



UNDERBANK

DEVELOPMENT PLAN

Prepared for Kataland | Development Plan
March 2017 | Taylors Ref: 02111/P/DP

TAYLORS
Urban Development



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UNDERBANK

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prepared by

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1. Executive Summary

1.1 Introduction

Underbank is a new residential community located just two (2) kilometres west of the existing Bacchus Marsh Town Centre. The Underbank community comprises two portions of land and covers some 167ha that will support the growth of a new residential community, at:

- 5 Randwick Avenue - approximately 15ha; and
- 174 Mortons Road - approximately 152ha.

This development plan applies specifically to the land at 174 Mortons Road and is intended to provide a framework for the future development of the area in accordance with Kataland's vision to create a vibrant residential community and the Development Plan Overlay.

The balance land at 5 Randwick Avenue is the subject of an existing Permit and is currently being developed as the first stages of Underbank.

1.2 Vision

Kataland's vision for Underbank is to create a vibrant residential community based on traditional neighbourhood design principles – a place where residents can live and play amongst an extensive network of open space.

Underbank will be built around a series of walkable neighbourhoods, each with its own unique character; providing a range of housing typologies within walking distance of community facilities to cater for the needs of residents.

1.3 Design Principles

The following key design principles have informed the process in creating the vision and master plan for Underbank:

- Site Responsive: Master planning that responds to site opportunities and constraints;
- Human Scale: An urban structure based on the neighbourhood unit;
- Permeability: A comprehensive thoroughfare network;
- Walkability: Connect pedestrian and cycle networks into wider systems;
- Integration: Encourage a viable public transport system;
- Environment: Create a diversity of open space types;
- Identity: Locate identifiable civic structures in key locations;
- Character: Produce efficient private blocks for a diversity of building types.

1.4 Project Team

This development plan has been prepared by Taylors on behalf of Kataland, as a framework to guide the future development of Underbank. The plan has been prepared in conjunction with the following team:

- Acoustic: AECOM
- Arboriculture: Rob Galbraith & Associates
- Civil: UDM
- Contamination: Tonkin & Taylor
- Drainage: Engeny
- Flora & Fauna: ABZECO
- Geotechnical: Tonkin & Taylor
- Heritage: Heritage Insight
- Landscape: Urbis
- Survey: Taylors
- Town Planning: Taylors
- Traffic: Traffix Group
- Urban Design: Taylors





// ...a vibrant residential community... a place where residents can live and play... //



The Master Plan Vision for Underbank is to build a vibrant community where residents can live and play amongst beautiful and tranquil green spaces.

2. Vision

The Master Plan Vision for Underbank is to build a vibrant community where residents can live and play amongst beautiful and tranquil green spaces.

Underbank will feature a range of distinct neighbourhoods, providing for a variety of housing types within walking distance of community facilities and a well-connected open space network.

The vision for Underbank responds to the objectives of the Development Plan Overlay to stage a master-planned development to ensure:

- Planning for residential and associated development in a logical, cost effective and sequential manner;
- Efficient use of infrastructure, and land, and management of any impacts on the environment and amenity;
- Identification and effective management of sites of environmental, heritage and landscape significance;
- Co-ordinated provision of utility services and drainage;
- Co-ordinated provision of physical and community infrastructure and public open space that enhances the amenity, safety and liveability of the site and surrounds; and
- Preparation of an integrated development plan generally in accordance with the Underbank Farm Concept Plan shown in Clause 5.0 of the Schedule.



3.0
Context

3.1 Regional Context

The site is located within the regional centre of Bacchus Marsh, approximately 55km north-west from Melbourne's CBD. With approximately 6,840 dwellings in September 2015, Bacchus Marsh is the largest township within the Moorabool Shire.

In recent decades, the area has made a transition from a market garden area, producing a large amount of fruit and vegetables into a main commuter town on the Melbourne-Ballarat corridor. Continued growth is expected to see the urban footprint of Bacchus Marsh grow even further over the coming years.

Based on the Draft Housing Strategy it is anticipated that the population of Bacchus Marsh will grow to approximately 30,519 by 2041 - accommodating a further 6,414 households.



Figure 1: Regional Context



Figure 2: Local Context

3.2 Local Context

The surrounding residential community is serviced by a number of commercial, open space, transport and entertainment facilities and generally comprises a range of detached dwellings.

The subject site is well serviced by social and physical infrastructure, including:

- **Public Transport:** The site is located approximately 2.7km from the Bacchus Marsh Train Station, providing regional connections into and out of the township. The site also has access to the 434 bus route providing connections within the area.
- **Major Road Networks:** The subject site is located adjacent the Western Freeway which serves as a major transport corridor and provides regional connections.
- **Public Open Space:** The site is also located in close proximity to the Underbank Bacchus Marsh West Golf Club. The property also includes a number of creek corridors which provide opportunities for the provision of open space.
- **Community Services / Shopping facilities:** Local shopping and services exist in proximity to the site with Bacchus Marsh Village Shopping Centre located about 2.2km away and the town centre also providing a range of services. The Bacchus Marsh Hospital is located approximately 2.0km to the east.
- **Education Facilities:** The site is located in close proximity to a number of education facilities including St Bernards Primary School, Bacchus Marsh College, Bacchus Marsh Grammar School and Bacchus Marsh Primary School.



Figure 3: Existing street within the Bacchus Marsh Township



Figure 4: Existing street within the Bacchus Marsh Township

3.4 Policy Context

The following is an overview of the relevant planning provisions applicable to the site. These were considered during the preparation of this development plan, and it is expected that development will accord with these provisions as part of any future permit application for subdivision and/or development.

Municipal Strategic Statement:

Clause 21.07 Bacchus Marsh recognises the town as the largest in the shire and as being designated as the major urban growth centre in the Shire. The Development Plan is consistent with the objectives of the Clause and is identified as suitable for potential residential development within the Bacchus Marsh Framework Plan.

The following policies have also been considered in the preparation of this document:

- Clause 21.01 Municipal Context
- Clause 21.02 Natural Environment
- Clause 21.03 Settlement and Housing
- Clause 21.05 Development and Community Infrastructure
- Clause 21.06 Enhance and Preserve Cultural Heritage

Zoning:

The site is zoned General Residential and is included within Schedule 1 to the zone. Underbank will provide for a form of development that respects the prevailing character of the wider area and has been identified for future housing growth.

Overlays:

The following overlays are applicable to the subject site:

- Design and Development Overlay – Schedule 3
- Development Plan Overlay – Schedule 6
- Environmental Significance Overlay – Schedule 2 and 8

