 360,000	-	-
10,000-20,000	13	14,229 sqm	$ 500,000	-	-
>20,000	11	100,100 sqm	$ 395,000	-	-
Unit / Flat					
<250	31	235 sqm	$ 460,000	2	1
250-499	117	308 sqm	$ 480,000	2	1
500-749	9	603 sqm	$ 535,000	3	1.5
750-999	4	877 sqm	$ 645,000	3	2
1,000-1,999	-	-	-	-	-
2,000-4,999	-	-	-	-	-
5,000-9,999	-	-	-	-	-
10,000-20,000	-	-	-	-	-
>20,000	-	-	-	-	-
House					
<250	6	237 sqm	$ 467,750	2	1
250-499	39	420 sqm	$ 483,000	3	1
500-749	332	655 sqm	$ 499,500	3	1
750-999	121	823 sqm	$ 580,000	3	1.5
1,000-1,999	35	1,128 sqm	$ 660,000	3	2
2,000-4,999	14	3,273 sqm	$ 815,000	4	2
5,000-9,999	41	5,463 sqm	$ 800,000	4	2
10,000-20,000	51	10,738 sqm	$ 775,000	4	2
>20,000	37	28,390 sqm	$ 850,000	4	2

Table 28: Bridgewater (Suburb) - Sales by Land Size (Nov 2022 - 2024)

Land Size Category	Count	Median Area	Median Sale Price	Median Bedrooms	Median Bathrooms
Land					
<250	0	-	-	-	-
250-499	0	-	-	-	-
500-749	3	658	$ 220,000	-	-
750-999	1	764	$ 155,000	-	-
1,000-1,999	2	1,711	$ 433,750	-	-
2,000-4,999	17	3,950	$ 543,950	-	-
5,000-9,999	4	5,370	$ 365,000	-	-
10,000-20,000	4	16,905	$ 1,872,560	-	-
>20,000	2	39,185	$ 2,737,350	-	-
House					
<250	0	-	-	-	-
250-499	5	405	$ 415,000	3	1
500-749	87	676	$ 440,000	3	1
750-999	34	845	$ 460,000	3	1
1,000-1,999	3	1,004	$ 520,000	3	1
2,000-4,999	2	2,411	$ 1,129,250	3	1.5
5,000-9,999	7	5,735	$ 710,000	3	2
10,000-20,000	0	-	-	-	-
>20,000	0	-	-	-	-

5.2 Residential Land Supply Capacity

Demand for private dwellings in the Southern Regional Tasmania (SRT) region (excluding metropolitan Clarence and Kingsborough) is forecasted to significantly increase from 58,284 in 2021 to 74,202 in 2046 (an increase of 15,918 private dwellings). While this equates to around 640 new dwellings a year, the demand is expected to be higher towards the start of the forecast period (around 8 – 900 dwellings) and gradually decrease to around 500 dwellings per year in the latter years of the forecast.

Demand for dwellings is driven by a growing population, a contracting household size, as well as non-permanent accommodation. Over the forecast period the average household size is forecasted to decline from 2.47 in 2021 down to 2.34 in 2046. Whilst this declining household size seems relatively minor, it will result in the need for hundreds of additional dwellings to house the same number of people over the forecast period.

At a regional level, the SRT has a theoretical residential land supply of existing residentially zoned land that could accommodate around 15,500 dwellings. When the supply is filtered to remove land that is less certain to be developed, that being, land that already has a building on it but with subdivision potential, then this supply further reduces to just over 12,200 dwellings with an estimated exhaustion by 2042.

Whilst there is moderate land supply availability within the broader region, it is emphasised that the Brighton LGA will likely experience land supply shortages within the next decade – with the area anticipated to reach land exhaustion (shovel ready) within 11 years.

Based upon forecasted population growth within the Brighton LGA it is anticipated that the region will require an additional 3,284 dwellings. It is estimated that the current land supply available within the Brighton LGA is capable of accommodating 1,517 dwellings, with a review of development within the General Residential Zone indicating an average yield of one dwelling per 559m² allotment.

This represents an overall shortfall in residential land of 1,767 dwellings, and therefore it is imperative that additional residential land is made available to address this deficit.

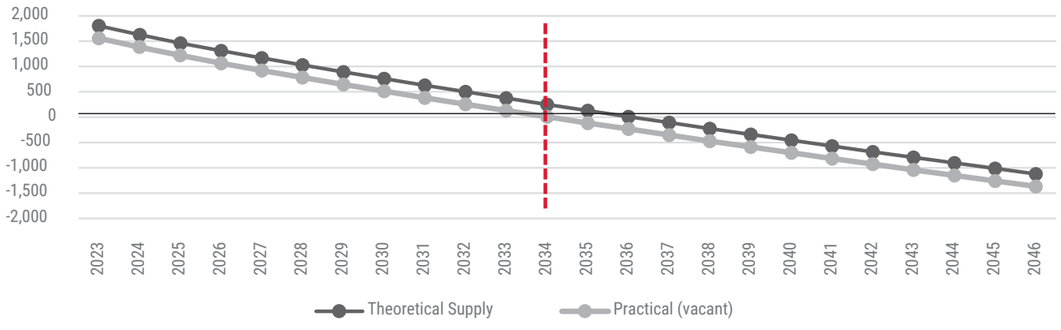
Table 29: Forecast Population and Land Supply, Brighton LGA

Brighton LGA				
Vacant Supply - Existing (2023) & Forecasted Deficit (2046)		Supply Exhausted (Years) – 'Shovel Ready Land'		
2023	2046	Theoretical	Practical	Vacant
1,517	-1,365	13	14	11

Table 30: Forecast Population and Land Supply by Suburb, Brighton LGA

Suburb	Vacant Supply - Existing (2023) & Forecasted Deficit (2046)		Supply Exhausted (Years) – 'Shovel Ready Land'		
	2023	2046	Theoretical	Practical	Vacant
Bridgewater	134	-181	5	8	7
Brighton	339	-434	18	16	7
Gagebrook	203	-6	11	21	21
Old Beach	719	490	23	23	23
Brighton Balance	162	-1,232	2	2	2

Figure 16: Brighton LGA - Land Supply Estimate



5.3 Retail, Commercial & Employment Lands Capacity

Economic growth within Brighton LGA is mostly driven by industrial activities facilitated by the substantial industrial land area, with the region hosting 853 active businesses, with key employment sectors including agriculture / food manufacturing, accommodation and food services, and public administration and safety.

Convenience retailing is strong, with a number of supermarket based activity centres in the area, together with supporting commercial and community based facilities.
All of the above provide the basis for local employment, albeit recognising that the area is still an area of net deficiency in jobs availability relative to the working age population.

Zones with capacity for additional employment growth include the following:

- Urban Mixed Use
- General Business Zone
- Light Industry
- General Industry

The Urban Mixed Use Zone centred upon Old Main Road, Bridgewater includes very little vacant land but does have the potential for conversion of low intensity residential properties to commercial use. The finalisation of the Bridgewater Bridge approach road network could generate additional surplus land holdings with employment land use potential, recognising the high visual exposure and accessibility of this locality.

The General Business Zone encompasses the Cove Hill Shopping Centre and the Green Point Plaza Shopping Centre, together with adjacent commercial and community activities. The Hurst Street precinct includes a number of vacant lots with propensity for future development.

The Cove Hill Road industrial precinct combines both Light Industrial and General Industrial zones and includes a number of vacant allotments. Further industrial development of the perimeter of the Boral Quarry (off Parkholme Drive) could free up more space for industrial development.

The Brighton Hub Logistics Precinct is zoned General Industrial and includes a number of undeveloped sites with potential for further industrial and logistics development.
Minor undeveloped land holdings also occur in the Local Business, Light Industry and Urban Mixed Use zones in Brighton (township).

Figure 17: Bridgewater (North) - Undeveloped and Underutilised Industrial and Commercial Land

Figure 18: Bridgewater - Undeveloped and Underutilised Industrial and Commercial Land

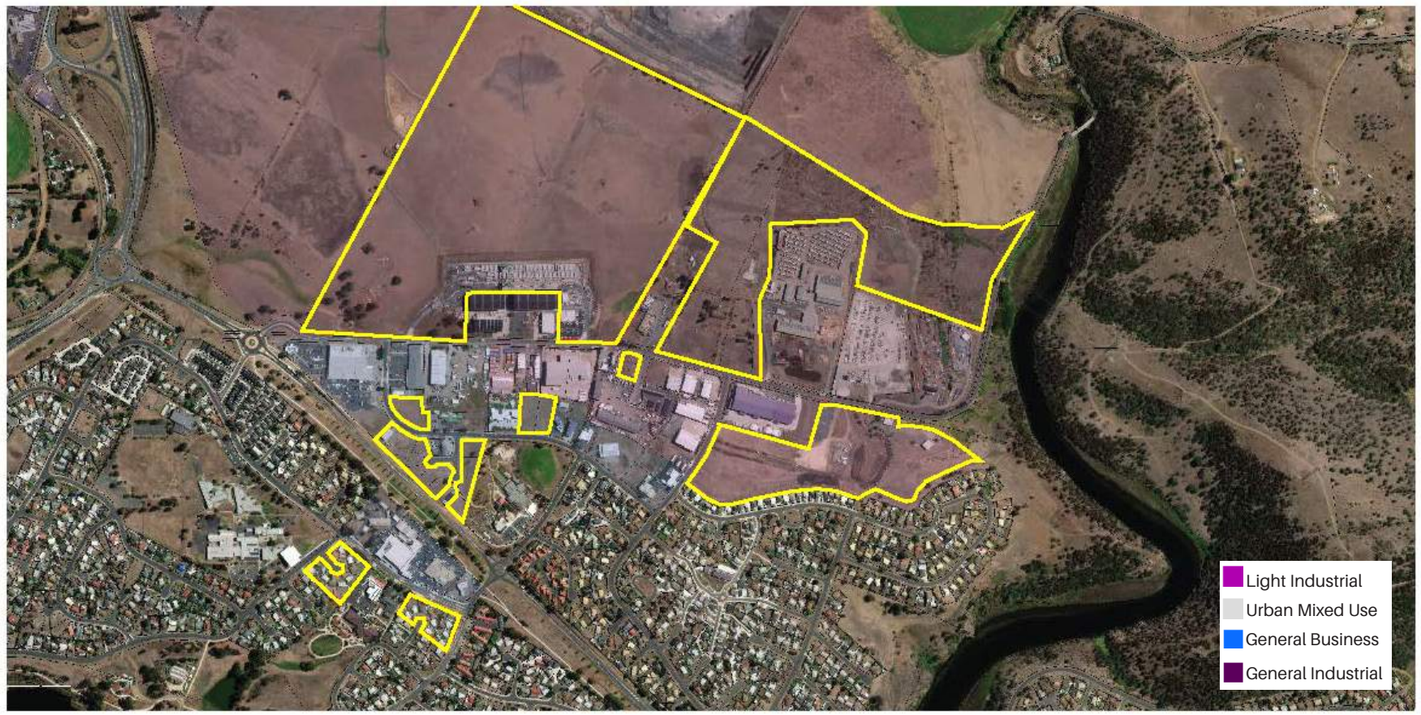


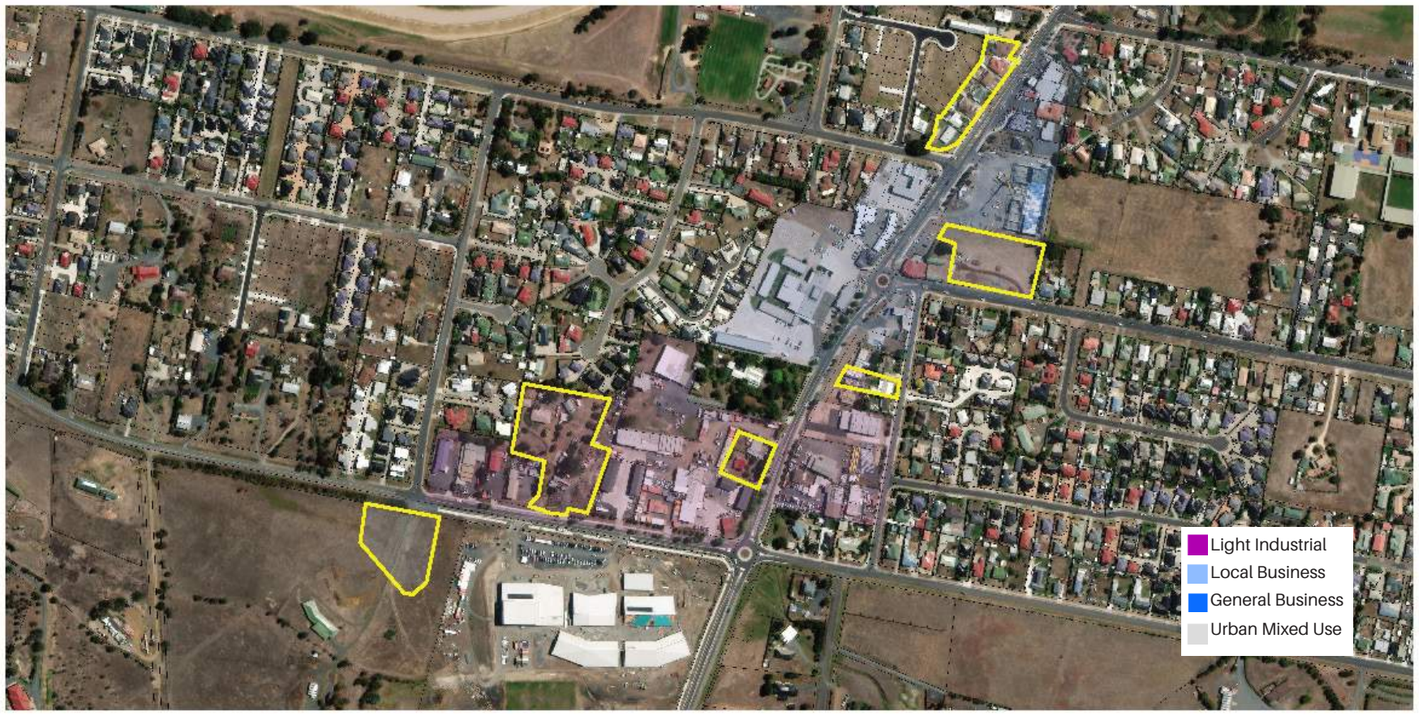
Figure 19: Bridgewater (West) - Undeveloped and Underutilised Industrial and Commercial Land

Figures 17 to 20 highlight undeveloped and underutilised industrial and commercial sites in Bridgewater and Brighton.

While the wider Brighton area could certainly support additional employment related zoning to cater for the growth of regional facilities attracted by the road and rail transport serving the area, the development of the Boyer Road Precinct should not require the setting aside of dedicated employment land within that precinct.

Employment required to serve the growing Brighton population is better served by the consolidation and expansion of existing industrial, commercial, and mixed-use precincts.

Figure 20: Brighton - Undeveloped and Underutilised Industrial and Commercial Land



6. Consultation Summary

6.1 Landowners

An in-person presentation was provided on 9 December 2024 to the 6 landowners within the Boyer Road Precinct. One couple attended online.

All landowners advised that they are supportive of the rezoning of the land, with five landowners strongly supporting the proposal and the sixth being generally supportive with reservations.

All landowners acknowledged that there would be substantial infrastructure costs and therefore the need for cooperation between landowners for shared delivery of many aspects of this infrastructure.

All of the southern landowners (50, 170 and 182 Boyer Road) were interested in excising an allotment to retain their existing dwelling or for development of a new residence, should subdivision occur over the remainder of their landholding. They were advised that this would be possible.

None of the northern landowners (25, 29 and 31 Cobbs Hill Road) were supportive of the creation of additional allotments along Cobbs Hill Road. All these landowners sought to restrict development to the southern edge of their properties, south of the woodland forest.

6.2 Community

Letters were sent to approximately 160 landowners / occupiers within the vicinity of the precinct, advising them of the Boyer Road Precinct project and inviting them to attend a drop-in session and fill out an online survey. The drop-in session and online survey were also advertised on Council's social media and on Council's Have Your Say page.

The drop-in session was conducted on Wednesday 11 December 2024 at the Brighton Council Chambers. Interested parties were invited to view a series of plans demonstrating the investigations undertaken to date and discuss the project with the consultant team.

A number of landowners of adjacent land, primarily from Serenity Drive and Tranquillity Drive, expressed their concern with the proposed rezoning of the Boyer Road Precinct, generally advising that their preference is for no development to take place but conceding that rural living allotments of 5,000m^2 or thereabouts (i.e., the typical size of their own allotments) would be an acceptable outcome for the area. Many of these attendees were not aware that the southern section of the precinct was zoned Future Urban in 2013, and therefore has been earmarked for residential development for some time.

Other attendees indicated they would prefer allotments of no less than 800 square metres, and others again suggested 2000 square metres as appropriate.

It was also proffered that the land should be rezoned for rural living and include land further westward (past 248 Boyer Road), all on poor quality and non-economic agricultural land, thereby delivering the same overall yield as the standard allotment development of the defined Boyer Road Precinct. This, of course, would extend Hobart beyond its current urban growth boundary, which would generate a range of issues that are unlikely to be resolved in the short term.

