

ABERLINE TO HORNE GROWTH CORRIDOR

LANDSCAPE AND VIEWSHED ASSESSMENT JANUARY 2018

PREPARED FOR WARRNAMBOOL CITY COUNCIL

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GLOSSARY

Term	Definition
Access	The location by which vehicles and / or pedestrians enter and / or leave property adjacent to a road.
Amenity	The pleasant or normally satisfactory aspects of a location that contribute to its overall character and the enjoyment of residents or visitors.
Built Form	The component features of buildings, streets and spaces that make up the urban environment.
Environment	For the purpose of this report, environment incorporates physical, biological, heritage, cultural, economic and social aspects.
Heritage	Historic or cultural associations.
Land Use	The type of development permitted in an area whether it be industrial, commercial, residential, rural and recreational or a combination of some or all of these different uses.
Landscape	Soft features of the urban, suburban or rural environment, such as vegetation and green open spaces. For the purpose of this report, the term 'landscape' refers to the concept of visual and related natural qualities of the area. It is distinct from the visual amenity experienced by individuals who have outlooks from their properties towards the project area and associated infrastructure.
Landscape feature	Prominent eye-catching elements (other than designated ones), for example a church spire, volcanic cone, monument or distinctive landmark building, significant mature specimen tree, that contributes to landscape character through appearance or specific civic use.
Methodology	The specific approach and techniques used for a given study.
Project Area	For the purposes of this report, the <i>Project Area</i> is the visual catchment. The visual catchment is defined as the area from within which the <i>Study Area</i> may be seen. The Project Area may be different (encompassing a broader geography) to the Study Area.
Property	A property is land owned by a single landowner. It may include multiple contiguous titles owned by the same registered proprietor.



Term	Definition
Recreation Reserve	Land provided in urban or rural areas for public recreation, though not necessarily publicly owned
Receptor	Physical landscape resource, special interest or person and/or viewer group that will experience an impact.
Regeneration	The re-use or redevelopment of decaying or run-down parts of landscape/areas to bring them new life, vitality, quality and value.
Study Area	The area identified by Warrnambool City Council for the purposes of this report and its investigations.
Tree Protection	Direction made by a local planning authority that makes it an offence to cut, top, lop, uproot or wilfully damage or destroy a tree without that authority's permission.
Visual amenity	The value of a particular area or view in terms of what is seen.
Zone of Theoretical Influence	Area within which a proposed development may have an influence or impact.



FIGURES

Figure 1 – Study Area and Existing Conditions

Figure 2 – Land Use Plan

Figure 3 – Landscape Character Units

Figure 4 – View Point Locations

Figure 5 – Viewshed



PLATES

Plate	Title
1	Character Unit 1 Rural
2	Character Unit 2 Rural Living
3	Character Unit 3 Recreation
4	Character Unit 4 Industrial
5	View Point 1 – Corner of Aberline Road and Boiling Down Road
6	View Point 2 – Russell Creek, Aberline Road
7	View Point 3 – Wangoom Road
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11	View Point 7 – Horne Road (south)
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ABBREVIATIONS

Definition
Australian Height Datum
Geographic Information Systems
Hectare
Kilometre
Landscape Character Assessment
Landscape Character Unit
Landscape and Visual Impact Assessment
Meter
Warrnambool City Council
Zone of Theoretical Visibility



1. INTRODUCTION

The identification and protection of the Warrnambool's visual amenity and landscape values will be intrinsic to ensuring Warrnambool grows in a manner that maintains a high standard of both character and liveability in the community. Landscape character and scenic amenity has the ability to positively influence the lifestyle of existing and proposed residents, attract visitors, promote growth and effectively safeguard future opportunities (recreation, tourism and leisure) and prosperity.

The approach to the viewshed and landscape analysis investigation to be adopted is outlined below.

1.1 SCOPE OF THE REPORT

Spiire was engaged in June 2017 by the Warrnambool City Council (WCC) to undertake an assessment of the landscape and visual baseline conditions within the Aberline to Horne Growth Corridor Study Area (Figure 1). This report is one of a number of studies commissioned by WCC to investigate the land capability of the Aberline to Horne Growth Corridor Study Area.

The scope of this report is to provide a high level overview of the existing landscape and visual environment, and to describe the baseline situation of these characteristics of the Study Area.

In order to satisfy the requirement of WCC, this project includes:

- Site inspection;
- Photographic record;
- Existing landscape conditions plans;
- Key stakeholder consultation (phone and email);
- Viewshed mapping;
- Preparation of a report outlining: relevant policies, legislation or guidelines; existing key landscape and visual conditions of the Study Area, and; key views and vistas.
- Recommendations, and;
- A summary of findings.

1.2 PURPOSE OF THE REPORT

The purpose of this report is to provide context to assist in ensuring that the Aberline to Horne Growth Corridors' unique visual and landscape amenity is protected from incompatible land uses. This is in response to recommendations for further study as set out in the Warrnambool City Council's *Long term Growth Area Background Report*¹. The findings will promote a unified approach to landscape planning, design and management effectively linking recommendations for landscape character and visual amenity to existing planning policies, and influencing future planning policy and subsequent development.

https://www.warrnambool.vic.gov.au/sites/warrnambool.vic.gov.au/files/documents/property/planning/projects/Draft%20Long%20Term%20Growth%20Area%20Background%20Report%202016%20%28web%29.pdf accessed 23rd August 2017

¹



A summary of findings and recommendations for further study has been provided at the end of this report to ensure high level priorities are identified for protection and enhancement of the landscape and visual environment.

The recommendations will inform the future development of the Aberline to Horne Growth Corridor Precinct Structure Plan.

1.3 ASSUMPTIONS AND LIMITATIONS

A number of assumptions have been made for this assessment. These include:

- The report is based on the information available for the project at the time of writing, January 2018.
- Baseline conditions were confirmed in the field during the site survey.
- Viewing locations were chosen based on the desktop study. Recording of views was undertaken from the nearest publically accessible area.
- ► The Zone of Theoretical Visibility (ZTV) does not consider proposed built form which was unknown at the time of writing this report.

There are also limitations associated with the assessment. These include:

- ► There is no guidance on the assessment of landscape and visual effects specific to Australia. Therefore, United Kingdom (UK) publications have been referenced where relevant for LVIA.
- ► The assessment process aims to be objective and describe any changes factually. Assessment requires qualitative (subjective) judgements to be made. The conclusions to this assessment therefore combine objective measurement and professional interpretation.



2. METHODOLOGY

2.1 INTRODUCTION

The process undertaken for recording of the landscape and visual baseline has been outlined below.

2.2 STANDARDS AND GUIDANCE

This report has been conducted in accordance with the *Guidance for Landscape and Visual Impact Assessment* (2002 and 2013) published jointly by the Landscape Institute and the Institute for Environmental Management and Assessment (UK).

2.3 ESTABLISHMENT OF BASELINE CONDITIONS

2.3.1 THE STUDY AREA

The *Study Area* is the area identified by the WCC as the Future Urban Growth Area for the purposes of this report and its investigations (Figure 1).

2.3.2 THE PROJECT AREA

For the purposes of this report, the *Project Area* is the visual catchment. The visual catchment is defined as the area from within which the *Study Area* may be seen. The Project Area may be different (encompassing a broader geography) to the Study Area. Figure 5 Viewshed Map, illustrates the Project Area.

2.3.3 DESKTOP STUDY

The desktop study included a review of relevant published documents in relation to landscape conditions and visual amenity at a national, regional and local level for the Study Area. This included review of the current legislative framework.

Potential receptors, defined as a person or viewer group that may experience views of the project area, were identified through the use of geographical information and planning data.

The following data sets were reviewed:

- Aerial photography
- Topographic maps with contours at 1m
- Road networks
- Cadastral
- Water courses
- Local Government Area (LGA) boundaries
- Survey maps
- Reports from other consultants (Flora and Fauna Assessment and Aboriginal and Historical Assessment)

2.3.4 SITE SURVEY

The site survey was undertaken to:

characterise the landscape;



- identify receptors from publicly accessible viewpoint;
- verify and ground truth the desktop study;
- photographically recorded the Study Area;
- recorded landscape areas and / or views / view corridors of value to the region, and;
- observed and documented how the landscape may be viewed.

