



Victorian Murray Floodplain Restoration Project

Desktop Land Use Planning Assessment - Vinifera Floodplain Restoration Project

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Lower Murray Urban and Rural Water Corporation



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Appendix A. Citation on the Takasuka Levee Bank (HO186) from Allom Lovell & Associates 2001

**Appendix B. Environmental Significance Overlay, Schedule 1 (Waterway, Wetlands and Lakes Environs)
(ESO1)**

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Abbreviations

Acronym	Definition
BMO	Bushfire Management Overlay
DAWE	Commonwealth Department of Agriculture, Water and Environment
DELWP	Victorian Department of Environment, Land, Water and Planning
DoEE	Commonwealth Department of the Environment and Energy
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
ESO	Environmental Significance Overlay
Ha	hectares
HO	Heritage Overlay
Km	kilometre
LPPF	Local Planning Policy Framework
m	Metre
mm	Millimetres
MNES	Matters of national environmental significance as defined under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999
MPS	Municipal Planning Strategy
PCRZ	Public Conservation and Resource Zone
PPF	Planning Policy Framework
RDZ1	Road Zone, Category 1
VCAT	Victorian Civil and Administrative Tribunal
VHR	Victorian Heritage Register
VPP	Victoria Planning Provisions

Important note about the report

This report provides a desktop review of the planning and environmental controls associated with the proposed works for the Vinifera Flood Restoration Project. This report will support the preparation of referrals under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and *Environment Effects Act 1978* (EEA).

R8 has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. However, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law.

In preparing this report, R8 has relied on the information provided by VMFRP.

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1. Introduction

The Victorian Murray Floodplain Restoration Project (VMFRP) consists of nine discrete environmental works projects that will aim to return a more natural inundation regime across approximately 14,000 ha of high-ecological-value Murray River floodplain in Victoria through the construction of new infrastructure and the modification of existing infrastructure.

The proposed works will allow environmental water to be diverted from the Murray River water to high value wetlands and floodplains. This will mimic a natural flood regime triggering a range of ecological responses across a representative area of flood dependent communities, with the objective of improving the condition of vegetation communities and fauna habitat.

The Vinifera Flood Restoration Project is part of the western group of floodplain restoration projects on land under the management of the Department of Land, Environment, Water and Planning, Parks Victoria, Lower Murray Water and the Mallee Catchment Management Authority, and within the municipal areas of Swan Hill Rural City Council in Victoria, and Murray Shire Council in NSW (Figure 1.1).

1.1 Project description

The project involves the construction of 4 new regulators (V1, V2, V3 and V4), a water retaining embankment and a drop structure to retain and regulate water in the Vinifera part of the Nyah Vinifera Park, within the River Murray Reserve. The construction footprint and inundation area are shown in Figure 1.2. Inundation will cover 350 hectares (ha) of river reserve land.

Under the proposed scheme water would travel west along Vinifera Creek after entering the forest through the proposed V3 regulator, and travels back into the Murray River at the main downstream regulator V2. The V2 and V1 regulators are intended to isolate a large section of Vinifera Creek from the Murray River and detain water in a managed event, with regulator V3 preventing backflow onto private land. The V1 regulator allows the release of water over a broad shallow depression leading back into the Murray River, however regulator V2 is located on the more defined and deeper flow path and is the main regulator for controlling initial flow in and out of the forest.

The design relies on natural levees along the Murray River, supplemented by targeted infrastructure to impound the water at the desired level. Permanent pump infrastructure is not included in the works. Two hard stand areas (located near V4) and erosion control measures are included to enable the set-up of temporary pump infrastructure when required. No redundant structures have been identified as requiring to be decommissioned and removed.

Temporary pump infrastructure would include a diesel powered trailer-mounted rig with a suction pipe extending into the Murray River. While the frequency and duration of pumping will depend on actual inundation events and ability to achieve environmental watering targets, it is estimated that pumping may be needed approximately one year in 10, potentially occurring over a period of up to 2-3 months.

Existing tracks will be used to access all new infrastructure. Tracks will be upgraded where required to allow for construction and operational vehicles. This will involve grading and applying additional road base to the surface.

Where containment banks are required, these will be constructed within track alignments with the tracks reinstated on top of the banks and surfaced with gravel. Access track dimensions on the containment bank are to be consistent with Parks Victoria access track design and maintenance guidelines. The concept design assumes total carriageway width of 5 m, including shoulders (from Parks Victoria Class 5D Access Track/Road Design Standard).

Construction machinery required for the project will include trucks and excavators. A 20m wide construction corridor (10m from the middle of the alignment) has been adopted for the project and will form part of the

project area for investigation. It is considered that environmental effects from construction will be within a much reduced corridor.

The proposed infrastructure and works have been designed to allow for:

- natural flows to pass unhindered, to and from the floodplain when the structures are not in use (fully open).
- an arrangement that minimises the potential for erosion over the whole range of flow conditions.
- regulating structures to provide fish passage when not in use (fully open).

1.2 Area of Investigation, development footprint and construction footprint

The following terms are used throughout this report for the purposes of describing the project:

- Area of investigation - this includes the development footprint, as well as a substantial buffer around the development footprint.
- Development footprint - this is the area that the project infrastructure will occupy. This includes tracks used for access during construction and operation.
- Construction footprint - this includes the project infrastructure as well as the land required to construct the infrastructure.
- Inundation area - area of land subject to flooding during managed events, up to a specific design water level.

The majority of the area of investigation lies within the State of Victoria. A small portion of the area does, however extend into the southern bank of the Murray River within the State of NSW (Figure 1.2)

1.3 Purpose of this report

This report identifies Victorian and NSW land use and planning attributes associated with the area of investigation and surrounds to inform an assessment of potential effects of the proposed works to restore the natural inundation regime of high ecological-value land within the Murray River Floodplain of the Nyah Vinifera Park.

1.4 Limitations

The report relies on public information and data available online. The following limitations apply to the assessment:

- No site visit,
- No discussions with state and local government planning departments,
- No review of land use planning applications or recently issued land use and development planning permits.