The following arguments in favour of maintaining an approach which seeks a traditional housing outcome for the Boyer Road Precinct were provided to neighbours in response to their concerns:

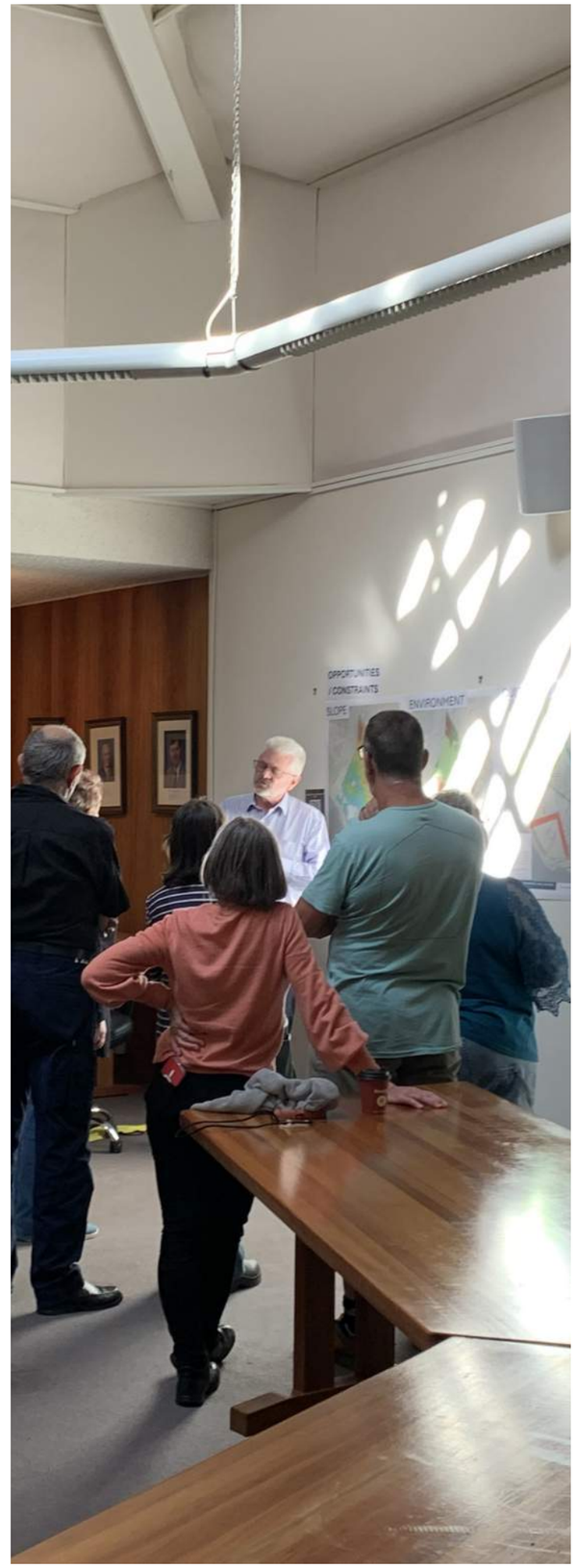
- There is a housing affordability and housing supply crisis requiring the delivery of an optimum number of dwelling opportunities, including a proportion of affordable housing.
- The Precinct is likely to be more like Brighton than Bridgewater in its social composition.
- The land has been earmarked for urban development since 2013.
- It will provide somewhere for your children to live.
- Serenity Drive / Tranquillity Drive / Samuel Street / Cobbs Hill Road was farmland not that long ago. Its development allowed you to become a resident in the area.
- Creation of an open space reserve separation between the proposed development and Serenity Drive properties, as well as larger lots along that interface would be possible.
- Delivery of pedestrian networks for walking and cycling along the open space corridors, a new link to Northern Christian School, a new link along Boyer Road to provide pedestrian / cycle access to Old Main Road facilities would be possible. Opens up public access to a whole new area that is currently unavailable to access.
- Opportunity for a further upgraded foreshore and associated recreation facilities – greater demand and impetus provided through more people in the area.
- Retention of the existing woodland and preservation of wildlife and vegetation, and threatened species on the northern portion of site.
- Replanting of the watercourse corridors with native species – rewilding of spaces.
- Increased tree canopy throughout.
- Creation of playgrounds and informal recreation spaces.
- Creation of indigenous 'referenced' landscapes and a trail network.
- 60km/h speed zone extension along Boyer Road providing for increased safety.

Other matters raised at the drop-in session included:

- The impact of the rezoning and subsequent development of the land on native vegetation and wildlife, particularly the habitat of kangaroos, wallabies, wombats, bandicoots and wedge-tail eagles.
- Concern regarding the impact on the nesting areas of white-bellied sea eagles, which were believed to be within the precinct area.
- Increased traffic on Cobbs Hill Road.
- Increased noise and loss of privacy as a result of new residents.
- A larger buffer area should be provided at the interface with Serenity Drive residents.
- Concern that allotments could be developed with multiple dwellings .
- Concern that the provision of a pedestrian link between the site and Northern Christian School will affect the privacy of adjacent landowners.
- The perception that the precinct will be used for social housing or attract people of lower socioeconomic status and the resultant impact on the surrounding residential areas.

In response to these matters, the following commentary is offered:

- The rezoning will focus on the southern area of the precinct that is largely devoid of vegetation. The northern area of the precinct area will be retained as Landscape Conservation Zone (and extended slightly to include the full extent of the area covered by the Conservation Covenant), which comprises areas of dense vegetation and provides valuable habitat for wildlife.



- North Barker has advised that while white-bellied sea eagles are likely to be transient visitors to the area and may use the forest areas to perch, there is no suitable nesting habitat for these species in the precinct area, noting that there are significantly denser areas of forest to the north-west that provide more appropriate nesting habitat. A publication on the white-bellied sea eagle produced by Parks and Wildlife Service Tasmania states that buffers of 250 metres (minimum) should be left around white-bellied sea eagle nests, which will easily be achieved even if nests are found to be within the forest areas of the precinct. There is no requirement to maintain a buffer around areas where white-bellied sea eagles are known to hunt or perch.
- The rezoning will not affect land in the northern area of the precinct, which will remain within the Landscape Conservation Zone. All traffic generated by the future development of the Boyer Road Precinct will be directed to Boyer Road.
- The eastern side of the Boyer Road Precinct abuts the rear boundary of 12 residential properties fronting Serenity Drive. Each of these properties has an area of approximately 5000 sqm, with dwellings sited closer to Serenity Drive than the rear boundary. In order to provide some separation between the occupants of these dwellings and future development within the precinct, a landscaped open space network is proposed to run the full length of this shared boundary, with a width of between 30 metres and 250 metres. This buffer area is considered to be reasonable. In addition, the draft Specific Area Plan indicates that future allotments closest to Serenity Drive properties (and the Landscape Conservation Zone) will be required to have a minimum lot area of 1000sqm.
- The draft Specific Area Plan provides for multiple dwellings in most areas of the precinct, subject to achieving minimum site areas. This is not considered to be unreasonable given the desire to create flexibility in the future development of the precinct and attract a mix of housing types to meet the demands of a diverse and changing population.
- The draft Structure Plan shows the potential for a pedestrian link to connect the precinct's open space network with the Northern Christian School. Providing the opportunity for children living in the precinct to cycle or walk to school rather than rely on a parent to drive them makes good logical sense. The provision of a pedestrian access point has not discussed with the school, nor the exact location determined. In the event an access point is agreed to, it will need to be appropriately located to minimise impacts on the adjacent landowners.
- The precinct is intended to provide housing options to meet a range of housing needs and price points to address the significant shortage of affordable housing within in the council area. At this stage, there is no intention to develop the land with social housing given the significant amount of social housing that already exists within Bridgewater.
- Investigations have identified that the precinct comprises 3 stormwater catchments (refer Section 3.2). Stormwater detention is proposed within the two eastern-most catchments (Catchments 1 & 2, closest to Serenity Drive), whereas the western-most catchment (catchment 3) is not expected to require detention. All three catchments are to discharge through existing culverts beneath Boyer Road. Stormwater treatment is recommended to be provided at the source, either at the discharge from each developed area or on an individual lot basis to effectively treat highly polluted flows and minimise required infrastructure.

6.3 Survey Results

Feedback from was sought from affected landowners and the wider community on the future rezoning of the Boyer Road Precinct via an online survey (also available in hard copy at the community drop-in session and on request). The survey ran for 47 days and elicited 37 responses.

Of the responses received, 3 were from landowners within the precinct, 25 were from people who live or own land near the precinct, 7 were community members with a general interest in the project, and 2 respondents did not identify their interest in the land. Refer to Figure 16.

When asked what features of the Boyer Road Precinct are most valued and should be retained, the top 4 responses were Native vegetation and wildlife (24), Less traffic than other areas (24), Open landscape / farmland (17), and Character / feel of the area (16). Of sightly lower ranking were Views to the Derwent (11) and Heritage features of the land (6). Refer to Figure 17.

When asked whether they supported the use of the Boyer Road Precinct for future housing, 54% said 'Yes' or 'Maybe', and 46% said 'No'. Refer to Figure 18.

Respondents were asked to elaborate on their selection.

Those responding with Yes or Maybe offered the following commentary:

- More housing is needed, but there needs to be a balance between housing and nature.
- Housing is supported providing stormwater run-off is addressed to prevent impacts on adjacent land.
- Housing is supported provided block sizes are not too small.
- Housing is supported provided road access is well designed to ensure vehicles can turn left/right onto Boyer Road safely.
- Housing is supported as Boyer Road Precinct is located 20 minutes from Hobart CBD and can existing infrastructure can be utilised.

Those who responded No offered the following commentary:

- More housing will result in more traffic and more crime.
- Developing the precinct with houses will change the character and feel of the area (quiet / calm / peaceful / rural).
- High or medium density housing near existing acreages is not supported.
- Fauna and flora will be affected, particularly risdon peppermint, Tasmanian blue gums, and birdlife.
- Rezoning the precinct will result in more social housing.
- Views to the Derwent will be disrupted.
- Potential risk posed to Aboriginal heritage.

A response to the matters raised is provided as follows:

- Only the land currently zoned Future Urban is proposed to be rezoned for urban development
- A generous open space buffer will be provided along the boundaries of the rezoned land to provide an appropriate transition to adjacent areas.
- Development of the precinct area will not happen overnight, it will be staggered and occur gradually over several years, thereby minimising the impact on adjacent landowners.
- The Landscape Conservation Zone will remain undeveloped and therefore existing areas of significant vegetation will not be impacted.
- Impact on fauna habitat will be minimal, with future development to be concentrated in the southern area of the precinct that is agricultural land. Denser forest areas within the northern area of the precinct will remain untouched. The report by North Barker confirms that there will be no impact on risdon peppermint; and recommends that blue gums within the northern areas of the Future Urban land area retained. The draft Structure Plan shows these areas as being retained within the open space network.

- The future development of the precinct will be predominately low density, particularly adjacent the boundaries of the precinct at the interface with land zoned Rural, Landscape Conservation and Rural Living.
- As discussed in Section 6.2, the precinct is intended to provide housing options to meet a range of housing needs and price points to address the significant shortage of affordable housing within in the council area.
- Given the southern area of the precinct is predominately undeveloped agricultural land, development of this land could affect views to the Derwent for landowners to the east, noting that properties toward the northern end of Serenity Drive sit higher than land within the southern area of the precinct, which slopes down toward Boyer Road. It is of note that the planning system does not protect 'views' on the basis that the widely held legal position is that views are a privilege not than right. Therefore, while efforts will be minimise the impact on the views of adjacent landowners through the provision of a generous open space buffer, there is no obligation to do so.
- With regard to Aboriginal heritage, two artefacts have been found on the site during recent investigations, and the Aboriginal Heritage Assessment identified an area of 'moderate archaeological sensitivity' along the southern boundary of the precinct. Both this area and the land comprising the will be located within open space reserves to ensure they are protected. The matter of Indigenous Heritage has been addressed more fully in Section 2.6 of this report.

6.4 Written Submissions

Four (4) written submissions were received during the consultation period from interested community members.

The matters raised in the submissions is summarised below.

- Impact on rare and endangered flora, particularly around Cobbs Hills Road.
- The area is home to at least 5 critically endangered Tasmanian Wedgetail Eagles, white-bellied See Eagles, swift parrots, bandicoots, wombats and numerous native flora such as kangaroo and wallaby grass; and a National Trust Heritage site and Aboriginal Heritage site.
- Concern that the precinct will attract high-density housing that will disrupt the 'community balance' and increase crime.
- Community members in Bridgewater do not consider the development to be in the best interest of the area and their opinions should be given more weight.
- The foreshore on Riviera Drive and Old Main Road in Bridgewater should be Council's focus, not creating

Figure 21: Survey Results - Location of Survey Respondents

Figure 22: Survey Results - Features to be Retained / Most Valued

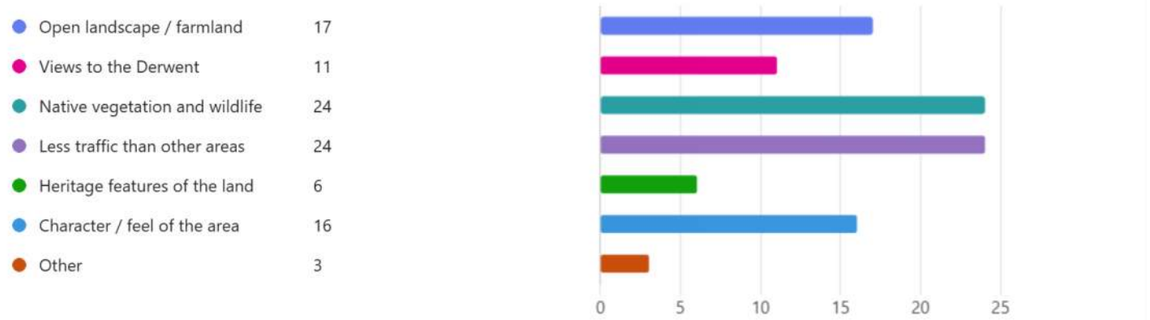


Figure 23: Survey Results - Level of Support

new developments.
- Preserving rural /semi-rural /green / open spaces around Cobbs Hill Road is crucial for protecting the area's unique identity and lifestyle.
- The precinct has changed since the land was identified as future urban in 2013 and is no longer suitable for housing.
- Water runoff from the precinct into the river will affect the marine life.
- Heavy density residential development will impact the look and feel of our home and other residents in the community.
- There are no services or public transport available to support the growth of the Boyer Road precinct.
- The precinct should be rezoned to Rural Living and expanded to include the remaining properties along Boyer Road, Bridgewater, which would deliver more housing while protecting wildlife and maintaining the rural feel.

A response to the matter raised is provided as follows:
- The Natural Values Constraints report prepared by North Barker confirms that much of the area zoned Future Urban can be developed for housing without impacting native flora and fauna, subject to a number of recommendations. Refer to Section 2.4 of this report. The proposed Master Plan (Section Structure Plan (refer Section 7.7) has been designed in response to these recommendations.
- The Structure Plan has been carefully designed to incorporate areas of vegetated open space between future development and existing rural living allotments to the east.
- The Precinct is not intended to accommodate high density residential development. The precinct will incorporate a mix of allotment sizes to provide dwelling choice and a suitable interface to surrounding rural and rural living land.
- The Boyer Road Precinct is within the urban growth boundary and has been earmarked for future urban development since 2013. The rezoning of this area of greenfield land is critical to ensuring Brighton Council has sufficient zoned land for future residential development over the next 15+ years.
- Cobbs Hill Road will not be impacted by the proposed rezoning, which will be focused towards Boyer Road.
- Stormwater from the land will be appropriately managed to ensure runoff does not pollute the Derwent. Refer to Section 3.2.2 Stormwater Quality.
- While there is not currently public transport in the vicinity of the site due to the area being on the urban outskirts, the development of the Boyer Road Precinct may create sufficient demand to warrant the area being serviced by public transport. The proposed road network connecting to Boyer Road can support a bus route, ensuring all lots are within 400m of a serviceable route.

6.5 Service Agencies

6.5.1 Infrastructure Agencies

Brighton Council, TasWater and TasNetworks attended an Enquiry by Design session on 9 December 2024. State Growth (Roads) and TasRail were invited to attend but did not participate in the session. A meeting was subsequently held with State Growth.

The meeting confirmed strong support for the development of the land in the form defined by the concepts presented at the meeting. The primary concern related to the funding of the infrastructure and the expectation that the developers of the land would be largely responsible for any trunk service augmentation requirements. Subsequent discussions, particularly with TasNetworks, have provided further clarification of this matter.

Most importantly, the development of the subject land for around 350 – 400 dwellings was recognised as being capable of servicing and, therefore, not an impediment to progressing the rezoning of the subject land.

6.5.2 Homes Tasmania

Holmes Dyer met with Homes Tasmania to determine their potential interest in involvement in the delivery of social and affordable housing within the Boyer Road Precinct.

It was acknowledged that the Bridgewater – Gagebrook – Herdsmans Cove area already had a disproportionally high concentration of social housing and that increasing that concentration would be undesirable. Furthermore, the Boyer Road precinct is not ideally situated in terms of its access to services and facilities, including bus routes, medical services and neighbourhood shopping, especially for a population that might include many households without access to a private motor vehicle. That said, Homes Tasmania's targeted concentration of social housing in new projects is 15%, which would represent a reduced level of concentration relative to the Bridgewater – Gagebrook – Herdsmans Cove area.

Homes Tasmania identified that it had other opportunities in the locality that were already controlled by State entities and represented potentially cost effective alternatives for its further involvement in the area. It also has an array of programs in which it can be involved in improving access to home ownership, such as its My Home shared equity program, where the upfront cost of purchasing a home is shared with Homes Tasmania, thus broadening access to home ownership to households with minimal deposits and more limited repayment capacity.

A further initiative was discussed, notably the notion of capturing a proportion of the value uplift created by the rezoning of the land for application to the delivery of key worker rental housing at a market discount. The value uplift capture would occur through the existing landowners agreeing to the imposition of a covenant over their respective landholdings that require a proportion of the allotments or dwellings created by the development to be made available to Homes Tasmania to rent to key workers at a discounted rental rate. The covenant would require those properties to continue to be made available at a discounted rent for 30 years.

The theoretical trade-off for current landowners is that agreement to the imposition of the covenant is that their landholding is rezoned to a higher and better use, which substantially increases the value of their land. However, because the landowners are already aware that the State intends to rezone the subject land for residential use, the value of that trade-off is already significantly diminished. An alternative value attraction for landowners might be in the early funding and delivery of key external infrastructure which unlocks the development of the land. This is not implying any diminution of landowners' requirements to pay for infrastructure, rather it is about service authorities acting as an infrastructure funding banker which is repaid by successive developments utilising that infrastructure, rather than the current arrangement whereby the 'first mover' typically assumes the responsibility for the bulk of the infrastructure cost with limited recourse to future reimbursement.

6.5.3 Heritage Tasmania

Holmes Dyer met with Heritage Tasmania, who have expressed support for the creation of a curtilage around the heritage listed 'Genappe' homestead which retains the setting of the house and outbuildings.

They also supported the creation of view corridors to the homestead from Boyer Road up the central and eastern valleys and acknowledged that the homestead could not be seen from most of Boyer Road due to the existing topography. Heritage Tasmania recognised that the unknown brick structure west of the homestead was not contained within the existing heritage listing but, in all likelihood, would be retained in an area of open space and unlikely to come under pressure to be redeveloped.

The hedgerows were not seen as essential to the history of the farm, with most of the hedgerows planted after the aerial photography of 1946. Only a small section at the rear of the 42 and 46 Serenity Drive properties may have existed prior to this date.

Heritage Tasmania is open to an application to amend the definition of the heritage place to reflect the proposed curtilage of the homestead and outbuildings. This is defined in the Figure 24

Figure 24: State Heritage Site

7. Opportunities & Constraints

7.1 Overview

The following analysis summary seeks to summarise the investigations undertaken in the preceding sections of the report (and included in full in the Appendices) as a basis for establishing the area of development potential available for future rezoning for residential use. The summary addresses physical and environmental, legal and cultural, and infrastructure opportunities and constraints, design opportunities arising from that analysis and establishes areas of constrained and unconstrained residential development potential and the level of development intensity achievable on the subject site, as a basis for preparing a structure plan and, ultimately, a concept plan / master plan for the development of the site.

