Development Feasibility Study Package

Investigation Area In The Township Of Inverleigh

October 2017

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GOLDEN PLAINS SHIRE

mesh
URBAN PLANNING & DESIGN

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mesh
URBAN PLANNING & DESIGN

1. INTRODUCTION

1.1. Overview

Mesh has been engaged by Golden Plains Shire to undertake a Development Feasibility Study for an investigation area of land in the township of Inverleigh. Golden Plains Shire Council is preparing a new Inverleigh Structure Plan. As part of preparing the Structure Plan, Council requires an analysis of the development constraints of an identified investigations area west of the Inverleigh Township which would form the preparation of a Development Feasibility study. The study is required to assist in the orderly development of the area and provide clarity for decision makers when considering future rezoning and subsequent subdivision development proposals in this area.

1.2. Methodology

Mesh worked collaboratively with Council officers throughout this project. The project brief evolved and the outputs altered accordingly. Ultimately the project became about understanding the sites constraints and opportunities and considering the best planning process to capitalise on the opportunities and protect the integrity of the town.

The ultimate methodology is separated into 4 phases:

Phase 1 - Inception meeting

> The purpose of this phase was to ensure that the Council's objectives and internal processes were properly understood and to enable Mesh to be briefed on any background information and current issues.

> At the inception meeting Mesh and Council agreed on the project scope, objectives, methodology and time frames.

> A thorough site visit was also undertaken as part of this phase.

Phase 2 – Preparation of a Site Analysis Plan

> This Phase included undertaking a desktop assessment to prepare existing condition plans based on all available information. This required Council to provide Mesh with relevant plan layers and background information to inform the preparation of the site analysis.

> Preparation of a hand-drawn set of investigative site analysis layers ultimately illustrating a series of potential development outcomes for fragmented land titles. These layers include:

- Township Context
- Movement Network
- Open Space + Drainage
- Urban Pattern
- Subdivision Typologies
- 1ha Case Study
- 4000m2 Case Study

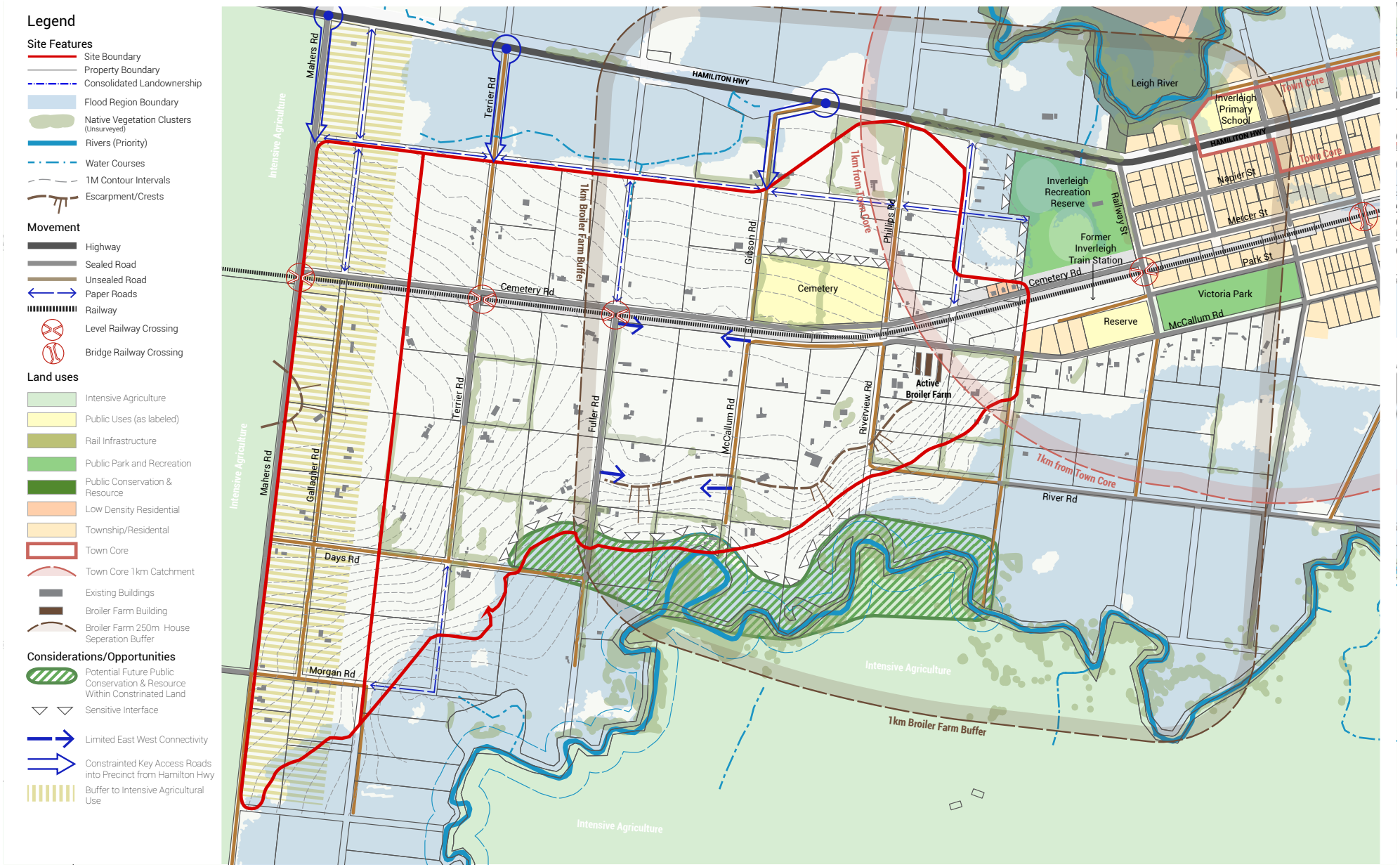
Phase 3 - Preparation of a Opportunities and Constraints Plan (Figure 01)

> This phase involved the preparation of a digital plan that summarises the key opportunities and constraints within the site. The plan is intended for use in the Inverleigh Structure Plan and illustrates the current limitations and deliberately excludes any detailed design response layers.

Phase 4 – Preparation of Principles/Aspirations

> Preparation of a set of principles/aspirations intended to be used in the Inverleigh Structure Plan to clarify Councils intentions and expectations for the site.

FIGURE 01 Opportunities and Constraints Plan



2. DRAFT PRINCIPLES/ ASPIRATIONS

2.1. Overview

The draft principles/aspirations have been prepared to begin providing the framework and standard for any future development of the site. They are submitted to council in draft form with the intention of stimulating discussion regarding council and the communities intention for this site.

A set of conditions are embedded into the principles/ aspirations which will assist in communicating council's expectation for timing and standards of future development.

2.2. Draft Principles/Aspirations

Urban Form

1. Protect existing agricultural uses into the future by identifying appropriate buffers to residential development and other sensitive uses.
2. Identify natural features (such as the Barwon River, floodways, ridgelines and significant vegetation) and physical features (such as roads) that can form enduring boundaries to development and contain Inverleigh to an identifiable area;
3. Ensure new development or areas that are identified as being suitable to accommodate intensification should be designed to incorporate and protect important natural features such as topography, viewlines, remnant vegetation, roadside vegetation and watercourses.
4. Encourage a planned approach towards development to avoid potential ad-hoc development due to significant landownership fragmentation.