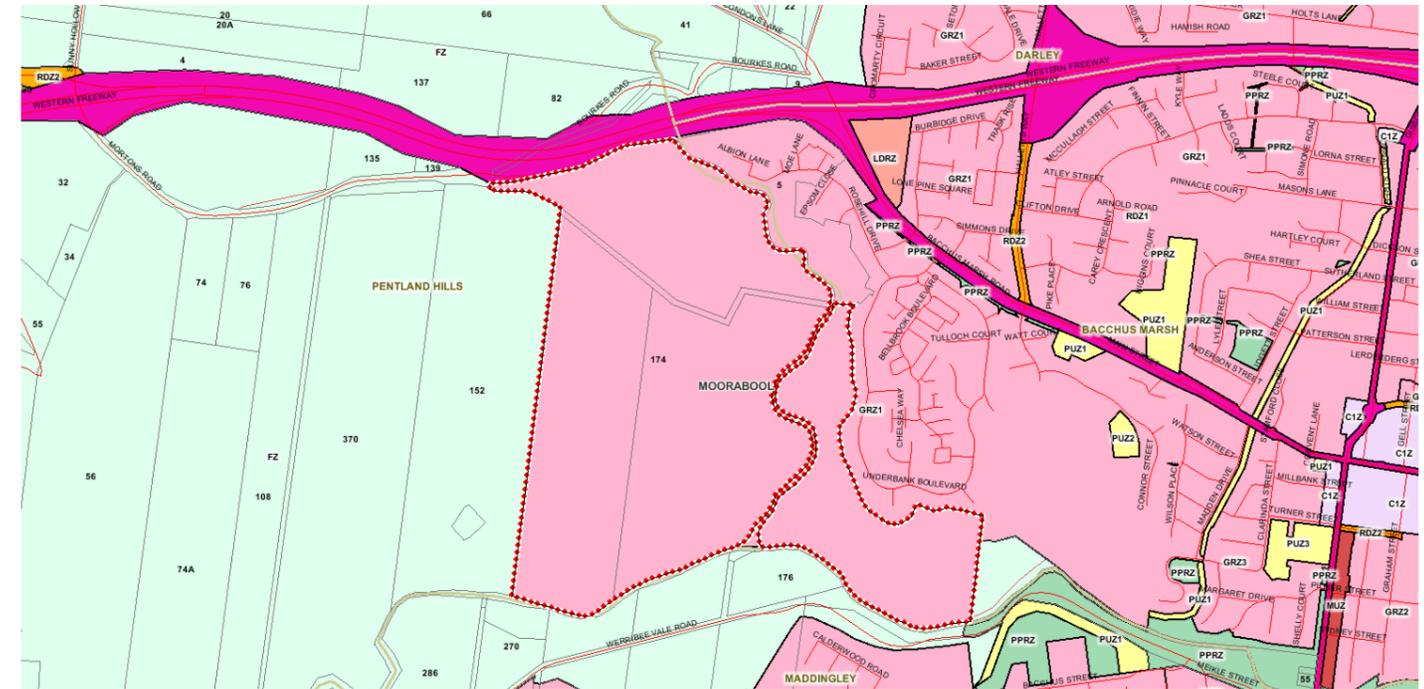


Figure 5: Zoning Map

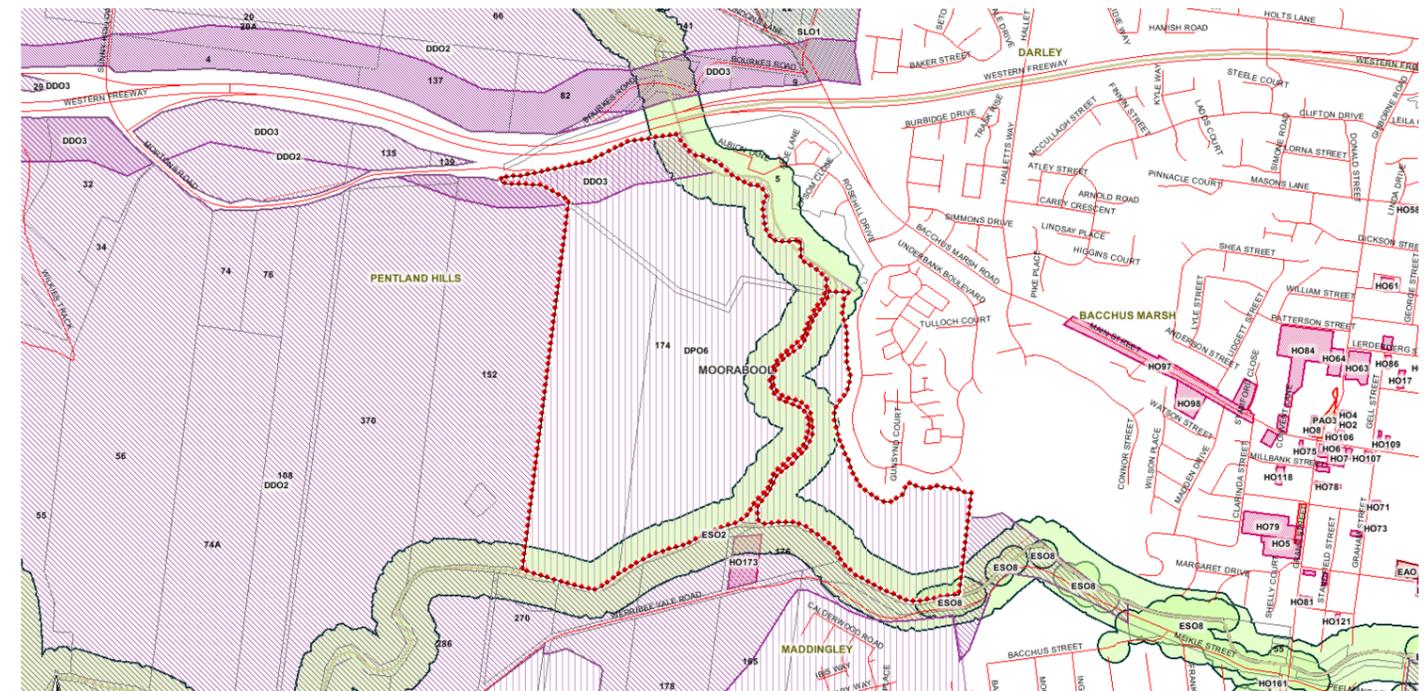


Figure 6: Overlay Map

Plan Melbourne:

Plan Melbourne is a strategic land use planning document aimed at developing a growth strategy for Greater Melbourne to 2050. The Refresh Discussion Paper in October 2015 builds on the original document and aims to address housing needs and choice through strategic land-use planning.

Plan Melbourne recognises Bacchus Marsh as a Regional Centre and as having sustained growth and supports townships increasing the supply of land for housing outside of Melbourne. The document also refers to a 70/30 target in which established areas are to provide 70% of Melbourne's new housing and greenfield growth areas are to provide 30%. However this is considered more relevant to areas within inner Melbourne than regional centres.

Central Highlands Regional Growth Plan:

The Central Highlands Regional Growth Plan (CHRGP) provides a regional approach to land use planning in the Central Highlands.

Under the Plan, Bacchus Marsh is identified as a Regional Centre experiencing significant growth that should be supported into the future. This Development Plan furthers the plan and is consistent with the strategies and actions identified within the CHRGP in that:

- Focuses development on the fringe of the existing urban boundary;
- Supports the expansion of the public transport network;
- Contributes to both social and physical infrastructure through the provision of community facilities, open space, roads and commercial development; and
- Protects the natural environment.





4.0

Site Analysis

3.3 Site Conditions

- The Underbank Development Plan area is located on the 151.7ha site formerly occupied by the Underbank Stud Farm and is strategically located to the west of central Bacchus Marsh. The initial stages of Underbank (the subject of an existing Permit) are currently under development and are located just two kilometres from the Town Centre.
- The site is situated in a well-defined valley landscape, bordered by hills to the west and an escarpment and existing residential homes in the east. The Western Freeway and Werribee River form the northern and southern boundaries.
- Part of the site is recognised within the *South West Landscape Assessment Study* as a significant regional landscape which contributes to aesthetic values.
- The Korkuperrimul Creek provides the site with a natural habitat corridor which links the north of the site with the southern boundary at the Werribee River. Two well defined gullies link to the Korkuperrimul Creek across the river flats and through to the hills in the west.
- Underbank benefits from both internal and external views that are largely contained to the site itself. The topography has conspired to create a bowl where the valley floor is surrounded by hills and an escarpment to create natural vistas from a northern entry point into the site.
- This entry points look south across the gently undulating paddocks to the Werribee River flats and the cliff like escarpment beyond Werribee Vale Road up to West Maddingly.
- Escarpments to the east and south west are constrained due to slope and may be subject to further geotechnical investigation.
- The site comprises a substantial land holding under one ownership and is strategically located with direct access to the Bacchus Marsh Town Centre, an existing freeway interchange to the west and direct access to the future Halletts Way (under construction).
- As identified in Council's *Recreation and Leisure Strategy*, Underbank is supported by a range of recreational and leisure facilities within the existing Township.