7.2 Physical and Environmental Opportunities and Constraints

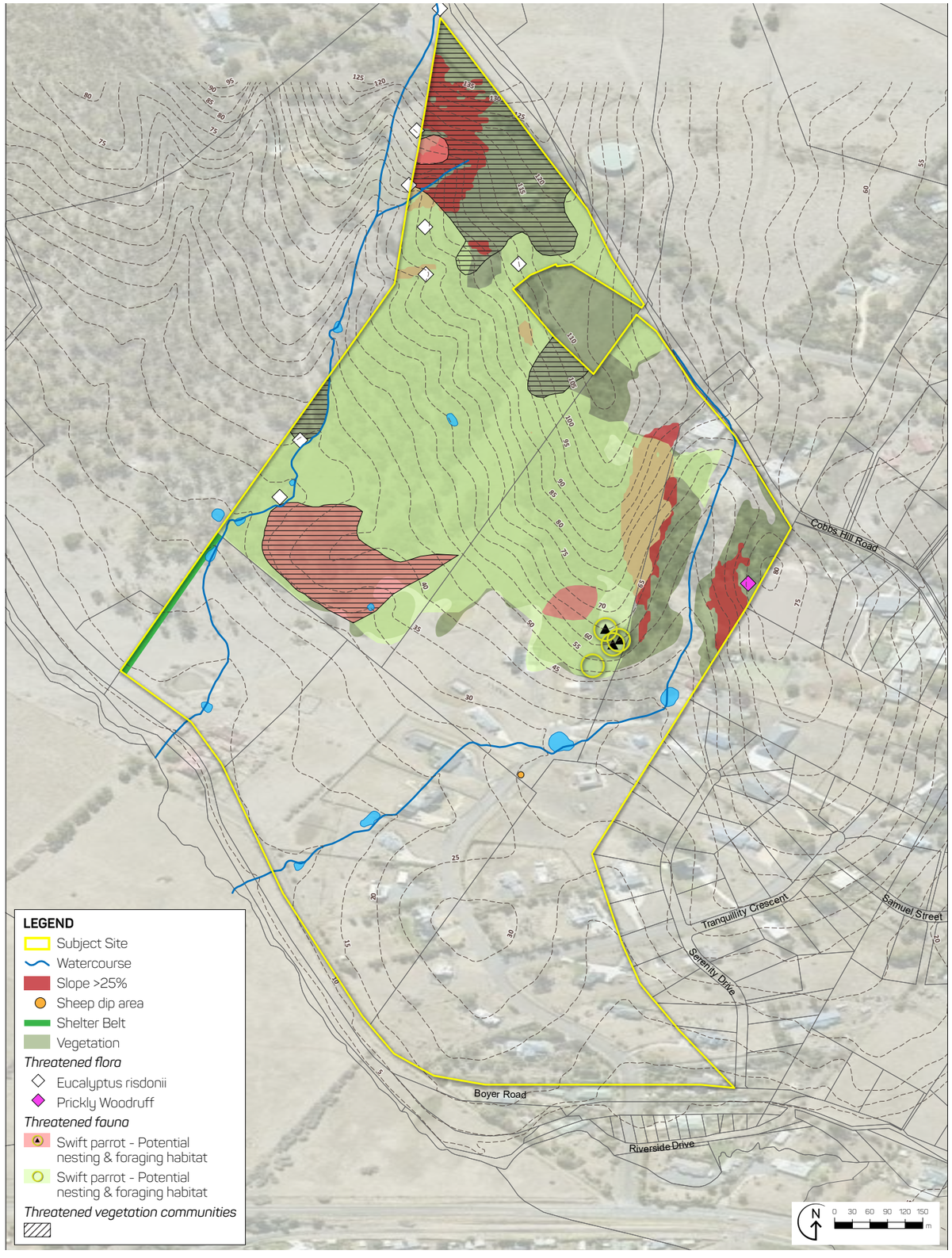
The key physical characteristics of the land which impact development of the site include the existing watercourses, the significant tree cover and the steeply sloping land in the north of the site.

The following figure captures these key elements.

It is particularly noteworthy that only selected areas of tree cover are identified as threatened vegetation communities, providing some flexibility regarding the development of other areas of moderate, non-threatened tree cover. That said, the potential nesting habitat of the Swift Parrot includes much of the northern tree cover. Importantly, however, it does not include the (NBA) Bursaria-Acacia woodland and scrub which borders the northern section of the central creek.

Also of note is the fact that the western and central waterways are recognised watercourses while the much more localised valley depression near the south eastern boundary of the site is not a recognised watercourse. This valley does have an outfall under Boyer Road (and thence is directed eastward along the south side of Boyer Road, before its outfall to the Derwent River) and is expected to require creation of a detention basin, but stormwater could be collected via a road network, channel or pipe system in this locality.

Figure 25: Opportunities & Constraints - Physical & Environment



7.3 Legal and Cultural Opportunities and Constraints

The site is impacted by a number of legal and cultural constraints, the most significant and absolute being the Conservation Covenant that covers the majority of the property at 31 Cobbs Hill Road, including an area of Future Urban Zone. This renders this section of land unavailable for development.

The site is also divided by a zone boundary, with Future Urban Zone in the south and Landscape Conservation Zone in the north. The Future Urban Zone is anticipated to change to residential, however, the Landscape Conservation Zone is not intended for residential development and represents a major challenge to the delivery of any additional residential capacity. That said, there are small areas of this zone that are grasslands which do not have the same conservation value as the adjacent woodlands.

The State heritage listed Genappe Homestead complex will require preservation, together with a reasonable curtilage around the complex to provide an appropriate setting for the homestead. The heritage research has also identified a small brick structure west of the homestead (and not within the listed property boundaries) that will require further investigation to determine its provenance, and three hedgerows associated with the site's farming operation. These hedgerows represent a conundrum, in that they represent a declared weed (boxthorn) yet have some heritage value.

As the whole of the property at 50 Boyer Road is included in the Tasmanian Heritage Register, agreement will be required with the Tasmanian Heritage Council to amend the extent of the listing to the area(s) of primary heritage value. For the purpose of this exercise, the extent of that listing is presumed to be the homestead complex and immediate curtilage and one hedgerow as an example of historical farming practices. The middle hedgerow has overlap with a declared Aboriginal archaeological site and therefore represents the best option for retention.

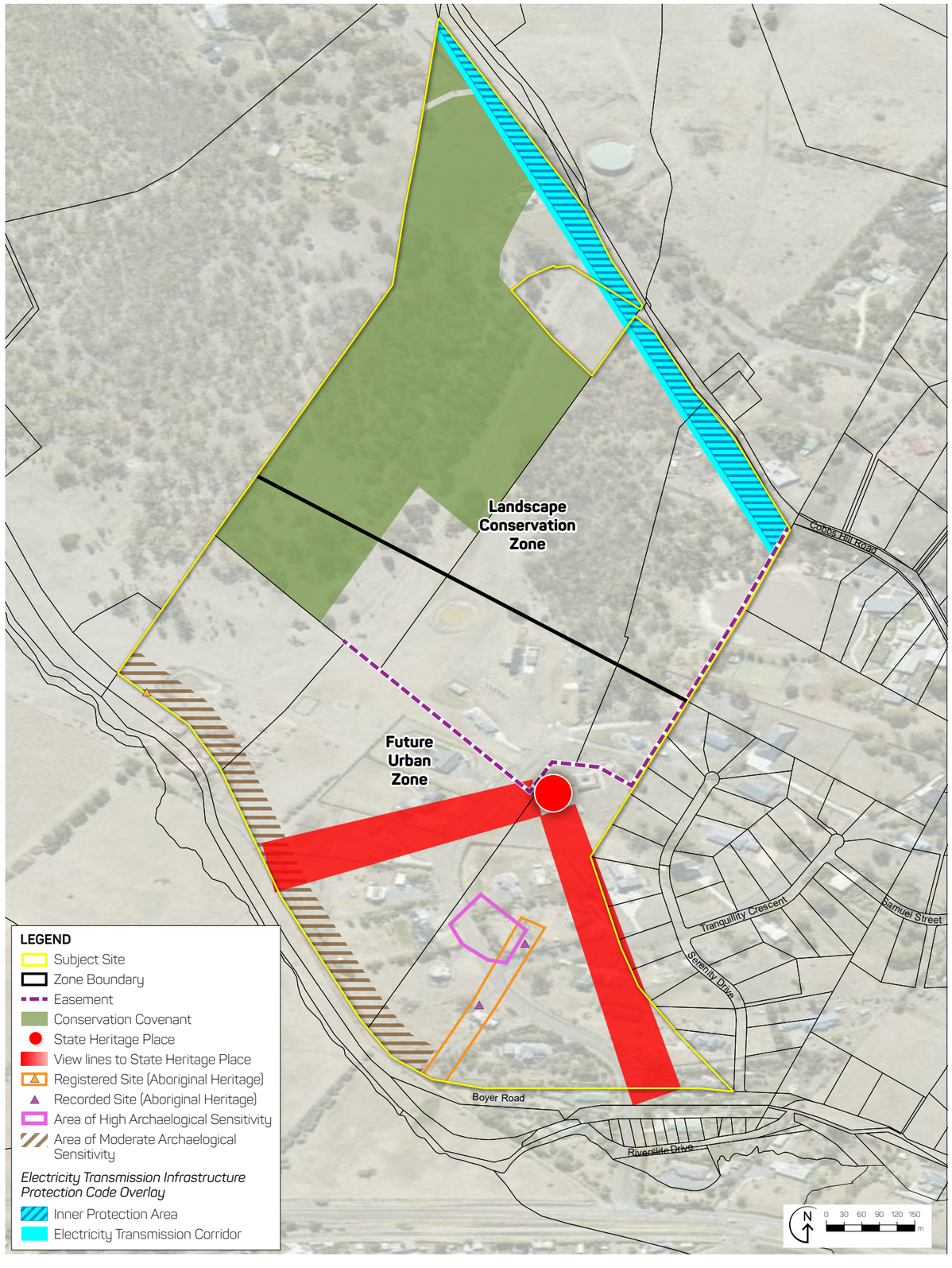
Views to the homestead can be retained from Boyer Road up the central and eastern valleys to the building complex. Other views from Boyer Road are limited by the knoll and rising land between these two valleys. The eastern valley provides an opportunity for the homestead to act as the terminal vista for the entrance road along this alignment. It also approximately replicates the current entrance driveway to the property.

The Aboriginal Heritage Assessment has identified one Registered Aboriginal Site of scattered artefacts, one isolated artefact (not found), an area of High Potential Archaeological Sensitivity and a zone of moderate sensitivity. The adopted approach is to retain the Registered site and the High Potential Archaeological site within open space reserves and to undertake further investigations as a precursor to any future land division to confirm the location of the isolated artefact and to evaluate the potential of further finds in the moderately sensitive archaeological zone.

An electricity transmission corridor has been identified along Cobbs Hill Road, extending into the subject site by around 20 – 50m. Currently, overhead transmission lines run along the road boundary from 29 Cobbs Hill Road to the north west and extend up to about 20m into the property at 25 Cobbs Hill Road. This will restrict the placement of dwellings along these frontages, requiring setbacks that coincide with the boundary of the transmission corridor.

A water supply easement currently runs along the eastern boundary of 25 Cobbs Hill Road and thence along the southern boundary of 25, 29 and 31 Cobbs Hill Road until it reaches the north eastern corner of 182 Boyer Road. This supply can be expected to be relocated into road reserves once the subdivision is developed and, therefore, should not represent a constraint on development.

Figure 26: Opportunities & Constraints - Legal & Cultural



7.4 Infrastructure Opportunities and Constraints

The subject site can be accessed from Boyer Road in three locations which coincide with the three valleys, which provide a level entry opportunity and where sight distances from Boyer Road traffic are acceptable. Boyer Road is capable of managing the anticipated traffic generation from the proposed development.

Cobbs Hill Road is preferably accessed at a point where a level access can be achieved and where a water supply approach main is required to service the wider development. This also coincides with the current location of an irrigation pipeline (no easement recorded) running north-south through the property. Cobbs Hill Road cannot accept a major increase in vehicular movements without upgrade to its pavement.

The site is capable of being served by power, water, sewer and communication services. There are water and sewer capacity issues that will require external upgrades that will influence the cost of delivery of residential land development on the subject site but none of those upgrades preclude the development of the subject land. Generally, an increase in yield from the overall site could help defray external infrastructure costs across a larger number of allotments.

These external costs may necessitate the introduction of some form of shared infrastructure delivery agreement between the landowners within the subject site. Options for such an agreement are discussed in more detail later in this report. From an internal design perspective, infrastructure that can be delivered to a single ownership without reliance upon other landowners is a desirable approach but one that will be difficult to achieve.

The following figure identifies that individual vehicle access points can be provided to 50, 170, and 182 Boyer Road and access is also possible from Cobbs Hill Road. However, the southern ends of 25, 29 and 31 Cobbs Hill Road will be reliant upon vehicular access through adjacent properties to Boyer Road. Cobbs Hill Road is not capable of taking this southern development without significant upgrade.

Stormwater outfalls are also available to 50, 170 and 182 Boyer Road properties, providing the potential for individual responsibility for bottom of catchment detention, however, each catchment has some overlap with adjacent properties, requiring levels of cooperation and consistency of approach. Separate sewer pump stations and rising mains can deliver individual services to 50, 170 and 182 Boyer Road, however 25, 29 and 31 Cobbs Hill Road will be reliant upon outfalls through the Boyer Road properties to these pump stations. Furthermore, infrastructure capacity upgrades external to the subject site will require a shared funding response.

Water supply to the site will be from Cobbs Hills Road reservoir and will require a water main through either 25 or 29 Cobbs Hill Road to serve development to the south. 25 Cobbs Hill Road is the preferred location for the water main given that the alignment can avoid existing woodland and habitat. It could readily parallel the existing irrigation pipe and would be required to be retained in a road reserve or open space reserve owned by Council. This requires a shared landowner response, as does any capacity upgrade to the Cobbs hill Road reservoir.

Power supply is relatively straight forward, with connection capability from both Boyer Road and Cobbs Hill Road. Internal substations will be required to serve around 100 lots each, while TasNetworks is keen to achieve a 'looped supply' if there is connectivity to Cobbs Hill Road. There will be some overlap in shared infrastructure, hence, a shared infrastructure agreement may be required.

NBN Network connections are available from Boyer Road. A shared cost agreement is unlikely to be required.

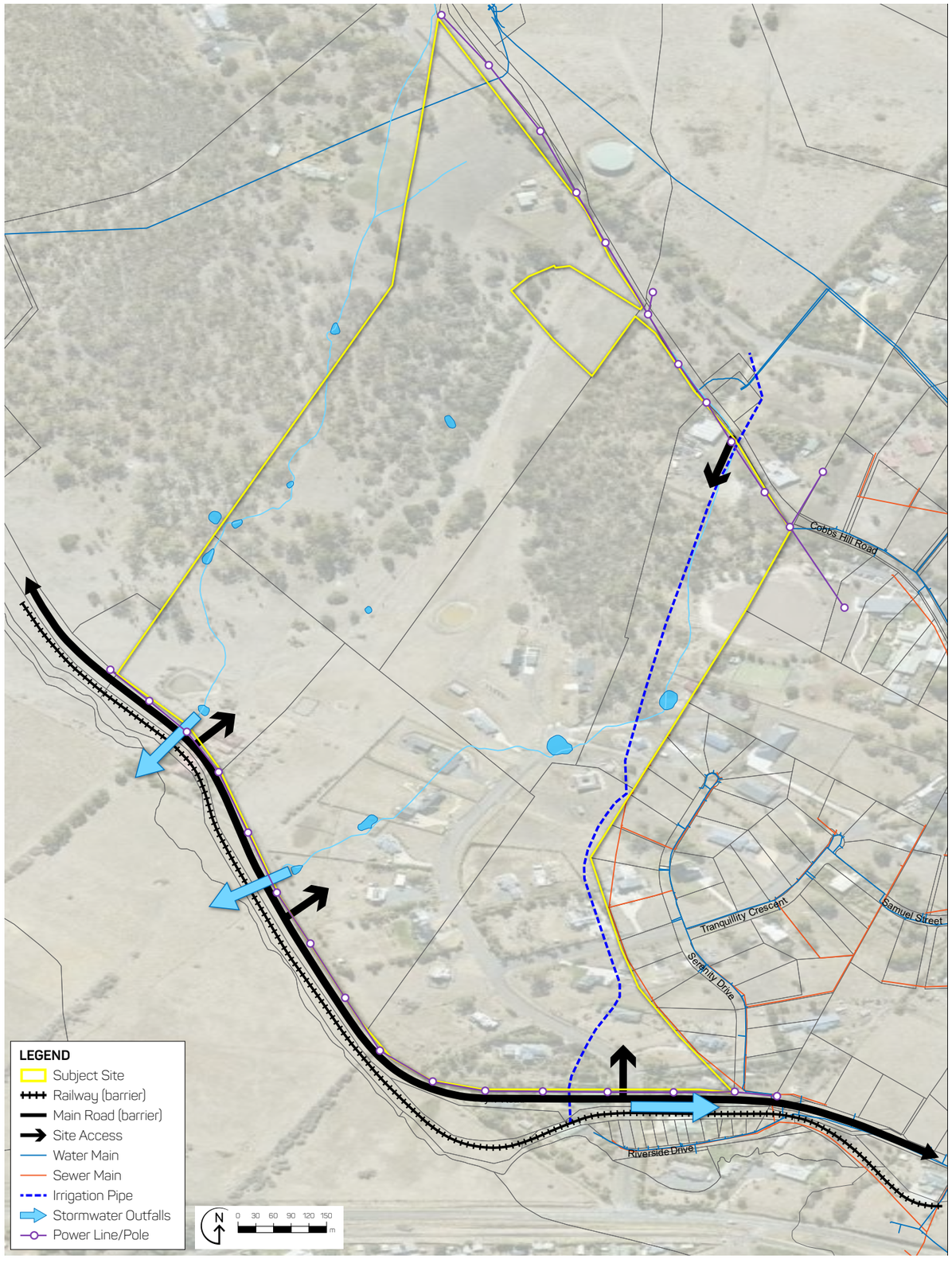
TasGas has natural gas reticulation near the Midland Highway. As the service is not essential and most developers are moving away from gas provision from an environmental perspective, it is not anticipated that gas will be provided to the development.

Tas Irrigation has a pipeline running through the site from Cobbs Hill Road to Boyer Road and the Derwent River. The development will need to protect this alignment via inclusion in roads or open space reserves. Crossing the pipeline with roads and services may generate localised design challenges.

Boyer Road and the parallel rail alignment represent pedestrian movement challenges, hence, east-west movement along the northern side of Boyer Road (within the subject property) represents a preferred non-vehicular movement corridor for the site which avoids crossing to the existing foreshore trail along the Derwent River bank. However, there is no formal footpath along Boyer Road, from Serenity Drive to Sorrell Street (save for the crossing of Ashburton Creek). Logically, this would be required as part of the Sorrell Street Precinct rezoning.

The pedestrian network and open space infrastructure within the subject land can be logically provided by the individual landowners, subject to the application of consistent design guidelines.