Residential Development

1. Maintain the existing low-density character of Inverleigh within future neighbourhoods.
2. Encourage residential development in areas close to the town core and with existing infrastructure and amenity.
3. Ensure new residential development can fund and/or deliver additional necessary infrastructure (including road/intersection upgrades, drainage and services)
4. Protect and retain existing positive residential character elements and make provision for delivery of new character elements including larger lot sizes, widened road reserves and provision for enhanced street tree planting.
5. Support residential development that provides infrastructure or amenity benefits for the whole of Inverleigh.
6. Identify and actively consult with key landholdings that may assist in defining the ultimate residential extent of Inverleigh.

Heritage, Landscape & Open Space

1. Protect existing sensitive uses (such as the Inverleigh cemetery) from adverse development and maintain positive interfaces along their boundaries.
2. Protect and enhance vegetation within future streetscapes, upgrades and subdivisions.
3. Seek to release significant landscapes (such as the Barwon River) into public conservation through planned development.
4. Avoid development of lots encumbered by land subject to inundation except where necessary to deliver key infrastructure or amenity.
5. Ensure that significant escarpments and other landforms are protected in the landscape by consideration of building location and road alignments.

Movement + Access

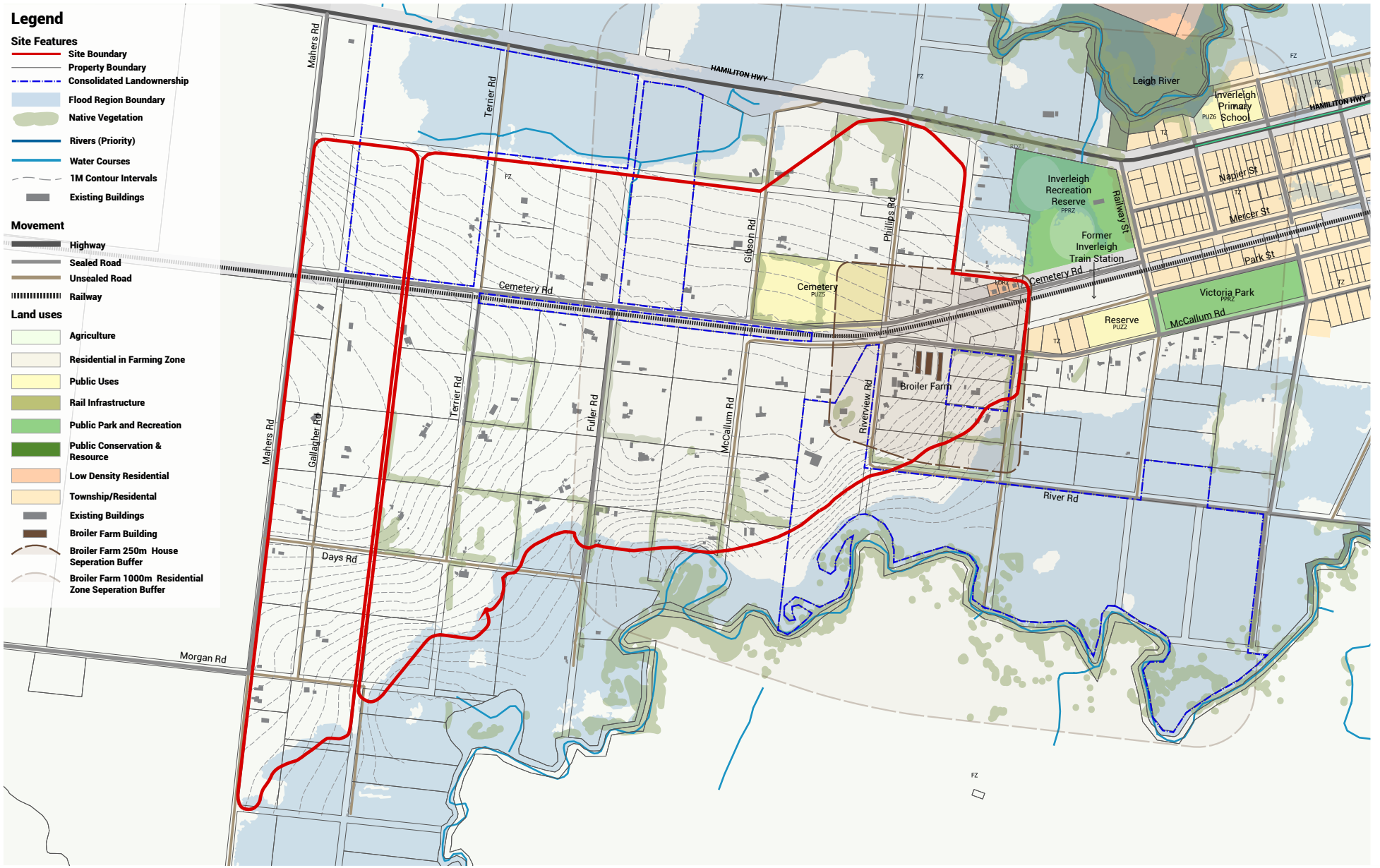
1. Ensure residential neighbourhoods can respond to the risks associated with bushfire including provision for alternative points of access (more than one access and egress).
2. Provide for improved linkages between residential areas and the town core, particularly in areas south of the railway.
3. Ensure the existing road network and paper roads are utilised and upgraded through new development.
4. Manage the timing and delivery of constrained key access roads from the Hamilton Hwy and ensure they are upgraded to service new development.
5. Identify key railway crossing locations for Inverleigh as a township and consult with VicTrack in regard to the future upgrades of the level crossings.

3. SITE ANALYSIS

3.1. Overview

The purpose of the site analysis phase is to identify key issues, opportunities, considerations and questions within the study area in relation to residential growth. They are intended to encourage discussion and assist with the preparation of the subdivision typologies, the ultimate constraints and opportunities plan and decision making. Please note that all plans are in draft form and have been used as a means to further analyse the site in relation to subdivision.

FIGURE 02 Base Plan



3.2. Township Context

Issues

> Under the Victorian Code for Broiler Farms a minimum 1000m separation distance is expected between a broiler farm and a Residential Zone. The existing broiler farm, located in the east of the study area, historically contradicts this code. A 1000m separation distance from the broiler farm covers most of the study area, with only the far west area not impacted. A significant separation between the town core and proposed LDRZ is not considered appropriate. Therefore, it is recommended that any residential rezoning is not considered until the existing broiler farm ceases operation.

> The northern and southern boundaries of the study area defined by the floodway extent. It is understood that council is currently preparing a revised flood study that will further inform the extent and type of development along these boundaries.

Opportunities

> To prioritise population growth towards the town core.

> Protect agricultural uses through the use of land use buffers to sensitive uses.

Considerations

> The majority of the site is located outside the 1 kilometre catchment to the Inverleigh town core.

> Broad acre agricultural land borders the study area immediately to the west and opposite the Barwon River. Any development along the western boundary should consider the interface to agricultural land and ensure that the operation of agricultural land is not impacted upon.

> Any new development adjacent to the cemetery must provide an appropriate interface.