Figure 7: Aerial view of the Underbank Estate

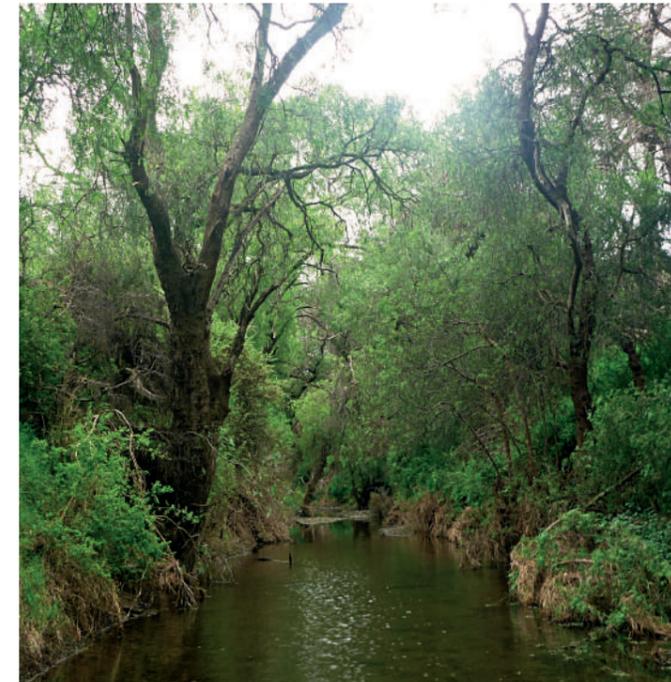


Figure 8: View along the Werribee River



Figure 9: Internal view of the subject land



Figure 10: Subject Site

4.1 Slope

Underbank is characterised by undulating topography that creates a unique development site - providing opportunities for internal and external views from the development. The topography has conspired to create a bowl where the valley floor is surrounded by hills and an escarpment to create natural vistas from the northern entry point to the site.

Opportunities

- Utilise existing landform to create distinct precincts/neighbourhoods
- Views from high points

Constraints:

- Road layout and orientation required to respond to topography
- Steep topography make some areas undevelopable
- Escarpment defines the edge of the site