Figure 27: Opportunities & Constraints - Infrastructure



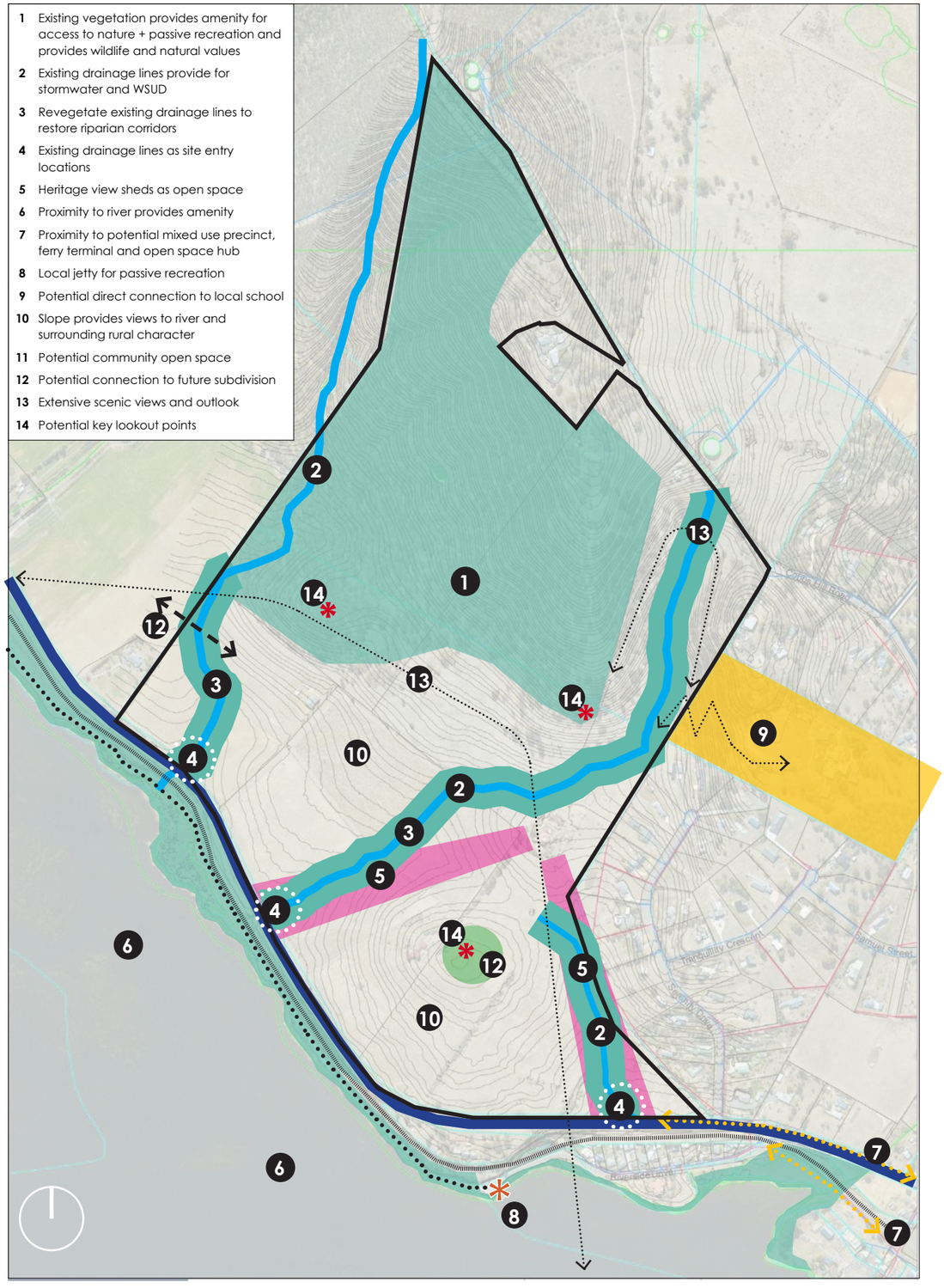
7.5 Design Opportunities

The design opportunities afforded by the physical characteristics of the subject site are highlighted in Figure 28.

They can be summarised as follows:

- Existing vegetation provides amenity, for access to nature and passive recreation, and provides wildlife and natural values.
- Existing drainage lines provide for stormwater and WSUD.
- Revegetation of existing drainage lines to restore riparian corridors.
- Existing drainage lines as site entry locations.
- Heritage view sheds as open space.
- Proximity to river provides visual outlook and amenity.
- Proximity to potential mixed-use precinct, ferry terminal and open space hub.
- Local jetty for passive recreation.
- Potential direct connection to local school.
- Slope provides views to river and surrounding rural character.
- Potential open space opportunity on local knoll.
- Potential connection to future subdivision, if ever required.
- Extensive scenic views and outlook from most of the site.
- Potential key lookout points on knolls and ridgelines.

Figure 28: Design Opportunities



DESIGN OPPORTUNITIES
Boyer Road Precinct

HOLMES DYER

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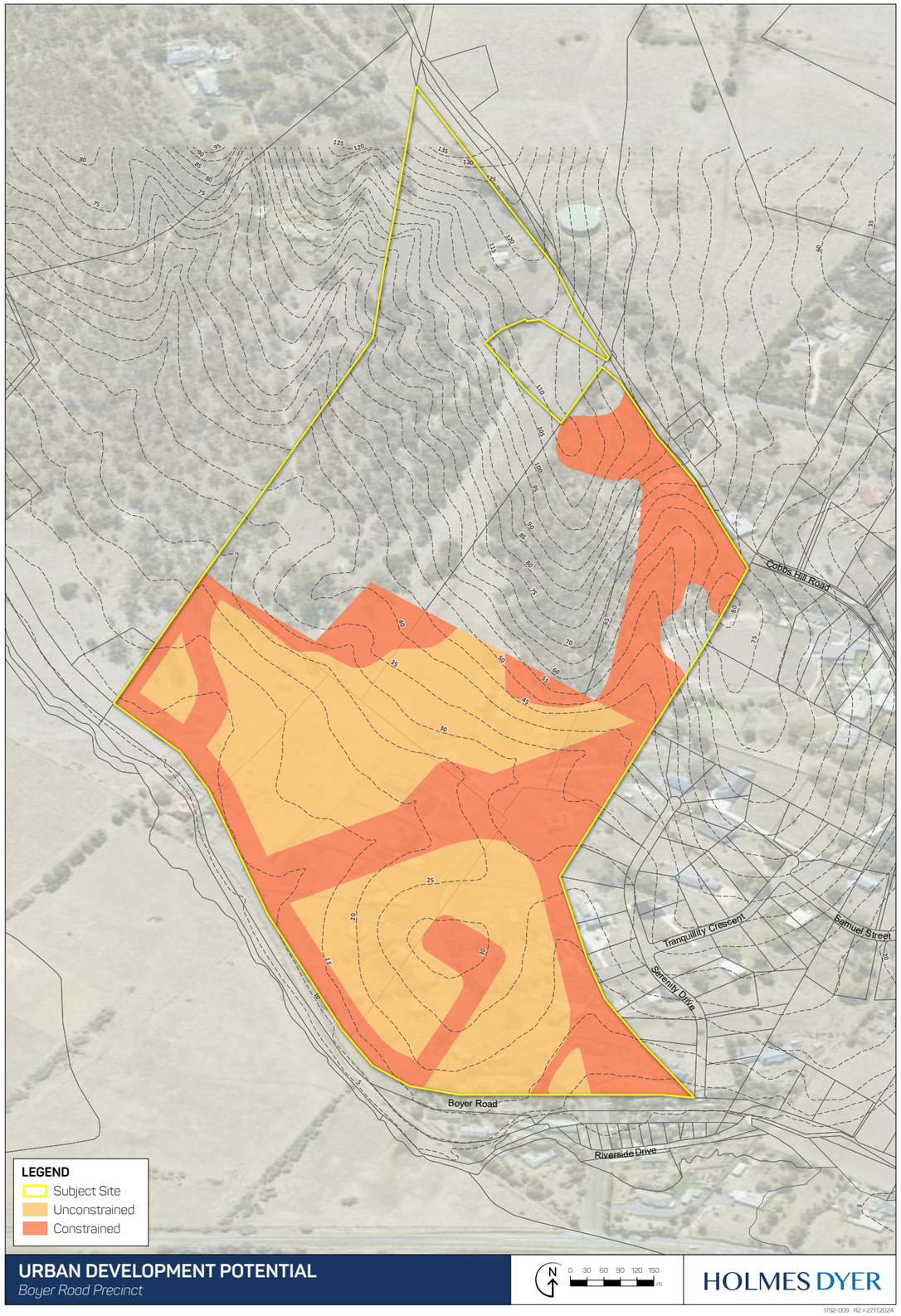
Figure 29: Urban Development Potential



7.6 Urban Development Potential and Residential Development Capability

Having regard to the foregoing analysis, the site can be divided into land that is potentially developable and that which is not developable. Within the land that is potentially developable, land is either constrained or unconstrained.

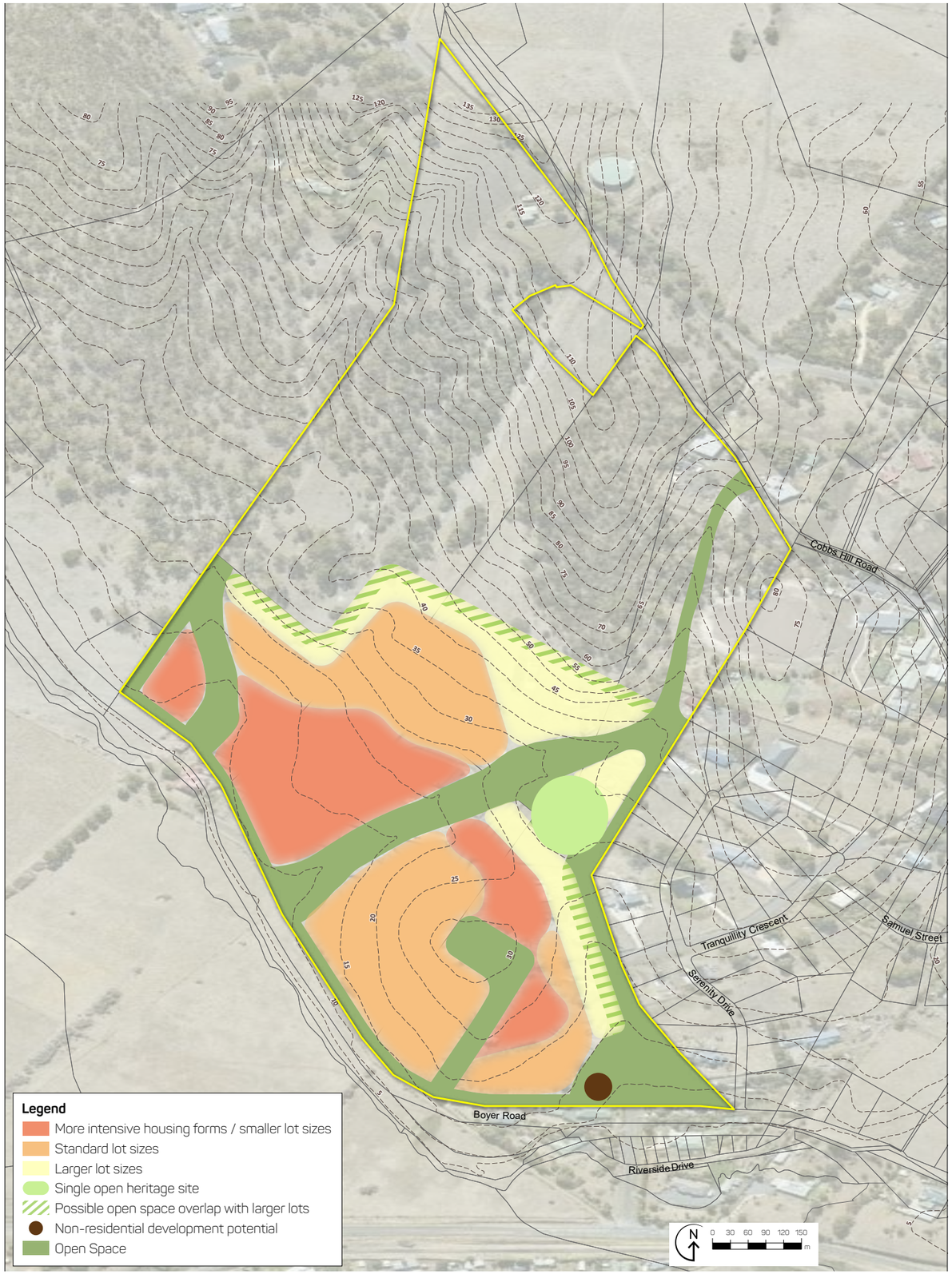
The following figure depicts the land that is constrained and unconstrained. The unconstrained land is land that can be reasonably assumed to be capable of urban development, most probably via residential subdivision and subsequent development of various forms of dwellings.

The constrained land is land that has come development potential but is potentially constrained by particular characteristics, but not necessarily fatal to the land's development. These constraints include:

- Land within the Landscape Conservation Zone, which would require a change of philosophy regarding minimum lot sizes within that area;
- The existing valleys and waterways, that are desirous of retention for stormwater, hydrological, wildlife and community recreation purposes, but could be modified, for example, in the area where the central creek has been relocated to a paddock boundary by earlier farmers;
- Setbacks to existing agricultural land and rural living neighbours;
- Woodland vegetation within the Future Urban Zone;
- Heritage and archaeological sites; and
- The irrigation pipeline alignment.

Figure 22 provides the next level of site evaluation, identifying land to be set aside as open space, the location of less through to more intensive residential development, key residential interfaces and a possible location for non-residential uses, such as community centre, café or commercial floorspace.

Figure 30: Residential Land Capability



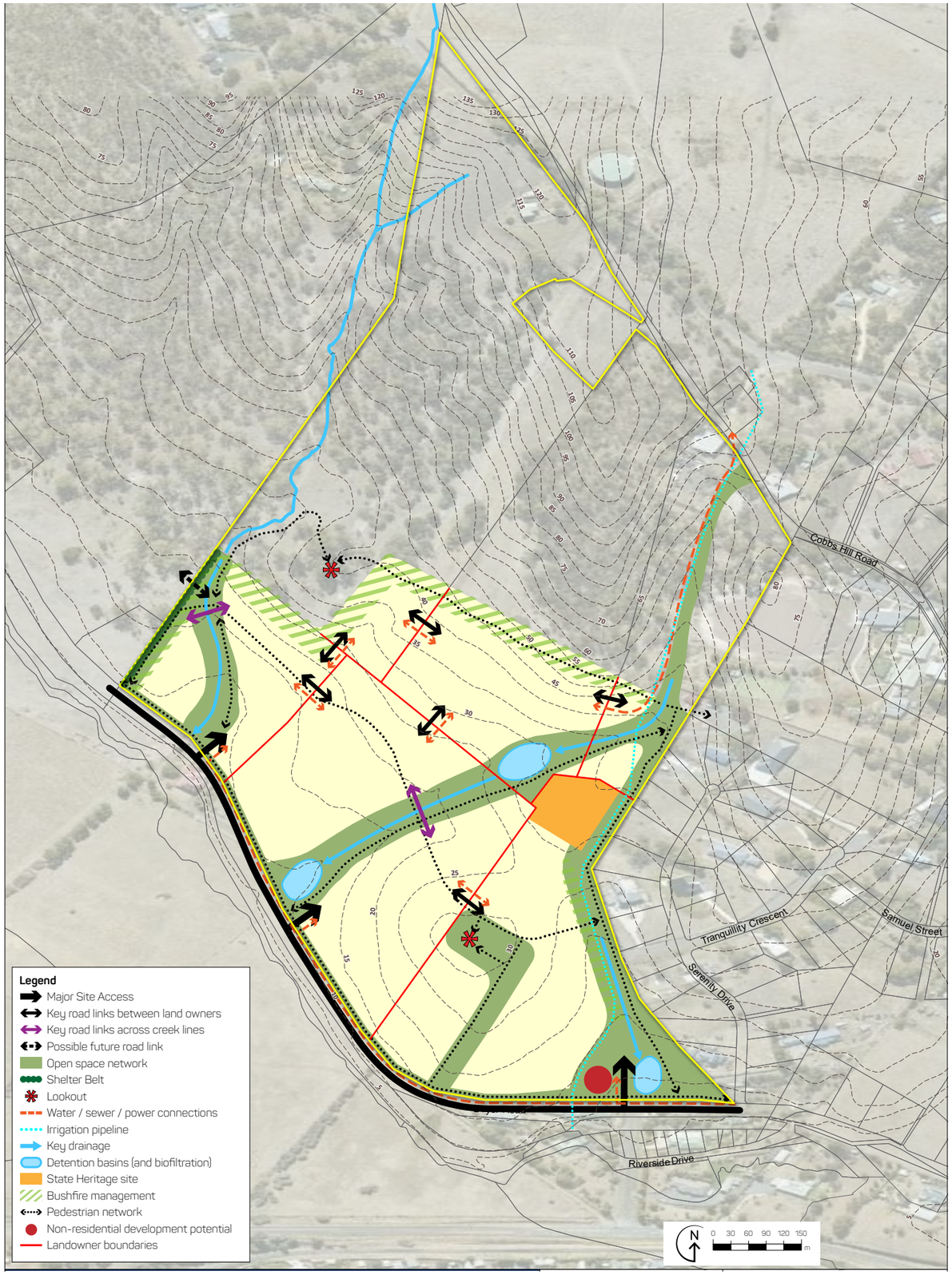
7.7 Structure Plan

The enclosed Structure Plan, depicted below, builds on the urban development potential and residential land capability plans to provide an additional level of detail which highlights key infrastructure connections required between landowners in order to facilitate the servicing of the overall development.

This plan will require the provision of road and service connections in the general locality identified on this plan as part of any development of individual properties within the site and without unreasonable delay in the delivery of those connections. This connectivity will include stormwater, open space development and pedestrian walkways and cycleways.

More detail on this approach is provided later in this report.

Figure 31: Structure Plan



8. Vision & Design Principles

8.1 Vision

The vision for the Boyer Road Precinct is to provide a high quality housing estate that meets the State's demand for housing, provides for a range of housing types and price points to facilitate home ownership and access, and delivers a design solution that is sensitive to the environmental and locational characteristics of the site.