Figure 1.1 Vinifera Floodplain Restoration Project – Project Location VMFRP

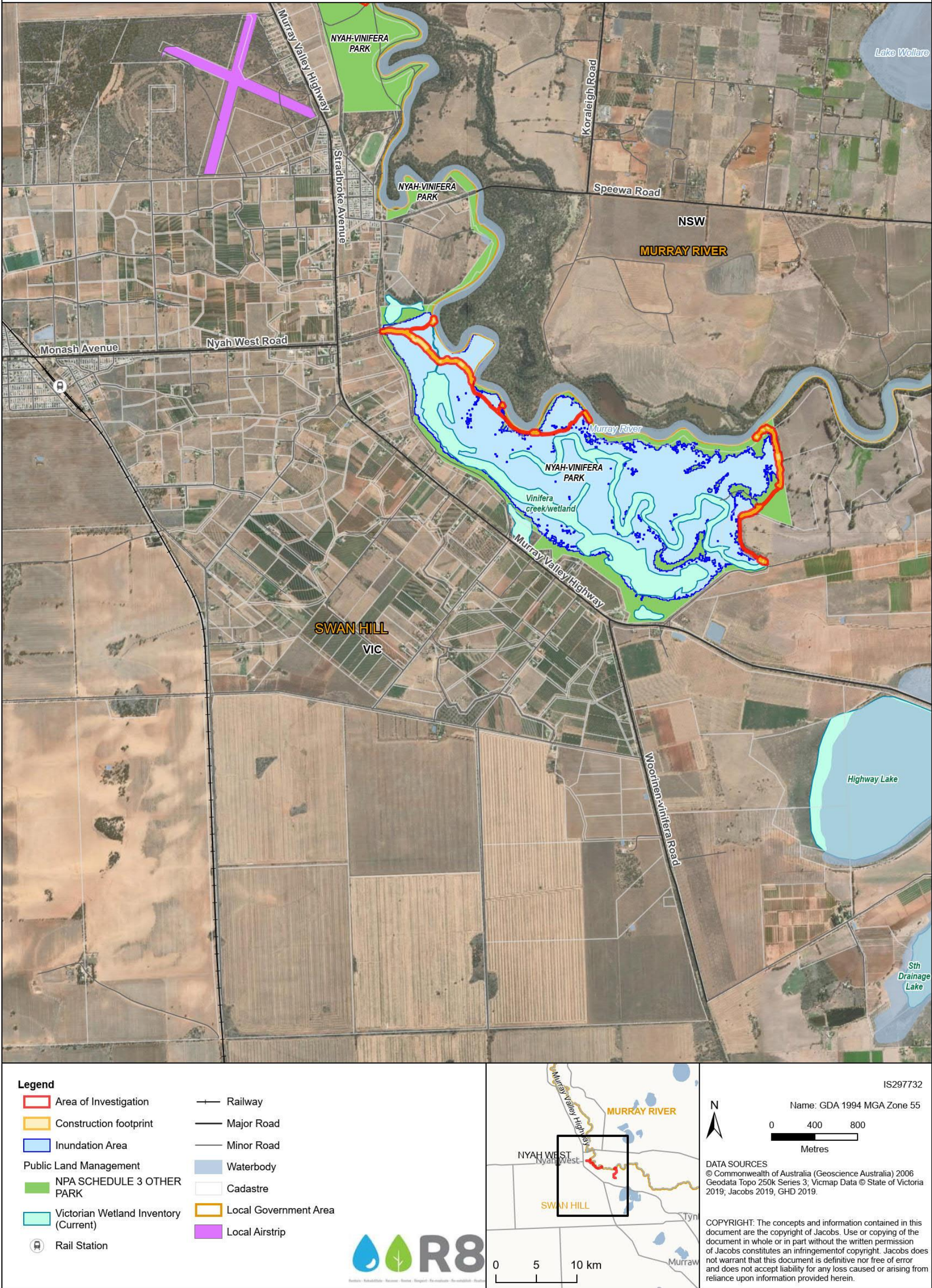
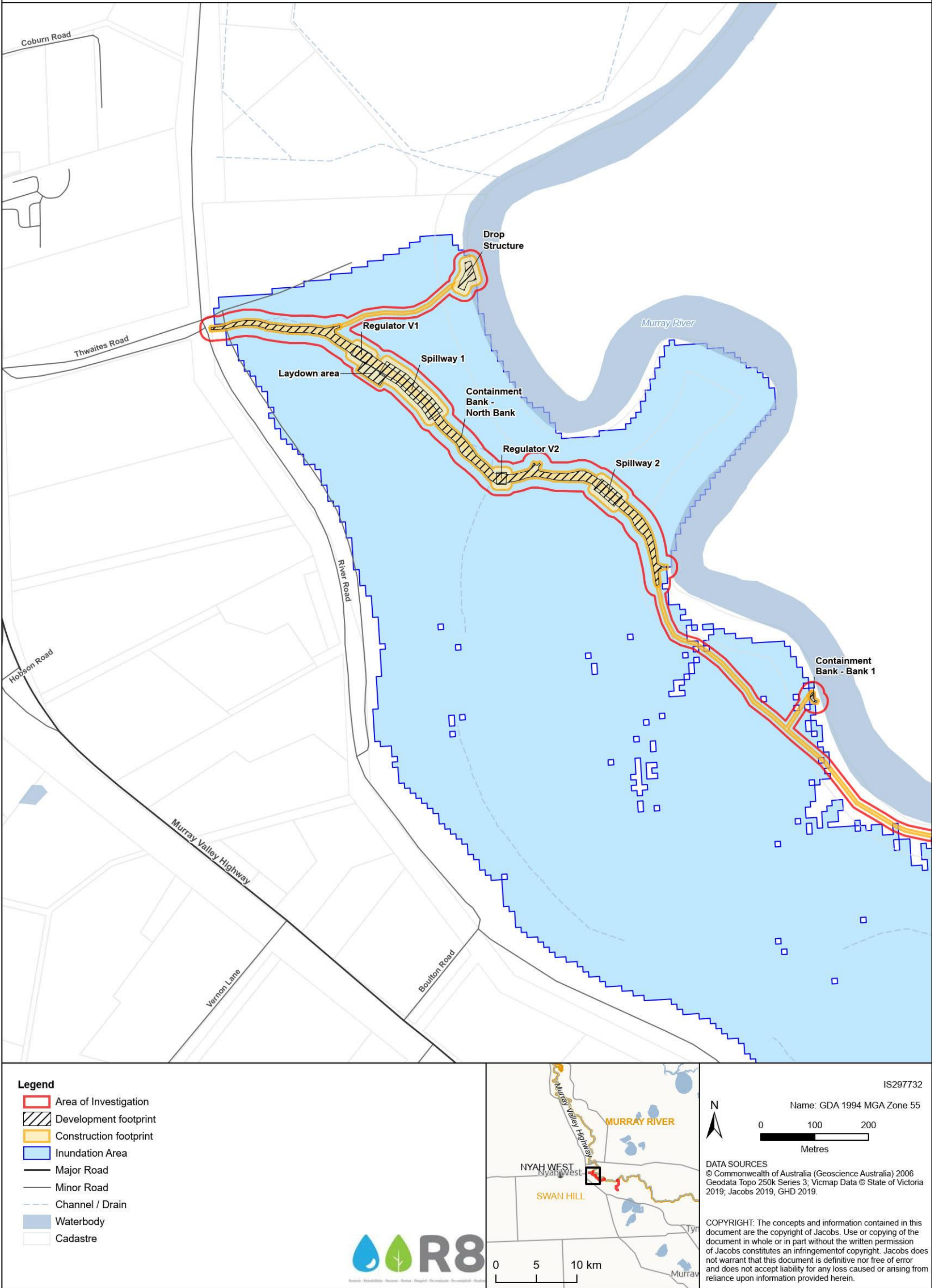
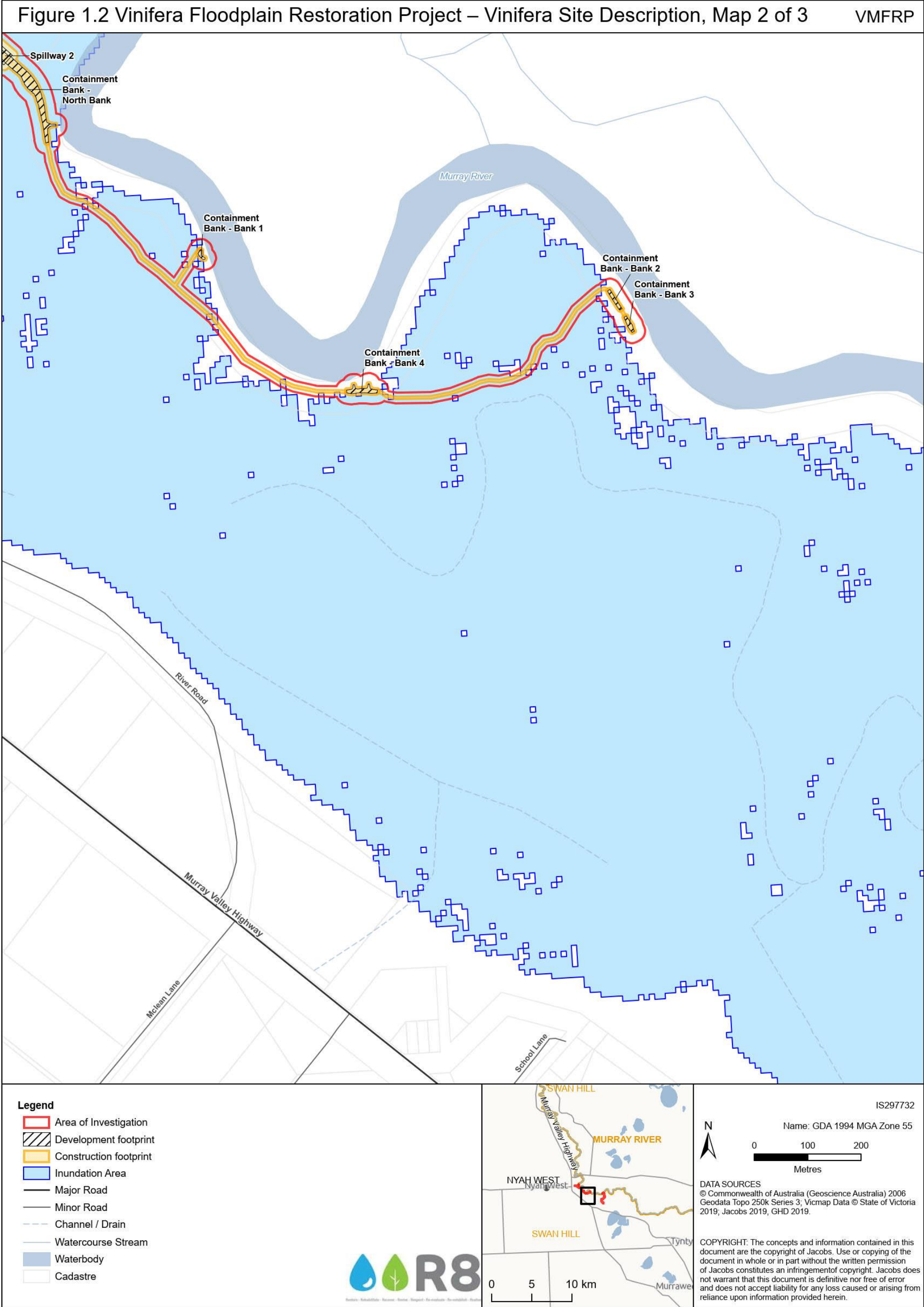


Figure 1.2 Vinifera Floodplain Restoration Project – Vinifera Site Description, Map 1 of 3 VMFRP

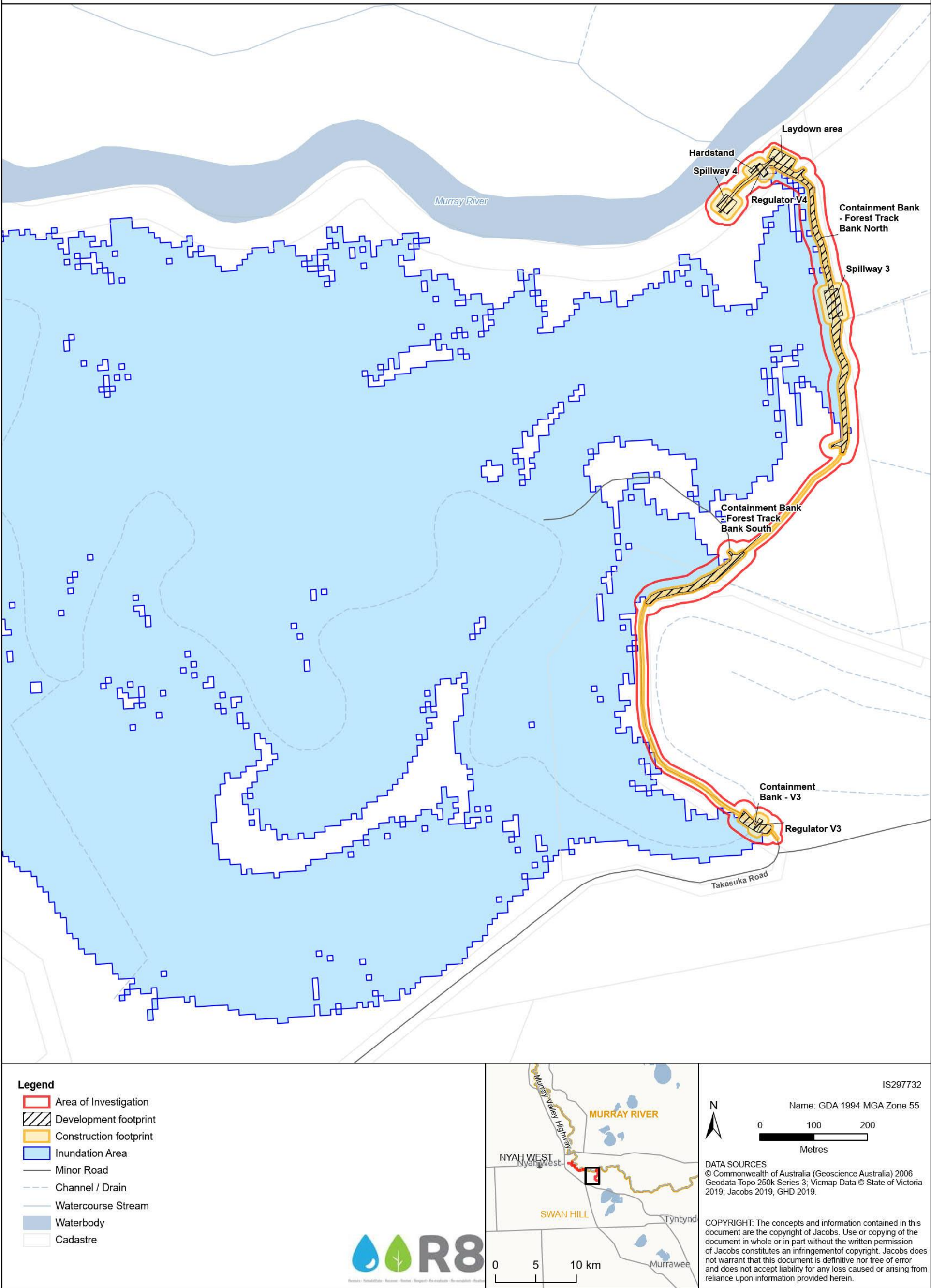


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Figure 1.2 Vinifera Floodplain Restoration Project – Vinifera Site Description, Map 3 of 3 VMFRP



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2. Key Legislation

2.1 Commonwealth legislation

Table 2.1 provides an overview of key Commonwealth legislation relevant to this land use planning assessment, including identifying primary approvals and likely secondary approval requirements for the project.