> A noticeable escarpment running east-west is located in the southern half of the study area

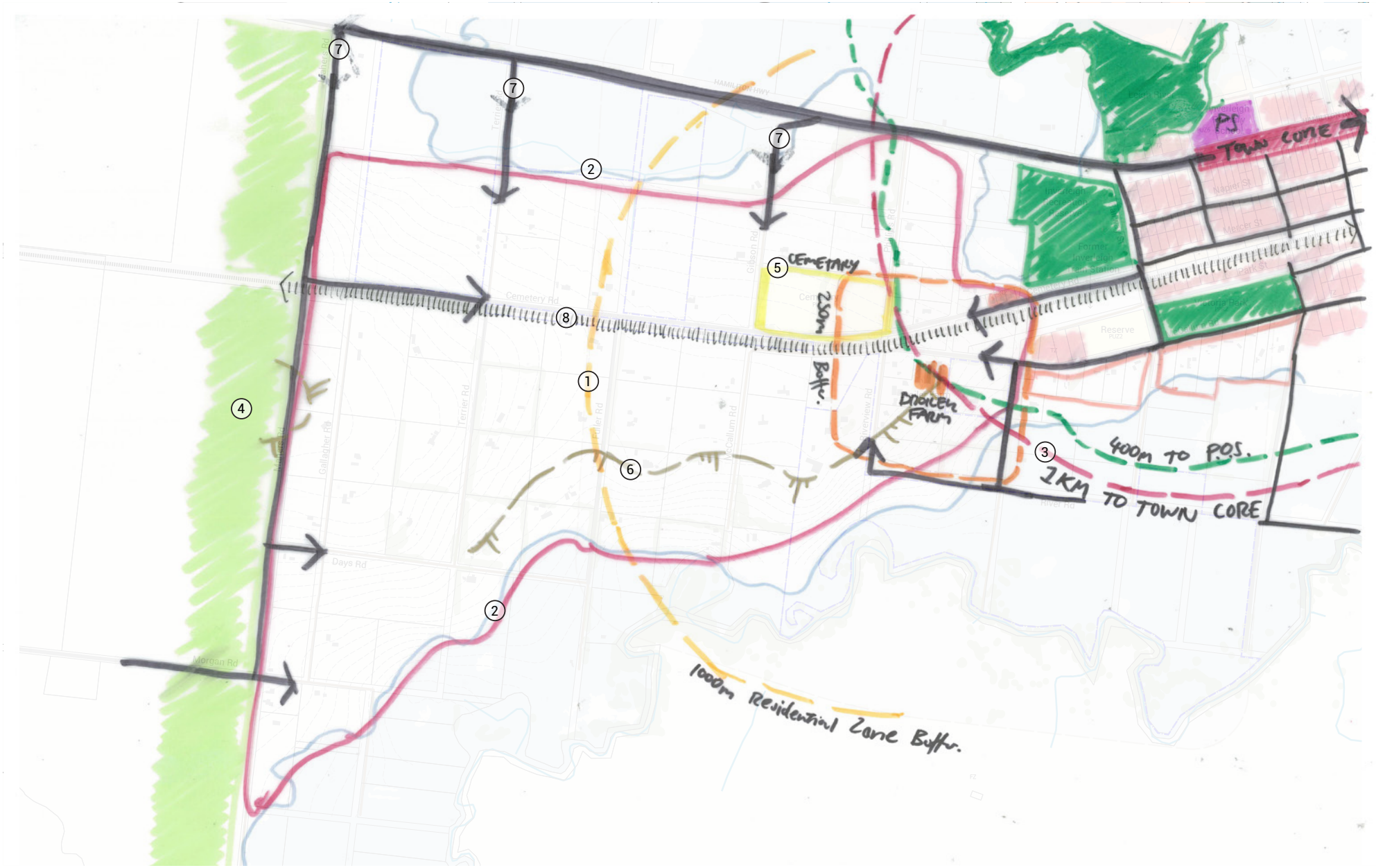
> The study area is primarily accessed from the Hamilton Hwy via Mahers Road, Terrier Road and Gibson Road. These roads must first pass through low lying areas before reaching the study area.

> The study area is split by the railway line into a north and south precinct.

Plan Notes

1. Under the Victorian Code for Broiler Farms a minimum 1000m separation distance is expected between a broiler farm and a Residential Zone.
2. The northern and southern boundaries of the study area defined by the floodway extent.
3. 1 kilometre catchment to the Inverleigh town core.
4. Intensive agricultural land borders the study area immediately to the west.
5. Any new development adjacent to the cemetery must provide an appropriate interface.
6. A noticeable escarpment running east-west.
7. The study area is primarily accessed from the Hamilton Hwy via Mahers Road, Terrier Road and Gibson Road. These roads must first pass through low lying areas before reaching the study area.
8. The study area is split by the railway line into a north and south precinct.

FIGURE 03 Township Context Plan



3.3. Movement Network

Issues

- North-south movement is limited by three existing railway level crossing points within the study area. PTV current standards for road and rail crossings do not encourage level crossings and the ability to retain level crossings amongst residential growth is uncertain. PTV will need to be actively consulted to understand what would be required if the area was to be developed.
- Considering the increased population, it is expected that key intersections to Hamilton Hwy will require upgrading.
- Key access roads that extend from Hamilton Hwy into the study area will need upgrading fall outside of the investigation area and have no development opportunity to fund them.
- Majority of the roads within the study area are below current rural residential standards and will require upgrade to service new development.

Opportunities

- Opportunity to increase connectivity between the study area and the town core.
- Opportunity to provide a southern road interface to the railway corridor through subdivision.
- River Road connects directly to Inverleigh-Winchelsea Road and could potentially provide the study area with a strong regional connection south.
- Opportunity to improve east-west permeability within the study areas through subdivision.
- Opportunity to close some existing north-south roads as east-west roads are provided.
- Opportunity to utilise existing road reserves to unlock development.