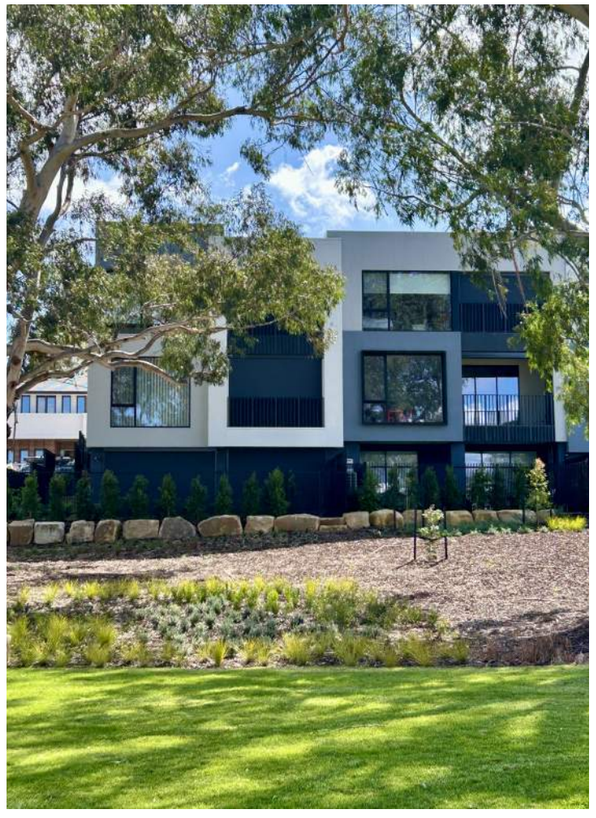
8.2.1 Urban Development Policies

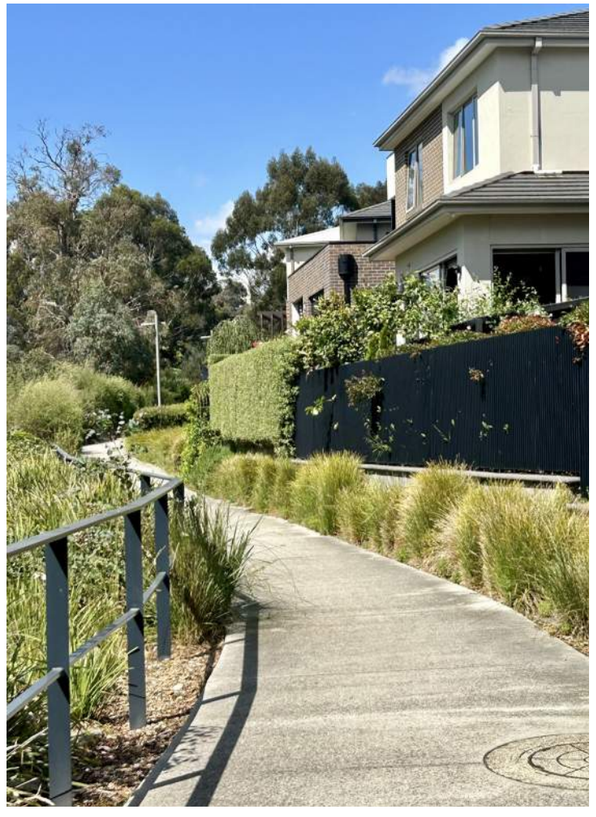
The vision is underpinned by a selection of urban development principles that provide expanded definition of that vision. These principles are as follows:

- To promote social interaction and environmental and cultural amenity through an active and healthy residential environment based on provision of public open space, a pedestrian and trail network, the protection of threatened flora and fauna, the protection of the State Heritage Place 'Genappe Homestead', the protection of Registered Aboriginal Heritage sites and areas of high archaeological sensitivity, and the integration of water sensitive urban design,, including restoration of riparian lands.
- To promote a layout of subdivision that responds to the natural topography and, where the topography permits, optimises solar orientation.
- To manage the interface between residential development and agricultural land to the north west.

Specific housing precincts are proposed that provide for a range of housing types. While most precincts will have a range of housing types, the predominant themes can be described as follows:

- In Precinct A, to provide for higher density subdivision to provide for affordable housing, including key worker housing, and a range of housing types, that provide choice and diversity for broad entry opportunities into the housing market, and provide:
  - » A lot layout mostly in a modified grid pattern; and
  - » A built character defined by:
  - » High levels of residential amenity and passive surveillance;
  - » A compact and visually interesting streetscape with small and consistent front setbacks reinforcing a building edge along the street;
  - » Building mass and bulk located to the front of lots with provision of private open space at the rear;
  - » Minimal side separation but with good solar access and privacy;
- In Precinct B, to provide for traditional allotments that deliver opportunities for family housing with provision of suitable private open space.
- In Precinct C, to provide for large allotments with substantial front and side setbacks that provide for large family homes and convey a sense of openness.
- In Precinct D, to avoid the development of any buildings or structures, other than boundary fences, to provide for an asset protection zone to the risk of bushfire.
- In Precinct E, to provide for higher density subdivision for a range of affordable housing and diversity of housing types, mixed residential, commercial and / or retail development, and / or a shop, café, medical centre, community centre or similar scale activity serving the local population.





8.2.2 Landscape Development Policies

Three landscape design principles have been developed to guide future landscaping within the Boyer Road Precinct. These landscape principles function on three distinct levels, firstly they embrace the contextual landscape and sense of place, secondly, they translate this understanding into a site-specific design, and thirdly, they promote a healthy lifestyle and foster community engagement. By integrating these levels, a cohesive environment that reflects local character whilst enhancing well-being and social connections can be created.

As a result of these principles, design directions have emerged that can be integrated into the development framework. These directions guide the creation of spaces that are contextually relevant, promote well-being, and enhance community interaction. By following these design directives, we can ensure that the development aligns with the overarching landscape principles, creating a harmonious and sustainable environment.

The following sections provide an overview of these landscape design principles.

8.2.2.1 Context - Integrate Contextual Landscape Character & Scenic Beauty

The site faces south and offers 180-degree panoramic views of the Derwent River, framed by a rural landscape and a mountain backdrop. There is a distant view of Kunanyi (Mount Wellington) to the southeast and the Derwent Valley to the southwest. The mountain ridgelines and river create a strong visual link to nature and a compelling sense of place. The area is conveniently located near a foreshore trail and the planned mixed-use ferry terminal precinct at Bridgewater. At the heart of the precinct stands a prominent heritage property.

To achieve this design principles the following design directions are applicable:

- Designing with country;
- Protecting view corridors within the site;
- Creating environments informed by sense of place;
- Promoting connections to adjacent open space network(s);
- A considered road network to minimise visual impact
- Retaining and project bush character of conservation reserve; and
- Dark-sky lighting strategies.

The following considerations will be required to achieve this principle:

- Working with existing land owners;
- Consideration of prevailing wind that will funnel down the Derwent Valley; and
- Consideration of views from Granton.

8.2.2.2 Nature - Apply Landscape Ecology

Landscape ecology views the landscape and open space network as an interconnected system through the promotion of biodiversity and facilitation of the movement of animals, plants, energy, minerals, and water among the various landscape elements. This holistic approach will enhance ecological health and create a dynamic environment that supports both nature and community. To achieve this design principle the following design directions are applicable:

- Designing with country / healing country through integration of Aboriginal values and perspectives;
- Restoration of riparian corridors which connect ridge to the river;
- Native vegetation layer that supports blue green infrastructure and public amenity;
- Fostering of regenerative landscapes;
- Connection to nature;
- Land for wildlife;
- Consideration of landscape buffers and edge; and
- Best practise approach to streetscape and open space.

The following considerations will be required to achieve this principle:

- Onsite detention (OSD) and Water Sensitive Urban Design (WSUD) integration;
- Fire management;
- Separation to main road;
- Services and easements; and
- Staging.

8.2.2.3 People - Foster Healthy Lifestyles & Community Through Open Space Networks

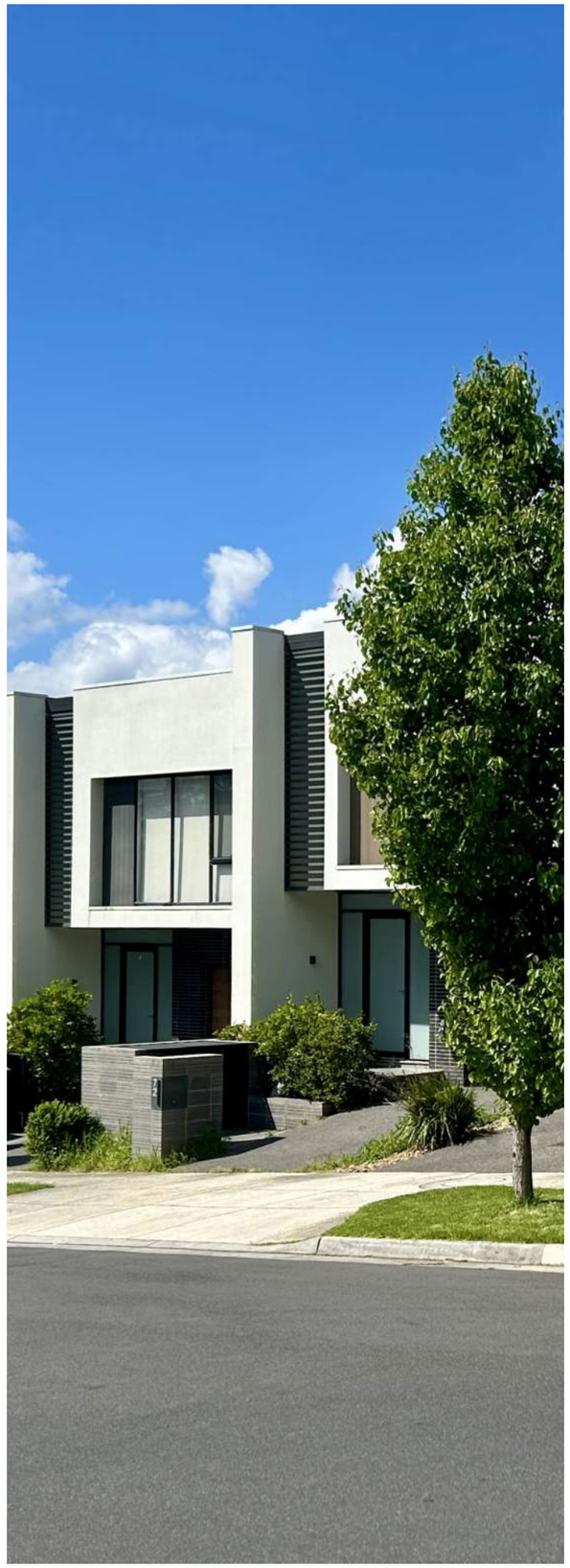
An open space network designed to foster community interaction, play, and learning. The landscape design should be thoughtfully informed by its surroundings, incorporating local ecology, cultural context, and community needs. Spaces should be versatile and inviting, encouraging social engagement, recreational activities, and educational opportunities. By integrating natural elements and accessible areas, the design should aim to create a vibrant and interconnected community that enhances the quality of life for all residents.

To achieve this design principle the following design directions are applicable:

- Best practice streetscape design to encourage a safe and walkable neighbourhood;
- A central community park and open space with BBQ facilities;
- A recreational trail network – loops;
- Getting into nature – bush trails;
- Pocket parks and seating areas; and
- Making connections to the broader context – e.g. Bridgewater Bridge Northern Interchange Precinct and the existing foreshore trail.

The following considerations will be required to achieve this principle:

- Apply Crime Prevention Through Environmental Design (CPTED) principles; and
- Universal design principles where practical to ensure equitable access to open space network.



9. Master Plan

9.1 Design Options

The following section reviews the three initial concepts prepared for the southern section of the Boyer Road land and the three initial concepts prepared for the northern section, off Cobbs Hill Road. Note that the concepts are interchangeable as are particular elements of individual concepts. They have informed the subsequent development of the preferred Master Plan.

9.1.1 Overview

9.1.1.1 Option 1 (South) - On Boundary

This option provides for a low density detached housing solution that provides each of the southern properties with vehicular access to Boyer Road. Key distinguishing features include the following:

- Open space setback to a number of Serenity Drive properties
- Generous open space corridors for existing waterways, stormwater management, and landscape development
- Large allotments / deep allotments backing onto priority vegetation areas
- Retention of existing homesteads, including the State Heritage Place and view corridors to the heritage place
- Majority of lots adjacent to Boyer Road with a frontage and outlook to the Derwent River
- Possible retail / commercial / community site adjacent to the south eastern entrance off Boyer Road

9.1.1.2 Option 2 (South) - Off Boundary

This option is similar to Option 1 but introduces a setback and road boundary to the agricultural land to the west and much of the priority vegetation area to the north.

9.1.1.3 Option 3 (South) - Mixed Residential

This option further develops Option 2 to introduce increased density in the form of duplexes, triplexes and unit sites. It also introduces an alternative vehicle access point to the Cobbs Hill Road properties so that they are not solely reliant upon access from only 170 Boyer Road, as in Options 1 and 2.

9.1.1.4 Option 1 (North) - Large Lots

This option essentially provides for a small number of larger allotments of around 2,000 – 5,000m2in area which are all directly accessed via Cobbs Hill Road. They occupy the grasslands along Cobbs Hill Road and are sufficiently large to provide for appropriate bushfire setback distances from adjoining woodland areas.

The property at 25 Cobbs Hill Road already has an irrigation pipeline running from north to south through the cleared and disturbed valley on this property. This provides an ideal alignment for the establishment of an essential water supply pipeline from the TasWater tank on Cobbs Hill Road to the proposed subdivision to the south. This would be provided via a new unmade road reserve to meet TasWater requirements.

9.1.1.5 Option 2 (North) - Large Lots & Road Connection to the South

This option provides a physical road connection from north to south and extends large lots with restricted building footprints along the length of that road, resulting in an increased yield that helps offset the construction cost of the road and water main.

9.1.1.6 Option 3 (North) - Large Lots & Wildlife Corridor

This option provides for two cul-de-sacs within the north south road reserve (which continues to extend from north to south), which slightly reduces the yield but maintains a vegetation link uninterrupted by a made road between the main priority vegetation area and the vegetation on the school site to the east.

9.2 Option Evaluation Summary

Table 31 provides a high-level summary of each option against a range of relevant criteria to provide an easy understanding of the relative merits of each option.

Table 31: Option Evaluation Summary

Key Criteria	Option 1 South	Option 2 South	Option 3 South	Option 1 North	Option 2 North	Option 3 North	Comments
Suitable Zoning	Yes	Yes	Yes	No	No	No	
Suitable Land Use	Yes	Yes	Yes	Maybe	Maybe	Maybe	
Lot Yield (Notional)	288	289	373	16	30	26	
Lot Sizes (Notional)	400 - 2,000m^2	400 - 2,000m^2	150 - 2,000m^2	2,000m^2 - 5,000m^2	2,000m^2 - 5,000m^2	2,000m^2 - 5,000m^2	
Boundary Interfaces - Existing Development	Setback from most lots	Setback from all lots	Setback from all lots	Setback from most lots	Setback from most lots	Setback from most lots	
Boundary Interfaces - Boyer Road / Cobbs Hill Road	Suitable street presence	Suitable street presence	Suitable street presence	Suitable street presence	Suitable street presence	Suitable street presence	
Boundary Interfaces - Natural Environment	Relies on building envelope setback	Primarily relies upon road and open space separation	Relies on building envelope setback	Relies on building envelope setback	Relies on building envelope setback	Relies on building envelope setback	
Building Interfaces - Agriculture	Abuts agriculture	Road and open space separation	Road and open space separation	n/a	n/a	n/a	

Key Criteria	Option 1 South	Option 2 South	Option 3 South	Option 1 North	Option 2 North	Option 3 North	Comments
Maintains Conservation Covenant	Yes	Yes	Yes	Yes	Yes	Yes	
Potential to Expand Conservation Covenant	Yes	Yes	Yes	Yes	Yes	Yes	
Retention of Priority Vegetation	Yes	Yes	Yes	Yes	Yes	Yes	
Protection of Waterway Protection Area	Yes	Yes	Yes	Yes	Compromise to northern section of central waterway	Compromise to northern section of central waterway	
Protection of Threatened Species Habitat	Yes	Yes	Yes	Yes	Yes	Yes	
Bushfire Risk Management	Capable of meeting setback requirements	Best protection option	Capable of meeting setback requirement	Capable of meeting setback requirement	Capable of meeting setback requirement	Capable of meeting setback requirement	
Heritage Site Retention	Yes	Yes	Yes	n/a	n/a	n/a	
Heritage Site View Corridors	Yes	Yes	Yes	n/a	n/a	n/a	
Road Access	Independent access from Boyer Road	Independent access from Boyer Road	Independent access from Boyer Road	Partially reliant on access from south	Partially reliant on access from south	Partially reliant on access from south	Requires cooperation between landowners
Water Supply	Reliant upon water supply from north	Reliant upon water supply from north	Reliant upon water supply from north	Reliant upon water supply from north	Reliant upon water supply from north	Reliant upon water supply from north	Requires cooperation between landowners
Sewer Connection	Connection to Boyer Road	Connection to Boyer Road	Connection to Boyer Road	Optional sewerage connection	Optional sewerage connection	Optional sewerage connection	Requires cooperation between landowners
Power Supply	Connection to Boyer Road	Connection to Boyer Road	Connection to Boyer Road	Partially reliant upon power supply from south	Partially reliant upon power supply from south	Partially reliant upon power supply from south	Cobbs Hill Road lots can be serviced from that road
Telecommunications Network	Connection to Boyer Road	Connection to Boyer Road	Connection to Boyer Road	Partially reliant upon telecommunications supply from south	Partially reliant upon telecommunications supply from south	Partially reliant upon telecommunications supply from south	Requires cooperation between landowners
Stormwater Management	Yes	Yes	Yes	Yes	Yes	Yes	Requires cooperation between landowners
Retail, Commercial & Community Services Outcomes	Yes	Yes	Yes	n/a	n/a	n/a	
Open Space Delivery	Yes	Yes	Yes	Possible but not designed	Possible but not designed	Possible but not designed	

9.2 Preferred Option

The preferred option draws from these initial options, taking the best elements from each option. The key refinements are as follows:

- Exclusion of all residential development north of the current Future Urban Zone boundary.
- Inclusion of additional areas of open space in locations identified as requiring protection of Indigenous archaeological finds. (This information had not been provided at the time of the initial concept formulation.)

9.3 Master Plan

The master plan concept has been prepared having regard to the investigations conducted by the consultant team, the input of Brighton Council, discussions with service providers and State agencies and the input of the affected landowners, neighbours and the community at large.

Key features of the Master Plan are summarised as follows:

- Retention of the western, central and eastern valleys as areas of major open space, riparian environments, stormwater management, pedestrian / cycle movement and informal recreation;
- Creation of an area of open space coinciding with a Registered Aboriginal site and an area of high archaeological sensitivity, incorporating the southern knoll on 70 Boyer Road and extending either side of the hedgerow running south to Boyer Road;
- Creation of an area of open space running along the entire eastern interface with Serenity Drive properties to crease an area of open space separation to those properties;
- Definition of a site of around 1.5 hectares which provides an appropriate curtilage for the protection and preservation of Genappe Homestead, a State Heritage listed complex of farm buildings on the northern knoll on 70 Boyer Road;
- Provision of adequate open space to accommodate stormwater detention, gross pollutant traps and biofiltration basins;
- Identification of bushfire asset protection zones along the north-eastern boundary of the urban area, consisting of a combination of deep allotments with building-free areas and perimeter roads which provide separation between proposed dwellings and the area of woodland forest;
- Delivery of a shelter belt along the north western interface with existing agricultural land to create a separation and filtration of possible airborne dust and sprays (recognising that productive agriculture has effectively ceased on this adjoining land);
- Retention of the open woodland across the northern third of the site, including all areas of threatened flora and fauna;
- Identification of areas suitable for increased residential density and affordable housing, generally coinciding with the flatter land on the site;
- Creation of larger allotments along the interfaces with existing housing areas to the east and along the north-eastern interface with the areas of higher bushfire risk;
- Development of a road network that provides a clear hierarchy of roads and, in particular, ensures that all six properties comprising the Boyer Road precinct are capable of gaining access from adjoining properties within the precinct to facilitate movement within the subdivision without having to exit onto Boyer Road;
- Provision of three access points onto Boyer Road, providing maximum options for development staging among the individual property owners, ensuring that no single internal road carries excessive traffic volumes and provides for alternative exit points in the event of a bushfire;
- Delivery of a pedestrian and cycle network that combines the use of key road reserves and public open spaces to provide for movement within the precinct as well as possible links to a footpath along Boyer Road to the east and to Northern Christian School;
- Development of a service infrastructure network that provides for and connects all six precinct properties, including water and power connections through 25 Cobbs Hill Road, parallel to the route of the existing irrigation pipeline through that property, as well as road, power, water, sewer and telecommunication connections from Boyer Road through 70, 170 and 182 Boyer Road properties;
- Provision of a possible future road link to external properties to the northwest by way of an unmade road release, facilitating future legal access if ever required; and
- Delivery of an open space concept that is consistent across all six properties and provides for active and passive informal recreation areas.