The site survey was undertaken in July 2017, during conditions of good visibility. During the site survey, the Landscape Architect traversed the Study Area and viewed the Study Area from publicly accessible viewpoints from the wider landscape. Photographs were taken at key locations.

2.3.5 DEFINING THE LANDSCAPE CHARACTER UNITS

Landscape Character Units (LCUs) form the basis for describing the landscape character of the Study Area. LCUs are considered to be common landscape types defined by typical features and characteristics. A description of landscape character differentiates between subjective assessments and objective description and is provided from both within the Study Area, and from the wider Project Area.

LCU's were identified through a study of key landscape character elements including landform, water form, vegetation and land use, as well as a field survey. Landscape categorisation was also informed by a review of information gathered during the desktop study and the site survey. Particular attention was paid to the relevant regions/ subregions identified within the Coastal Spaces Landscape Assessment Study ². Review of the Interim Biogeographic Regionalisation for Australia regions³ and subregions⁴ was also undertaken. This national data set which classifies the land surface of Australia is derived from specialist ecological knowledge and the assessment of climate, geomorphology, landform, lithology, and characteristic flora and fauna. These attributes are common to some of the attributes used to define landscape character.

2.3.6 DEFINING THE VISUAL CATCHMENT

The visual catchment is defined as the area from within which a future project may be seen, which in turn is defined as the Study Area. The Study Area was determined through a desktop study of aerial photographs and topographic maps where landform and land cover (screening) were considered in parallel. The area of development is based on the scope of works provided by WCC.

² Planisphere (2006), Coastal Spaces Landscape Assessment Study – Protection and Management of Victoria's Coastal Landscapes,

http://www.eastgippsland.vic.gov.au/files/27a451bf-4b8e-49e9-96af-a3e100f78d06/Coastal_Spaces_Landscape_Assessment_Study_State_Overview_Report_2006.pdf, viewed August 2017

³ Department of Environment and Energy (2012), *Interim Biogeographic Regionalisation for Australia* http://www.environment.gov.au/system/files/pages/5b3d2d31-2355-4b60-820c-e370572b2520/files/bioregions-new.pdf

⁴ Department of Environment and Energy (2012), *Interim Biogeographic Regionalisation for Australia version 7 and subregions*,

http://www.environment.gov.au/system/files/pages/5b3d2d31-2355-4b60-820c-e370572b2520/files/CACHE_DUVIE=48b2162dc0780e0254eb539983eddebd/subregions-new.pdf, viewed August 2017



2.3.7 SELECTION OF VIEWPOINTS

Representative publically accessible viewpoints were selected, recorded and photographed. Viewpoints were chosen to represent a range of typical views possible from that locality. In addition, the viewpoints were selected to:

- represent views of particular landscape and /or visual feature/s of importance, and;
- represent views from key visual receptors (residents, community facilities and road users).

2.3.8 DESCRIPTION OF EXISTING CONDITIONS

A description of the existing conditions of the landscape and visual environment assisted in forming a baseline against which any future projects may be assessed, and to guide recommendations for further study. The description of the existing conditions is based upon outcomes of the desktop study and the site survey. The principal documents and data sources used include:

- Survey mapping and GIS data sets
- Aerial photography;
- Information from local planning authorities, including land use planning;
- Site survey outcomes including a photographic record of landscape features, key views and identification of receptors from the nearest publicly accessible viewpoint;
- Observations of the way elements of the public realm, such as open space and roads, are used.
- Other consultants' findings including ecology assessment and cultural heritage assessment.

2.3.9 ZONE OF THEORETICAL VISIBILITY (ZTV)

A zone of theoretical visibility is the theoretic assessment of visibility to or from a designated point in the landscape using elevation data such as a Digital Elevation Model (DEM) to calculate the extent of visibility of that point from anywhere in the Study Area. This mapping does not take account buildings or vegetation screening and hence reflects a lunar landscape. The zone of theoretical visibility generated for this assessment is based on 10 m contour intervals and an observer eye height of 1.75m.

The ZTV was used to help guide the field work in the identification of locations with a high degree of visual exposure to the proposed project area, the identification of potentially key views and viewpoints. It was followed by on site verification which considered such aspects as intervening vegetation and structures and/or landform that influence visibility.



3. LEGISLATION, POLICIES AND GUIDELINES

3.1.1 COMMONWEALTH

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is the Australian Government's central piece of environmental legislation.

It is relevant only to the extent that it provides a high level legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places. It states no objectives specifically applicable to this Landscape and Viewshed Analysis.

3.1.2 STATE LEGISLATION

The following legislation is relevant to the Project, guiding and regulating development planning within Victoria:

- Planning and Environment Act 1987 (PE Act)— a key piece of legislation that provides a framework for planning in Victoria; and
- ► Environment Protection Act 1970 (Vic) (EP Act) provides a legislative framework for the protection of the environment in Victoria.

The PE Act lists several objectives relevant to this study:

- "(1) The objectives of planning in Victoria are—
- (b) to provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity;
- (c) to secure a pleasant, efficient and safe working, living and recreational environment for all Victorians and visitors to Victoria;
- (d) to conserve and enhance those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value;"

Further, the EP Act states the following relevant principle:

- "1B Principle of integration of economic, social and environmental considerations
- (2) This requires the effective integration of economic, social and environmental considerations in decision making processes with the need to improve community well-being and the benefit of future generations."

3.1.3 STATE PLANNING POLICY FRAMEWORK (SPPF)

As part of the Warrnambool Planning Scheme, the SPPF provides direction for land use and development.

Clause 11 Settlement

In promoting the sustainable growth and development of Victoria, planning is:



"...to anticipate and respond to the needs of existing and future communities...."

whilst also

'....recognise the need for, and as far as practicable contribute towards: (amongst others)

- A high standard of urban design and amenity.
- Energy efficiency.
- Prevention of pollution to land, water and air.
- Protection of environmentally sensitive areas and natural resources.
- Accessibility.
- Land use and transport integration.'

"...to prevent environmental problems created by siting incompatible land uses close together."

Clause 11.02-3 Planning for growth areas

Retain unique characteristics of established areas incorporated into new communities to protect and manage natural resources and areas of heritage, cultural and environmental significance.

Clause 11.04-1 Open space planning

- Ensure that open space networks:
 - Are linked through the provision of walking and cycle trails and rights of way.
 - Are integrated with open space from abutting subdivisions.
 - Incorporate, where possible, links between major parks and activity areas, along waterways and natural drainage corridors, connecting places of natural and cultural interest, as well as maintaining public accessibility on public land immediately adjoining waterways and coasts.

Clause 11.07-1 Regional planning

- ▶ Support the growth and development of distinctive and diverse regional settlements by:
 - Ensuring development respects and enhances the scenic amenity, landscape features and view corridors of each settlement.

Clause 11.11-2 Sustainable communities

Support and promote active and attractive towns through the provision and enhancement of open space, trails, streetscapes and gardens.

Clause 11.11-6 Environmental assets

- Protect significant landscapes and provide vegetation corridors between high value environmental assets.
- Protect waterways from the effects of urban and rural land use change and facilitate growth at established settlements where water and wastewater can be managed.



Clause 12 Environmental and Landscape Values

An overall objective of Clause 12 aims to "...conserve areas with identified environmental and landscape values."

Further, that "Planning should protect sites and features of nature conservation, biodiversity, geological or landscape value."

Clause 12.01-1 Protection of Biodiversity

To assist the protection and conservation of Victoria's biodiversity, including important habitat for Victoria's flora and fauna and other strategically valuable biodiversity sites.

Clause 12.01-2 Native Vegetation Management

► To ensure that permitted clearing of native vegetation results in no net loss in the contribution made by native vegetation to Victoria's biodiversity.