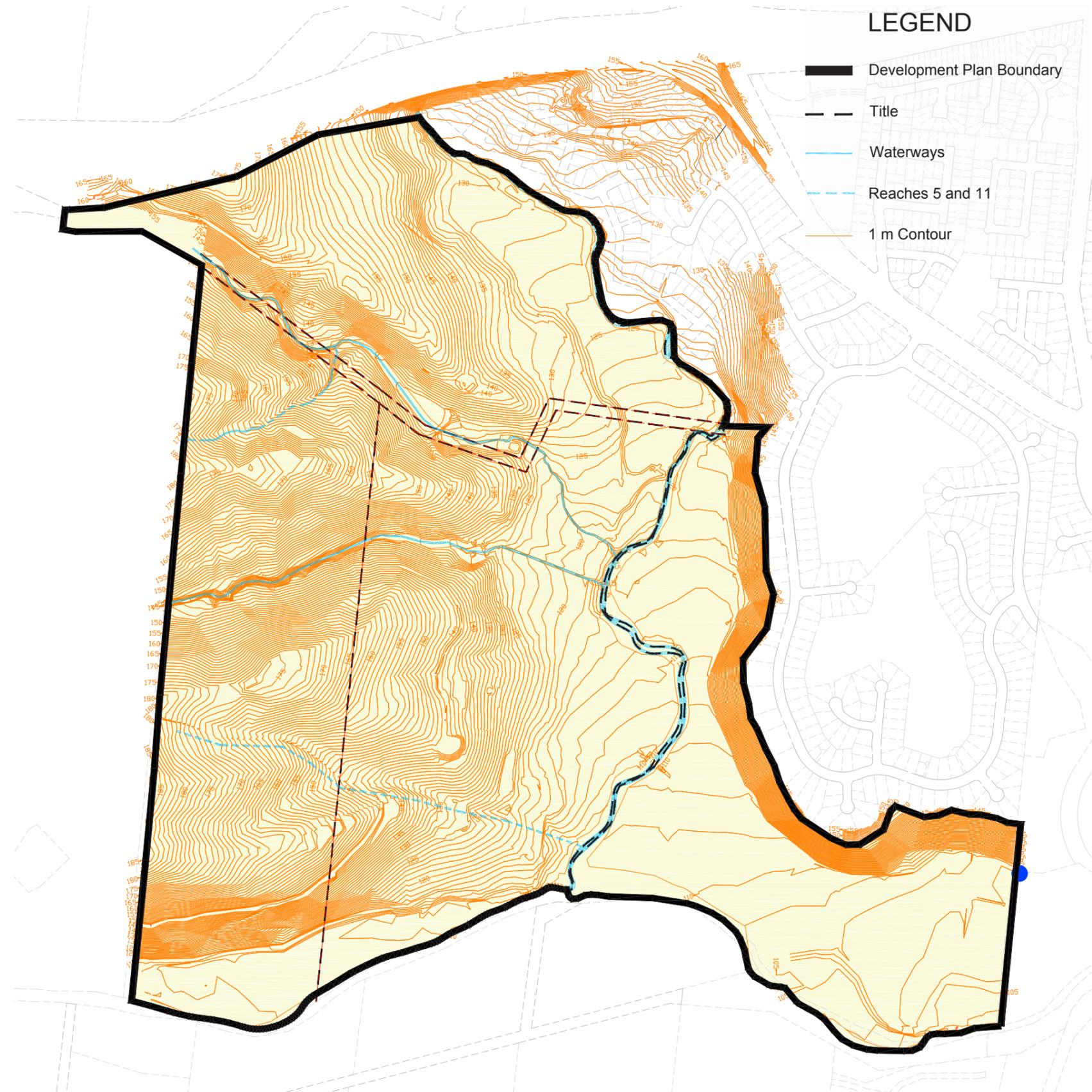


Figure 11: Contours at 1m Intervals

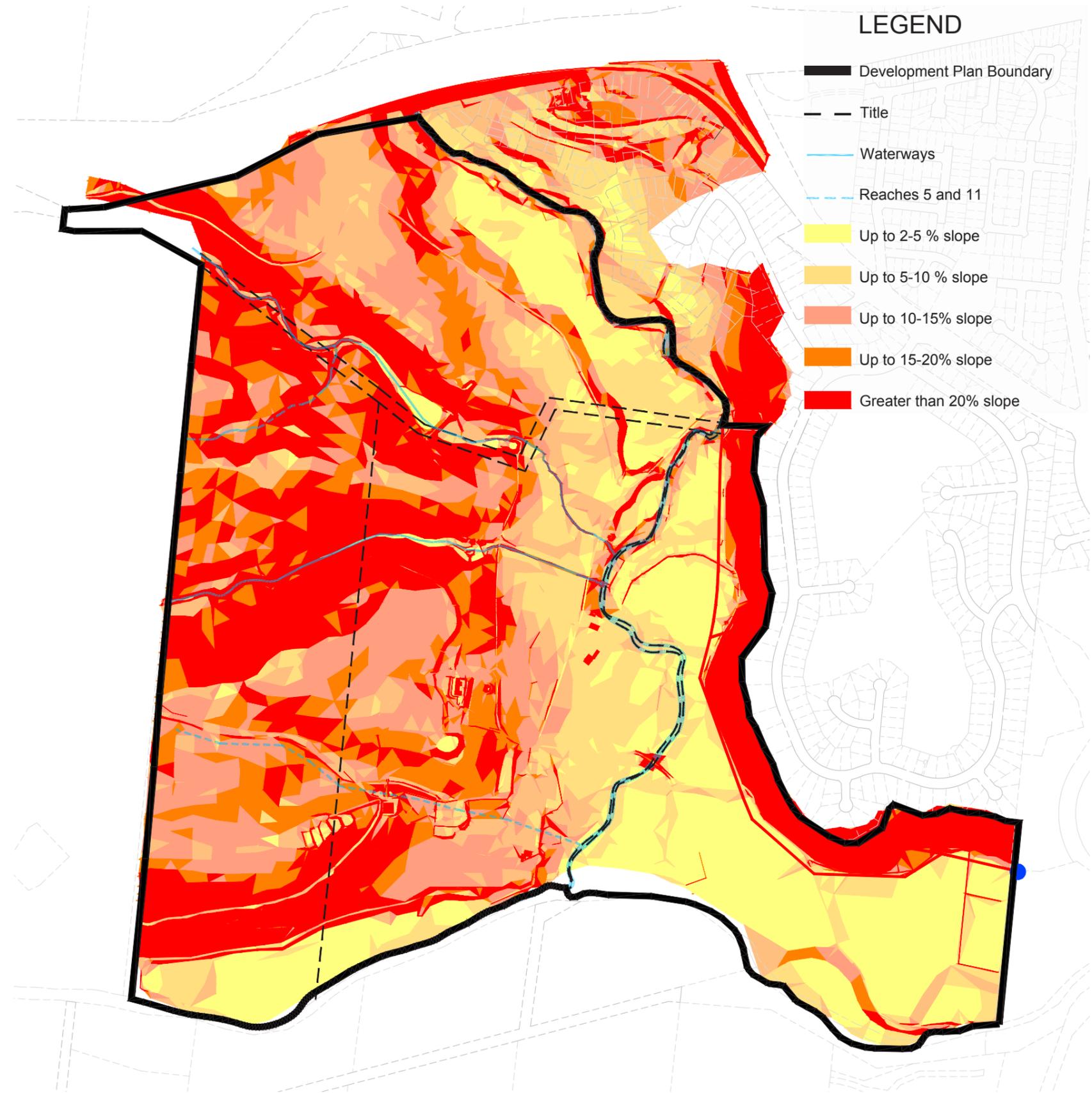


Figure 12: Slope Analysis

4.2 Existing Buildings & Movement Networks

Underbank is improved by a number of existing buildings and sheds which are reflective of the site's use as the Underbank Stud Farm. While the majority of the buildings are of limited value, the style of the built form provides a visual link to the history of the site and may inform the landscape and design outcomes of Underbank.

Existing movement networks are in the form of dirt access tracks which generally follow the site contours and provide a logical basis to inform the future road layout.

Opportunities

- Utilise existing buildings within the development as a community asset
- Existing buildings/materials may inform landscape and design themes
- Reflect existing movement network in road layout

Constraints:

- Condition of existing buildings

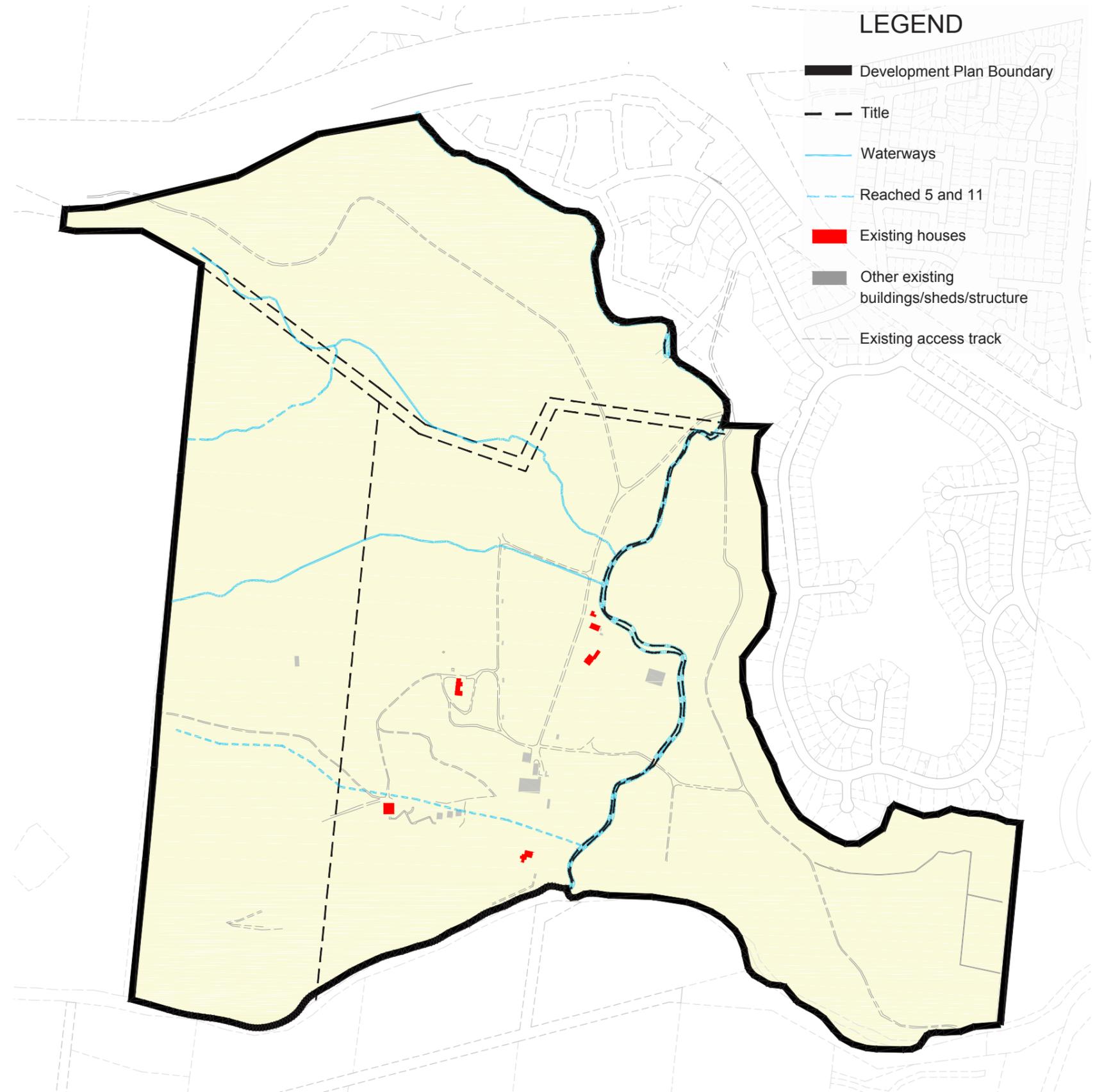


Figure 13: Existing Buildings & Movement Networks

4.3 Waterways & Flooding

A Stormwater Management Plan Report has been prepared by Engeny (refer Annex E), who considered 100 year flood extents for Korkuperrimul Creek and tributaries.

There are four (4) waterways within or adjacent to the development area. Melbourne Water’s “Waterway Corridors: Guidelines for greenfield development areas within the Port Phillip and Westernport Region” sets out the criteria for determining the stream order and minimum setbacks from waterways. Setbacks are subject to further confirmation by Melbourne Water.

Waterway	Stream Order	Setback Requirement (min.)
Werribee River	Five	50m from top of bank / 100yr ARI
Korkuperrimul Creek	Three	30m from top of bank
Tributaries of Korkuperrimul Creek (north and south)	One	20m from top of bank

Table 1: Waterway Features

Notes:

- Waterway corridors will incorporate the 100 year flood extents and associated landforms such as escarpments and valleys.
- Alternative reference point to top of bank may be required where bank failure or undercutting is evident and likely to widen the waterway over time.
- Greater setbacks may be required (such as for south tributary) depending on the success of the management plan, and design of shared pathways and other infrastructure interfaces along waterways including stormwater management assets.
- Most waterways will be retained as predominantly natural waterways, with the exception of some sections that will need to become constructed waterways.
- Aesthetic and environmental improvements to the waterways are required to improve overall waterway condition.

Flood Extents

The 100 year Average Recurrence Interval (ARI) flood extents for waterways affecting the development have been determined based on information provided by Melbourne Water and a HEC-RAS model developed using one metre interval contours.