The following Master Plan (refer to Figure 32) illustrates the features identified above.

Figure 32: Structure Plan

9.4 Traffic Implications

9.4.1 Vehicle Generation & Access Impacts

In accordance with trip generation rates outlined in Transport NSW's 'Guide to Traffic Impact Assessment' 2024 - being 7.4 vehicle trips per day per dwelling with a peak rate of 0.78 vehicles per dwelling per hour – the fully developed Boyer Road Precinct is expected to generate approximately 2,679 vehicles per day on Boyer Road, with a peak volume of 282 vehicles per hour.

To accommodate this traffic demand, the Precinct is proposed to be serviced by three new road junctions onto Boyer Road, with the projected traffic distribution as follows:

- **Access 1** (**Eastern Access**): 829 vehicles per day / 87 vehicles per hour
- **Access 2** (**Central Access**): 880 vehicles per day / 93 vehicles per hour
- **Access 3** (**Western Access**): 969 vehicles per day / 102 vehicles per hour

Discussions with the Department of State Growth, as the relevant road authority, established that there were no objections to the proposed access arrangement onto Boyer Road. As no written consent has been received from the Department of State Growth, Performance Criteria P1 of Clause 3.5.1 of the Road and Railway Assets Code, as specified within the Tasmanian Planning Scheme, is applicable.

This clause states the following:

'Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing, or safety or efficiency of the road or rail network, having regard to:

a. Any increase in traffic caused by the use;
b. The nature of the traffic generated by the use;
c. The nature of the road;
d. The speed limit and traffic flow of the road;
e. Any alternative access to a road;
f. The need for the use;
g. Any traffic impact assessment; and
h. Any advice received from the rail or road authority.'

With regards to the proposed three new road junctions the following is relevant:

- **Increase in Traffic** – The traffic generation of the three accesses varies between 637 and 816 vehicles per day. Traffic modelling of the traffic movements at the three proposed junctions indicate that they will operate at an acceptable level of efficiency.
- **Nature of Traffic** – The traffic generated by the rezoning and future development of the Boyer Road Precinct will be residential in nature, which is consistent and compatible with existing traffic utilising Boyer Road.
- **Nature of Road** – Boyer Road is a Category 5 highway under the Department of State Growth's road hierarchy.
- Speed Limit and Traffic Flow – Boyer Road has a posted speed limit of 80km/hr and caries a volume of 3,500 vehicles per day.
- **Alternative Access** – As detailed in Section 3.3 alternative access arrangements were considered, with Boyer Road considered the most appropriate access point for vehicular movements due to its substantial spare capacity to accommodate additional traffic generation in association with the Boyer Road Precinct.
- **Need for Use** – The Boyer Road Precinct Structure Plan has been proposed to address an identified housing shortfall, with the subject site directly identified within STRLUS as an area with potential to provide a large residential lot yield located in reasonable proximity to services.
- **Traffic Impact Assessment** – A Traffic Impact Assessment (refer to Appendix 9) has been prepared as part of the development of the Boyer Road Precinct Structure Plan. Importantly, this report demonstrated how proposed junction can operate at a high level of efficiency through traffic modelling, provide sufficient sight distance and an appropriate design in accordance with Austroad requirements.
- **Road Authority Advice** – The Department of State Growth have been consulted, and indicated their in-principle support of the prepared Traffic Impact Assessment along with no objection to the proposed access arrangement.

The proposed access arrangement is therefore considered to suitably meet the requirements specified within the Road and Railway Assets Code of the Tasmanian Planning Scheme.

9.4.2 Road Network Impacts

The Boyer Road Precinct is expected to generate a moderate increase in traffic, with new road junctions extending the urban boundary along Boyer Road. Consequently, impacts on the surrounding transport network are assessed in the following sections.

In summary, there are no significant detrimental road safety impacts foreseen once the Boyer Road Precinct is developed in its entirety. This is based on the following:

- The surrounding road network is capable of absorbing the traffic generated by the proposed subdivision. The subdivision accesses Boyer Road at three new road junctions that defray the overall generation to acceptable levels that results in all junctions operating at a high level of efficiency;
- The existing road safety performance of the road network does not indicate that there are any current road safety deficiencies that might be exacerbated by the Boyer Road Precinct; and
- The horizontal geometry and vertical alignment of Boyer Road provides sufficient sight distance for vehicles approaching each of the three proposed junctions.

9.4.2.1 Boyer Road

The construction of three new road junctions on Boyer Road is not anticipated to have any significant adverse impact on traffic flow, as the junction designs incorporate channelised turn lanes to facilitate movement. To accommodate these new junctions, the existing line markings on Boyer Road will require modification, specifically the removal of the overtaking lane markings adjacent to the development site.

The proposed access modifications to Boyer Road – introducing three new junctions while prohibiting direct property driveway access, are not considered substantial enough to warrant a reduction in the existing 80km/hr speed limit.

9.4.2.2 Old Main Road Junction

Upon full development, traffic generated by the Boyer Road Precinct will predominantly access the network to the east by utilising the Boyer Road / Old Main Road junction due to its connectivity within the arterial road network.

The Boyer Road / Old Main Road junction will integrate into the Bridgewater Bridge northern interchange. Once completed, it will be reconfigured as a T-junction with a one-way link opposite Boyer Road, providing access to the southbound carriageway of the bridge.

It is estimated that approximately 80% of traffic from the development will utilise Old Main Road, equating to an increase of 232 vehicles per hour during peak periods. Traffic modelling indicates that this volume remains well within the junction's capacity, ensuring continued high-level operational performance.

9.4.2.3 Cobbs Hill Road

Cobbs Hill Road is a local access road currently serving a small residential and rural catchment. According to the Hubble Report, rezoning of land adjacent to the site will increase peak-hour traffic volumes on Cobbs Hill Road to approximately 135 vehicles per hour between Old Main Road and Sorell Street. The Boyer Road Precinct does not propose any vehicular access to or from Cobbs Hill Road.

9.4.3 Rail Network Impacts

Two existing railway level crossings are located in proximity to the development:

- **Boyer Road Railway Level Crossing** – Approximately 65m west of the Old Main Road junction.
- **Cobbs Hill Road Railway Level Crossing** – Approximately 30m west of the Old Main Road junction.

Both crossings are actively controlled by railway level crossing traffic lights and are assessed as follows:

9.4.3.1 Boyer Road Railway Level Crossing

With full development of the Boyer Road Precinct the Boyer Road railway crossing is expected to experience an increase of approximately 232 vehicles per hour during peak times (assuming 80% of generated traffic accesses Old Main Road), equivalent to an additional 4 vehicles per minute.

Including a 10-year background compound growth rate of 1.8% (based on historical traffic data), peak-hour traffic at the railway crossing is projected to reach approximately 703 vehicles per hour. Daily volumes are expected to increase from the current 3,500 vehicles per day to approximately 5,700 vehicles per day within a decade.

This level of traffic remains within the capacity of the existing railway crossing infrastructure. The current flashing signal control is deemed appropriate, as higher-level controls such as boom gates are typically reserved for multiple-track crossings in urban areas.

Traffic modelling indicates that the 95th percentile queue length from the Old Main Road junction on Boyer Road is projected at 59m, which does not extend beyond the railway crossing location.

Preliminary consultation with TasRail has indicated that an ALCAM3 (Australian Level Crossing Assessment Model) assessment will be required to evaluate the adequacy of the existing safety measures at the Boyer Road Railway Level crossing to evaluate the adequacy of the existing safety measures in light of future traffic growth. This assessment will be conducted by TasRail prior to the commencement of subdivision construction.

9.4.3.2 Cobbs Hill Road Railway Level Crossing

The Boyer Road Precinct will have no impact on the Cobbs Hill Road Railway Level Crossing, which operates with low traffic volumes and flashing signal control.

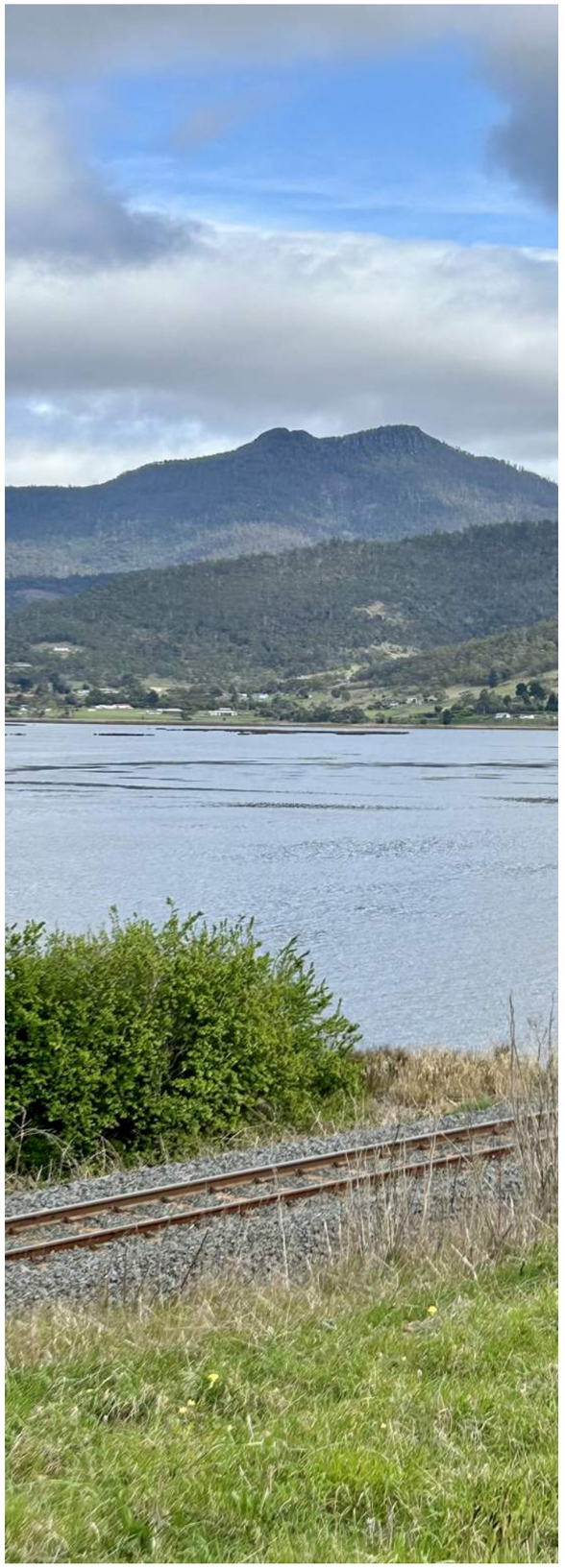
9.4.4 Active Transport

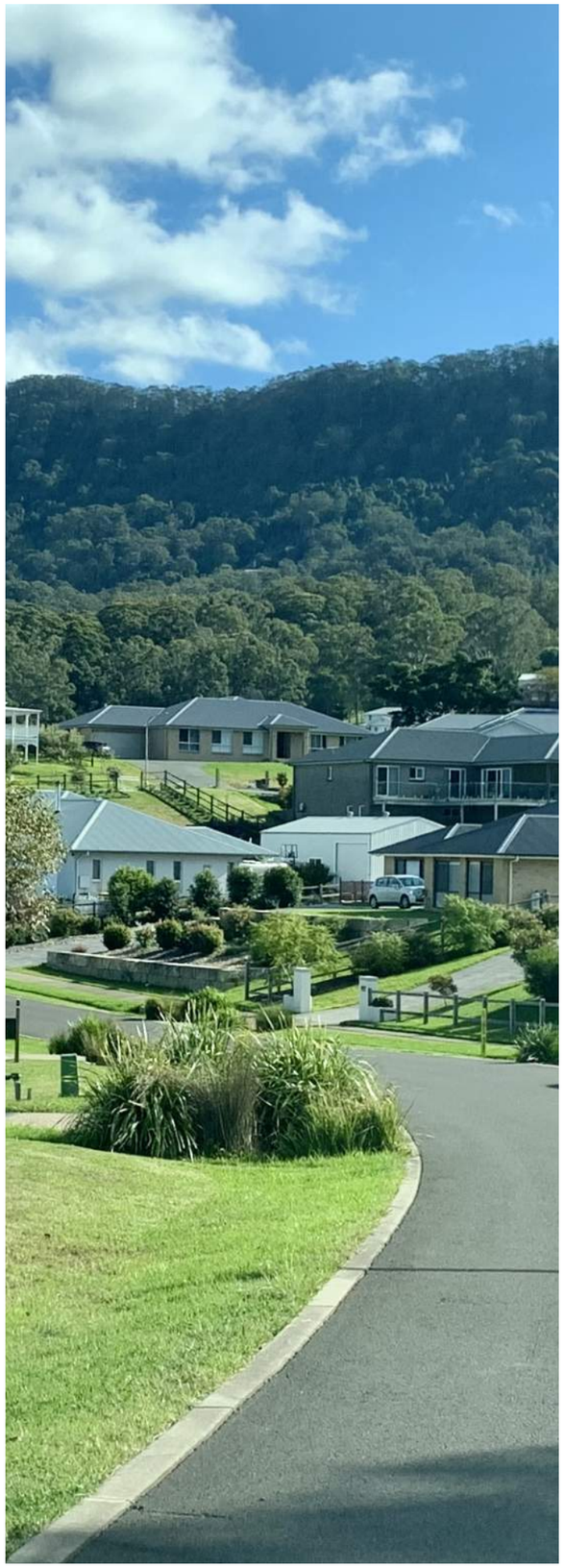
The development of the Boyer Road Precinct is expected to generate moderate pedestrian activity, which will be supported by a network of walking paths that will integrate with the surrounding infrastructure, including along the precinct's interface with Boyer Road and a potential connection to Northern Christian School to the north-east. A direct pedestrian connection to Boyer Road is not advised due to its classification as a rural highway, its 80km/hr speed limit, and the absence of formal footpath infrastructure.

It is noted that the construction of the new Bridgewater Bridge will incorporate pedestrian and cyclist infrastructure connecting to Old Main Road. This presents an opportunity to consider the development of a formal footpath or shared pedestrian / cyclist path along the northern side of Boyer Road between the proposed eastern access and Old Main Road.

An existing walking track runs along the foreshore of the River Derwent, south of the railway line, which extends from the western end of Riverside Drive to Tongatube Road. There are no pedestrian crossing facilities over the railway line near the site, with access to the walking track limited to the existing Riverside Drive junction.

The Boyer Road Precinct will form a new residential catchment area of over 362 residential dwellings, necessitating consideration of potential public transport services. Currently the nearest public transport service operated throughout the main Bridgewater township, which is beyond a reasonable walking distance from the site. As the subdivision develops, engagement with Metro Tasmania is recommended to extend bus services throughout the precinct. The proposed road network connecting to Boyer Road can support a bus route, ensuring all lots are within 400m of a serviceable route. A logical route could utilise the central road, linking the westernmost and easternmost junctions within Boyer Road.





10. Infrastructure Requirements & Costings

10.1 Context

Infrastructure requirements to deliver the development of the Precinct have been established through the service infrastructure, stormwater, transport and landscaping investigations undertaken as part of this analysis. Significantly, for the purpose of planning for the delivery of this Precinct, it is not necessary to prepare designs for every aspect of the proposal. Indeed, the internal subdivision design potentially delivered by six separate landowners and subject to the future design nuances and refinements of those individual developers, do not require design at this stage. What is important is that the trunk infrastructure delivery is defined and coordinated to ensure all land parcels are capable of development, make provision both spatially and financially, for the delivery of that infrastructure and provide for consistency of design across boundaries between landowners.

Accordingly the required infrastructure and costings focus upon those shared infrastructure interventions that need to form part of a formal arrangement between landowners, the Council and/or the service delivery agencies.

10.2 Preliminary Costs

Matrix Cost Consultants are preparing cost estimates based upon Bill of Quantities prepared by the engineers and landscape architects. This information is expected by the end of February. The delay in knowing the actual quantum of these costs does not hold up the delivery of all other aspects of this project and, in particular, this report provides the intended strategy for delivery of that shared infrastructure.

10.3 Loadings and Indexation of Costs

Costs identified in this document include a 20% loading to allow for the uncertainties of the design and delivery process. This is considered a reasonable margin for projects at this level of design development.

Furthermore, costs will need to be indexed to address future cost escalation between 2025 and the actual date of infrastructure delivery. A number of indexation options exist, including CPI (cost of living), House Construction Prices, Non-residential Construction Prices, Building Construction Prices, Heavy and Civic Engineering Construction Prices, and Road and Bridge Construction Prices.

All of these indices are reported on a monthly (CPI) or quarterly (all others) basis by the Australian Bureau of Statistics.

The Roads and Bridges Index is probably the closest comparison to subdivision construction costs but is only partially aligned and therefore may include factors irrelevant to subdivision construction.

CPI is the least volatile of the indices and probably represents the preferred option for price escalation on this project.

10.4 Timing, Staging & Sequencing

The timing, staging and sequencing of development is complicated by the fact that there are six landowners who may have very different expectations regarding the timing of the development of their individual properties. Ideally, a single developer would take control of the whole site and a logical sequence of development and infrastructure delivery would follow. However, that cannot be mandated and, in our opinion, the preferred scenario is one in which any of the Boyer Road properties can initiate development, providing road and service linkages to adjoining properties so that the Cobbs Hill Road properties can be connected at the earliest possible date, knowing that water infrastructure will need to link to the Cobbs Hill Road reservoir and that there is a possible requirement for an eventual power supply 'loop' to Cobbs Hill Road.

The following plan provides an indication of how development could be sequenced within the Precinct. Note that stage numbers (in a sequencing sense) are numbered 1 to 4 while property ownership is identified alphabetically from A to F. This staging recognises that there could be multiple start points and multiple development fronts within the precinct.

Figure 33: Indicative Staging

11. Funding Mechanisms

11.1 Funding Options

11.1.1 Background

Each State and Territory of Australia has mechanisms in place to fund urban infrastructure, from State and Commonwealth funding commitments at the highest levels, to comprehensive formalised funding criteria to capture development contributions at a project level, to informal and ad hoc arrangements where formalised systems are less developed.

Further, the State and Territories have variously privatised or monetised the operation of various infrastructure utility services, notably power, water and sewer, gas and telecommunications, with a resultant user pays approach to infrastructure delivery, either through developer contributions or consumer service charges.

For example, New South Wales has highly defined, legislated requirements which include:

- A State Housing and Productivity Contribution required of all land subdivisions and new housing developments to help fund schools, hospitals, major roads, public transport, and regional open space.
- Development charges and/or connection fees to fund utilities infrastructure, typically based upon the formulation of a 'Development Services Plan' which defines the works and costs involved in delivering a service (e.g. water) to a defined locality and apportioning that cost across the estimated level of development expected to occur in that locality (could be a combination of residential and commercial/industrial development). Historically, regional trunk services have typically been funded by the infrastructure provider, except where a development is occurring out of sequence and therefore requiring early funding by the developer of that land.
- Development charges to fund Council infrastructure, including roads, stormwater, reserves, and community facilities. These charges are based upon the preparation of a 'Contributions Plan' by the Council which identifies what infrastructure is to be funded and at what cost, and then calculates the rate to be paid by the developer per dwelling (or square metre of non-residential development) based upon an anticipated development yield for the area covered by the Contributions Plan. Maximum contributions are regulated by the State, however, the opportunity exists for the developer and Council to enter into "Voluntary" Planning Agreements to facilitate an increase in contributions to cover expenses falling outside of the cap covering contributions. Works-in-lieu of monetary payments can be agreed between the parties.