Clause 12.04-2 Landscapes

To protect landscapes and significant open spaces that contribute to character, identity and sustainable environments.

Clause 14 Natural Resource Management

14.02-1 Catchment planning and management

Retain natural drainage corridors with vegetated buffer zones at least 30m wide along each side of a waterway to maintain the natural drainage function, stream habitat and wildlife corridors and landscape values, to minimise erosion of stream banks and verges and to reduce polluted surface runoff from adjacent land uses.

Clause 15 Built Environment and Heritage

Clause 15 aims to ensure all new land use and development appropriately responds to its landscape, valued built form and cultural context, protecting places and sites with significant heritage, architectural, aesthetic, scientific and cultural value.

Clause 15.01-1 Urban Design

To create urban environments that are safe, functional and provide good quality environments with a sense of place and cultural identity.

Clause 15.01-2 Urban Design Principles

To achieve architectural and urban design outcomes that contribute positively to local urban character and enhance the public realm while minimising detrimental impact on neighbouring properties.

The following are relevant urban design principles:

- Landmarks, views and vistas: should be protected and enhanced or, where appropriate, created by new additions to the built environment.
- Landscape architecture: Recognition should be given to the setting in which buildings are designed and the integrating role of landscape architecture.



3.1.4 LOCAL PLANNING POLICY FRAMEWORK (LPPF)

The LPPF sets the local strategic policy context for Warrnambool. It comprises the Municipal Strategic Statement and specific local planning policies operating consistently with the SPPF.

Clause 21.02 Settlement

21.02-3 Open space

- Relevant strategies include:
 - Ensure development does not compromise the ecological integrity of the Merri River, Hopkins River and Russell Creek corridors, and the coastal reserves.
 - Identify and address key connectivity gaps including those mentioned in the Warrnambool Open Space Strategy (2014) with priority given to providing continuous open space corridors along Russell Creek and the Merri River.

Clause 21.03 Environment and Landscape Values

Clause 21.03-1 Biodiversity

▶ To recognise, protect and enhance the natural environment and habitats.

Clause 21.03-2 Native vegetation management

- ▶ The Francis Tozer Reserve located on Wangoom Road, Warrnambool, is recognised as an important example of remnant native grassland and should be preserved as a community education resource.
 - Objective 1: To ensure development recognises, protects and enhances native vegetation values.

Clause 21.03-4 Significant environments and landscapes

- Warrnambool contains areas of great natural beauty. The community values the city's landscape character. The ocean, the Merri River, the Hopkins River, inland hilltops and ridgelines, and surrounding rural areas can be viewed from numerous public areas and private dwellings throughout the city. Respect for the sharing of views, rather than necessarily the retention of all existing views, is an important issue.
- Norfolk Island Pines lining the Princes Highway median and a number of other streets are an important local landscape feature. The coastal area is of outstanding cultural, environmental and recreational significance.
- ► The natural landscape is an important asset of the municipality that requires protection from inappropriate use and development.
 - Objective 1: To protect the natural, cultural and visual values of significant natural environments.
 - Objective 2: To protect distinct hilltops and ridgelines, other notable vantage points, and view lines from inappropriate development.
 - Objective 3: To retain and enhance coastal landscapes of high scenic value.

Clause 21.04 Environmental Risks



Clause 21.04-2 Floodplains

Objective 2: To maintain the integrity of the Merri River and Russell Creek floodplains.

Clause 21.05 Natural Resource Management

Clause 21.05-2 Water

- The environmental values of Russell Creek could be enhanced both in terms of the riparian vegetation, in stream rehabilitation and improved stormwater quality.
 - Objective 1: To maintain and enhance the ecological health of Warrnambool's water resources and waterways.

Clause 21.06 Built Environment and Heritage

Clause 21.06-1 Urban environment

- ► The siting and design of buildings can have a critical impact on visual appearance within urban streetscapes.
 - Objective 3: To ensure that building heights maintain view lines to the coast.

Zones & Overlays

With the exception of the Wannon Water water storage ponds located in the south-east corner of the site, the subject land is within the Farming Zone (FZ), the former area is within the Public Use Zone (PUZ1).

Given this growth corridor will need to be rezoned to enable future urban/residential development, the current zoning is not considered relevant to this assessment.

No overlays are currently applicable to the subject land.

3.1.5 ADOPTED STRATEGIES, PLANS AND STUDIES

The following documents reference the Study Area, with relevant themes identified:

- Warrnambool Council Plan 2013 to 2017
 - The Plan identifies a number of key priorities including climate change, protecting waterways and conserving and encouraging biodiversity.
- ▶ Health and Wellbeing Plan 2013 2017
 - References the provision of safe, inclusive, accessible and well used places and spaces which encourage physical activity being of critical importance to this growth corridor.
- Warrnambool Land Use Strategy 2004

Provided guidance on future land use and development needs; the document was superseded by the City–Wide Housing Strategy, the Warrnambool Industrial Land Use Review and the Warrnambool Retail Strategy.

City Wide Housing Strategy 2013

The Strategy identifies that:



- Structure planning of land east of Aberline Road is expected to be undertaken over a 1-4 year timeframe.
- The growth corridor is likely to contain a mixture of uses (residential and industrial).

It further identifies dwelling densities to be encouraged together with adequate levels of infrastructure.

Warrnambool Industrial Land Use Review, 2010

The document recommended the creation of the Horne Road Industrial Precinct (approximately 64ha) which was finalised through rezoning in 2012.

- The Horne Road Framework Plan incorporates the following objectives relevant to this growth corridor:
 - Provision of a linear open space network incorporating the Russell Creek and rail reserve that connects to the existing open space network and Deakin University to the south.
 - Utilise natural features and infrastructure such as Russell Creek, water storage ponds and ridgelines as a means for land use change and transition.
- Open Space Strategy, 2014
 - Identifies the need to provide a linear open space network incorporating the Russell Creek and rail reserve that connects to the existing open space network and Deakin University to the south.
 - The Strategy also recognises the importance of the Francis Tozer Reserve located on Wangoom Road as an important example of remnant native grassland that should be preserved as a community education resource.
- ► Environmental Sustainability Strategy 2008 2013

The strategy indicated that new growth areas should incorporate best practice sustainable practices into the built and natural environment.

3.1.6 ADDITIONAL LAND FEATURES

- An original sandstone dwelling located off Aberline Road warrants further investigation for potential heritage significance (Council aware).
- The Tozer Memorial reserve contains the most significant amount of native vegetation in the area, although remnant vegetation has been recorded elsewhere within the Study Areas and along roadsides to the north. The Tozer Memorial reserve also provides the key landscape feature of the site, particularly being elongated and following the slope.
- ► The Aboriginal Heritage Act 2006 provides for the protection of Aboriginal cultural heritage in Victoria. Regulation 23 that states "a waterway or land within 200m of a waterway is an area of cultural heritage sensitivity". 200m either side of Russell Creek therefore needs to be considered an area of cultural sensitivity.

3.1.7 IDENTIFICATION OF KEY LANDSCAPE PLANNING OBJECTIVES

Key planning issues facing the City of Warrnambool of particular relevance to this assessment include landscape character considerations and environmental values.



Landscape character is valued by the community and includes the ability to view the ocean, the Merri and Hopkins Rivers and surrounding rural areas. Respect for the sharing of views is an important issue to manage.

A review of State and Local Policy and literature related to the subject land (the North East Growth Area) suggests that key environmental features of the site include Russell Creek and the Francis Tozer Reserve. Protecting and enhancing these environmental assets is of importance, whilst ensuring that view sharing can be achieved from the land when considering its topography and surrounding natural features. A common theme of note identified throughout relevant Planning Policy and literature is the intent to incorporate Russell Creek into a future linear open space reserve, to connect with the existing surrounding open space network.

Overarching key themes identified within State Legislation and the Planning Policy Framework include ensuring future development respects and enhances ecological processes, provides for recreation through open space planning and maintains cultural and aesthetic values.