Table 2.1: Summary of relevant Commonwealth legislation

Description	Relevance to this project
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	
<p>The <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) provides the legal framework to protect and manage matters of national environmental significance (MNES), which include: world heritage properties; national heritage places; wetlands of international importance (Ramsar); listed threatened species and communities; listed migratory species; Commonwealth marine areas; the Great Barrier Reef Marine Park; nuclear actions; and water resources, in relation to coal seam gas and large coal mining development.</p> <p>Any project that is likely to have a significant impact on MNES, must be referred to the Commonwealth Minister for Environment via the Department of the Environment and Energy (DoEE) for a decision on whether the project is a 'controlled action' requiring assessment and approval under the EPBC Act.</p>	<p>Based on available information the proposed works have been determined to have a significant impact on the following Matter of National Environmental Significance:</p> <ul style="list-style-type: none"> Listed threatened species and ecological communities (Regent Parrot – potential habitat)
<i>Native Title Act 1993</i>	
<p>The <i>Native Title Act 1993</i> provides for the recognition and protection of the traditional rights and interests to the land and waters of the Aboriginal and Torres Strait Islander people. Victorian Crown Land is subject to compliance with either the land Use Activity Regime (LUAR) under the Traditional Owner Settlement Act 2010 or the future act regime of the <i>Native Title Act 1993</i>. Any dealings with Crown land must follow government policies in respect of Native Title and the provisions of the <i>Native Title Act 1993</i> and any agreements or court orders made under that act.</p> <p>If the land is outside a determination area under the Act it is required that an extinguishment assessment be undertaken in accordance with the Victorian Native Title Future Act Assessment Manual. Even if land is retained in the Crown estate but a change in land status is sought, procedural rights under a LUAR or the future act regime of the <i>Native Title Act 1993</i> may apply</p>	<p>The project is located on Crown land therefore must follow government policies of native title. Two Indigenous Land Use Agreement (ILUA) cover the investigation and inundation area (VI2004/010, VI2011/001).</p>
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>	
<p>The <i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i> allows the Commonwealth to intervene in the protection of areas and objects that are of particular</p>	<p>Significant Aboriginal cultural heritage exists on the site. This act allows the Commonwealth to</p>

Description	Relevance to this project
significance to Aboriginal people. The Act allows the Environment Minister, on application of an Aboriginal person or persons, to make declaration to protect an area, object or class of objects from a threat of injury or desecration.	intervene in any decision for the protection of this heritage.

2.2 Victorian legislation

Table 2.2 provides an overview of key Victorian planning and environmental legislation which include approval requirements for the project.

Table 2.2: Relevant Victorian legislation

Description	Relevance
Primary legislation	
<i>Environment Effects Act 1978</i>	
<p>The <i>Environment Effects Act 1978</i> provides for the assessment of projects that are capable of having a significant effect on the environment</p> <p>The process under the <i>Environment Effects Act 1978</i> is not an approval process itself, rather it's an assessment process that enables statutory decision-makers to make decisions about whether a project with potentially significant environmental effects should proceed.</p> <p>If a project requires assessment under the Act and the EPBC Act the relevant process can be accredited under the Assessment Bilateral Agreement between the Commonwealth and Victoria. This means that two separate assessment processes are not required.</p> <p>'Ministerial guidelines for assessment of environmental effects under the Environment Effects Act 1978' (the Guidelines) (DSE, 2006) outline the triggers for referral of a project to the Minister for Planning and describes the process of preparing an EES.</p>	<p>A referral to the Minister for Planning under the Act will be undertaken as it may trigger criteria listed in the Guidelines in relation to the potential for significant effects of regional or State significance on the environment.</p> <p>In particular the proposed works at Nyah may have the potential for:</p> <ul style="list-style-type: none"> extensive or major effects on the health of biodiversity of aquatic, estuarine or marine ecosystems over the long term, extensive or major effects on landscape values of regional importance, especially where recognised by a planning scheme overlay or within or adjoining land reserved under the National Parks Act 1975, and/or extensive or major effects on Aboriginal cultural heritage.
<i>Planning and Environment Act 1987</i>	
<p>The <i>Planning and Environment Act 1987</i> regulates the use and development of land in Victoria. It sets out the framework and procedures for preparing and amending planning schemes, obtaining planning permits, settling disputes, enforcing compliance with planning schemes, and other administrative procedures.</p>	<p>The construction footprint and area of investigation is on land that is subject to the Swan Hill Planning Scheme developed and implemented under the <i>Planning and Environment Act 1987</i>. Use and development of the project site must meet the requirements of the planning scheme.</p> <p>Projects can be approved via 2 processes – the issue of a planning permit or the amendment of the planning scheme.</p>

Description	Relevance
<i>National Parks Act 1975</i>	
<p>The <i>National Parks Act 1975</i> and associated National Parks Regulations 2013 seeks to preserve and protect the natural environment and wilderness areas, its indigenous flora and fauna, its scenic and archaeological features and remote nature areas. This is achieved through the development of certain protected areas, which include national parks, state parks, marine national parks and coastal parks. In these areas activities and access are restricted and require specific written approval in the form of leases, licences and agreements from Parks Victoria, declared management authority under the Parks Victoria Act 2018.</p> <p>Under s27 of the <i>National Parks Act 1975</i> and clause 184 of the associated regulations, Parks Victoria can give consent to a public authority to perform its function in a park.</p>	<p>The area of investigation is within a Park and under the ownership and management of Parks Victoria. Land consent under s27 of the Act will be required from Parks Victoria for the proposed works to occur.</p>
<i>Parks Victoria Act 1998</i>	
<p>The <i>Parks Victoria Act 1998</i> is a new act which re-creates Parks Victoria as an independent statutory authority and strengthens Park Victoria's role of protecting, conserving and enhancing Victoria's parks and waterways.</p>	<p>Parks Victoria is the owner and land manager of the Nyah Vinifera Park which supports the project works. All required consents will be sought from Parks Victoria.</p>
Secondary legislation	
<i>Flora and Fauna Guarantee Act 1988</i>	
<p>The <i>Flora and Fauna Guarantee Act 1988</i> (FFG Act) is the key legislation in Victoria for the conservation of threatened species and communities and for the management of potentially threatening processes. The handling of protected flora is regulated by DELWP to ensure that any harvesting or loss is ecologically sustainable. In accordance with s47 of the Act it is an offence to take, trade in, keep, move or process protected flora without a licence. Under s52 of this Act it is an offence to take, trade in, keep or move protected fish without a licence.</p> <p>A permit or licence from DELWP is required to collect protected native plants or to do works or other activities on public land which might kill, injure or disturb protected native plants.</p> <p>An amendment to the FFG Act will come into effect on 1 June 2020. This amendment will introduce a number of reforms to provide a modern and strengthened framework, including (but not limited to):</p>	<p>Protected flora may need to be removed from the construction footprint to allow for the project. A permit or licence for the removal will be required where this occurs on public land, which is almost all of the area of investigation.</p>

Description	Relevance
<ul style="list-style-type: none"> the introduction of a Common Assessment Method, reducing duplication of effort across jurisdictions; and introduction of principles that include consideration of the rights and interests of Traditional Owners and the impacts on biodiversity. 	
Wildlife Act 1975	
<p>The <i>Wildlife Act 1975</i> establishes procedures to protect and conserve Victoria's wildlife. It specifically seeks to prohibit and regulate the conduct of persons engaged in activities concerning or related to wildlife. Section 28A of this Act empowers the secretary of DELWP (or delegate) to provide an individual written authorisation to capture and release wildlife. Such authorisation generally comes with strict terms and conditions which the individual must comply with.</p>	<p>It may be required to relocate wildlife to a suitable habitat out of the construction footprint if potentially impacted by the works. Authorisation to do so from DELWP will be required.</p>
Fisheries Act 1995	
<p>The <i>Fisheries Act 1995</i> provides a legislative framework for the regulation, management and conservation of Victorian fisheries.</p> <p>A person must not take fish from marine waters or inland waters; or use or possess recreational fishing equipment in or next to Victorian water unless authorised to do so by a licence.</p> <p>A person must not take fish for sale unless authorised to do so under this Act.</p>	<p>It is not expected that fish will be taken from the river to allow for the proposed project works. The project includes provision for fish passage during construction.</p>
Road Management Act 2004	
<p>The <i>Road Management Act 2004</i> establishes the statutory framework for management of the Victorian road network by Regional Roads Victoria and councils to facilitate the coordination of the various uses of road reserve for roadways, pathways, infrastructure and similar purposes, for the purpose of delivering safe and efficient state and local public road networks.</p> <p>Under the RM Act, Regional Roads Victoria is the responsible road authority for declared arterial roads and freeways, while councils are the responsible road authority for municipal roads within their local government area.</p> <p>Consent may be required from the relevant responsible road authority for development and use of and within a road reserve, including occupation and/or construction works in, on or under a road.</p>	<p>Any required alterations to the Murray Valley Highway or council roads leading to the site may require approval from the Roads Corporation or local council. Proposed works to existing tracks within the Park will be undertaken in accordance with Parks Victoria requirements.</p>

Description	Relevance
<i>Traditional Owner Settlement Act 2010</i>	
The Traditional Owner Settlement Act 2010 provides for an out-of-court settlement of native title. The Act allows the Victorian Government to recognise traditional owners and certain rights in Crown land. In return for entering into a settlement, traditional owners must agree to withdraw any native title claim, pursuant to the Native Title Act 1993 (Cth) and not to make any future native title claims.	No Traditional Owner Settlement Agreements apply to the area of investigation. The Nyah-Vinifera Park has an extremely significant cultural landscape for the Wadi Wadi Indigenous Nation. Being Crown land the area could be subject to the <i>Traditional Owner Settlement Act 2010 (TOSA)</i> .
<i>Water Act 1989</i>	
The <i>Water Act 1989</i> allows for management of the state's water resources. The main purpose of the Act is to promote the equitable and efficient use of water resources, make sure water resources are conserved and properly managed for the benefit of all Victorians and increase community involvement in conserving and managing our water resources. The administration of the Act is shared between CMAs and water authorities. Any works in declared waterways under the Act requires either a licence under section 67 or a works on waterways permit, administered by CMAs under by-law. A licence under section 51 is required to take and use water.	There are no proposed works on declared waterways as part of this project. Works are required in one or more places on the southern Bank of the Murray River which is in NSW.