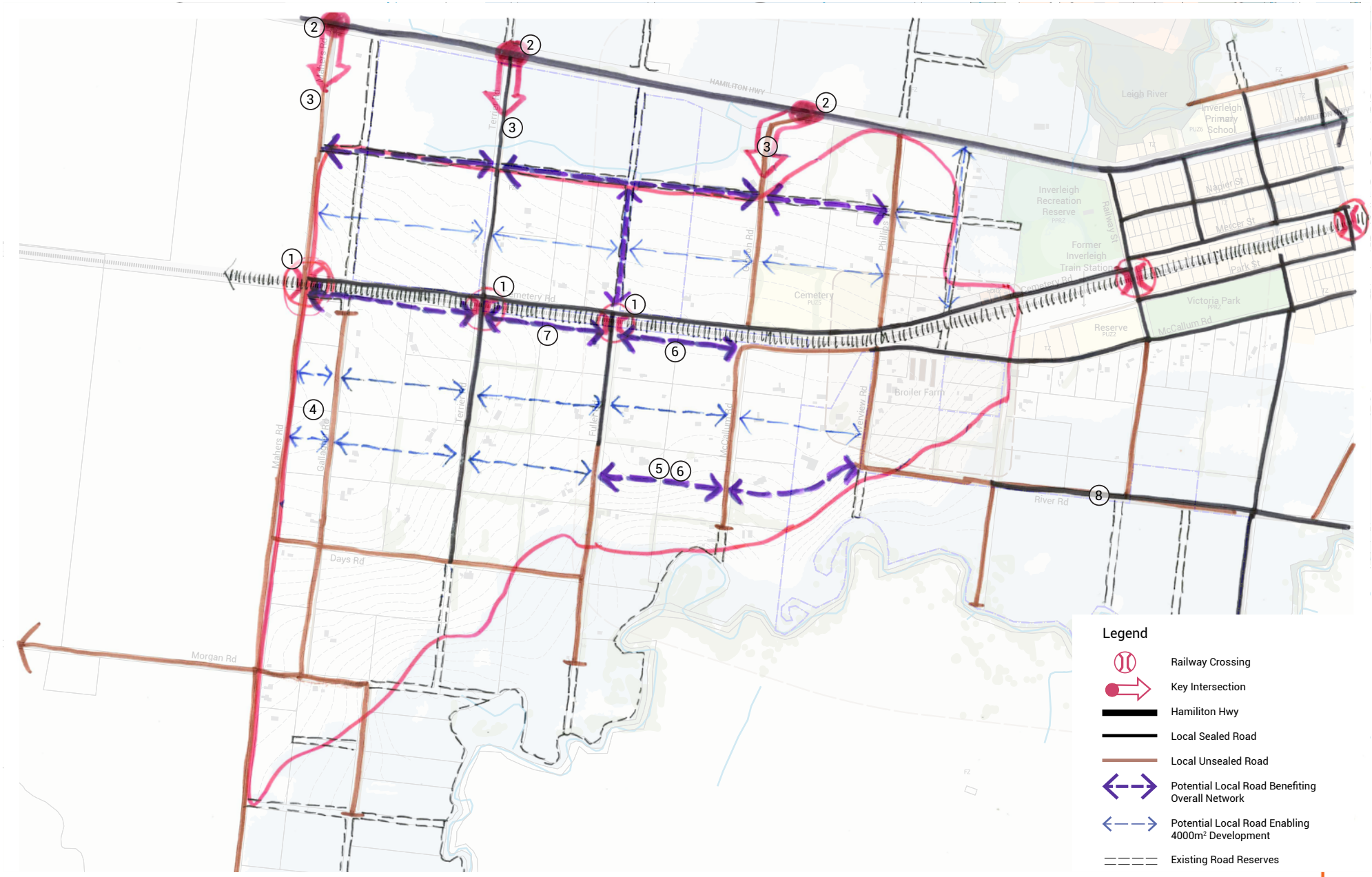
Considerations

- The existing Mahers Road and Gallagher Road run parallel to each other and are separated by only 100m, providing current lots with double road frontage. The future need for Gallagher Road should be considered as the area is developed.
- There is currently no connection between Fuller Road and McCallum Rd south of the railway. Currently residents located in the south west of the study area must cross the railway before connecting east along Cemetery Road into the Inverleigh township.

Plan Notes

1. North-south movement is limited by three existing railway level crossing points within the study area.
2. Considering the increased population, it is expected that key intersections to Hamilton Hwy will require upgrading.
3. Key access roads that extend from Hamilton Hwy into the study area will need upgrading.
4. The existing Mahers Road and Gallagher Road run parallel to each other and are separated by only 100m.
5. There is currently no connection between Fuller Road and McCallum Rd south of the railway.
6. Opportunity to increase connectivity between the study area and the town core.
7. Opportunity to provide a southern road interface to the railway corridor through subdivision.
8. River Road connects directly to Inverleigh-Winchelsea Road and could potentially provide the study area with a strong regional connection south.

FIGURE 04 Movement Network Plan



3.4. Open Space + Drainage

Issues

> Lots along the northern and southern boundaries of the study area are significantly encumbered by flooding limiting the ability to develop the site. If developed the flood encumbered land will need to remain within the back of residential lots unless it area is contained within a public reserve. Further, enough unencumbered land within new lots must be retained for on site sewer treatment.

> There are currently no formal storm water drainage treatments in the study area. It is assumed that future drainage of low density land will be treated within road reserves. This may require widening of existing road reserves from 20m wide to Councils current standard 25m road reserve affecting.

Opportunities

> Opportunity to release floodway encumbered open space adjacent to Barwon River through subdivision.

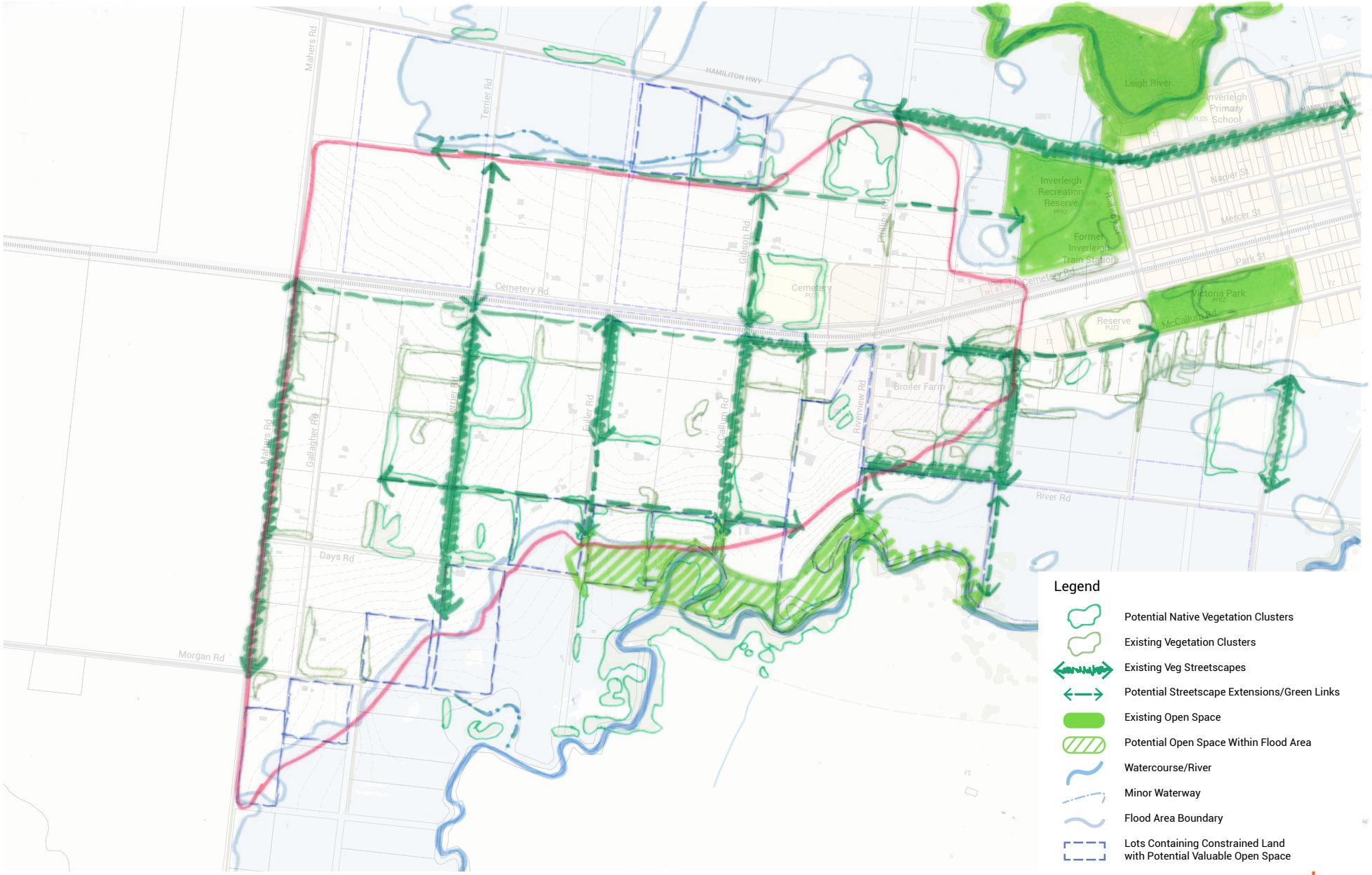
> Opportunity to use future redundant roads, or road reserves as green links.