4. EXISTING CONDITIONS

4.1 THE STUDY AREA

The Study Area is located between Wangoom Road to the north, Dales Road to the south, Aberline Road to the west, and Horne Road to the east. The growth corridor covers approximately 360 hectares of land. The northern boundary of the growth corridor abuts the municipal boundary of Moyne Shire. The corridor is positioned centrally to other key development sites identified in the Warrnambool Planning Scheme, being the Eastern Activity Precinct and the Horne Road Industrial Precinct⁵. It is situated approximately 4km to the east of the main Warrnambool township and is bordered by residential, farm land and 'greenfield' industrial land. To the south of the site lie the Hopkins River and Warrnambool Bay, Southern Ocean.

4.2 OVERVIEW

The following section provides an overview of the existing conditions within the Study Area including: land use, landform, recreation facilities, cultural heritage, vegetation, geology, hydrology, slope, views and landscape character.

Site wide land use, topography and landscape features are largely similar and contribute directly to landscape character and visual amenity. Figure 1 provides an overview of the Study Area and Figure 4 indicates view point locations.

4.2.1 LAND USE

Figure 2 illustrates the predominant land uses within and immediately adjacent to the Study Area.

The Study Area reflects the rural nature of the Warrnambool region with predominantly farming and residential uses flanking the Study Area. The land to the north and east is largely farmland, land to the south and south-west has industrial use and the west is developed and/or developing residential.

Tozer Memorial Reserve is centrally located within the Study Area with access from Wangoom Road and is a local resource comprised of open grassland, areas of revegetation, depressions that inundate seasonally, access roads and recreational facilities.

4.2.2 LANDFORM

The landform of the Study Area is consistent with that of the Western Volcanic Plain and is flat to gently undulating⁶. Geological features in the region comprise of cones rising from the flat pastoral land and take on a variety of shapes, from low rounded rises to steep sloped hills. Undulating and gentle stony rises in the Study Area have originated from ancient lava flows⁷. Russell creek and a number of natural depressions occur across the site.

ABERLINE TO HORNE GROWTH CORRIDOR LANDSCAPE AND VIEWSHED ASSESSMENT

⁵ Warrnambool City Council (March 2016) Longterm Growth Area Background Report, file:///G:/30/304408/Landscape/Product/LMP%20Links/Reference%20reports/Draft%20Long %20Term%20Growth%20Area%20Background%20Report%202016%20(web).pdf accessed August 2017

⁶ https://www.planning.vic.gov.au/__data/assets/pdf_file/0019/6373/01-The-Western-Volcanic-Plains-Part-1.pdf, accessed August 2017

⁷ ibid



Generally, the Study Area landform slopes gently from north to south toward the Hopkins River and Warrnambool Bay and the Southern Ocean.

4.2.3 RECREATION FACILITIES

Figure 1 illustrates existing recreational facilities within and surrounding the Study Area.

Tozer Memorial Reserve is a recreational facility central to the site. It is a well-known local destination, used for walking, nature appreciation, bike riding and community education. It is approximately 20ha in size and offers a number of physical facilities including gravel access tracks, signage indicating educational and historical information, walking tracks and a shelter for community use including a self-composting toilet and water. Currently the reserve is an outdoor education facility where members of the public can learn about biodiversity conservation, cultural heritage and community involvement.

The reserve is currently managed jointly by the Tozer Reserve Committee of Management, Warrnambool Primary School and Warrnambool and Brauer colleges. Basalt to Bay Landcare Network has played a role in supporting on ground projects.

4.2.4 CULTURAL HERITAGE

Archaeological investigations by Ecology and Heritage Partners⁸ identified no sites of Aboriginal cultural heritage but one area of high archaeological likelihood, Russell Creek, and one area of moderate archaeological likelihood, crest landform to the north of Russell Creek, were identified.

The Victorian Heritage Inventory lists 174 Aberline Road and 78 Boiling Down Road as historical archaeological places under the Heritage Act 2017⁹. The historical buildings located on site are important as they contribute to the scientific and social history of the local Warrnambool community.

Tozer Memorial Reserve is a memorial reserve which was previously used as a pine plantation and grazing land. A donation from the estate of Mr Francis Tozer has enabled regeneration of native plant species since grazing was discontinued in 2004. Tozer Memorial Reserve now facilitates passive recreation, revegetation and education opportunities.

4.2.5 VEGETATION

Figure 1 maps the predominant existing vegetation found within the Study Area.

The preliminary Flora and Fauna Assessment report by Ecology and Heritage Partners¹⁰ identifies eight hectares of Plains Grassy Woodland all contained within Tozer Memorial Reserve. Full details of the vegetation and habitat conditions specific to this study can be found in Ecology and Heritage Partners report¹¹. However, a broad discussion of the native

⁸ Ecology and Heritage Partners Pty Ltd, 2017, *Aberline to Horne Growth Corridor, Warrnambool, Victoria: Aboriginal and Historical Heritage Assessment*, prepared for Warrnambool City Council

⁹ Ecology and Heritage Partners Pty Ltd, 2017, *Aberline to Horne Growth Corridor, Warrnambool, Victoria: Aboriginal and Historical Heritage Assessment*, prepared for Warrnambool City Council

¹⁰ Ecology and Heritage Partners Pty Ltd, 2017, Flora and Fauna Assessment: Aberline to Horne Growth Corrido, prepared for Warrnambool City Council

¹¹ Ecology and Heritage Partners Pty Ltd, 2017, Flora and Fauna Assessment: Aberline to Horne Growth Corrido, prepared for Warrnambool City Council



vegetation located within the Study Area is appropriate as it is a significant contributor to landscape character and visual amenity.

Within the Study Area the main native vegetation communities consist of Plains Grassy Woodland (EVC 55_63), Grassy Eucalypt Woodland and Victorian Plain ecological Community, all of which are found within Tozer Memorial Reserve. The remainder of the Study Area is made up of planted native and introduced vegetation.

Flora known to be present include Kangaroo Grass, Wallaby Grass, Sweet Bursaria, Cherry Ballart, Black Wattle, Manna Gum, Blackwood and Common Tussock Grass¹².

Threats to native flora include fire and invasive weeds currently present including Rye-grass, Blackberry, Phalaris, Cape Weed, Onion Grass, Hawthorn, African Box-thorn, Sweet Briar and pasture grasses.

4.2.6 SURFACE GEOLOGY

An understanding of the surface geology provides an appreciation of the processes which have created the landform of the Study Area and supports the landscape character description of this area as the Warrnambool Plains.

Volcanic activity has shaped much of south west Victoria's landscape which is formed by a flat to undulating basaltic plain scattered with volcanic features and rises including stony rises, old lava flows, numerous volcanic cones and old eruption points which together create a unique visual landscape.

The Warrnambool Plains were formed by older Newer Volcanic lavas and are dominated by Cainozoic volcanic deposits.¹³ The Volcanic plains consist of red friable earths and acidic texture soils which support the Plains Grassy Woodland and Plains Grassland found within the Study Area¹⁴.

4.2.7 WATER FORM

Figure 1 illustrates the extent of existing watercourses and water bodies within the Study Area.

The Study Area has one watercourse, Russell Creek, crossing in an east / west orientation, as well as two local water authority retarding basins to the south of the site. Localised depressions that inundate during rainfall events typical to the basalt plains are present. Farm dams are located within and adjacent to the Study Area. There are no existing flood overlays within the Study Area.

4.3 LANDSCAPE CHARACTER

Volcanic activity has shaped much of regional south west Victoria's landscape which is flat to gently undulating basaltic plain scattered with volcanic features and rises including stony rises, lava flows, volcanic cones and eruption points which together create a unique

https://natureshare.org.au/observations?collection_id=53b3981ae35eb12984000200, accessed August 2017.