2.3 New South Wales legislation

Table 2.3 provides an overview of key Victorian planning and environmental legislation which include approval requirements for the project.

Table 2.3: Relevant NSW legislation

Description	Relevance
<i>Primary Legislation</i>	
<i>Environmental Planning and Assessment Act 1979</i>	
The <i>Environmental Planning and Assessment Act 1979</i> supports a three-tiered system of state, regional and local levels of significance, requiring the relevant planning authority to take into consideration the impacts to the environment (both natural and built) and the community of proposed development or land-use change.	Development in NSW is assessed in accordance with the provisions of the NSW Environmental Planning and Assessment Act 1979 (NSW EP&A Act) and the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation). The EP&A Act institutes a system for environmental assessment, including approvals and environmental impact assessment for proposed developments. The need or otherwise for development control is set out in environmental planning instruments. The drop structures are permissible without development consent under the

Description	Relevance
	<p>Murray Regional Environmental Plan No. 2 – Riverine Land and is able to be assessed under Part 5 of the NSW EP&A Act. A Review of Environmental Factors would be prepared to assess the impacts of the drop structure.</p> <p>The pump station is part of a water supply reticulation system and development for this purpose may be carried out with consent on any land under State Environmental Planning Policy (Infrastructure) 2007. A development application would be submitted to the Murray River Council.</p>
<i>National Parks and Wildlife Act 1975</i>	
<p>The Act promotes and regulates the management of national parks and historic sites or places of cultural value within the landscape and the conservation of certain fauna, native plants and Aboriginal objects and places. The Act provides the basis for legal protection and management Aboriginal sites in NSW. All Aboriginal objects within NSW are protected under Part 6 of the Act. The implementation of the Aboriginal heritage provisions is the responsibility of the Department of Planning, Industry and Environment.</p>	<p>Based on the findings of activities undertaken to date, an Aboriginal Heritage Impact Permit is not required under the NSW National Parks and Wildlife Act 1974 because Aboriginal items are unlikely to be impacted in NSW.</p>

3. Existing conditions

3.1 Land use and development

3.1.1 Area of investigation

Land that supports the construction footprint, construction buffer and the inundation area is identified as the area of investigation. The area of investigation is identified as land with the Murray River floodplain that forms part of the Nyah Vinifera Park.

The floodplain area of the park is dominated by ecological features such as a network of extensive waterways, River Red Gum forest, wetlands and inundation-dependent woodlands. The Vinifera Creek is the main water course traversing this area. This creek flows intermittently through the area from Nyah to Swan Hill. Parks Victoria is the land owner and manager for the park.

3.1.2 Surrounding area

The regional park extends across land west of the Murray Valley Highway to the banks of the Murray River, between Nyah and Swan Hill in the northwest region of Victoria. All of the park area is within Crown land.

The Nyah Vinifera Park is a natural ecological and historical landscape on the Murray River that supports various recreational and leisure activities such as camping, fishing and other water activities.

Swan Hill, Vinifera and Nyah are rural towns in close proximity to the area of investigation. Swan Hill, a town in the northwest of Victoria, supports a population of approximately 10,905 people (ABS 2016) in 4,915 residential dwellings. The town is located to the south of the area of investigation, connected by the Murray Valley Highway. The town supports a railway line from Swan Hill to Piangil, the Swan Hill Racecourse and other local services and recreational facilities.

Vinifera, 30 km north of Swan Hill is a smaller town supporting approximately 159 people in 69 dwellings (ABS 2016). The community is dependent on services and facilities in surrounding towns such as Swan Hill and Nyah. Its local primary school was closed in the 1990s.

The land in Vinifera supports extensive orchards and vineyards. Agriculture is dependent on irrigation water pumped from the Murray River.

The Murray Valley Highway is the main arterial road running north-south connecting the townships along the Victorian side of the Murray River from as far as Robinvale (just outside of Mildura) to Echuca. The road is managed by Regional Roads Victoria.

3.2 Land tenure

3.2.1 The project area

All of the land within the area of investigation is Crown land associated with the Nyah-Vinifera Park under the ownership and management of Parks Victoria. The eastern boundary of the investigation abuts farming land zoned for such a purpose. It is unclear as to whether the proposed works will intrude into this freehold land. Land parcel information has been obtained for this privately owned land that may be impacted.

A summary of land parcels affected by the area of investigation is provided in Table 3.1.

Table 3.1: Land parcel information affected by project and inundation areas

SPI	Tenure	Description	Owner/land manager	Project component
Victoria				
68S~1\PP3676	Crown land	Other Park (Schedule 3) – National Parks (Nyah-Vinifera Park)	Parks Victoria	V1 Levee, SReg V1, V1 Sill 1, laydown area, SReg V2, V1 Sill 2, levee forest track, forest track spillway, inundation area
68T~1\PP3676	Crown land	Other Park (Schedule 3) – National Parks (Nyah-Vinifera Park)	Parks Victoria	Levee forest track, SReg V3
2006\PP3676	Crown land	Other Park (Schedule 3) – National Parks (Nyah-Vinifera Park)	Parks Victoria	Inundation
2009\PP3676	Crown land	Other Park (Schedule 3) – National Parks (Nyah-Vinifera Park)	Parks Victoria	Drop structure, V1 Levee, low point 1 and 3 (sill), low point 2, 4 and 5, levee forest track, forest track low point 7, SReg V4, laydown area, inundation area
48\PP3676	Freehold land	TP 302218B 114 Taskasuka Road Beverford 3590	Unknown	Mapping shows the regulator, construction footprint and inundation area extending into private property in the vicinity of Regulator 3. It is unclear at this stage if this is correct or a mapping error. Cadastral survey will need to be undertaken to confirm the private property boundary in relation to the location of project works.
NSW				
NA	Crown land	Unallocated/unreserved	Murray-Darling Basin Authority	Drop structure (downstream of regulator), inundation area

The location of land parcels affected by the project is shown in Figure 3.1 Land Tenure Map

3.3 Native title interests

A search of the National Native Title Tribunal online register and maps indicates that:

- No current native title applications under the *Native Title Act 1993* apply over the area of investigation.
- No previous native title claims have been determined under the *Native Title Act 1993* (Cwth) in relation to land within or adjacent to the area of investigation.
- No current applications or registered agreements under the *Traditional Owner Settlement Act 2010* (Vic) apply over land within the area of investigation.
- Two Indigenous Land Use Agreements (ILUAs VI2004/010 and VI2011/001) cover the area of investigation and inundation area (Figure 3.2).

The ILUA's are registered for exploration and include the traditional owners of the Wamba Wamba, Barapa Barapa and Wadi Wadi Peoples. These ILUAs cover a wide area south of the Murray River extending from north of Nyah to the Gannawarra/Cohuna area and inland.

3.4 Other relevant features

The region also supports other important features that form an important part of the general land use of the project area and surrounds (Figure 3.3).

3.4.1 Irrigation districts

The Torrumbarry Irrigation Area (TIA) lies directly to the west of the project inundation area. The TIA is part of the largest irrigation system in Victoria – the Goulburn-Murray Irrigation District (GMID). The GMID accounts for more than 70% of water storages and some 90% of water used in irrigation across the state. Approximately 2000 landowners rely on this system for farming within the area.

3.4.2 Apiary

Recent data indicates the location of 3 apiary sites located within the Nyah-Vinifera Park and another site within 3 km to the west of the area of investigation. Although Bees rely on adequate water source to thrive, further investigation into possible effects of inundation of apiary sites may be required to determine measures for management of impacts.