Opportunities

- Retain and enhance existing waterway corridors to create community asset
- Create open space areas adjacent to corridors
- View lines along waterway corridors (to/from the site)
- Open space nodes and WSUD on outer edge of corridors
- Opportunity for linear links and shared path trail

Constraints

- Development to ensure consideration of flood extent
- Steepness of topography and erosion pose a challenge to establishment of new vegetation within corridors

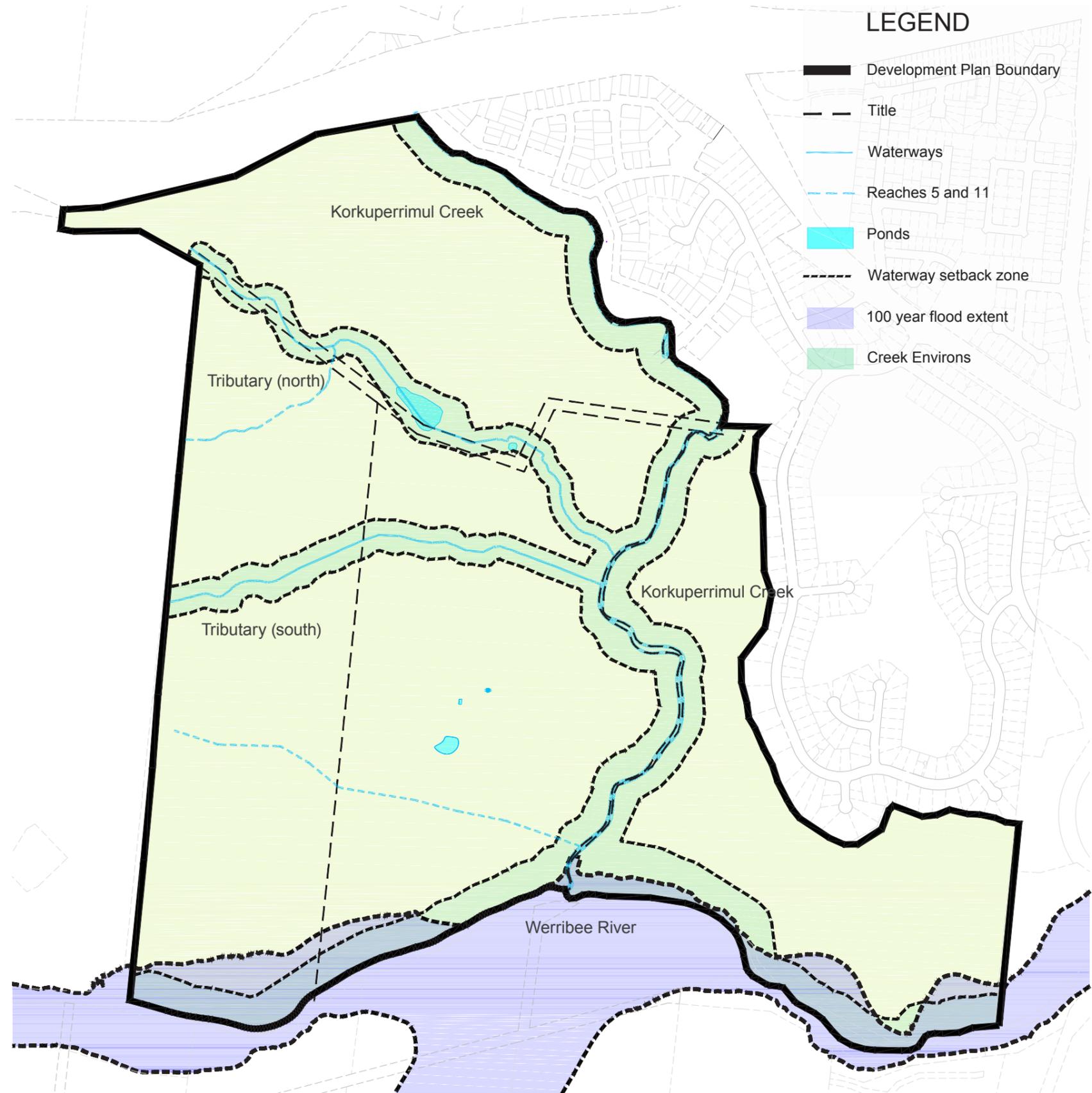


Figure 14: Waterways & Flooding

4.4 Geotechnical

A geotechnical assessment was undertaken by Tonkin & Taylor (see Annex H) and aimed to identify sites of geotechnical instability. Based on the assessment, the project site was separated into four discrete zones, as shown in Figure 15. In addition to outlining treatment measures associated with the proposal, the findings of the report are summarised below:

- **Eastern Escarpment**

The upper slopes of the eastern escarpment are characterised by outcrops of weathered basalt. The weathering characteristics of the basalt results in the formation of corestone 'floaters', within a more highly weathered matrix. The matrix is highly fractured and is weathered to a residual soil in places. This material is unravelling from the exposed face and is depositing debris downslope. This results in a removal of support to the floaters, which become dislodged and roll down the slope. There is a 'high' potential for risk within the escarpment.

- **Southern Escarpment**

The southern escarpment is affected by soil slides which appear to have been triggered by natural events (i.e. not as a result of any man made processes). There is a 'high' potential for risk within the escarpment.

- **Waterways**

The ephemeral and perennial waterways are generally characterised by vertical soil creek banks which are easily eroded during high flow events. The pattern of erosion results in the undermining of large soil blocks which can collapse and topple without warning. There is a 'high' potential for risk within waterway areas.

- **Upland Areas**

The upland areas are characterised by bare soil and sparse vegetation, with evidence of some localised sheetwash and scour of the exposed soils. Where scour occurs, surface water flow becomes concentrated which then exacerbates the potential for erosion. There is a 'moderate' potential for risk within waterway areas.

Opportunities

- To improve soil stability. Stabilisation works to assist with:
 - Minimising land slip potential
 - Enhancing riparian corridors
- Minimising risk potential within all areas (see s5.7 for further detail).

Constraints:

- Erosion and instability to be subject to further work, including
 - Revegetation;
 - Reprofilng of slopes;
 - Installation of erosion protection.
- Management of escarpment required, including:
 - Constructing a barrier along the toe;
 - Preventing access to the escarpment for recreational purposes.