> Opportunity to establish a streetscape network which connects the study area to the Barwon River, Victoria Park and Inverleigh Recreation Reserve.

Considerations

> Limited sections of vegetated road reserves exist throughout the site, mainly south of the railway, with some trees covered under the Native Vegetation Information Management (NVIM) mapping. The quality and significance of this road side vegetation should be taken into consideration as part of any road upgrades.

FIGURE 05 Open Space and Drainage



3.5. Urban Pattern

Issues

> The study area is highly fragmented making it difficult to coordinate development in an orderly manner. Appropriate development planning controls need to be considered.

> Development of the area to 4,000m^2 will require new roads which cross through multiple land holdings for subdivisions to be orderly and efficient.

Opportunities

> Large clusters of regular square 200m x 200m sites are considered large enough to develop efficiently for 4000m^2 size lots.

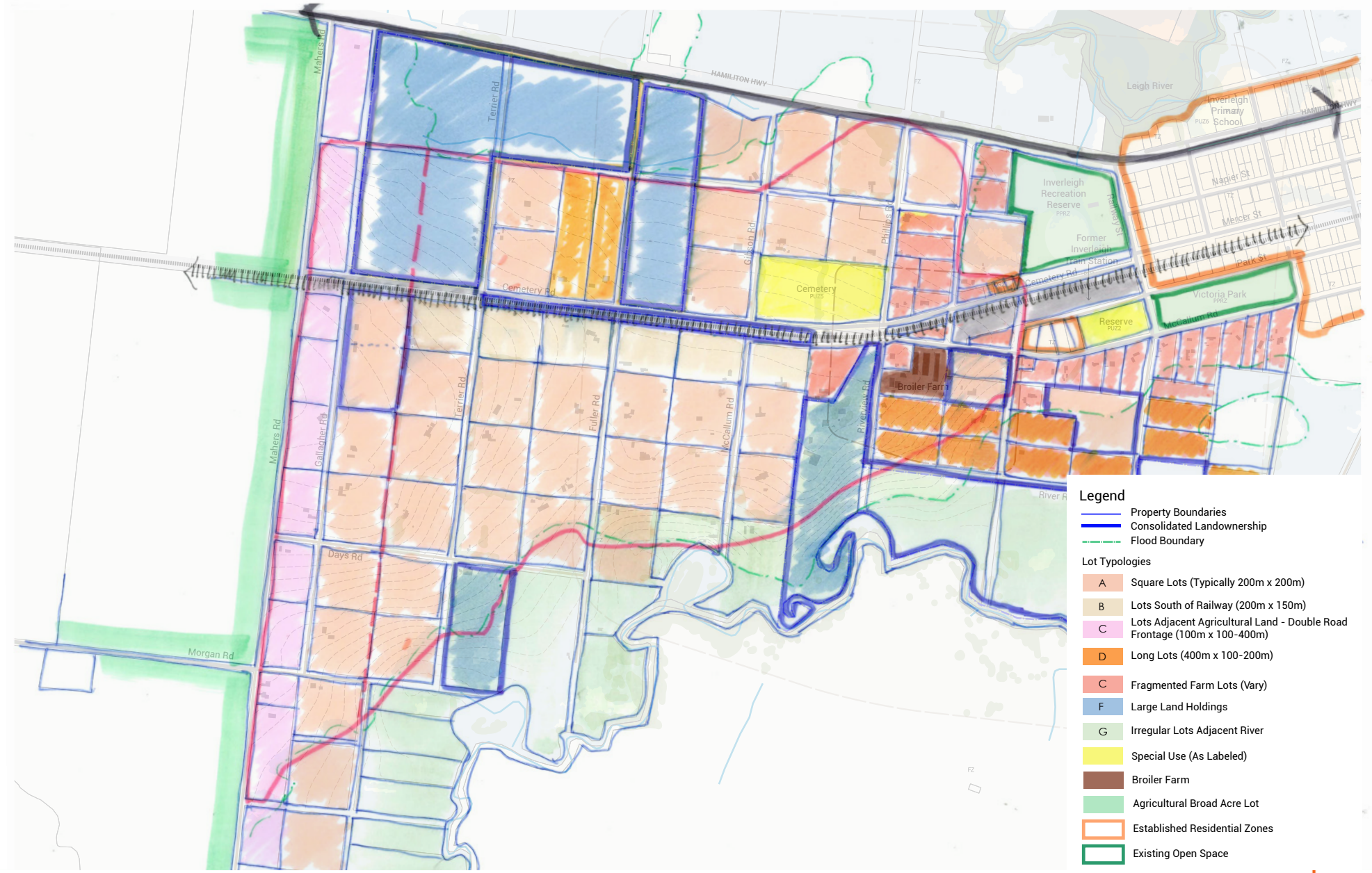
Considerations

> Current lots within the study area are diverse ranging from 10,000m^2 up to 110,000m^2 with the majority of lots being approximately 40,000m^2.

> Lots adjacent to the broadacre farmland to the west are intended to be kept at a minimum of 4ha lots under the current Inverleigh Structure Plan (2005). As most of these lots are under 3ha in size in most cases this will result in no subdivisions.

> All consolidated land ownerships in the study area have significant portions of flood encumbered land. The remaining developable land of any of the consolidated land ownerships are not considered large enough to provide any significant masterplanned benefit to the development of the area.

FIGURE 06 Urban Pattern



4. SUBDIVISION TYPOLOGIES

4.1.Overview

One of the most constraining features of the site is its current subdivision fragmentation. Although zoned as farming zone the majority of the site is primarily used for large lot rural living. The majority of sites are 4ha in size with some lots as small as 2.5ha. This fragmentation puts the site at risk of ad-hoc development and potentially makes the coordination of infrastructure delivery and upgrades problematic.

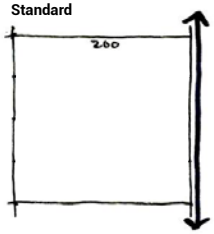
The current Inverleigh Structure Plan specifies a low density residential density of 1ha minimum for the stie with a 4ha minimum for lots along Mahers Road and Gallaher Rd. As part of this project council were concerned with the feasibility of these fragmented sites to be developed at the current minimum sizes. There was particular concern regarding the ability of the 1ha-4ha developments being able to deliver necessary infrastructure upgrades. To investigate subdivision feasibility an alternative minimum lot size of 4000m^2 was explored for comparison.

To understand the complexities of the fragmentation a set of subdivision typologies were identified and a set of options prepared. This excersise is intended to help visualise the potential development outcomes and to gain a basic understanding of infrastructure expectations.