3.4.3 Viticulture

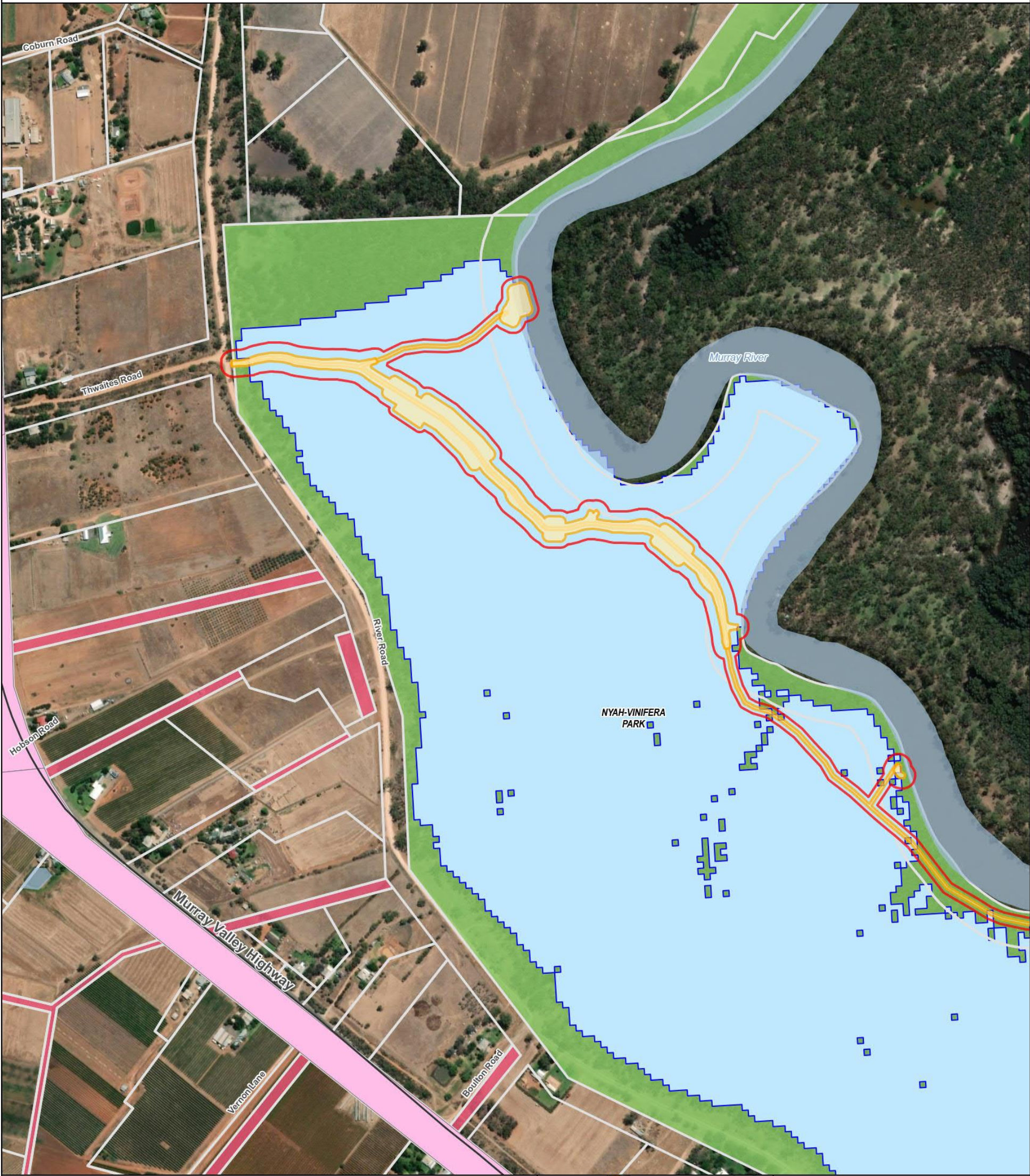
The project is within the Murray Darling and Swan Hill wine region of Victoria. The industry of the region spans from Lake Charm near Kerang in the southeast all the way to Piangil in northwest Victoria, and Toolybec in southern NSW. Almost all vineyards in the Swan Hill area are irrigated from the Murray River or its tributaries.

3.4.4 Recreational activities

The Nyah Vinifera Park is known as a recreation park for fishing, four wheel driving and walking. The park provides direct access to the Murray River for water-based activities and river camping or caravanning. It forms part of the Murray River Trail for tourism purposes.

Figure 3.1 Vinifera Land Tenure, Map 1 of 3

VMFRP



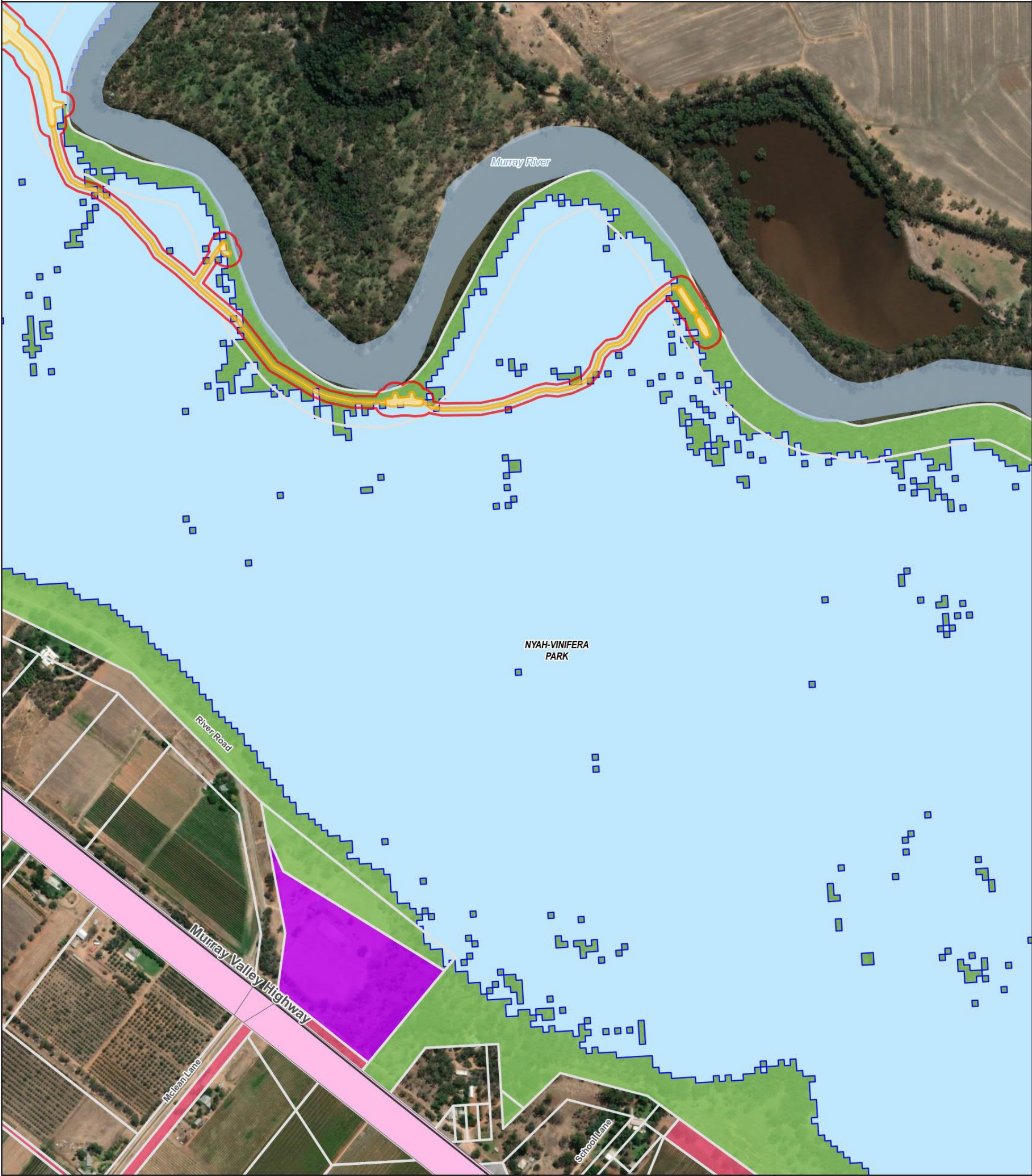
- Legend**
- Area of Investigation
 - Construction footprint
 - Inundation Area
 - Public Land Management
 - NPA SCHEDULE 3 OTHER PARK
 - SERVICES AND UTILITIES
 - Major Road
 - Waterbody
 - Cadastre
 - Murray Valley Highway Road Reserve



IS297742
Name: GDA 1994 MGA Zone 55
0 100 200
Metres
DATA SOURCES
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Figure 3.1 Vinifera Land Tenure, Map 2 of 3

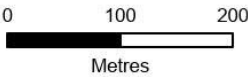
VMFRP



- Legend**
- Area of Investigation
 - Construction footprint
 - Inundation Area
 - Public Land Management
 - NPA SCHEDULE 3 OTHER PARK
 - COMMUNITY USE AREA
 - SERVICES AND UTILITIES
 - UNCATEGORISED PUBLIC LAND
 - Major Road
 - Waterbody
 - Cadastre
 - Murray Valley Highway Road Reserve



Name: GDA 1994 MGA Zone 55

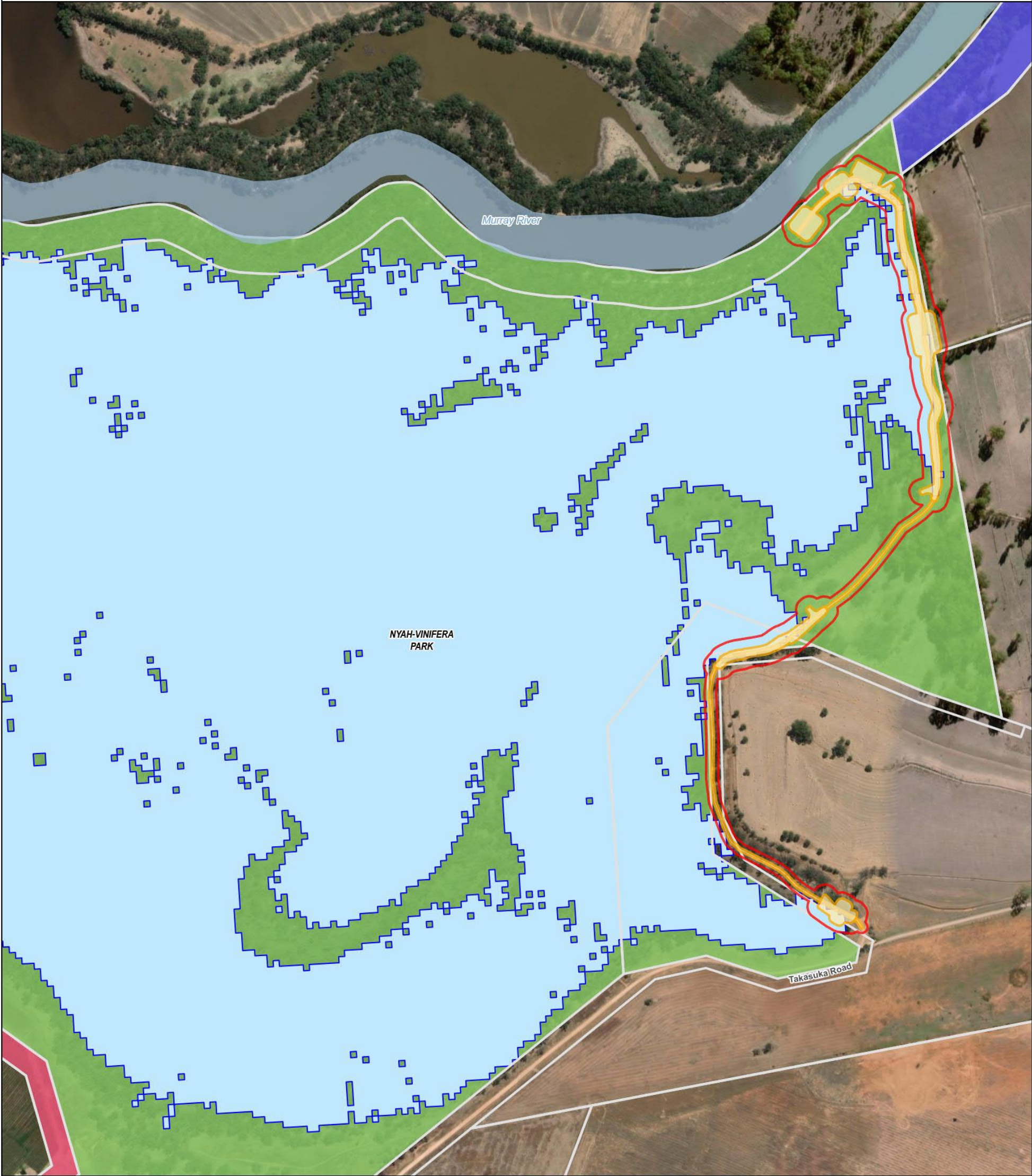


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Figure 3.1 Vinifera Land Tenure, Map 3 of 3