¹³ Ecology and Heritage Partners Pty Ltd, 2017, *Aberline to Horne Growth Corridor, Warrnambool, Victoria: Aboriginal and Historical Heritage Assessment*, prepared for Warrnambool City Council

¹⁴ Ecology and Heritage Partners Pty Ltd, 2017, *Aberline to Horne Growth Corridor, Warrnambool, Victoria: Aboriginal and Historical Heritage Assessment*, prepared for Warrnambool City Council



landscape¹⁵. These elements are a defining characteristic of the regional landscape. The largely treeless plains are generally agricultural in use. The landscape is dissected by roads, fence line plantings of cypress and pine trees and fences themselves which vary from post and wire to traditional dry stone walls. Small rural settlements, buildings and outhouses are scattered throughout. Broad, shallow lakes, wetlands and depressions are common throughout.

The Study Area has been divided into four LCUs, described below and illustrated in Figure 3.

https://www.planning.vic.gov.au/__data/assets/pdf_file/0019/6373/01-The-Western-Volcanic-Plains-Part-1.pdf, accessed August 2017



4.3.1 LANDSCAPE CHARACTER UNIT 1 - RURAL

Character Unit 1 (Figure 3) is comprised of flat to gently undulating open paddocks and highly modified, cleared, agricultural grazing land with livestock. Landscape patterns are defined by windrow and shelter belt planting of native and exotic species along fence lines. The landscape is intersected by minor gravel access roads, main roads and fence lines. Occasional houses, sheds, outhouses and agricultural use buildings are scattered throughout.









Plate 1: Character Unit 1 Rural



4.3.2 LANDSCAPE CHARACTER UNIT 2 - RURAL LIVING

Character Unit 2 (Figure 3) is comprised of small lot grazing cleared agricultural land, residential houses and associated outhouses and shedding with planted gardens, wind rows and shelter belt planting of native and exotic tree species. This includes several rural residences to the south of Boiling Down Road. Residential development on smaller size land parcels exist to the west of the Study Area.









Plate 2: Character Unit 2 Rural Living



4.3.3 LANDSCAPE CHARACTER UNIT 3 - RECREATION

Within the Study Area, Tozer Memorial Reserve (Figure 3) is generally associated with significant, but highly modified planted bushland with a low understorey of scattered shrubs and grasses. Mature trees (10m+ in height) are present with regeneration occurring in some areas. Educational and directional signage, shelter and toilet facilities are located centrally within the reserve.









Plate 3: Character Unit 3 Recreation



4.3.4 LANDSCAPE CHARACTER UNIT 4 – INDUSTRIAL

Character Unit 4 (Figure 3) is comprised of water storage retarding basins surrounded by raised, grassed earth bunds, informal native tree plantings and wire fencing.



Plate 4: Character Unit 4 Industrial



4.4 VIEWSHED ANALYSIS

The viewshed analysis (Figure 5) identifies the visual catchment, or the area within which the site may be seen, and has provided the basis for which representative, publically accessible viewpoints and receptors were identified. The viewing locations, identified in Figure 4 and described in Section 4.5 below are where views of the site are possible and where there is human activity.



4.5 REPRESENTATIVE VIEWPOINTS & EXISTING LANDSCALE AND VISUAL CONTEXT

Viewpoint 1 - Corner of Aberline Road and Boiling Down Road



Plate 5

Location	Photo direction north east from the corner of Aberline Road and Boiling Down Road.	
Landform	Topography is flat to gently undulating.	
Land Use	Primarily agricultural grazing paddocks for sheep.	
Vegetation	Individual road side trees. Pasture.	
Water	Low lying volcanic plains.	
Visual Context	Views are typical of the western volcanic plains bioregion, and are characterised by:	
	Expansive open views across a cleared agricultural landscape.	
	Views are experienced by:	
	residents in the adjacent subdivision to the west (Russell Creek estate) and south;	
	road users on Aberline Road and Boiling Down Road, and;	
	► farm workers.	



Viewpoint 2 - Russell Creek, Aberline Road



Plate 6

Location	Photo location viewing east from Aberline Road along Russell Creek.	
Landform	Shallow depression along creek line with areas of soil erosion within a generally flat landscape.	
Land Use	Low lying plains dissected by shallow gully line. Primarily agricultural grazing paddocks.	
Vegetation	Occasional trees to creek edge, introduced pasture species and wetland species within ephemeral zone.	
Water	Seasonal creek, may flood during high rainfall events.	
Visual	Views from this viewpoint are characterised by:	
Context	 A degraded creek line depression with sparse vegetation and grass allows open, long views over broad pastures in the distance; 	
	short, intermediate vistas to the creek.	
	Views are experienced by:	
	residents in the adjacent subdivision to the west (Russell Creek Estate);	
	road users on Aberline Road, and;	
	▶ farm workers.	



Viewpoint 3 - Wangoom Road



Location	Photo location viewing south from Wangoom Road.	
Landform	Flat	
Land Use	Agricultural land uses	
Vegetation	Shelter belt planting of mature Cypress trees along fence line. Open pasture.	
Water	Erosion may occur in high rainfall events	
Visual Context	Views from this viewpoint are characterised by: open views across a modified agricultural landscape; shelter belt plantings along fence lines, and; long view south to the Hopkins River ridge line. Views are experienced by: rural property residents to the north of Wangoom Road; road users on Wangoom Road, and; farm workers.	



Viewpoint 4 - Wangoom Road to Tozer Memorial Reserve



Location	Photo location viewing south from Wangoom Road to Tozer Memorial Reserve.	
Landform	Flat	
Land Use	Local recreation reserve and farm with access track, fencing, farmhouse, shed and pasture.	
Vegetation	Mixed woodland, shrubby woodland and grassland adjacent to agricultural grazing pastures.	
Water	Erosion may occur in high rainfall events.	
Visual	Views from this viewpoint are characterised by:	
Context	 open views across a modified agricultural landscape, and; 	
	short views to Tozer Memorial Reserve revegetation bushland and grassland.	
	Views are experienced by:	
	rural property residents to the north of Wangoom Road;	
	road users on Wangoom Road;	
	► farm workers, and;	
	Tozer Memorial Reserve recreation users.	



Viewpoint 5 – Tozer Memorial Reserve





Location	Photo location view east from Tozer Memorial Reserve and west into Tozer Memorial Reserve.	
Land form	Flat	
Land use	Recreation pursuits including walking, nature appreciation, education about native flora and fauna, bike riding, community gatherings.	
Vegetation	Mixed woodland, shrubby woodland and grassland adjacent to agricultural grazing pastures.	
Water	Occasional natural depressions seasonally inundate.	
Visual	Views from this viewpoint are characterised by:	
Context	 open views across a modified agricultural landscape from within Tozer Memorial Reserve, and; 	
	short and filtered views within Tozer Memorial Reserve to revegetation/ bushland areas and grassland.	
	Views are experienced by:	
	rural property residents to the north of Wangoom Road;	
	▶ road users on Wangoom Road;	
	▶ farm workers, and;	
	Tozer Memorial Reserve users and visitors.	



Viewpoint 6 - Russell Creek, Horne Road



Plate 10

Location	Photo location viewing west from Horne Road along Russell Creek.	
Landform	Shallow depression along creek line with areas of soil erosion within a generally flat landscape.	
Land Use	Low lying plains dissected by shallow gully line. Primarily agricultural grazing paddocks.	
Vegetation	Occasional trees to creek edge, introduced pasture species and wetland species within ephemeral zone.	
Water	Seasonal creek, may flood during high rainfall events.	
Visual	Views from this viewpoint are characterised by:	
Context	 A degraded creek line depression with sparse vegetation and grass allows open, long views over broad pastures in the distance; 	
	short, intermediate vistas to the creek.	
	Views are experienced by:	
	Rural properties to the east of Horne Road;	
	road users on Horne Road, and;	
	► farm workers.	