Queensland has a well developed and well defined infrastructure charging regime. Infrastructure is broadly divided into trunk and non-trunk infrastructure, where trunk infrastructure typically includes water storage facilities, watermains, pump stations, sewerage treatment plants, gravity sewers and rising mains, higher order roads and intersections, parks and community facilities, which are the responsibility of the relevant authority, and non-trunk infrastructure which is everything associated with the development of a particular land parcel, together with the external connections to the existing network, which is the responsibility of the developer. In addition, the developer then pays a fixed amount per unit for the quantum of residential or non-residential development proposed. That money then helps pay for trunk infrastructure generally (not specific to the project), but not at a rate the presupposes 100% funding of that trunk infrastructure.

Infrastructure Agreements are also used to facilitate developments which, for example, generate extreme demand on trunk infrastructure, where a custom infrastructure solution is required where specific 'extra' non-trunk infrastructure is to be provided by the developer or to achieve infrastructure outcomes not appropriately resolved through conditions of approval. These agreements can also be proposed between public sector entities.

While these agreements are specific to and auspiced under the Queensland legislation (Planning Act 2016) and therefore not directly transferrable to Tasmania, their intention and structure are consistent with the needs of the Boyer Road Precinct.

The Victorian Infrastructure contributions system is made up of the following mechanisms:

- Infrastructure Contributions Plan;
- Development Contribution Plan;
- Growth Areas Infrastructure Contributions;
- Voluntary agreements / Section 173 agreements.

The Victorian infrastructure contributions system is complex and suffers from systematic issues through the utilisation of different approaches, generating uncertainty for users of the system.

The Infrastructure Contribution Plans rely upon indexed standard levy rates for Community, Recreation and Transport construction. Contributions by developers could be land, money or a combination of both.

The voluntary agreements / Section 173 agreements provide flexibility in the nature of infrastructure able to be captured. For example, there is a current initiative to use these agreements to capture part of the uplift value generated by a rezoning to fund affordable housing. Such an agreement requires the 'voluntary' agreement of the affected landowners to encumber their land to guarantee the delivery of the agreed funding in return for the rezoning of their land.

While the mechanism is unique to Victorian legislation, the principle remains relevant to the Boyer Road Precinct.

In South Australia, infrastructure charges have not been formalised in the past, although this is in the process of changing. South Australia probably represents the infrastructure funding regime closest to the Tasmanian system and therefore warrants particular consideration, especially in respect of the infrastructure delivery agreements reached outside of the legislative framework.

To summarise, the South Australian infrastructure funding system:

- Has historically had no formal mechanism for the State to recoup costs for high level infrastructure provision such as main roads, hospitals, and public transport. This has changed with the recent introduction of a fixed charge per allotment and per dwelling to help fund a major trunk water and trunk sewer funding gap. The State also now has legislation in place, which enables the creation of an 'Infrastructure Scheme' to deliver funding contributions for prescribed infrastructure. At this point, the legislation has not been used, largely because the implementation process has been too complicated and time consuming. There is now a concerted effort to initiate the first basic 'Infrastructure Scheme'. For the purpose of completeness, the infrastructure scheme has two machinations:
  - » A basic infrastructure scheme which can be imposed by the State and can address electricity supply, water and sewer infrastructure, roads, stormwater, and communications networks;
  - » A general infrastructure scheme which can only be imposed with the agreement of all affected landowners and can address all infrastructure identified in a basic infrastructure scheme, together with the addition of public transport, bridges, coastal works, health, education or community facilities, police, justice or emergency services facilities and other infrastructure types.
  - » Like other jurisdictions, the scheme relies upon the definition of a spatially defined area of application, the identification of infrastructure requirements, their projected costs, the development yield calculated to be generated within the area, and the allocation of those costs proportionally to the affected landowner (developers).
- Has implemented an 'Infrastructure Deed' approach to capture infrastructure funding commitments prior to the rezoning of the land to which the Deed applies. The Deed is essentially a legally binding contract between two or more parties which obligates the landowner to pay (or deliver) certain infrastructure in the event that the landowner (or successors in title) undertake development of the land, in return for the rezoning of the land (and the financial uplift generated by that rezoning). The Deed could be between the landowners and the relevant Council or with the relevant Minister if pertaining to State infrastructure. The initiation of the Deed approach is reliant upon the relevant landowners being motivated by the uplift in value generated by the rezoning of their land. Because payment only falls due when the landowner (or successor in title) actually develops, the initial financial consequences for landowners are minimal (the cost of preparing and executing the Deed). Where a landowner is unwilling to participate, the State has typically taken the 'Swiss cheese approach', that is, rezoning all the landholdings of the financial participants and leaving 'holes' where a landowner has refused to participate. The continuity of the Deed is secured by way of a form of caveat on the title of the participating land owner, known as a Land Management Agreement, which runs with the title until the infrastructure funding obligation has been met.

11.1.2 Current Tasmanian System

Currently, the following arrangements apply in Tasmania:

11.1.2 .1 Council

Council is normally responsible for roads, stormwater infrastructure and open space, together with a range of community and recreation services and facilities. That said, the delivery of roads and stormwater infrastructure and the setting aside of areas for public reserves is typically undertaken by the developer at the time of subdivision development, with the Council taking long term responsibility

for the maintenance of those facilities. Accordingly, the initial capital cost of those facilities are typically borne by the developer of the land.

This approach typically works well where development is occurring on a single ownership holding and the costs associated with the development are unambiguously the responsibility of the developer. However, this can become complicated where multiple land owners rely upon shared access points, collector roads, stormwater basins, channels and biofiltration and public reserves.

Where multiple landowners / developers are the beneficiaries of such infrastructure, the ideal approach would be to apportion the costs of that infrastructure commensurate to the benefit derived by those landowners / developers. This is often complicated by the different timing priorities of individual landholding developments and the fact that some infrastructure is required in its entirety at the outset of the development, for example, a new intersection access from the existing road network or the downstream delivery of stormwater detention.

Cooperation between landowners is possible provided they have reasonably aligned objectives and timelines. Alternatively the first mover is typically required to bear the brunt of the up front infrastructure costs that are essential to the initiation of development. It is noted that Council has adopted a policy pertaining to the delivery of key infrastructure which involves taking responsibility for the up-front funding of selected infrastructure and the recouping of funds from the developers over time. In summary, the policy involves the following:

- Council may consider investing in infrastructure where it is of the opinion there is a strong long-term benefit to the municipality and its community.
- The infrastructure investments of Council may include but are not limited to the following general areas:
  a. Water;
  b. Sewerage;
  c. Roads and other transport;
  d. Public open space infrastructure;
  e. Stormwater drainage; or
  f. Carparking

- Council is committed to facilitating strategic development that aligns with its endorsed strategies and plans. Council recognises that substantial up front infrastructure costs can often lead to ad hoc and inefficient development, or stifle development all together.
- It is particularly difficult to ensure that efficient long-term infrastructure is installed, when there are multiple land owners who share the benefits but not the costs of the construction of that infrastructure.
- Council as an intermediary can play a role in removing this blockage by ensuring that infrastructure costs associated with growth are equitably carried by the beneficiaries.
- Investment agreements are to be appropriately structured so as to ensure that the relevant infrastructure will be completed to a satisfactory standard.
- Charges for the recovery of Council's investment are to be calculated by reference to the total estimated benefit to an Area resulting from the infrastructure investment and is to be calculated by reference to the total sum of that investment, divided by the estimated number of Tenements that will ultimately share in the benefit of the investment.

We note that Council has never acted on this policy. Further, the policy infers Council has access to the funds necessary to 'front end' selected development costs, which is unlikely to be the case.

A mechanism for Council to levy infrastructure charges is available via conditions of planning permits under section 51 (3A) and (4) of the Land Use Planning and Approvals Act 1993. This can include a Part 5 agreement to identify the details of the required infrastructure and the payments to be made by the developer. Any intention to pursue this course of action should be pre-empted with landowners so that the need for a Part 5 agreement is known at the time of the making of an application for land division. This approach can be expected to generate legal costs to formulate and negotiate any agreement.

A further approach which is potentially achievable in some circumstances, is the establishment of a structure plan (which is ultimately translated into a Specific Area Plan) that provides for multiple access points and stormwater solutions to a development area that can be delivered by individual landowners / developers without reliance upon other landowners. The master plan would also provide for the internal road, pedestrian and open space interconnectivity between the development sites within the overall development area to provide for an integrated development outcome.

Not all development precincts lend themselves to this approach, however, in the case of Boyer Road, the three major development sites fronting Boyer Road could all be developed independently with coordinated linkages between these sites based upon the Specific Area Plan created for that purpose, subject to the inclusion of provisions requiring the linking of the trunk water supply from the reservoir on Cobbs Hill Road. Any development of the three landholdings to the north of the Boyer Road properties would be dependent upon the prior development of at least one of the Boyer Road properties, however, since these northern properties are only likely to deliver around 20% of the total allotment yield, their reliance upon the development of the land to the south is not unreasonable, particularly given that they would benefit from road, stormwater and service connections to their property boundaries that are substantially paid for by the southern property developers.

11.1.2 .2 TasWater

TasWater has introduced standard developer charges, operational since 1 July 2023. The charges include the following:

- A standard charge (also called a Shared Infrastructure Contribution Charge) of $3,514 per equivalent tenement (ET) for existing and planned capacity. The charge applies to all developments that are consistent with TasWater's growth and capacity plans.

- Where applicable, a bulk charge (also called a Bulk Infrastructure Capacity Charge) for any development that requires an unexpected network capacity augmentation (i.e. not system extensions). The bulk charge is a net present value calculation for unplanned network capacity augmentation (not extension), usually applied on a per ET basis, with costs shared proportionally with TasWater and passed on to future developers. Where the augmentation is large cost and high risk, the developer may be required to fully fund the augmentation upfront.

The standard charge is based on TasWater's growth and capacity plans which ensure ongoing capacity for future developments. The standard charge of $3,514 per equivalent tenement is calculated on forecast incremental growth-related capital and operating expenditure, as well as forecast incremental revenue from new customers over the same period.

The bulk charge applies to network capacity upgrades. It is calculated on the capital and operating expenditure associated with the network capacity upgrade and the forecast revenue stream from new customers projected to connect to the upgraded network.

Accordingly, both the standard charge and the bulk charge relate to capacity, not extension, and the cost of system extension has been excluded from the calculations.
Network extension charges fall outside of the above and are typically paid for by the developer.The first mover disadvantage is addressed through the bulk charge for unplanned network capacity augmentation (not system extensions), with the bulk charge (usually) applied on a per ET basis with costs shared proportionally with TasWater and then passed on by TasWater to future developers.
In instances where the augmentation is large cost and high risk, the developer may be required to fully fund the augmentation upfront.

TasWater chargers are summarised within Table 32.

In the case of the Boyer Road precinct, the TasWater contribution system provides the theoretical capability of addressing the funding of the water and sewer requirements of the future precinct development through a combination of standard charges and bulk charges, with the first mover disadvantage addressed by TasWater delivering any capacity augmentation via the application of the bulk charge to recoup its initial expenditure on capacity augmentation from subsequent developers.

The issues are, firstly, ensuring that TasWater acts promptly at the time of the initiation of the first land division construction, and, secondly, whether the site will also attract a 'network extension' cost, which requires the developer to pay the cost of the extension without the benefit of the first mover recouping expenditure that benefits subsequent developers.

Table 32: Taswater Charges

Type of Works	Sufficient System Capacity	Insufficient System Capacity
Works Internal	Developer pays all costs	Developer pays all costs
Works External - Extension	Developer pays costs of extension required for the development*	Developer pays costs of extension required for the development*
Works External - Expansion	Developer pays a standard charge per ET	Developer pays a standard charge per ET for planned works and an additional bulk charge for unplanned works**

*Any development connecting to an existing system will, as a minimum, pay for the cost of connecting to the mains of the existing system, in addition to the standard charge and, if applicable, the bulk charge.

**We will refer to the system's GCP (where available) regarding capacity upgrades or other works planned. We will discuss these plans with the developer.

11.1.2 .3 TasNetworks

A developer requesting electricity reticulation for a new subdivision or development may require:

- The provision of connection services
- Network extension services
- Network augmentation services
- Street lighting services

A development is treated as a single customer for the purposes of calculating the customer connection charge. For example, TasNetworks will take into account the aggregate load and future network revenues attributable to the development as a whole. Where development proceeds in stages, each stage will be considered as a separate connection project, provided the connection of subsequent stages occur more than five years after the connection of the previous stage.

Where TasNetworks requires infrastructure (substations/ transformers) to be installed to a greater capacity than that required for a specific development or stage of a development, the developer will only be required to fund the infrastructure required for that development. This will typically occur where future development is likely beyond the boundaries of the current development or stage of the development, and it is prudent to provide additional capacity within the distribution network for these future connections. TasNetworks may require the developer to fund the extension of the high voltage network through their subdivision to cater for subsequent developers. These assets will be classified as Developer Mains and in the future, the property developer may be entitled to a refund of some of the costs of network extension, should another developer or customer connect to these assets.

A customer requesting a complex customer project is required to pay the direct costs associated with the provision of their connection, including any dedicated transformer assets and any extension and augmentation services, less any incremental revenue rebate.

Large customer connections are required to contribute to the augmentation charge based on their expected maximum demand. Customers requiring complex connections may be required to contribute to the cost of a Developer Mains Scheme, if applicable.

For the Boyer Road precinct, the TasNetworks funding approach would appear to require the funding of the capacity required by each developer, with TasNetworks funding and eventually recouping any additional capacity required for future developments and the developer funding of any Development Mains required through their site, with a potential future refund where these mains are utilised by a future development. All transformer costs and internal distribution costs within the site associated with the development will be paid by the developer.

11.1.2 .4 Department of State Growth - State Roads

Boyer Road is a Category 5 Road. This is the lowest category of State road and is primarily an access road for private properties.

Some Category 5 roads may be used for comparatively low frequency heavy freight vehicle transport, for example:

- Log transport – But they are not the most important log transport roads, and experience fluctuation in use
- Farm property access – for purposes including delivery of fuel and supplies, stock transport, crop delivery and milk pick-up

While a few of these roads may currently carry larger numbers of heavy freight vehicles, they may duplicate existing Category 1, Category 2 or Category 3 roads and are not the Department of State Growth's strategically preferred heavy freight vehicle routes.

The development of the subject land will require at least one access point (but possibly up to three access points) off Boyer Road, into the site. These access points are likely to require a separate right hand turn lane with storage length (to be determined) in order to maintain the free flow of traffic along the State Road.

It is customary for such development to be at the cost of the developer. If a single access point is established, then it would be desirable to seek a shared funding arrangement between the beneficiaries of that access point, in proportion to the number of lots or developable area delivered on each site. If three access points are provided, than it could be left to the direct negotiation of the three land owners with Department of State Growth regarding the delivery of each access point. It is assumed that the Department of State Growth will still require the funding of each individual access to be provided by each individual landowner benefiting from that access, but without the need for a shared funding agreement between the three landowners. Those landowners could then decide whether or not to seek funding contributions from landowners on their northern boundary proportional to their use of the respective access points, recognising that those benefits to the northern lands are relatively small.

Cobbs Hill Road is a Council road which provides access to a small number of rural living properties and TasWater tanks. To the east of the subject land, Cobbs Hill Road rises up from the Brighton Works Depot near the intersection with Old Main Road, past the entrance to the Northern Christian School, passing a small number of rural living lots. The rural standard road is paved but without kerb and water table.

Access to the subject land from Cobbs Hill Road is physically possible and there are a number of points where a safe intersection would be achieved. The issue for access to a new land division would be whether the volume of traffic would require an upgrade to the standard of the road. Based upon traffic volumes in Serenity Drive, which serves 38 lots, it would be reasonable to assume no upgrade would be required for a small subdivision off Cobbs Hill Road, albeit such a development seems unlikely.

Establishment of a new intersection into the subject land would reasonably be the responsibility of the benefitting landowner. No turning lanes would be required.

11.2 Agency Advice

Consultation with relevant agencies has elicited the following positions on infrastructure funding and provision.

11.2.1 TasNetworks - Power Supply

Based on advice from TasNetworks the design and supply of the power to the future subdivision site is achievable. Augmentation of HV supply is achievable and final design will be developed with a development plan as per TasNetworks practice. The costs associated to achieve the required HV supply and the breakdown to LV via substations will be distributed to the developer generally as per lot basis. No costs are to be included in a contribution's agreement.

11.2.2 TasWater - Sewer

There is significant strain on the gravity system, the existing sewer pump stations and rising mains. The Green Point Sewerage Treatment Plant has adequate capacity to cater for the development. Gravity main upgrades are required between the receiving manhole and the Nielsen Parade SPS to the Green Point STP.

The Sewer Pump Station at Nielsen Parade requires an upgrade in volume, at total of 52.6kL. TasWater have nominated that 30.1kL are the responsibility of the development. Further to this, pump upgrades will be required with additional flow rate. The additional flow rate will require a larger rising main.

The upgrade of the existing Nielsen Parade Pump Station will have shared costs between TasWater and an infrastructure contribution for Boyer PSP.

11.2.3 TasWater - Water Supply

The requirement for additional reservoir storage at Cobbs Hill Road will fall under an infrastructure contribution model. Also included will be the DN200 connection from Cobbs Hill Reservoir into the subdivision as well at the linking water infrastructure that enables 50 Boyer Road, 170 Boyer Road and 182 Boyer Road to be included in the infrastructure contribution model.

11.2.4 Department of State Growth - Boyer Road Intersections

The Department will require developer funding of the intersection works required to access the Precinct from Boyer Road.

11.2.5 NBN - Data and Communications

Developer funding on a standard per lot rate will be required.

11.2.6 TasIrrigation - Irrigation Pipeline

No access to the irrigation pipeline is proposed.

11.3 Council Advice

11.3.1 Stormwater

It is proposed that all stormwater infrastructure and associated planting be provided and paid for by the developers of the Precinct.

11.3.2 Landscaping

It is proposed that all landscaping, paths and trails be provided and paid for by the developers of the Precinct, subject to the following:

- Council may be able to access grant funding for specific works identified in the Landscape Master Plan in the future that enhance the Precinct's desirability as a place to live, visit and recreate. This does not abrogate any responsibility for landowners to deliver the nominated base works (refer to Section 11.5 table and plans).
- If the pedestrian link along Boyer Road towards Old Main Road proceeds, Council should contribute to or seek funding from other property owners benefiting from the upgrade (notably properties in the Sorell Street Precinct) given that the link has benefits beyond that provided to the Boyer Road Precinct.

These matters will be discussed with Council prior to the finalisation of this report.

11.4 Preferred Approach

As far as practicable, the use of a Specific Area Plan to define the nature and design of land, housing and infrastructure delivery is highly desirable. This approach utilises an existing statutory mechanism that is readily available and provides for decisive control on selected matters by Council. In particular, this document will provide specific design requirements for a range of allotment and housing elements as well as providing the opportunity to define road, stormwater, landscaping and bushfire interventions. These are described in the table and plans in Section 11.5, while the full Specific Area Plan provisions are detailed in Appendix 12.