FIGURE 07 Subdivision Typologies - Type A

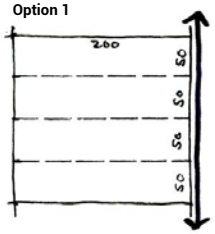
TYPE A

Standard



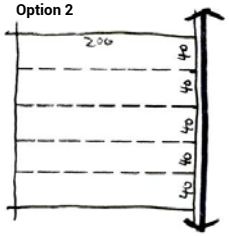
Typical Lot Dimension:
~200m x 200m
Typical Lot Area: 40000m²

Option 1



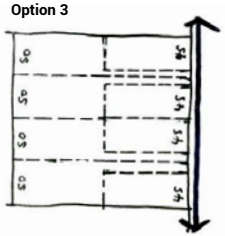
Length of Road Upgrade: 200m
Length of New Road: n/a
No. Lots: 4
Lot Dimension: 50m x 200m
Avg. Lot Area: 10000m²

Option 2



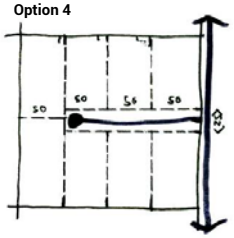
Length of Road Upgrade: 200m
Length of New Road: n/a
No. Lots: 5
Lot Dimension: 40m x 200m
Avg. Lot Area: 8000m²

Option 3

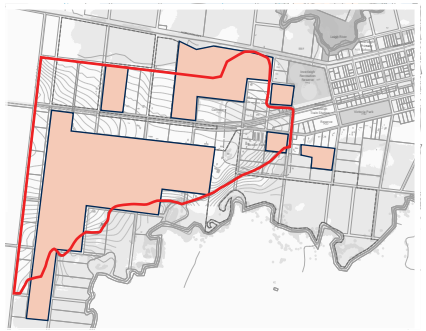


Length of Road Upgrade: 200m
Length of New Road: n/a
No. Lots: 8
Lot Dimension: 45-50m x 100m
Avg. Lot Area: 5000m²

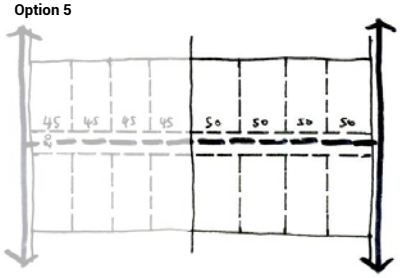
Option 4



Length of Road Upgrade: 200m
Length of New Road: 150m
No. Lots: 8
Lot Dimension:
50m x 87.5/100m
Avg. Lot Area: 4375m²

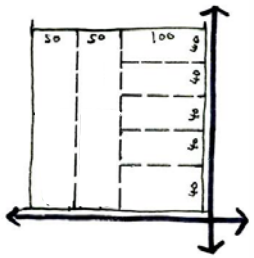


Option 5



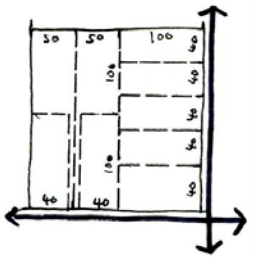
Length of Road Upgrade: 200m
Length of New Road: 200m
No. Lots: 8
Lot Dimension: 50m x 90m
Avg. Lot Area: 4500m²

Option 6 - Corner Site



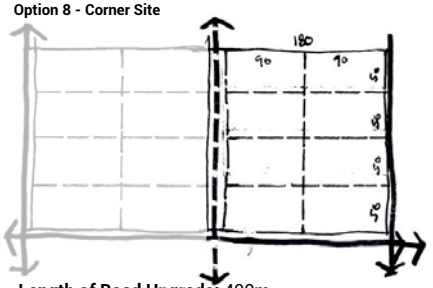
Length of Road Upgrade: 400m
Length of New Road: n/a
No. Lots: 8
Lot Dimension: 50m x 90m
Avg. Lot Area: 4500m²

Option 7 - Corner Site



Length of Road Upgrade: 400m
Length of New Road: n/a
No. Lots: 9
Lot Dimension:
40/45/50m x 100m,
Avg. Lot Area: 4450m²

Option 8 - Corner Site



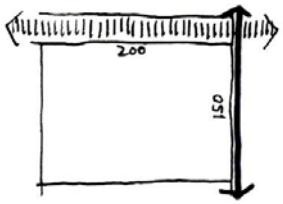
Length of Road Upgrade: 400m
Length of New Road: 200m
No. Lots: 8
Lot Dimension: 50m x 90m
Avg. Lot Area: 4500m²

Drawing Key

- Existing road (upgrade required)
- New road
- Existing property boundary
- Proposed lot boundary

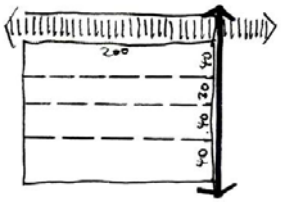
TYPE B

Standard



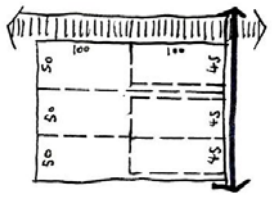
Typical Lot Dimension:
~200m x ~150m
Typical Lot Area: 30,000m²

Option 1



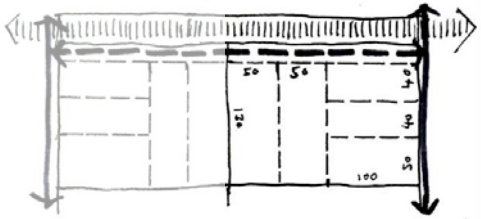
Length of Road Upgrade: 150m
Length of New Road: n/a
No. Lots: 4
Lot Dimension: 30/40m x 200m
Avg. Lot Area: 8000m²

Option 2

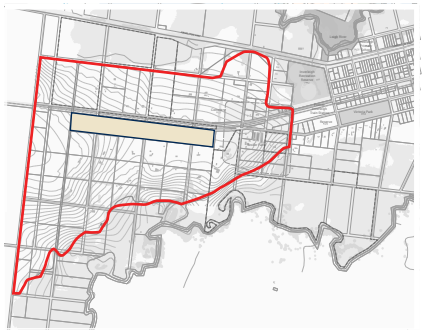


Length of Road Upgrade: 150m
Length of New Road: n/a
No. Lots: 6
Lot Dimension: 45-50m x 100m
Avg. Lot Area: 5000m²

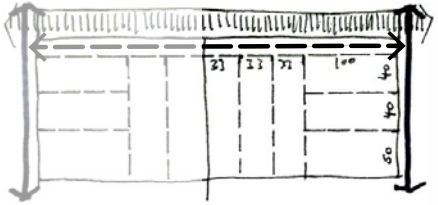
Option 3



Length of Road Upgrade: 150m
Length of New Road: 200
No. Lots: 8
Lot Dimension: 40/50m x 100m,
50m x 130m
Avg. Lot Area: 5200m²

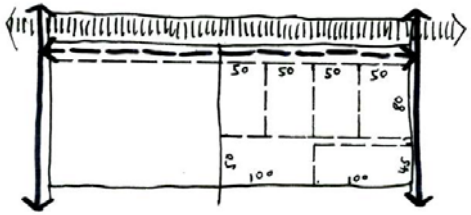


Option 4



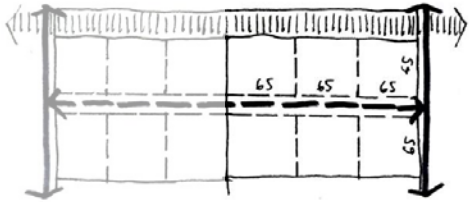
Length of Road Upgrade: 150m
Length of New Road: 200m
No. Lots: 6
Lot Dimension:
50m x 100m, 33m x 130m
Avg. Lot Area: 4300m²