Viewpoint 7 - Horne Road (south)



Location	Photo direction west from Horne Road.	
Landform	Topography is flat.	
Land use	Agricultural grazing land.	
Vegetation	Individual road side trees. Pasture.	
Water	Low lying volcanic plain.	
Visual Context	Views from this viewpoint are typical of the western volcanic plains bioregion, and are characterised by expansive, open views across a cleared agricultural landscape. This view is experienced by:	
	rural properties to the east of Horne Road;	
	road users on Horne Road and Rodgers Road, and;	
	► farm workers.	



Viewpoint 8 - Corner of Horne Road and Mason Street



Location	Photo direction west from Horne Road.	
Landform	Earth bunds to retarding basin.	
Land use	Water storage facility.	
Vegetation	Grass and native trees	
Water	Local water authority detention basin.	
Visual Context	Views from this viewpoint are characterised by:	
	views are screened by raised, grassed earth embankments.	
	Views are experienced by:	
	Road users on Horne Road and Dales Road;	
	farm and water authority workers, and;	



RECOMMENDATIONS

Further analysis into protection and enhancement of views and landscape character is recommended to be undertaken. This will identify areas of high scenic amenity, and landscape character areas of significance, to ensure the long-term retention of the landscape and scenic values of this area. Analysis would identify key assets, constraints, conflicts, policy and opportunities using a process informed by WCC, and a qualitative methodology for assessment of views and character.

Other recommendations include:

- Consideration for areas of environmental and landscape significance.
- Consideration for interface between proposal/s fronting onto Tozer Memorial Reserve and Russell Creek.
- Protection of key views and vistas, both to/from the Study Area and to/from the broader landscape.
- Provision of access (physical and visual) and linkages throughout the Study Area.
- Guidance for appropriate development and management that protects and reinforces the natural, rural and scenic amenity and landscape character values of the Study Area and environs.
- Regard to the role of vegetation in the landscape value and visual amenity of the Study Area
- ▶ Interpretation of the landscape and visual context to assist in public education, such as is demonstrated in Tozer Memorial Reserve.
- Connection to community.
- Minimisation of vegetation removal.
- Minimise landscape and visual impacts to land subject to planning policy, inclusive of Tozer Memorial Reserve, Russell Creek and views south to the Hopkins River ridgeline.
- Retain and protect the scenic landscapes, rural character, landscape character and special environmental features of the Study Area and environs.
- Conserve and enhance the cultural significance and character of open rural and scenic non-urban landscapes.
- Provision of guidance for appropriately located building envelopes and typology (siting, design, height, bulk, colours and materials to be used) and access points (pedestrian and vehicular) to consider landscape and visual values and to minimise impacts upon the landscape values and available vistas.
- ► Consider conservation and integration of special features and/or landscape setting to the cultural significance elements of the precinct.
- Development of landscape and visual guidelines for appropriate development.

Analysis should be carried out as the next phase of work by Registered Landscape Architects with experience in landscape character and visual amenity assessment.

SUMMARY

Through careful planning and consideration for the existing landscape and visual attributes, both on site and surrounding the site for any future development will ensure that the Study Area to continues to contribute to the uniqueness of the Warrnambool Plains, its environs and community.



7. REFERENCES

Ecology and Heritage Partners, Aberline to Horne Growth Corridor, Warrnambool, Victoia: Aboriginal and Historical Heritage Assessment

Ecology and Heritage Partners, Flora and Fauna Assessment: Aberline to Horne Growth Corridor

Leonard, M & Hammond, R 1984, Landscape Character Types of Victoria, Forests Commission, Victoria

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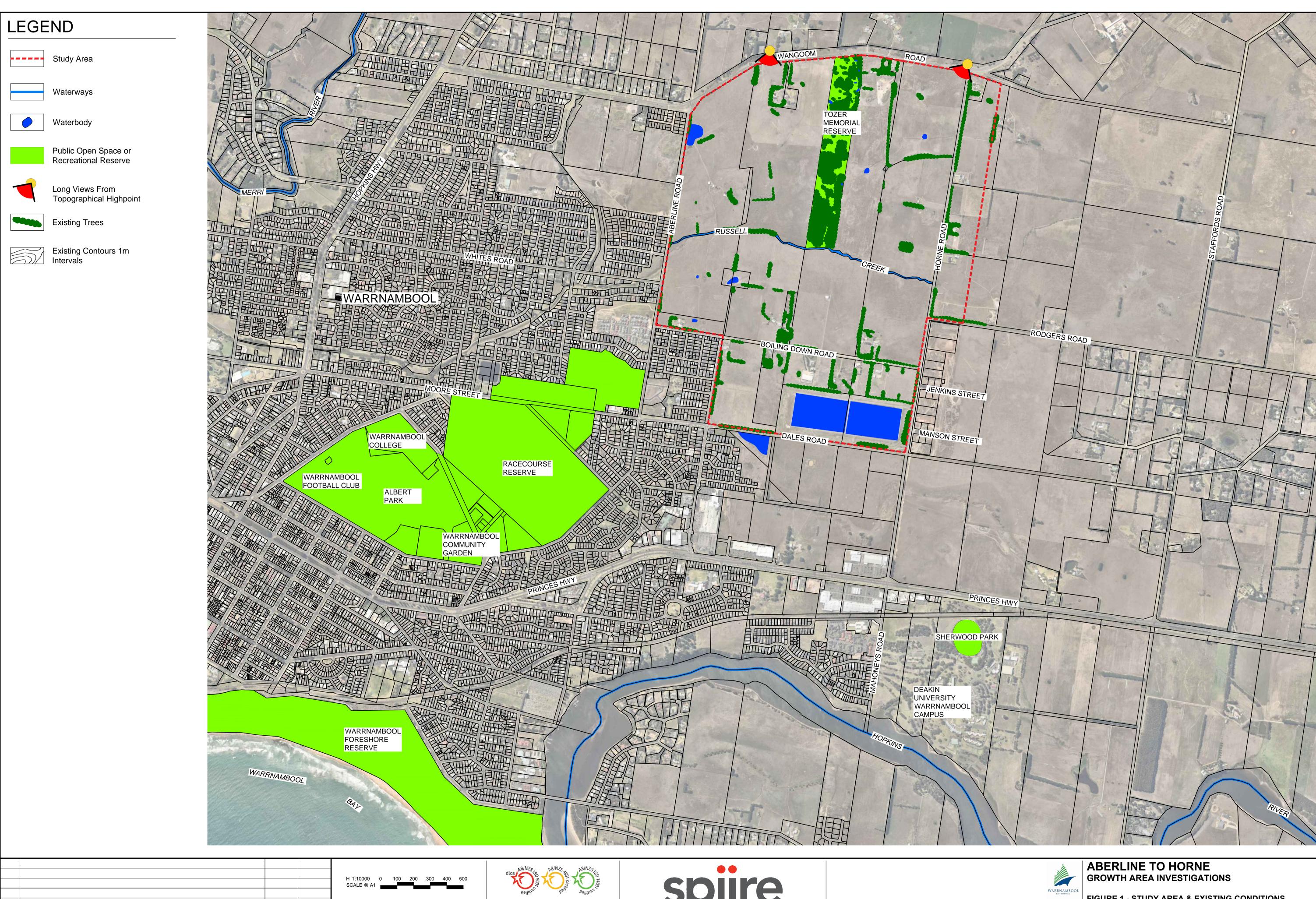
The Landscape Institute 2002, *Guidelines for Landscape and Visual Impact Assessment – 2nd Edition*, Spon Press, London