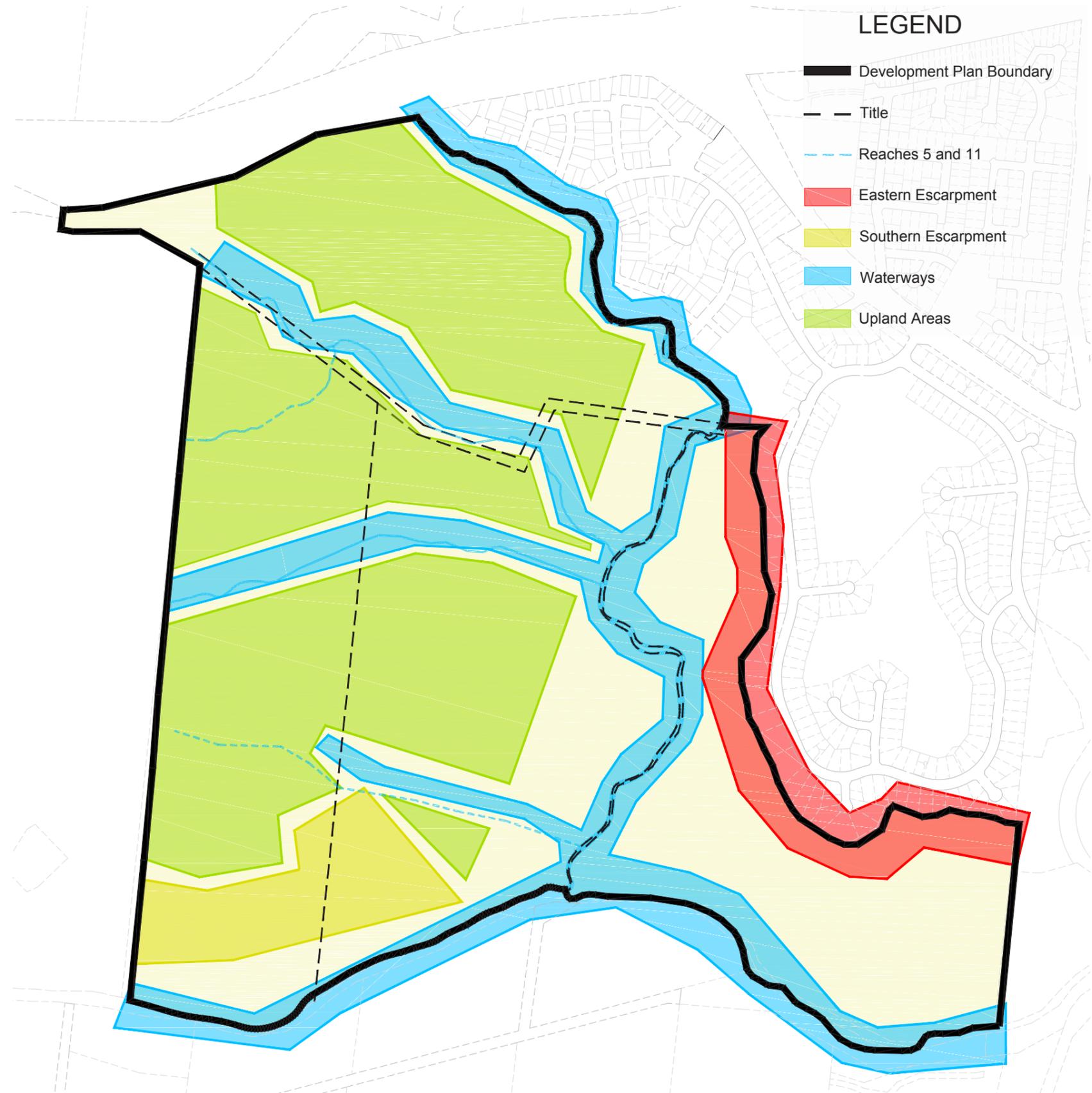


Figure 15: Geotechnical Site Assessment Overview

4.5 Flora & Fauna

A Flora, Fauna and Net Gain Assessment was undertaken by ABZECO to assess the environmental values of the Underbank development site (refer Annex D). The report found that land at 174 Mortons Road has been highly modified from its natural state with remnant native vegetation mostly limited to a substantial number of scattered 'old' trees and a number of small areas supporting an 'intact' indigenous understorey.

The study site supports habitat of moderate quality for a range of native fauna species not recorded during surveys. It is not considered likely that the study site supports habitat suitable for rare or threatened fauna species, although, some species may utilise the property briefly whilst foraging or dispersing to areas of more suitable habitat.

In addition, Galbraith and Associates were engaged to undertake an arboricultural assessment to determine the type, integrity and condition of existing vegetation (see Annex B). There are approximately 765 live trees in the area under consideration, comprising:

- 220 Peppercorns (*Schinus molle*, syn. *Schinus areira*);
- 200 Monterey Cypress (*Cupressus macrocarpa*);
- 205 indigenous self-sown eucalypts; and
- 140 assorted others.

Trees surveyed as part of the assessment were categorised under the following ratings. The Worthiness of Retention (WOR) is based on a number of factors and provides a rating between 1 - 10 for each tree (1 being the lowest):

Retention Value	No. of Trees	Retention Value	No. of Trees
1	77	6	42
2	82	7	60
3	76	8	17
4	47	9	6
5	42	-	-

Table 2: WOR Summary Table

Principles for Vegetation Clearance:

- Avoid the removal of native vegetation;
- Minimise impacts on Victoria's biodiversity from the removal of native vegetation;
- Where native vegetation is permitted to be removed, ensure that an offset is provided in a manner that makes a contribution to Victoria's biodiversity.

Opportunities

- To retain existing vegetation, including Phar Lap Tree
- Incorporate established vegetation within parks, reserves, etc.
- Retention of patches of Fragrant Saltbush to base of eastern escarpment
- Enhance existing corridors through retention of existing trees, weed removal and planting of new vegetation

Constraints:

- Low retention value trees recommended for removal
- Weed management required to ensure long term viability of vegetation

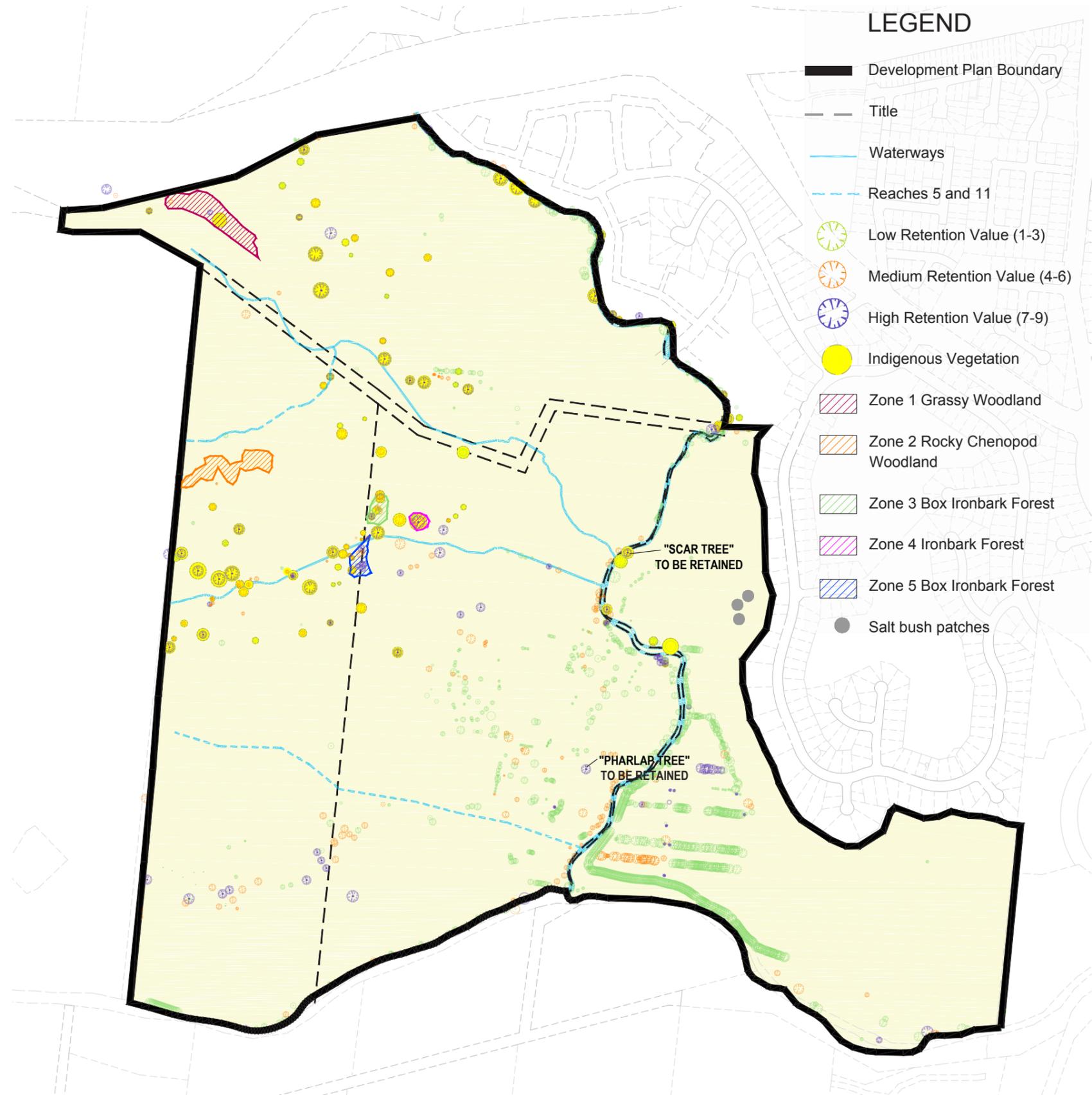


Figure 16: Flora & Fauna

4.6 Archaeology and Heritage

An archaeology and heritage assessment was undertaken by Heritage Insight to determine the extent of any matters associated with heritage onsite (see Annex C). The methodology for the study involved:

- Review the site registries at Aboriginal Affairs Victoria and Heritage Victoria;
- Compile a brief land-use history of the subject land;
- Production of a report detailing the results of the assessment, including detailed management recommendations and advice on any statutory obligations if required

Aboriginal Sites

Five Aboriginal sites were identified during the survey and have been registered as Underbank Stud Farm IA 1-IA 5 (VAHR) (7722-0602 to 0606) and all comprised surface isolated artefact sites. Griffin and Ward also identified a possible scarred tree; this has been registered as Underbank Farm Scarred Tree 1 (VAHR) (7722-0601) and is classified as a non site to prevent it from being re-recorded.