Option 5



Length of Road Upgrade: 150m
Length of New Road: 200m
No. Lots: 6
Lot Dimension:
50m x 100m, 33m x 130m
Avg. Lot Area: 4300m²

Option 6



Length of Road Upgrade: 150m
Length of New Road: 200m
No. Lots: 6
Lot Dimension: 65m x 65m
Avg. Lot Area: 4300m²

Drawing Key

- Existing road (upgrade required)
- New road
- Existing property boundary
- Proposed lot boundary

mesh
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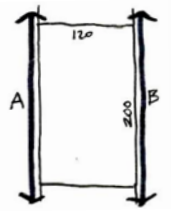
FIGURE 09 Subdivision Typlogies - Type C

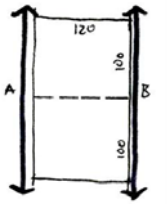
TYPE C

Standard



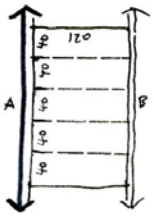
Typical Lot Dimension:
200m x 120m
Typical Lot Area: 24,000m²

Option 1



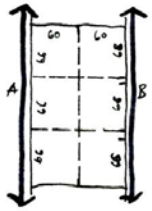
Length of Road Upgrade:
200m (Road A only)
Length of New Road: n/a
No. Lots: 2
Lot Dimension: 120m x 100m
Avg. Lot Area: 12000m²

Option 2



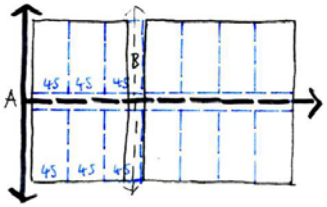
Length of Road Upgrade:
200m (Road A only)
Length of New Road: n/a
No. Lots: 5
Lot Dimension: 40m x 120m
Avg. Lot Area: 4800m²

Option 3



Length of Road Upgrade:
400m (Road A + B)
Length of New Road: n/a
No. Lots: 6
Lot Dimension: 120m x 100m
Avg. Lot Area: 4000m²

Option 4



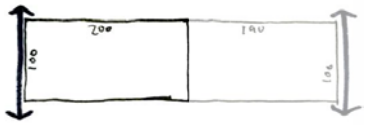
Length of Road Upgrade:
200m (Road A only)
Length of New Road: 120
No. Lots: 6
Lot Dimension: 45m x 90m
Avg. Lot Area: 4000m²

* **Note:** This option requires council to hand over road reserve B to residential in exchange for new road.

FIGURE 10 Subdivision Typlogies - Type D

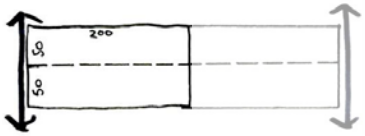
TYPE D

Standard



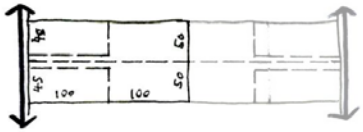
Typical Lot Dimension:
~200m x 200m
Typical Lot Area: 40000m²

Option 1



Length of Road Upgrade: 100m
Length of New Road: n/a
No. Lots: 2
Lot Dimension: 50m x 200m
Avg. Lot Area: 10000m²

Option 2

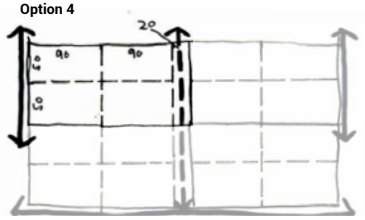


Length of Road Upgrade: 100m
Length of New Road: n/a
No. Lots: 4
Lot Dimension: 45-50m x 100m
Avg. Lot Area: 5000m²

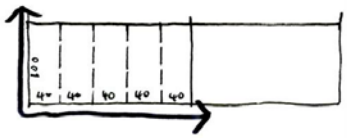
Option 3

Length of Road Upgrade: 100m
Length of New Road: 200m
No. Lots: 4

Option 4



Option 5 - Corner Site



Length of Road Upgrade: 300m
Length of New Road: n/a
No. Lots: 5

4.2. 1ha Minimum Lot Size Case Study

The case study applies a combination of the 1ha minimum lot size subdivision typologies to the entire site. The design would provide for approximately 250 lots, accommodating a population of approximately 700 people (based on avg. household size of 2.8).