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8. APPENDIX A - FIGURES



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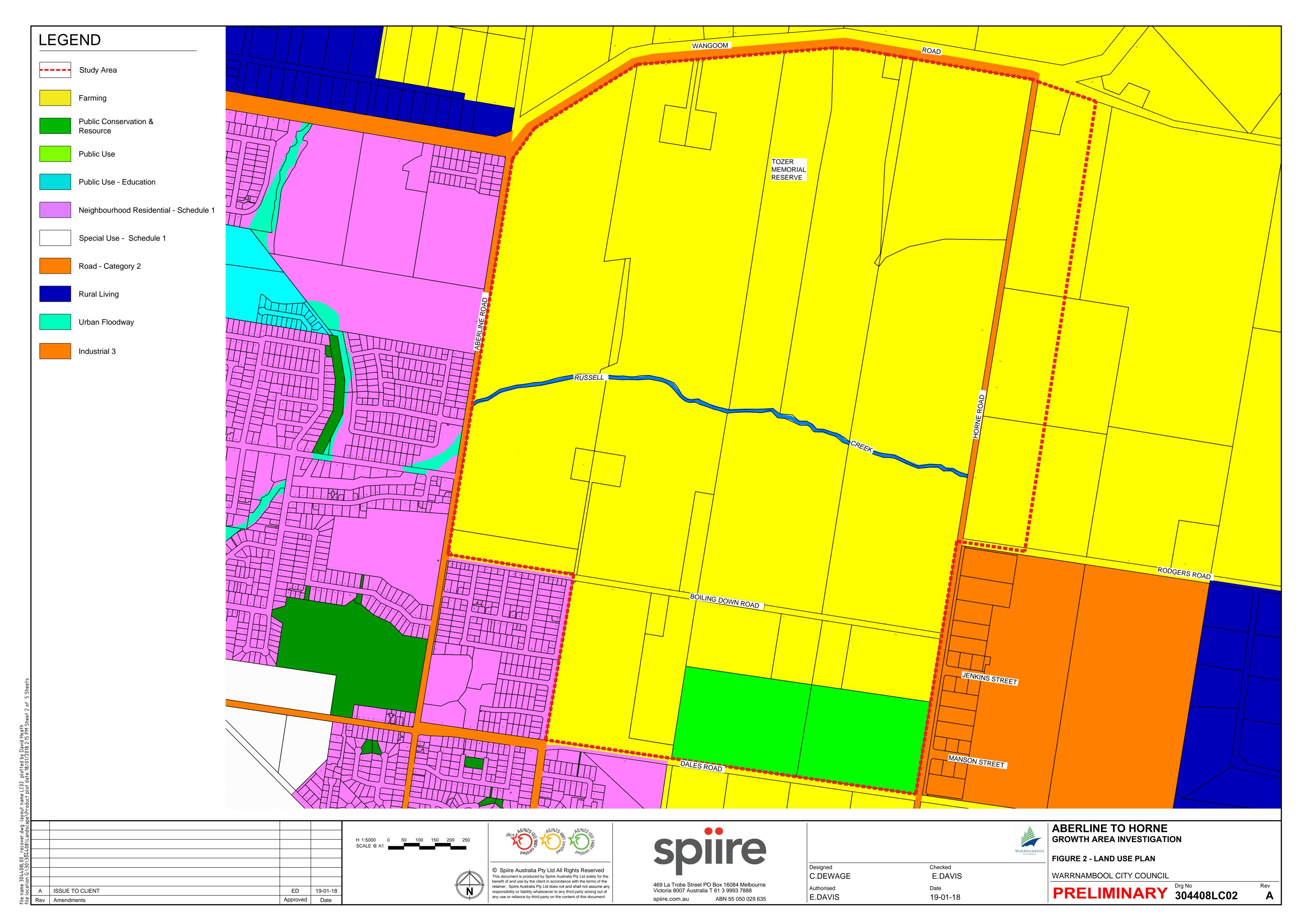
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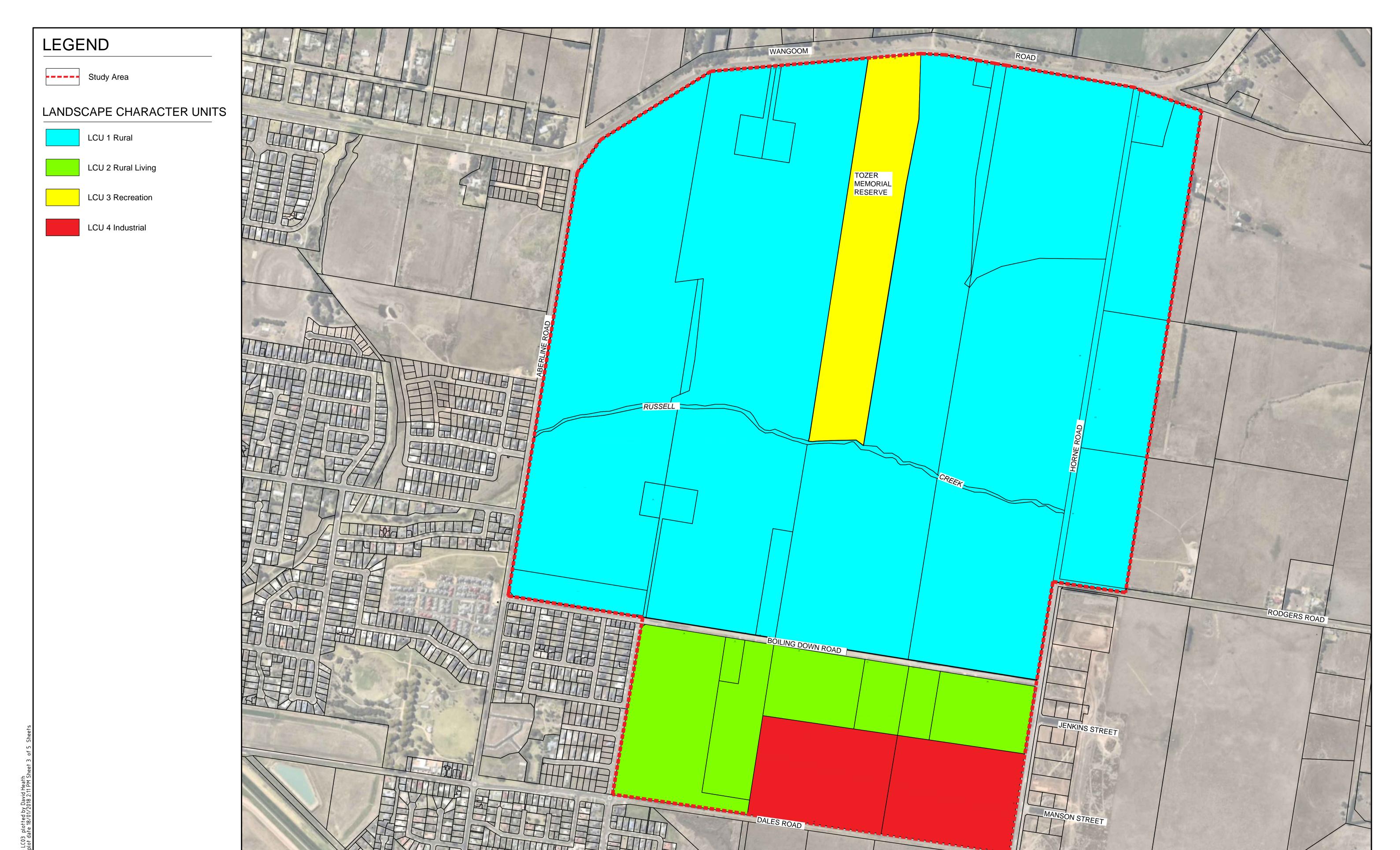


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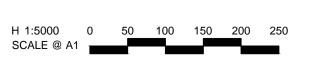
FIGURE 1 - STUDY AREA & EXISTING CONDITIONS