Given the known shallowness of the soils in the region and the extensive pastoral activities conducted over the past 150 years, it is likely that extensive disturbance to, or destruction of, any Aboriginal archaeological sites will have occurred.

Historic Sites

One historic archaeological site was identified by Griffin and Ward (2007). The site comprised of an extensive water management and equine facility system: Underbank Stud Farm Equine and Water Management Project – H7722-0060. The site covers a significant portion of the study area and comprises of an extensively planned and executed equine facility incorporating a sophisticated water management system that supplied a series of paddocks and dates to the late 1920s and early 1930s.

Opportunities

- Protect heritage sites within Underbank (subject to CHMP findings)
- Enhance and acknowledge heritage through design and landscape interpretation

Constraints:

- Location of sites within developable land

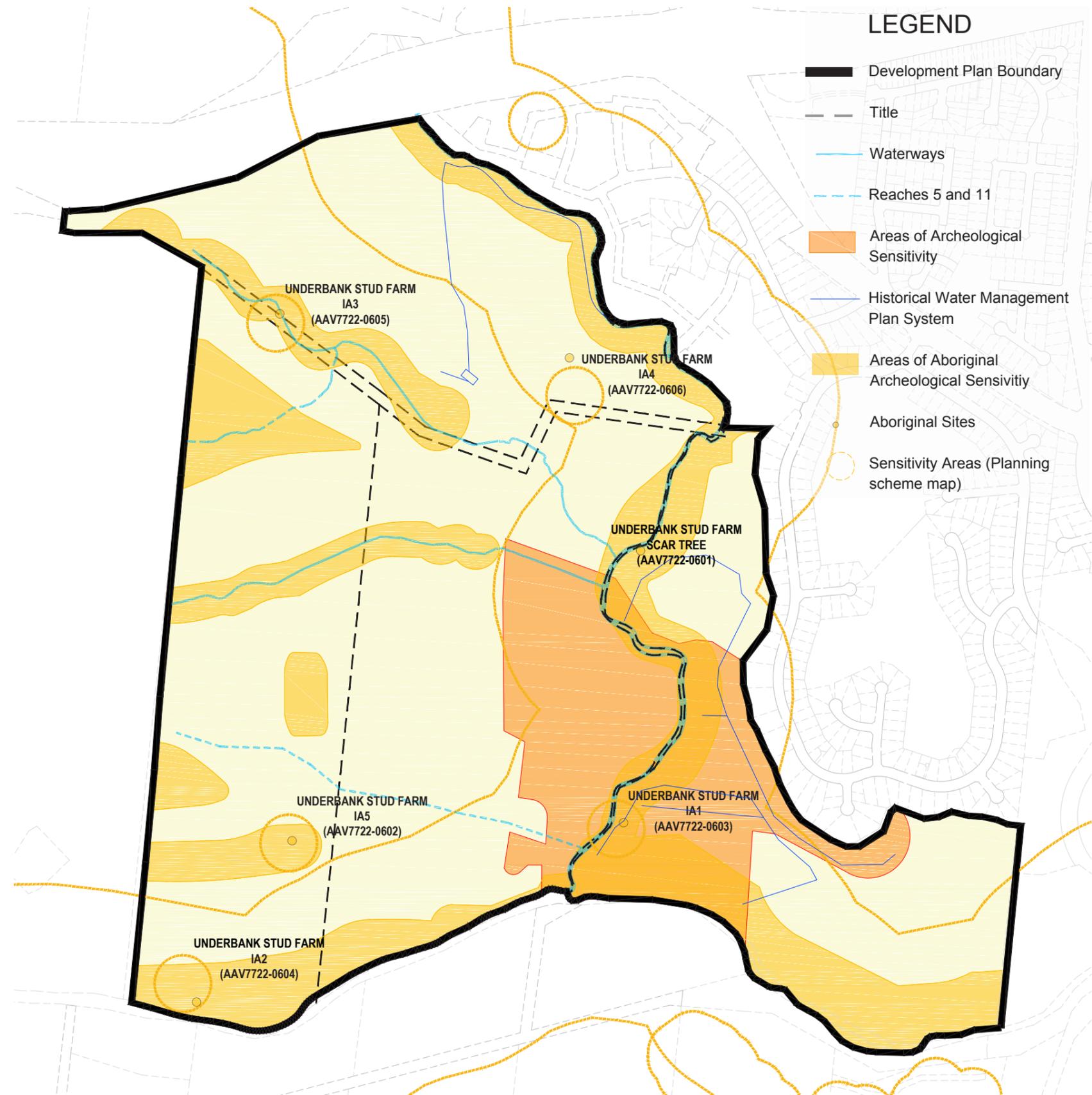


Figure 17: Heritage Overview

4.7 Landscape Features

As detailed in Annex I, Underbank contains various landscape features which can be utilised to assist in creating amenity for future residents. These features will be generated from existing conditions of the site as well as future needs of residents.

Existing Vegetation

Underbank contains a number of established trees that contribute to the landscape amenity of the site. The site is characterised by remnant eucalyptus species particularly along the creek corridors. The Department of Sustainability and Environment identifies the indigenous vegetation belonging to the EVC groups of Red Gum Swamp and Stream Bank Shrubland within the bioregion of the Central Victorian Uplands.

Topography/Views

The existing topography of the estate offers opportunities to protect and retain significant landscape views. These areas, in particular the Bacchus Marsh Agricultural Valley (located to the South of Werribee River), provides aesthetic views of agricultural land containing high colour contrast and geometric layouts. This forms part of a distinctive landscape that is well identified within the Bacchus Marsh area.

It is important to retain topography opportunities where possible so that the residents of Underbank estate feel connected to the rich historical context of Bacchus Marsh.

Opportunities

The Underbank site, presents a number of opportunities which will assist in determining the future landscape design intent for the estate, including:

- **History:** Underbank can draw upon the site's history as a stud farm, training ground and holiday spot in rural Victoria by reflecting materials, etc. within the design.
- **Aspect:** Utilising site topography and view lines to create high quality open spaces.
- **Materials & Fencing:** Existing materials as currently seen within the Underbank Stud Farm could form the inspiration for landscape works. Drawing upon the existing paddock fencing as seen within the Stud farm, this feature could be used to symbolise the sites original history. Different types of fencing could be used within entry feature to the estate / neighbourhoods or to delineate different areas.
- **Vegetation:** Utilise and enhance existing vegetation throughout Underbank; including within the waterway corridors.

Constraints:

- Parts of existing landscape highly degraded
- Rabbits may inhibit establishment