VMFRP



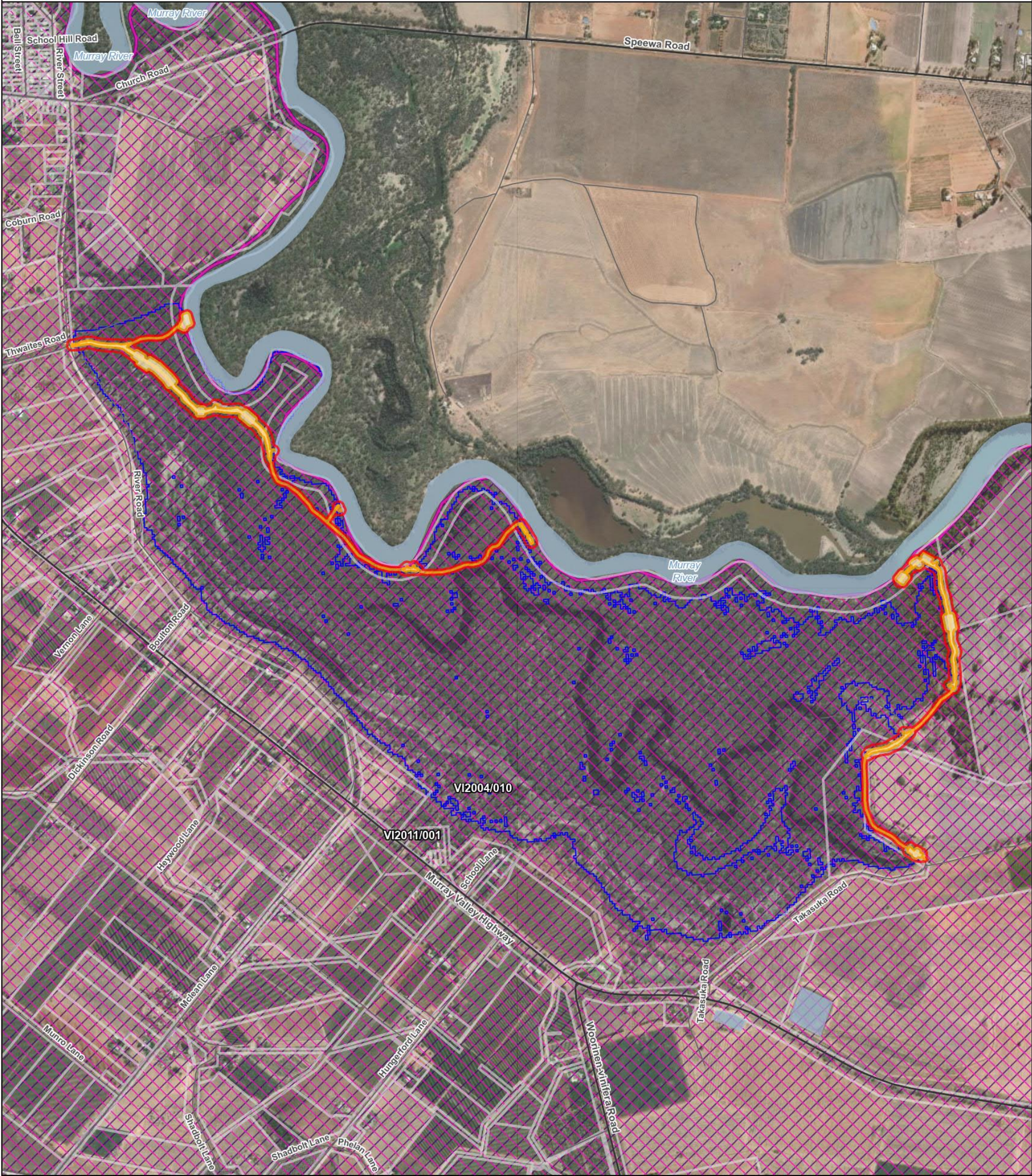
- Legend**
- Area of Investigation
 - Construction footprint
 - Inundation Area
 - Public Land Management
 - NPA SCHEDULE 3 OTHER PARK
 - NATURAL FEATURES RESERVE
 - SERVICES AND UTILITIES
 - Waterbody
 - Cadastre
 - Murray Valley Highway Road Reserve



IS297742
Name: GDA 1994 MGA Zone 55
0 100 200
Metres
DATA SOURCES
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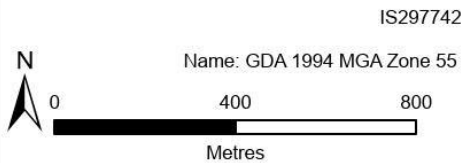
Figure 3.3 Vinifera Floodplain Restoration Project – Native Title Interests

VMFRP



Legend

- | | |
|-------------------------------------|------------|
| Area of Investigation | VI2011/001 |
| Construction footprint | Major Road |
| Inundation Area | Minor Road |
| NNTT Indigenous Land Use Agreements | Waterbody |
| VI2004/010 | Cadastre |

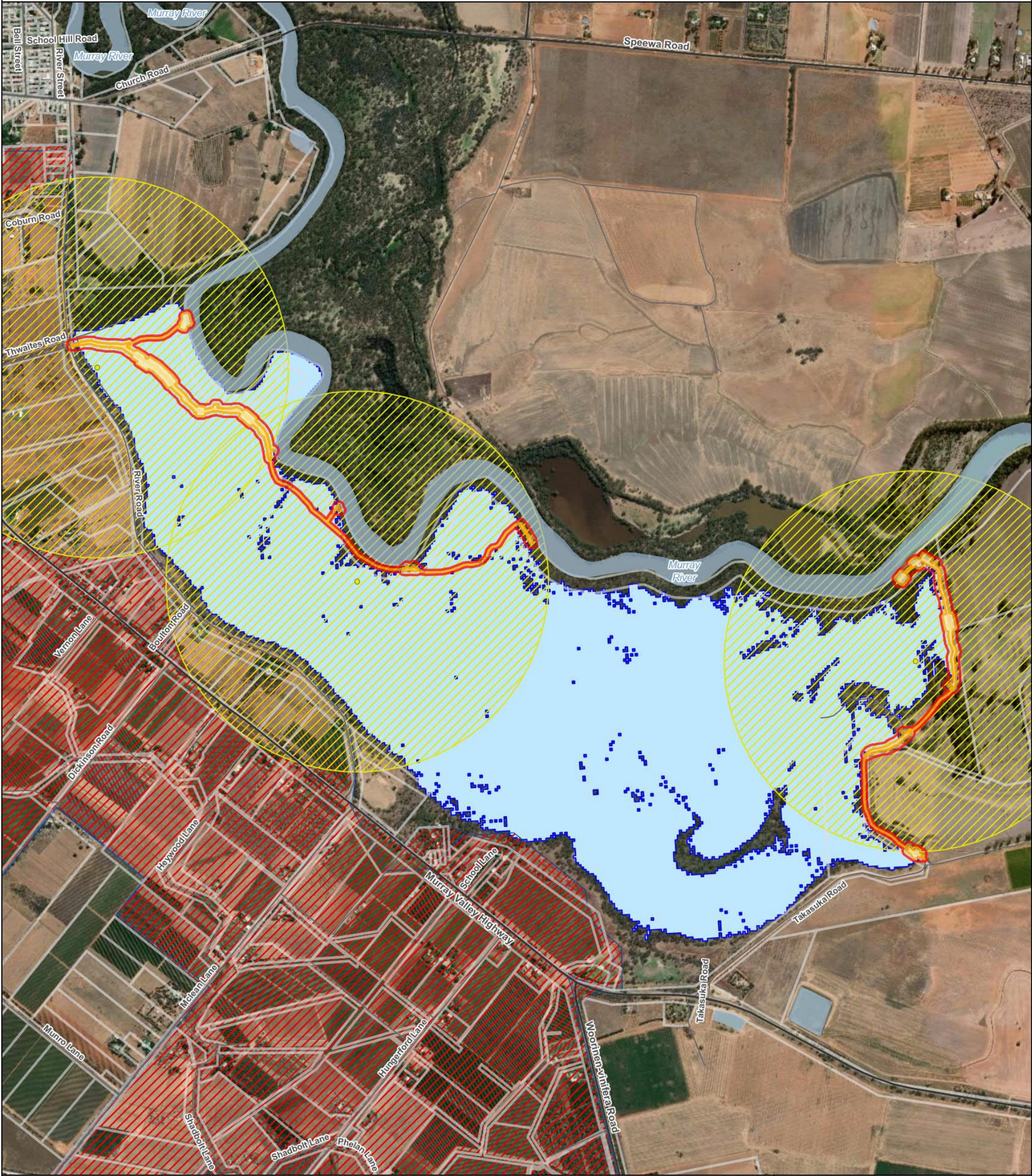


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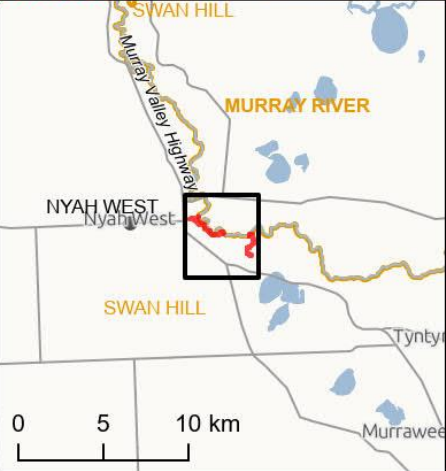
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Figure 3.3 Vinifera Floodplain Restoration Project – Other Land Use Features

VMFRP



- Legend**
- Area of Investigation
 - Construction footprint
 - Inundation Area
 - Bee Farm
 - Bee Farm (Buffer)
 - Irrigation District
 - Major Road
 - Minor Road
 - Waterbody
 - Cadastre



IS297742
Name: GDA 1994 MGA Zone 55
0 400 800
Metres

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4. Victorian Planning Framework

The project is on land subject to the Swan Hill Planning Scheme (the scheme). This section provides a brief assessment of the area of investigation and proposed works against state and local policy and provisions of the scheme.