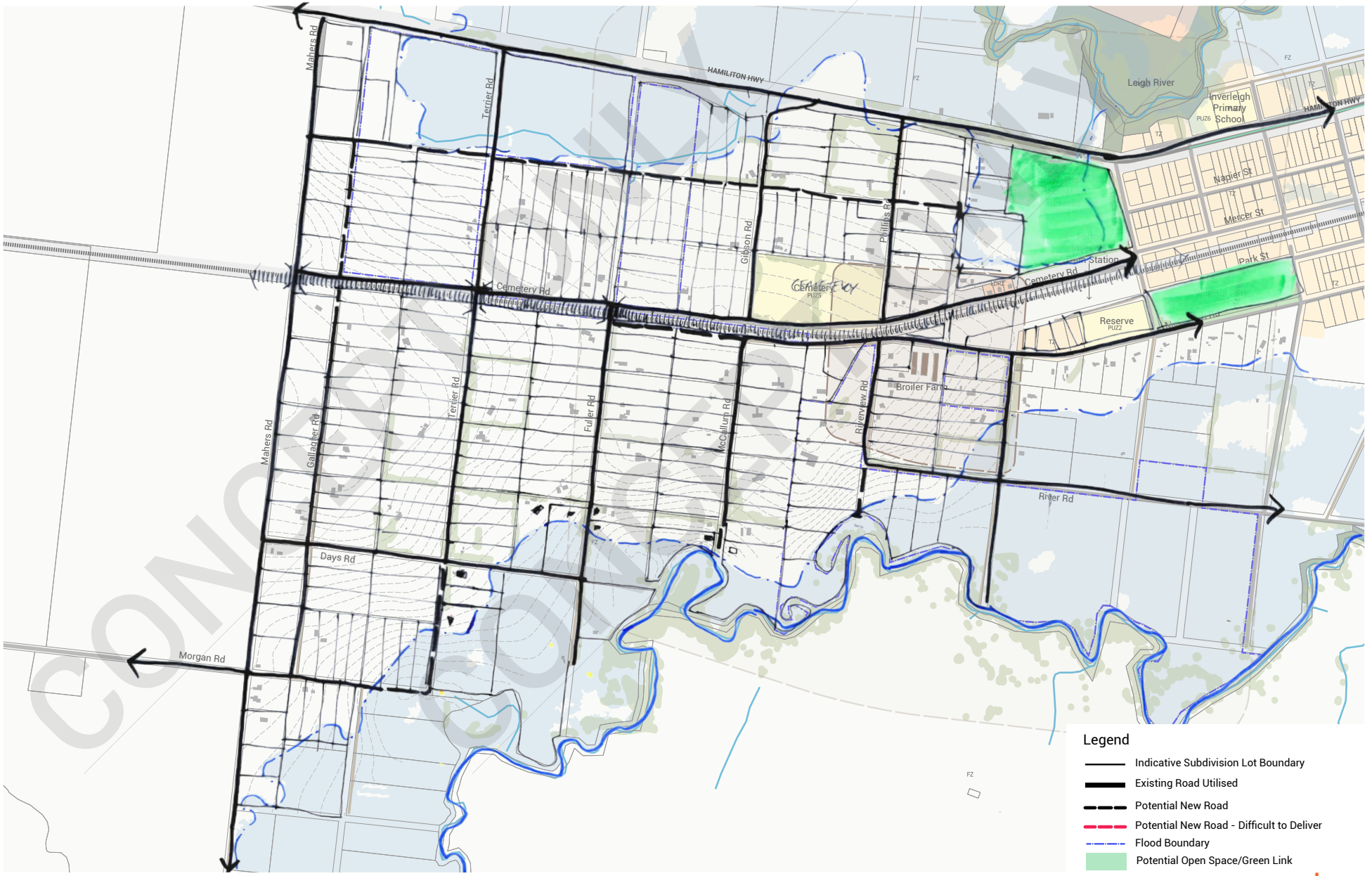
Issues

- Difficult for developers to fund necessary infrastructure effectively discouraging residential intensification.
- Funding for necessary surrounding infrastructure at risk of falling on council.
- Unlikely to be able to deliver additional connectivity within the precinct.
- Unlikely to deliver any whole Inverleigh community benefits.
- Lends itself to an ad-hoc planning process.

Considerations

- Protects the low density character of the area.
- Avoids development pressure nearby to intensive agricultural uses.
- Ability to easily maintain flood areas and other topographical features within lots.
- Smaller population capacity putting less pressure on township amenities.

FIGURE 11 1ha Minimum Lot Size Case Study Plan



4.3. 4000m2 Minimum Lot Size Case Study

The case study applies a combination of the 4000m^2 minimum lot size subdivision typologies to the entire site. The design would provide for approximately 490 lots, accommodating a population of approximately 1370 people (based on avg. household size of 2.8)..

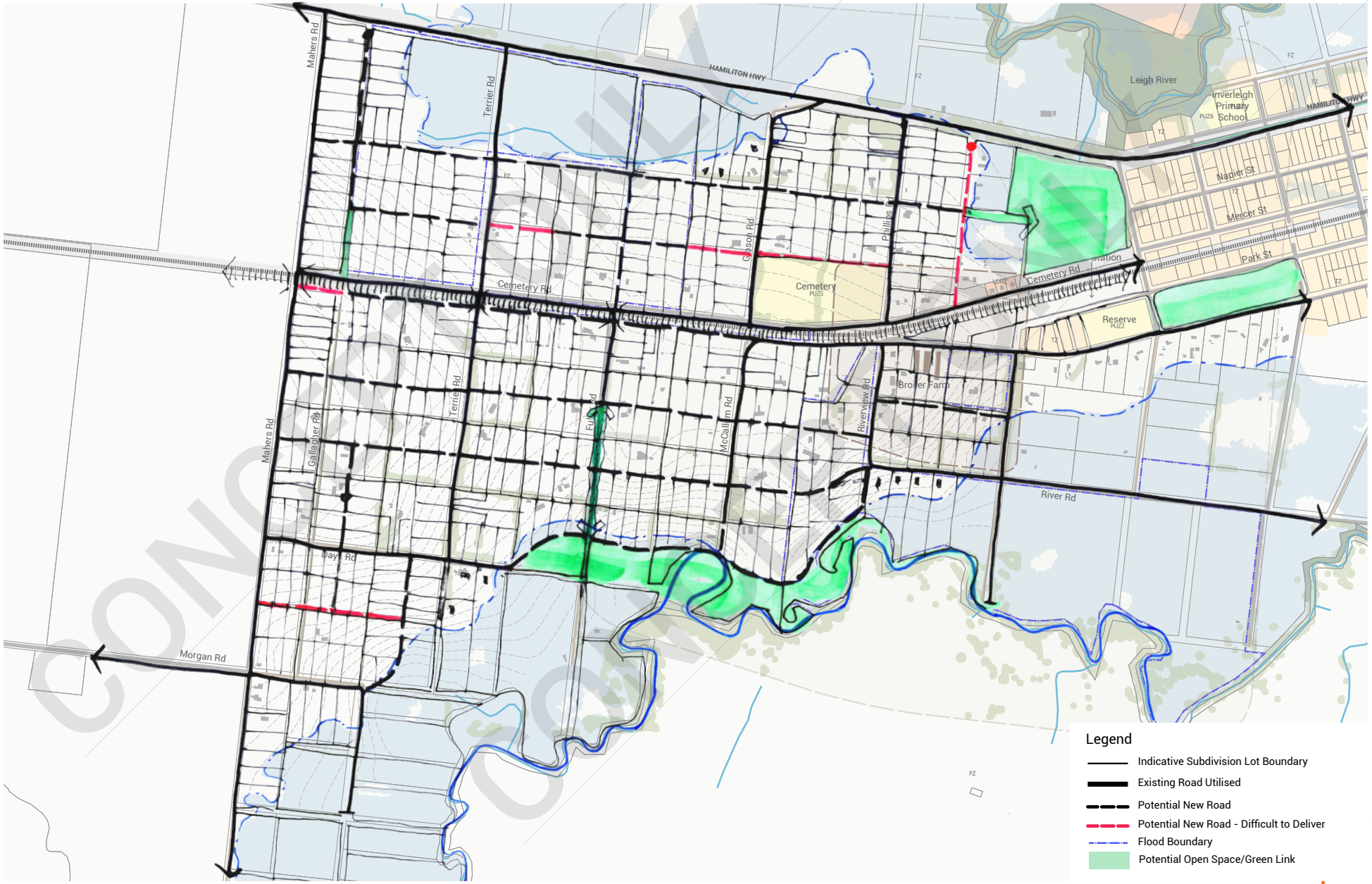
Issues

- Increased impact on environment and landscape features such as ridge lines and vegetation.
- Potential complex interfaces between uses.
- Significant population growth capacity for a rural town. Inverleigh had a population of 1,474 people at 2016 census. This case study almost doubles the existing population.

Considerations

- Will require development planning controls to guide development to appropriate outcomes and utilise opportunities.
- Significant population growth capacity.
- More feasible for developers to fund necessary infrastructure encouraging a development outcome.
- Potential to deliver benefits to the whole of Inverleigh through better connectivity and new public reserves along Barwon River.
- Potential to improve connectivity to the Town Core.

FIGURE 12 4000m2 Minimum Lot Size Case Study Plan



7. CONCLUSION

This development feasibility study has been prepared collaboratively with council officers throughout this project. The outcomes are intended to equip council to prepare a more detailed and vigorous structure plan for Inverleigh.

The plans and analysis within this package clarify the constraints and complexities of the site but also reveal potential opportunities that might benefit the whole of Inverleigh. With the site currently zoned farming and no obligation on council to rezone the site within a certain timeframe there is an opportunity now to carefully consider the most appropriate vision for this site. Further more an appropriate planning strategy needs to be adopted to achieve the vision and enable current policy to begin framing and guiding an appropriate outcome.

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