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ABERLINE TO HORNE GROWTH AREA INVESTIGATIONS

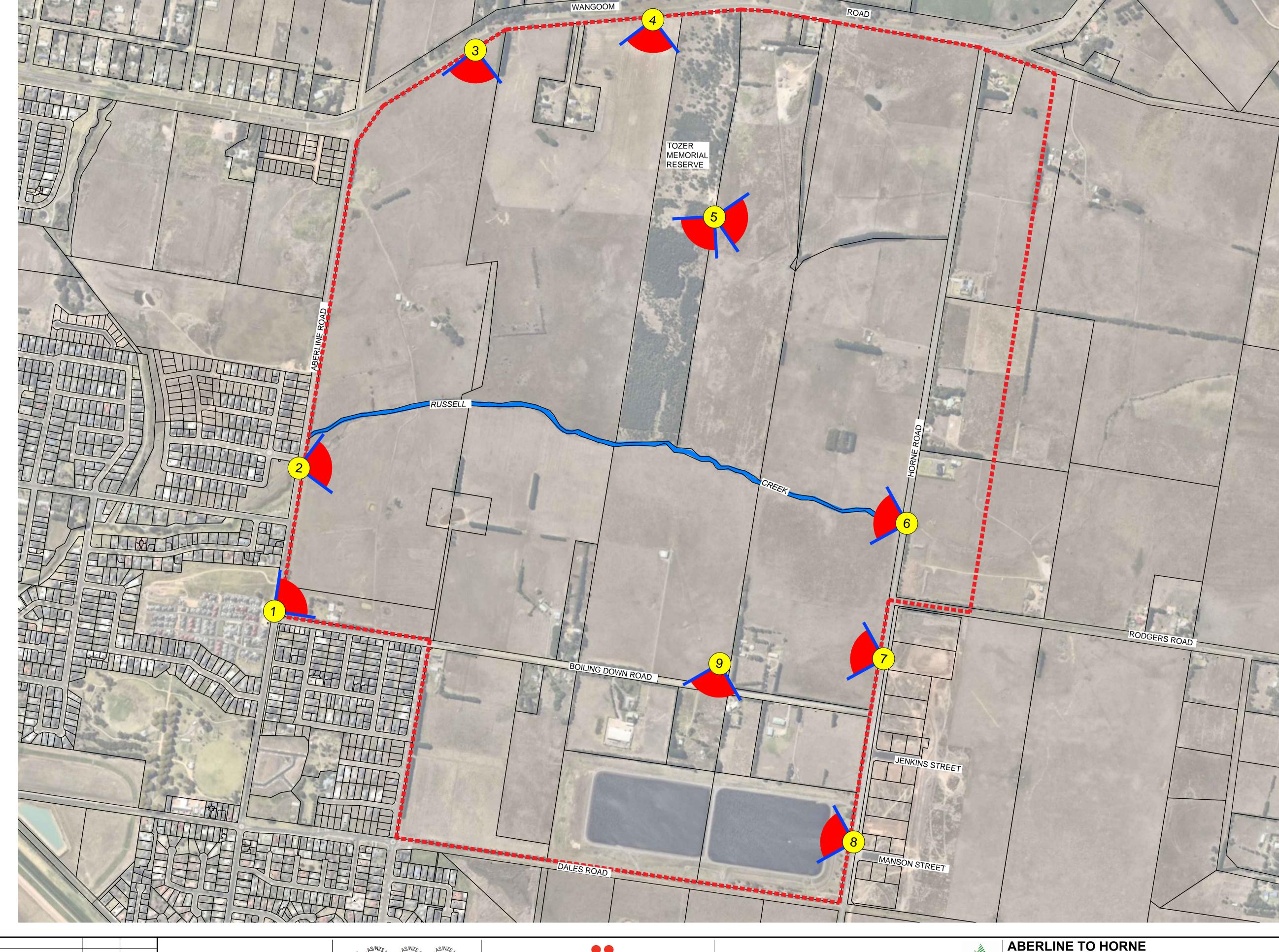
FIGURE 3 - LANDSCAPE CHARACTER UNITS

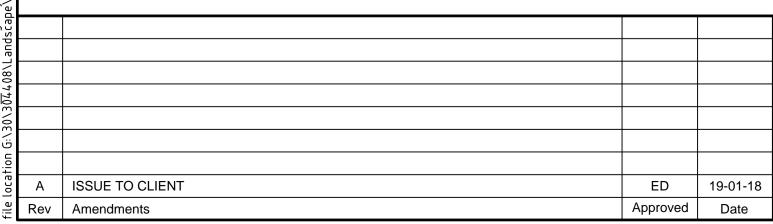
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View Point Location and Direction











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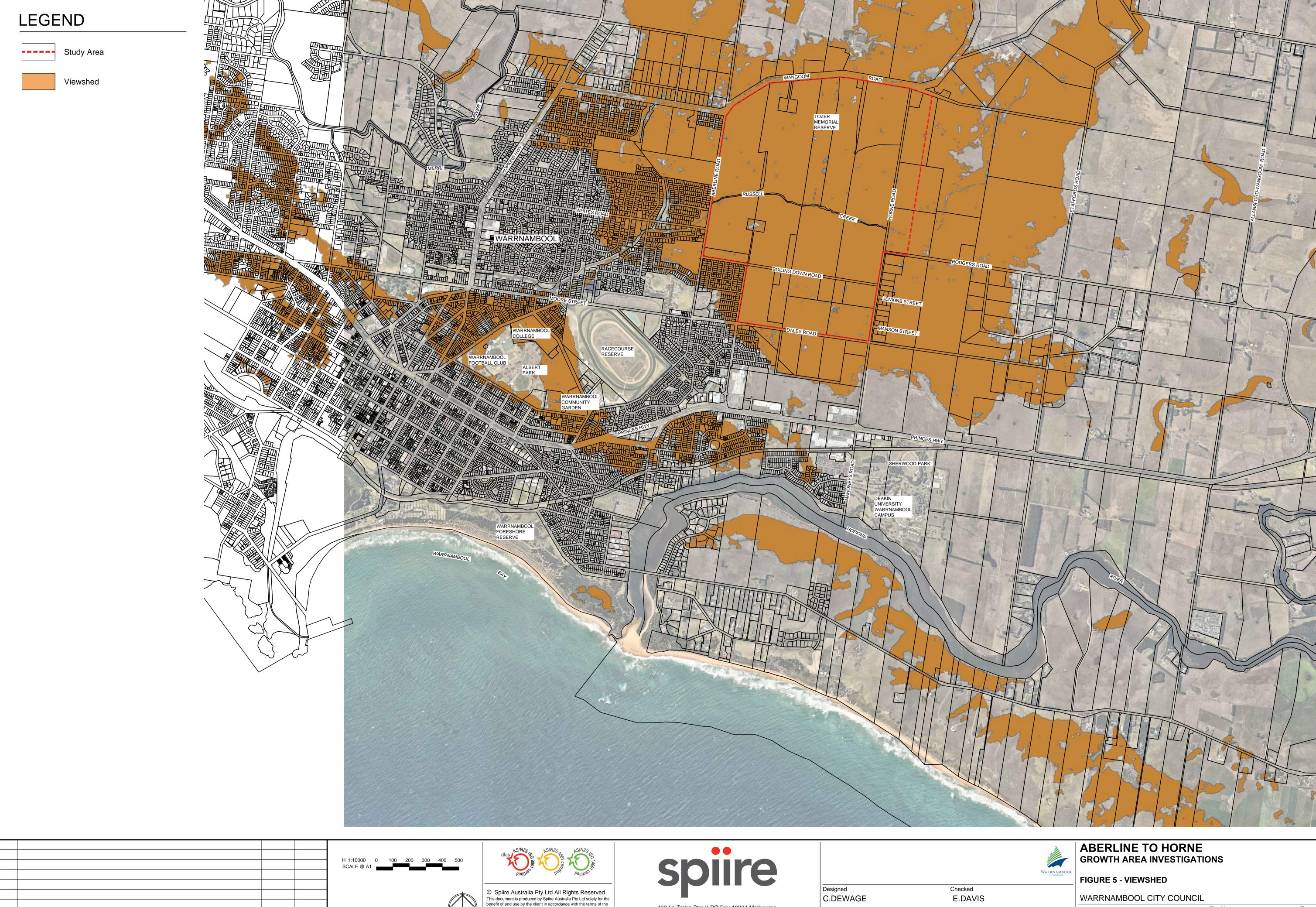
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ABERLINE TO HORNE GROWTH AREA INVESTIGATION

FIGURE 4 - VIEW POINT LOCATIONS

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