4.1 Planning policy

Table 4.1 lists the following clauses of the Planning Policy Framework of the scheme relevant to the project.

Table 4.1: Relevant Planning Policy

Relevant clause		Objectives
Clause 12 – Environmental and Landscape Values	Clause 12.01 Biodiversity	<p>Clause 12.01-1S – Protection of Biodiversity</p> <p>Take account of impact of land use and development on biodiversity.</p> <p>Clause 12.01-2S Native Vegetation Management</p> <p>The removal, destruction or lopping of native vegetation, apply the three-step approach in accordance with the Guidelines for the removal, destruction or lopping of native vegetation (Department of Environment, Land, Water and Planning, 2017).</p>
	Clause 12.03 Water Bodies and Wetlands	<p>Clause 12.03-1S River Corridors, Waterways, Lakes and Wetland</p> <p>Ensure development responds to and respects the significant environmental, conservation, cultural, aesthetic, open space, recreation and tourism assets of water bodies and wetlands.</p>
	Clause 12.05 Significant Environments and Landscapes	<p>Clause 12.05-2S Landscapes</p> <p>Ensure development does not detract from the natural qualities of significant landscape areas.</p>
Clause 13 Environmental Risks and Amenity	Clause 13.01 Climate Change Impacts	<p>Clause 13.01-1S Natural Hazards and Climate Change</p> <p>Integrate strategic land use planning with emergency management decision making.</p>
	Clause 13.02 Bushfire	<p>Clause 13.02-1S Bushfire Planning</p> <p>Ensuring the bushfire risk to existing and future residents, property and community infrastructure will not increase as a result of future land use and development.</p>
	Clause 13.03 Floodplains	<p>Clause 13.03-1S Floodplain Management</p> <p>Avoid intensifying the impact of flooding through inappropriately located use and development.</p>
	Clause 13.04 Soil Degradation	<p>Clause 13.04-3S Salinity</p> <p>Prevent inappropriate development in areas affected by groundwater salinity.</p> <p>Any applicable regional catchment strategy and any associated implementation plan or strategy (particularly salinity management plans and regional vegetation plans).</p>

Relevant clause		Objectives
		Any special area plan approved under the Catchment and Land Protection Act 1994.
	Clause 13.07 Amenity and Safety	Clause 13.07-1S Land Use Compatibility Ensure the compatibility of a use or development as appropriate to the land use functions and character of the area by: directing land uses to appropriate locations.
Clause 14 Natural Resource Management	Clause 14.01 Agriculture	Clause 14.01-3S Forestry and Timber Production Identify areas that may be suitably used and developed for plantation timber production in accordance with the Code of Practice for Timber Production (Department of Environment and Primary Industries, 2014)
	Clause 14.02 Water	Clause 14.02-1S Catchment Planning and Management Ensure planning is coordinated with the activities of catchment management authorities. Clause 14.02-2S Water Quality Discourage incompatible land use activities in areas subject to flooding, severe soil degradation, groundwater salinity or geotechnical hazards where the land cannot be sustainably managed to ensure minimum impact on downstream water quality or flow volumes.
Clause 15 Built Environment and Heritage	Clause 15.01 Built Environment	Clause 15.01-1S Urban Design Require development to respond to its context in terms of character, cultural identity, natural features, surrounding landscape and climate. Clause 15.01-2S Building Design Ensure development is designed to protect and enhance valued landmarks, views and vistas. Clause 15.01-6S Design for Rural Areas To ensure development respects valued areas of rural character.
	Clause 15.02 Sustainable Development	Clause 15.02-1S Energy and Resource Efficiency To encourage land use and development that is energy and resource efficient, supports a cooler environment and minimises greenhouse gas emissions.
	Clause 15.03 Heritage	Clause 15.03-1S Heritage Conservation Encourage appropriate development that respects places with identified heritage values. Clause 15.03-2S Aboriginal Cultural Heritage Identify, assess and document places of Aboriginal cultural heritage significance, in consultation with relevant Registered Aboriginal Parties, as a basis for their inclusion in the planning scheme.
Clause 17 Employment	Clause 17.04 Tourism	Clause 17.04-1R Tourism - Loddon Mallee North Support nature-based tourism and protect these activities from urban encroachment.

Relevant clause		Objectives
Clause 19 Infrastructure	Clause 19.02 Community Infrastructure	Clause 19.02. Open space Ensure that land use adjoining conservation reserves complements the open space in terms of visual and noise impacts, preservation of vegetation and treatment of waste water to reduce turbidity and pollution.
Local Planning Policy		
Municipal Strategic Statement		
Clause 21.01 Municipal Profile		The Murray River corridor accommodates the majority of the region's population and irrigated agriculture. The municipality is part of a wider region which features an extensive agricultural area and one of the most productive areas of the Murray Darling Basin.
Clause 21.02 Key Influences and Issues	Clause 21.02-1 Key influences and issues	<p><u>Environment</u> The protection of the environmental values of the Murray River corridor. The river and its wetland provide significant habitat values for flora and fauna. Flooding is a significant environmental risk, particularly along the Murray River.</p> <p><u>Natural resource management</u> The continued growth of the horticulture industry. The need to support dry land agriculture</p> <p><u>Built environment and heritage</u> The protection of Aboriginal and European heritage is critical to the growth in tourism and sense of place.</p> <p><u>Economic development</u> The significant potential for tourism along the Murray River Corridor.</p> <p><u>Infrastructure and transport</u> The uptake of improved irrigation practices via projects such as the Northern Victorian Irrigation Renewal Project.</p>
Clause 21.05 Environment	Clause 21.05-1 River and wetland health	Objective 1 - To manage the Murray River corridor's environmental values and resource capacity.
	Clause 21.05-2 Catchment and land protection	Objective 2 – To ensure the sustainable development of natural resources of land, flora, natural ecosystems and water, including groundwater.
Clause 21.07 Built Environment and Heritage	Clause 21.07-2 Heritage	Objective 5 - To recognise the significance of local Aboriginal heritage.
Clause 21.08 Economic Development	Clause 21.08-2 Tourism	Objective 2 - To increase visitor numbers and length of stay.

The project supports both state and local planning policy, particularly in relation to conservation of protecting and enhancing biodiversity, waterbodies and wetlands and significant landscapes of the area. The intention of

improving on the health of these riverine environments will also support the economic development of the region which is already focused on tourism based nature activities associated with ecological value.

In particular, the project strongly supports the objectives of Clause 21.05 of the Swan Hill Planning Scheme Municipal Strategic Statement in relation to the management of the environmental values and resource capacity of the Murray River. Objectives for the support of other land use within the municipality is also strongly recognised.

4.2 Land use definitions

Land use definitions of proposed works are defined in Clause 73 of the Swan Hill Planning Scheme and provided in Table 4.2. These definitions will be used in the assessment of the applications under the planning scheme.

Table 4.2: Planning scheme land use definitions

Project works	Clause 73 General term/ use	Definition
Spillway Containment bank Inundation	Utility Installation	Land used: a) for telecommunications b) to transmit or distribute gas or oil c) to transmit, distribute or store power, including battery storage d) to collect, treat, transmit, store or distribute water; or e) to collect, treat, or dispose of storm or flood water, sewage, or sullage It includes any associated flow measurement device or a structure to gauge waterway flow
Regulator Box Culvert Drop structure	Minor Utility Installation	Land used for a utility installation comprising any of the following: a) Sewerage or water mains b) Storm or flood water drains or retarding basins c) Flow measurement device or a structure to gauge waterway flow d) Siphons, water storage tanks, disinfection booster stations and channels e) Gas mains providing gas directly to consumers f) A sewerage treatment plant, and any associated disposal works, required to serve a neighbourhood g) A pumping station required to serve a neighbourhood h) Powerlines designed to operate at less than 220,000 volts but excluding any power lines directly associated with an Energy generation facility or Geothermal energy extraction; or i) An electrical sub-station designed to operate at no more than 66,000 volts but excluding any sub-station directly associated with an Energy generation facility or Geothermal energy extraction

Project works	Clause 73 General term/ use	Definition
Access tracks Roadworks Containment bank	Earthworks	Land forming , laser grading, levee banks , raised access road and tracks , building pads, storage embankments , channed banks and drain banks and associated structures
Native Vegetation	Native Vegetation	Plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses.

The primary purpose of the area of investigation is for conservation purposes. Current use of the area of investigation already includes the use of utilities to assist in the management of water for the primary purpose of conservation. The proposed works will however, significantly increase the use of utilities to achieve a much larger inundation area that may introduce new impacts on surrounding land use. The approach is therefore to consider a new use in the planning assessment of this project.

4.3 Relevant zones and overlays

The following zones and overlays from the scheme apply to the area of investigation (Figure 4.1 and Figure 4.2):

- Public Conservation and Resource Zone (PCRZ)
- Farming Zone (FZ)
- Environmental Significance Overlay (Schedule 1 – Waterway, Wetlands and Lakes Environs) (ESO1)
- Heritage Overlay (HO186)
- Land Subject to Inundation Overlay (LSIO)
- Bushfire Management Overlay (BMO)

The following heritage sites are affected by the area of investigation:

HO186: Takasuka Levee Bank, Vinifera Forest, Murray Valley Highway, Vinifera

This site was named after a Japanese immigrant Jo Takasuka who in 1908 was granted a permit to occupy 200 acres of flood-prone land between Tyntynder Homestead and the Vinifera Forest. In order to control the annual flooding he erected a levee bank in 1909 across the Gunbower creek to protect his rice crops that became commercially sold in the 1910's and '20s. The start of the levee bank is marked by a concrete cairn that was unveiled by the Council-general of Japan in 1991. The bank is 1500 mm high and runs parallel to the forest roadway for approximately 500 m.