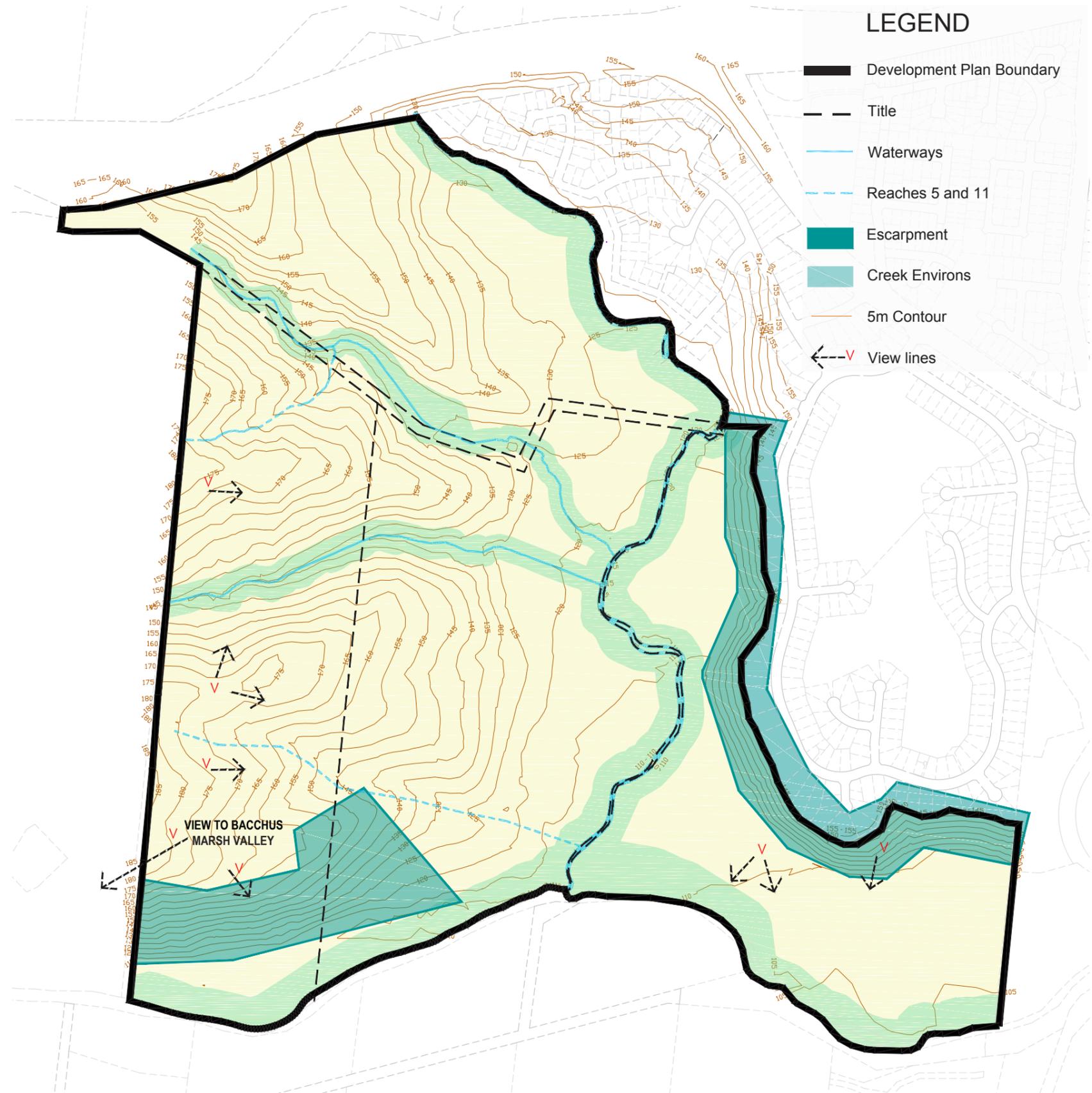


Figure 18: Landscape Features



Figure 20: View north toward Western Freeway



Figure 21: View east toward Korkuperrimul Creek



Figure 19: Existing fencing and signage features within the site



Figure 22: View across site



Figure 23: View toward existing stables and Korkuperrimul Creek

4.8 Environmental (Contaminated Land)

Tonkin & Taylor conducted a desktop site history assessment (see Annex J) and site inspection of the site with the objective of broadly characterising the potential for contamination on the property. Based on the works completed, Tonkin & Taylor concluded that:

- The Site appears to have been used for grazing with minor areas of crop cultivation only since at least the early 1900's based on historical information. The site was developed as a stud farm and equine facility around 1930.
- A number of potential sources of contamination have been identified, primarily consisting of:
 - Dumped rubbish, disused machinery and scrap,
 - Farm sheds which have housed farm machinery and chemicals;
 - Potential past use of weed and pest control; and
 - Septic systems which may provide sources of soil and groundwater contamination.
- Although minor earth works have been undertaken at various locations there is no evidence of significant filling on the site.
- There does not appear to be significant offsite sources of contamination that may migrate onto the subject property.

Overall, it is considered that there is a moderate potential for soil contamination on this site. These are predominantly located around the sheds and ancillary buildings and the dumping area in the south west corner. There is also moderate potential for residual pesticide/herbicide contamination in cropped areas in the south west portion of the site along the Werribee River. The remainder of the site is considered to have a low potential for contamination.

Opportunities

- Isolated / contained areas of potential contamination may provide opportunities for staged approach to remediation
- Clean up 'dumping area' and enhance waterway corridors

Constraints:

- Further investigation required, including preliminary soil sampling of locations of potential concern;
- Contaminant sources may inhibit development without remediation

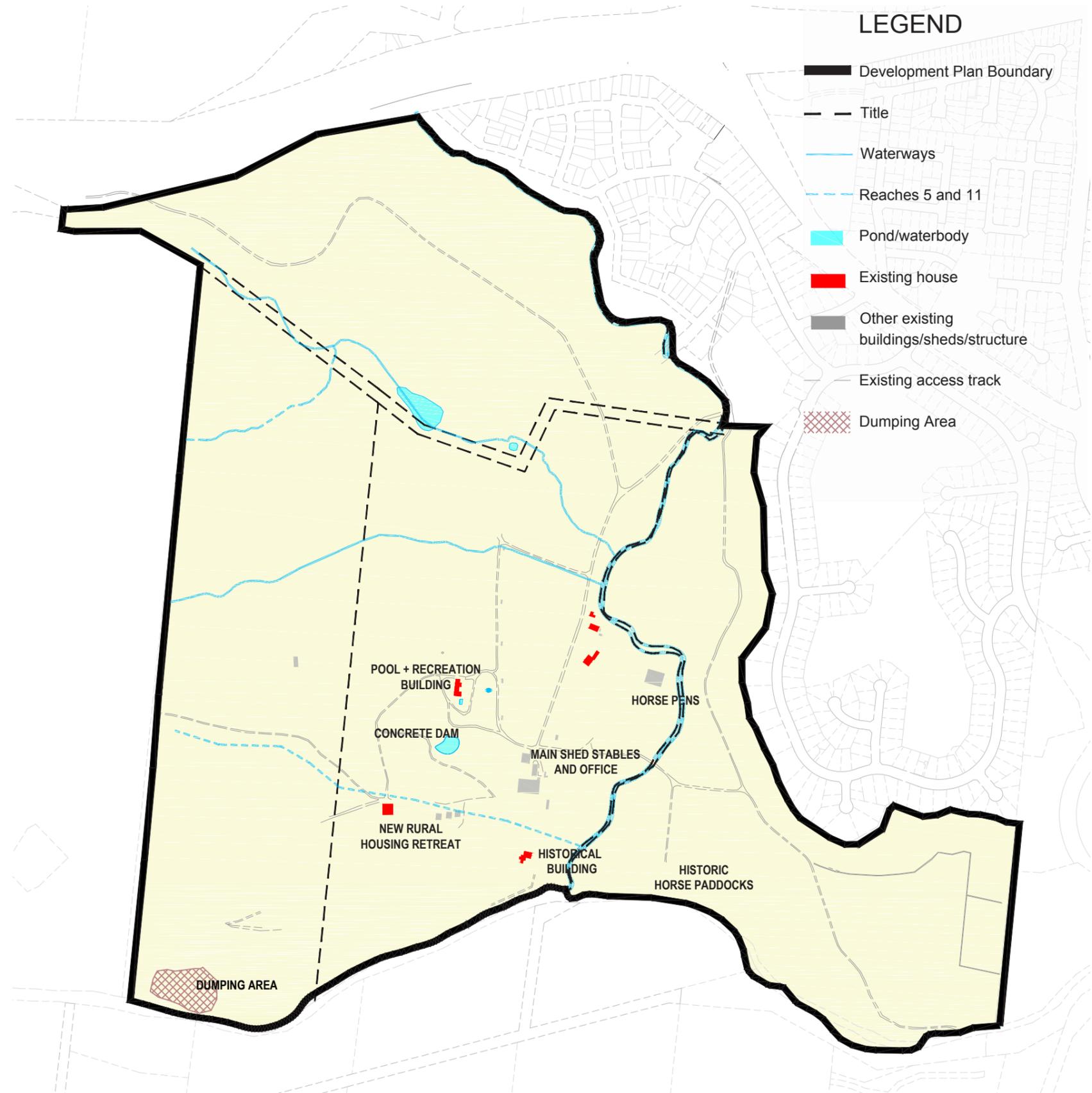


Figure 24: Site Contamination