However, in addition to the Specific Area Plan we recommend preparation of a Landowner Agreement that would include Council and addresses the timing and coordination of shared infrastructure delivery and the need for individual landowners to make provision for the possible need to provide infrastructure across other landowners holdings in order to facilitate the timely development of land. More particularly, this Agreement would address the following:

- A mechanism for Council to hold contribution funds towards shared infrastructure until they are required to be employed for that purpose;
- A mechanism for the control of how those funds are spent, how infrastructure delivery is procured and the opportunity for works to be delivered in lieu of funding contributions;
- A mechanism for the return of funds collected from later landowners' developments to first movers who have paid for the upfront construction of a required piece of infrastructure;
- A requirement that landowners stage their developments in good faith to deliver early infrastructure access to adjoining landholders;
- A requirements that landowners commit to the provision of easements and/or unmade road reserve across their landholdings to permit the transition of underground infrastructure services (water, sewer, power, telecommunications, stormwater and/or gas – if required) to landholdings that are under development. This obligation would be restricted to underground infrastructure so as to limit the impact on the agricultural operations of the impacted landholdings.

This document would need to be prepared by lawyers and signed by each of the landowners, ideally prior to the finalisation of the Planning Scheme Amendment, with the rezoning of the land being the incentive to commit to this agreement. The agreement would need to be secured against the title to each affected landholding (by way of a covenant or similar legal instrument) so that the agreement obligation passes with the sale of the land (for example, if a parcel is sold by one of the current landowners to an intending developer of the land). A sunset clause would apply to lift the covenant from areas already developed and sold.

With regard to agreements with service agencies, the application of a per lot cost by TasNetworks an NBN would avoid any need for agreements. Shared funding for the Boyer Road intersection upgrades could be managed through the above mentioned Landowner Agreement, while sewer and water supply could involve separate agreements between the landowners and TasWater or rely upon the established mechanisms currently applied by TasWater to developer funding of infrastructure. This is likely to penalise the first mover and could stall any development of the Precinct whatsoever, hence, seeking an agreement with TasWater to deliver required trunk infrastructure at the time it is needed with an agreement to require indexed contributions from subsequent landholders at the time that their land is developed, to repay the upfront cost of the infrastructure delivery.

Future discussions about the point at which trunk infrastructure requirements are triggered should also be part of this agreement (for example, the reservoir expansion might only be required after a certain number of lots are developed, with the first lots supplied through the existing reservoir capacity).

11.5 Required Actions

Through the evaluation of the infrastructure required to service the Boyer Road Precinct, having particular regard to the headworks infrastructure upgrade expectations of the various service providers, and in consideration of the coordination required between individual landowners to facilitate the development of the whole parcel over an indefinite timeframe and that could involve multiple development fronts, we have established the following key development principles for the delivery of the required infrastructure.

The following table describes the intervention required, whether that intervention will be delivered by the individual landowner or shared proportionally between the landowners, and any special conditions associated with the delivery of that infrastructure.

Note that where the cost of an intervention is shared, that cost is established by the proportion of the total theoretical lot yield held by each landowner, as determined by the Master Plan. Those proportions are as follows:

- **Landowner A** - 29.2%
- **Landowner B** - 41.4%
- **Landowner C** - 15.6%
- **Landowner D** - 32.9%
- **Landowner E** - 9.8%
- **Landowner F** - 1.1%

These interventions are illustrated in the Figures 34 to 39. Note that full size plans are included in the Specific Area Plan in Appendix 12.

Table 33: Summary of Infrastructure Funding Allocation

Nature of Intervention	Individual or Shared Cost	Special Conditions
Roads		
Boyer Road Intersections	Shared	Funding mechanism required to address first mover cost rebate.
Internal Road Network	Individual	Each landowner delivers their internal network. Specific Area Plan ensures connectivity of key road links between landholdings, timeliness of link provision and road reserve and road pavement width requirements.
Bridges	Individual	Affected landowners (170 Boyer Road & 182 Boyer Road) require internal bridges to access their own landholding. No shared benefit.
Water Supply		
Reservoir	Shared	All landowners require access to additional water storage capacity. Funding mechanism required to address first mover cost rebate.
Trunk Main	Shared	All landowners require access to trunk main from reservoir. Funding mechanism required to address first mover cost rebate. A first mover may require supply access across other landholdings. Right to create an easement or unmade road reserve across other properties required to facilitate early movers. Specific Area Plan ensures connectivity between landholdings and Landowner Agreement facilitates early movers across other landholdings.
Internal Reticulation	Individual	Each landowner delivers their internal network. Specific Area Plan ensures connectivity between landholdings ad timeliness of interconnectivity.
Sewer		
Pump Stations	Shared	Funding mechanism required to address first mover cost rebate.
Rising Main to Bridgewater STP and required pump station and pipe upgrades	Shared	Funding mechanism required to address first mover cost rebate.
Internal Reticulation	Individual	Each landowner delivers their internal network. Specific Area Plan ensures connectivity between landholdings ad timeliness of interconnectivity. A first mover may require supply access across other landholdings. Right to create an easement or unmade road reserve across other properties required to facilitate early movers. Specific Area Plan ensures connectivity between landholdings and Landowner Agreement facilitates early movers across other landholdings.

Power Supply		
Cobbs Hill Road Loop & External Capacity Augmentation	Shared	Requires access across 25 Cobbs Hill Road. Requires links (via internal reticulation) across all landholdings to existing Boyer Road power lines. Requires external capacity increase. Funding by TasNetworks on per lot basis should avoid first mover issue.
Internal Reticulation	Individual	Each landowner delivers their internal network. Specific Area Plan ensures connectivity between landholdings ad timeliness of interconnectivity. A first mover may require supply access across other landholdings. Right to create an easement or unmade road reserve across other properties required to facilitate early movers.
NBN		
Supply and Internal Reticulation	Individual	Funding by NBN Co on per lot basis should avoid first mover issue.
Gas Supply		
Supply and Internal Reticulation	Individual	Gas is not a required infrastructure. Will be subject to individual landowners request for a gas supply and a commercial decision by TasGas to provide the supply.
Stormwater		
Detention Basins and Directly Associated Basin Landscaping	Shared	Funding mechanism required to address first mover cost rebate. Each landowner could detain stormwater temporarily on their own site to pre-development flow levels while waiting for downstream works.
External Culverts	-	No cost. Already in place.
Local Reticulation and Treatment	Individual	Each landowner delivers their internal network. Specific Area Plan ensures connectivity between landholdings ad timeliness of interconnectivity. Each landowner could detain stormwater temporarily on their own site to pre-development flow levels while waiting for downstream works.
Landscaping		
Streetscapes and Street Trees	Individual	Each landowner delivers their own streetscape as defined in the SAP.
Parks	Individual	Each landowner delivers their own parks as defined in the SAP.
Walking Trails	Individual	Each landowner delivers their own walking trails as defined in the SAP.
Playground, Fitness Equipment, Lookout, Shelters and Barbeques	Shared	Funding mechanism required to address first mover cost rebate.
External Footpath Link to Old Main Road	Shared	Contribute funds to Council of a per lot basis for Council to deliver. As other landowners outside the Boyer Road Precinct are advantaged by this infrastructure, Council and/or the Sorell Street Precinct landowners should contribute proportionally.

Figure 34: Infrastructure Requirements - Landscaping & Bushfire Management

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Figure 35: Infrastructure Requirements - Roads

Figure 36: Infrastructure Requirements - Water

Figure 37: Infrastructure Requirements - Stormwater

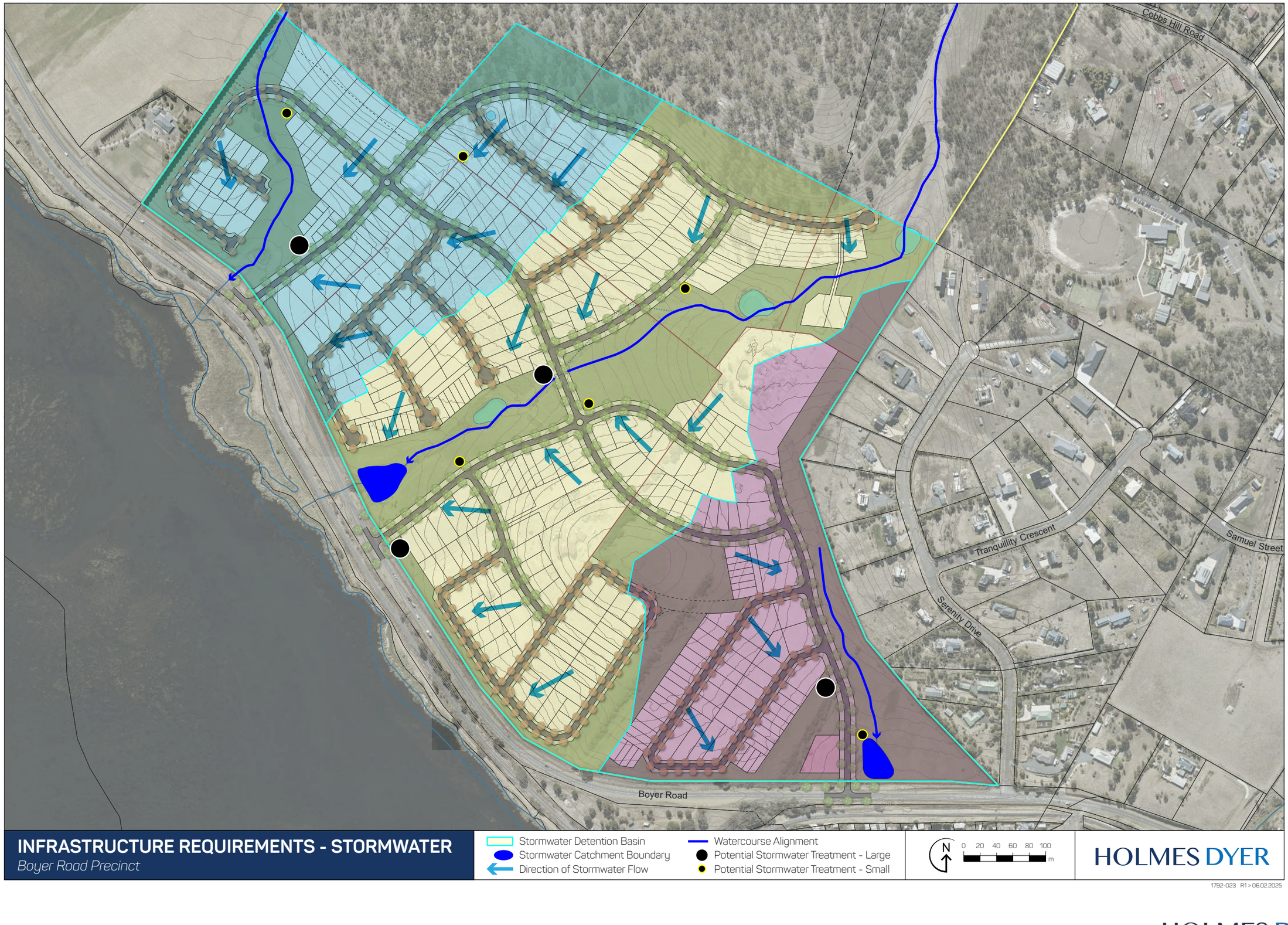


Figure 38: Infrastructure Requirements - Sewer

Figure 39: Infrastructure Requirements - Power

12. Policy Framework

12.1 Planning Scheme Amendment Outline

Based on the investigations that have been undertaken and the preferred master plan option discussed in Section 9, it is proposed to undertake a planning scheme amendment pursuant to section 34 of the Land Use Planning and Approvals Act 1993 (the Act) to rezone the southern area of the precinct that is currently zoned Future Urban to General Residential.

The Planning Scheme Amendment process involves the preparation of a Planning Report detailing the investigations and rationale for the draft Planning Scheme Amendment, which is presented to the Planning Authority (Brighton Council) to certify for exhibition. The draft Planning Scheme Amendment is then exhibited for 28 days, during which time any person may make a representation on the draft amendment. The Planning Authority must them prepare a report to the Tasmanian Planning Commission (TPC), detailing the matters raised in the representations, the planning authority's opinion as to the merit of each representation, and any modifications made to the amendment in response to the representations.

In the event any representor indicates a desire to be heard by the TPC in support of their representation, the TPC will hold a hearing to allow this to occur. The TPC will then consider the draft amendment and matter raised by the representors and determine whether to approve or refuse the amendment.

12.1.1 Zone Selection

The General Residential Zone has been selected as it provides for a range of housing types where infrastructure services are available. Infrastructure (water, sewer, power, telecommunications) has been determined to be available to service the precinct, subject to upgrades to water and sewer infrastructure, as discussed in more detail in Section 10. The policy framework of the Genera Residential Zone will be supported by a Specific Area Plan, which will provide additional guidance regarding the orderly development of the land, housing densities, open space, activity centres and design guidelines.

The Low Density Residential Zone has been considered, however this zone is more appropriately applied where there are infrastructure and/or environmental constraints that prevent the development of land to higher densities. Given there is a suitable area of the precinct that is relatively unconstrained and the availability of services, the Low Density Residential Zone has been ruled out.

A number of submissions received from interested community members advocated for the application of the Rural Living Zone, which generally anticipates allotment sizes of 5,000 square metres. Given the precinct is one of the few remaining areas of land within Brighton Council identified as a Greenfield Development Precinct in the STRLUS, it is considered that the Rural Living Zone would not deliver sufficient density to accommodate the forecast population growth for the council and indeed the Greater Hobart area.

Consideration was given to applying the Open Space Zone to areas where public reserves and pedestrian and cycle networks are envisaged. It was determined that this would not be an appropriate approach, as 'locking in' where reserves and open space networks should go at concept stage would place undue restrictions on the future subdivision design of the precinct, which requires a certain degree of flexibility until such time as more detailed design work has been undertaken. In addition, the application of the Open Space Zone would not follow cadastral boundaries, which is not considered to be orderly from a strategic planning perspective.

No change is proposed to the Landscape Conservation Zone, other than to extend the south-western extent of the zone boundary to reflect the boundary of the Conservation Covenant.

12.1.2 Specific Area Plan

Due to the various constraints identified in Section 7 and the separate ownership of each of the affected titles, a Specific Area Plan (SAP) will be incorporated into the Brighton Planning Scheme to guide the future development of the General Residential zoned land. The SAP will:

- Identify specific land uses that can occur within the precinct.
- Separate the General Residential zoned land into 5 distinct precincts and development standards.
- Include a Development Framework that shows the indicative location of future allotments, roads, open space reserves, landscape buffers and areas of heritage significance, together with a suite of design principles.

The development standards outlined in the SAP are to be read in conjunction with the General Residential Zone. Where there is a difference in policy intent, the SAP will prevail.

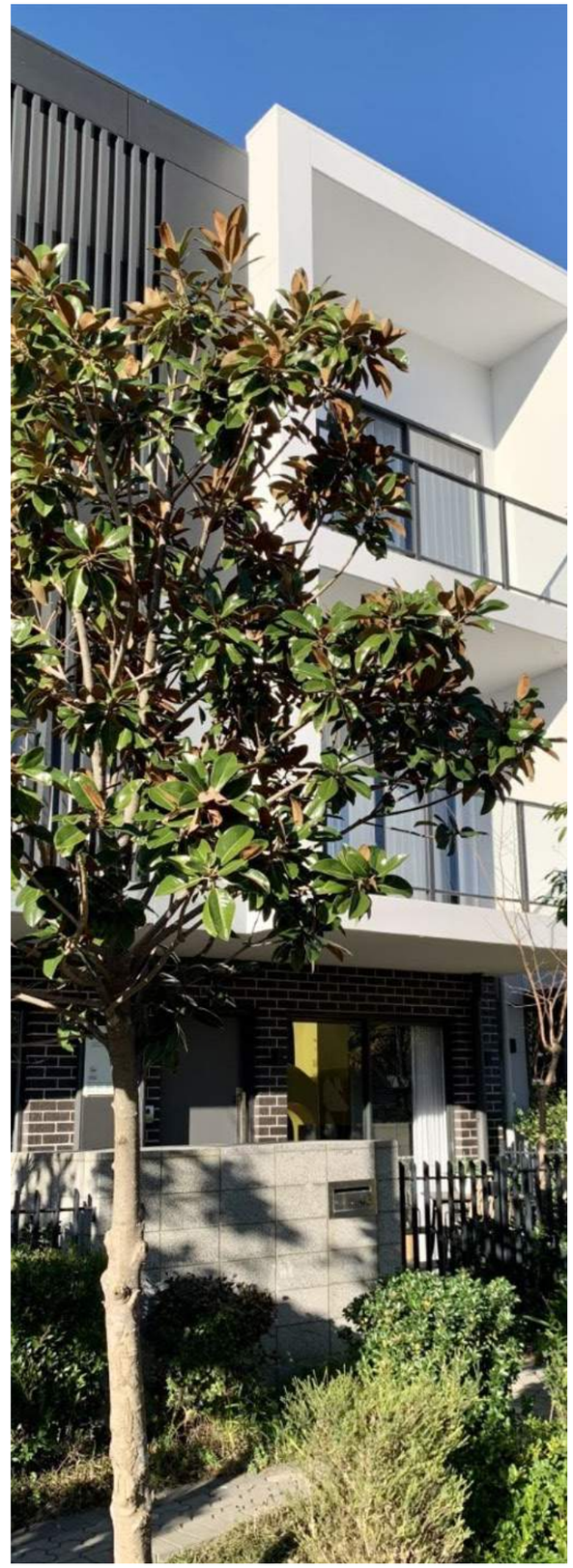
12.1.3 Use and Development Standards

The Specific Area Plan will incorporate a range of key design guidelines that will apply to the Boyer Road Precinct. These provisions provide guidance in respect of the following:

- Use
- Lot sizes including areas and widths
- Multiple dwelling site areas
- Lot boundary setbacks
- Building heights
- Elevational treatments including windows and doors
- Access to sunlight
- Garage and carport widths
- Landscaping
- Vegetation management
- Reserve interface allotments (i.e. direct frontage to a reserve)
- Lot landscaping and street tree planting
- Stormwater management
- Paths and trails
- Playspaces, sports and recreation facilities
- Road standards

12.1.4 Council Control Mechanisms

A number of these elements are controlled by Council through the process of approval of the detailed design of the land division. In the case of the Boyer Road Precinct, additional control mechanisms are likely to exist through the landowners' agreement to a consistent approach to road, footpath, landscape and stormwater design. For the remainder, it is a question of how far Council wishes to extend its control and the mechanisms available to exert that control, knowing that excessive prescription of design has the potential to delay development and increase the assessment and management functions of Council staff.



13. Next Steps

This document will be provided to Brighton Council for their review prior to proceeding with a second round of stakeholder consultation, which will occur over a period of three weeks (27 February 2025 – 20 March 2025). During the consultation period additional meetings with key infrastructure providers and landowners will be held to discuss investigation findings and the proposed mechanisms for infrastructure funding. Upon completion of the engagement period the Precinct Structure Plan will be further refined as necessary based to capture feedback received.