The heritage feature has been determined as of considerable historic significance (Allom Lovell & Associates, 2001). The bank provides evidence of the first attempt to cultivate rice in Australia and is associated with farming activity during the pivotal period of Closer Settlement in the early twentieth century.

The site has no specific controls to be considered under the Schedule to the Heritage Overlay. However the heritage review (citation from Allom Lovell & Associates, 2001 in Appendix A) of this site does recommend a nominal curtilage of 10 m either side of the levee bank in order to preserve its setting and views.

The purpose of the zones and overlays associated with the area of investigation are provided in Table 4.3.

Table 4.3 Purpose of zones and overlays

Relevant zone/overlay	Purpose
Clause 36.03 Public Conservation and Resource Zone (PCRZ)	<ul style="list-style-type: none"> To implement the Municipal Planning Strategy and the Planning Policy Framework. To protect and conserve the natural environment and natural processes for their historic, scientific, landscape, habitat or cultural values. To provide facilities which assist in public education and interpretation of the natural environment with minimal degradation of the natural environment or natural processes. To provide for appropriate resource-based uses.
Clause 35.07 Farming Zone (TZ)	<ul style="list-style-type: none"> To implement the Municipal Planning Strategy and the Planning Policy Framework. To provide provide for the use of land for agriculture. To encourage the retention of productive agricultural land. To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture. To encourage the retention of employment and population to support rural communities. To provide for the use and developme of land for the specific purposes identided in the schedule to this zone.
Clause 42.01 Environmental Significance Overlay, Schedule 1 (Waterway, Wetlands and Lakes Environs) (ESO1)	<ul style="list-style-type: none"> To implement the Municipal Planning Strategy and the Planning Policy Framework To identify areas where the development of land may be affected by environmental constraints To ensure that development is compatible with identified environmental values <p>The environmental objectives of Schedule 1 are provided in Appendix B of this report.</p>
Clause 43.01 Heritage Overlay (HO186) Takasuka Levee Bank, Vinifera Forest, Murray Valley Highway, Vinifera	<ul style="list-style-type: none"> To implement the Municipal Planning Strategy and the Planning Policy Framework To conserve and enhance heritage places of natural or cultural significance To conserve and enhance those elements which contribute to the significance of heritage places To ensure that development does not adversely affect the significance of heritage places To conserve specified heritage places by allowing a use that would otherwise be prohibited if this will demonstrably assist with the conservation of the significance of the heritage place
Clause 44.04 Land Subject to Inundation Overlay (LSIO)	<ul style="list-style-type: none"> To implement the Municipal Planning Strategy and the Planning Policy Framework To identify land in a flood storage or flood fringe area affected by the 1 in 100 year flood or any other area determined by the floodplain management authority. To ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, is

Relevant zone/overlay	Purpose
	compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.
Clause 44.06 Bushfire Management Overlay (BMO)	<ul style="list-style-type: none"> To implement the Municipal Planning Strategy and the Planning Policy Framework. To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire. To identify areas where the bushfire hazard warrants bushfire protection measures to be implemented. To ensure development is only permitted where the risk to life and property from bushfire can be reduced to an acceptable level.

The Public Conservation and Resource Zone (PCRZ) covers the entire area of investigation, with a small amount of inundation (and possibly works) in Farming Zone. The project is clearly in accordance with the purpose of the PCRZ "to protect and conserve the natural environment and natural processes". Inundation at the eastern end of the area of investigation intrudes into land under a Farming Zone (FZ). Works directly abutting the boundary between PCRZ and FZ could also extend into the FZ. It is recommended that works and inundation keep outside the Farming Zone to minimise impacts on agricultural practices on freehold land.

The project is compliant with the purposes of the Environmental Significance Overlay (ESO1), the Land Subject to Inundation Overlay (LSIO) and the Bushfire Management Overlay (BMO) in particular:

- To protect and enhance the natural environment and cultural heritage qualities of the Murray River and its anabranches as a major waterway of local, regional, state, national and international significance.
- To ensure that any use, development or works in the environs of waterways, wetlands and lakes are of a scale, character and form that is compatible with the high environment quality of these systems.
- To ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, is compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.
- To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.

An access road is proposed along the length of the Levee Bank that is protected under the Heritage Overlay (H0186) of the planning scheme. The protected site is not listed under the Victorian Heritage Register. Excavation within 10 m of either side of the levee bank should be avoided.

4.4 Particular and general exemptions

Table 4.4 provides a summary of particular and general provision exemptions under the Swan Hill Planning Scheme that apply to works for the project works.

Table 4.4: Approval exemptions

Relevant land use/activity	Clause of the planning scheme	Exemption	Relevant condition
Minor utility installation	Clause 62.01 Uses not Requiring a Permit	Use	Must not be within a Public Conservation and Resource Zone.

Relevant land use/activity	Clause of the planning scheme	Exemption	Relevant condition
Minor utility installation	Clause 62.02-1 Buildings and works not requiring a permit	Buildings and works/earthworks	Must not be within a Public Conservation and Resource Zone.
Roadworks	Clause 62.02-2 Buildings and works not requiring a permit unless specifically required by the planning scheme	Buildings and works	Must not be in a Public Conservation and Resource Zone.
Native vegetation	Clause 52.16-3 Permit requirement	Remove, destroy or lop native vegetation	If the removal, destruction or lopping of native vegetation is in accordance with a native vegetation precinct plan incorporated into this scheme. Any conditions or requirements specified in the plan must be met.
			To the removal, destruction or lopping of native vegetation specified in Clause 52.16-8 Exemptions unless a native vegetation precinct plan specifies otherwise.
	Clause 52.17-1 Permit requirement	Remove, destroy or lop native vegetation	If the table to Clause 52.17-7 specifically states that a permit is not required.
			If a native vegetation precinct plan corresponding to the land is incorporated into this scheme and listed in the schedule to Clause 52.16.
			To the removal, destruction or lopping of native vegetation specified in the schedule to this clause.
	Clause 52.17-2 Application requirements	Remove, destroy or lop native vegetation	An application to remove, destroy or lop native vegetation must comply with the application requirements specified in the <i>Guidelines for the removal, destruction or lopping of native vegetation</i> (Department of Environment, Land, Water and Planning, 2017)
	Clause 52.17-7 Table of exemptions	Remove, destroy or lop native vegetation	Conservation work To the minimum extent necessary to enable the carrying out of conservation work: <ul style="list-style-type: none"> Which provides and overall improvement for biodiversity; and With written agreement of the Secretary to the DELWP (as constituted under Part 2 of the Conservation, Forests and Lands Act 1987)
			Crown land To the minimum extent necessary to manage Crown land: <ul style="list-style-type: none"> By or on behalf of the Secretary to the DELWP (as constituted under Part 2 of the Conservation,

Relevant land use/activity	Clause of the planning scheme	Exemption	Relevant condition
			<p>Forests and Lands Act 1987), or Parks Victoria, and in accordance with the Procedure for the removal, destruction or lopping of native vegetation on Crown land; or</p> <ul style="list-style-type: none"> With written permission from the Secretary to the DELWP (as constituted under Part 2 of the Conservation, Forests and Lands Act 1987). <p>Dead native vegetation Native vegetation that is dead. This exemption does not apply to a standing dead tree with a trunk diameter of 40 cm or more at a height of 1.3 m above ground level</p> <p>Grasses Native grass that is to be mowed or slashed for maintenance only, provided that the grass is:</p> <ul style="list-style-type: none"> Located within a lawn, garden or other landscaped area; or Maintained at a height of at least 10 cm above ground level. <p>Lopping or pruning native vegetation, for maintenance only provided no more than 1/3 of the foliage of each individual plant is lopped or pruned. This exemption does not apply to:</p> <ul style="list-style-type: none"> The pruning or lopping of the trunk of a native tree; or Native vegetation on a roadside or railway reservation. <p>Pest animal burrows Native vegetation that is to be removed, destroyed or lopped to the minimum extent necessary to enable the removal of pest animal burrows in the Farming Zone or the Rural Activity Zone:</p> <ul style="list-style-type: none"> In accordance with written agreement of an officer of the department responsible for administering the Flora and Fauna Guarantee Act 1988; or Provided the maximum extent of native vegetation removed, destroyed or lopped on contiguous land in the same ownership in a five year period does not exceed any of the following: <ul style="list-style-type: none"> 1 hectare of native vegetation which does not include a tree; or 15 native trees with a trunk diameter of less than 20 cm at a height of 1.3 m above ground level.

Relevant land use/activity	Clause of the planning scheme	Exemption	Relevant condition
			<p>Planted vegetation</p> <p>Native vegetation that is to be removed, destroyed or lopped that was either planted or grown as a result of direct seeding. This exemption does not apply to native vegetation planted or managed with public funding for the purpose of land protection or enhancing biodiversity unless the removal, destruction or lopping of the native vegetation is in accordance with written permission of the agency (or its successor) that provided the funding.</p> <p>Regrowth</p> <p>Native vegetation this is to be removed, destroyed or lopped that has naturally established or regenerated on land lawfully cleared of naturally established native vegetation, and is:</p> <ul style="list-style-type: none"> ▪ Less than 10 years old; or ▪ Bracken (<i>Pteridium esculentum</i>); or ▪ Within the boundary of a timber production plantation, as indicated on a Plantation Development Notice or other documented record, and has established after the plantation; or ▪ Less than ten years old at the time of a property vegetation plan being signed by the Secretary to the DELWP (as constituted under Part 2 of the Conservation Forests and Lands Act 1987), and is: <ul style="list-style-type: none"> ▪ Shown on that plan as being 'certified regrowth'; and ▪ On land that is to be used or maintained for cultivation or pasture during the term of that plan. <p>This exemption does not apply to land where native vegetation has been destroyed or otherwise damaged as a result of flood, fire or other natural disasters.</p> <p>Road Safety</p> <p>Native vegetation that is to be removed, destroyed or lopped to the minimum extent necessary by and on behalf of a public authority or municipal council to maintain the safe and efficient function of an existing road in accordance with the written agreement of the Secretary to the DELWP (as constituted under Part 2 of the Conservation, Forests and Lands Act 1987).</p> <p>Site area</p> <p>Native vegetation that is to be removed, destroyed or lopped on land, together with all contiguous</p>

Relevant land use/activity	Clause of the planning scheme	Exemption	Relevant condition
			<p>land in one ownership, which has an area of less than 0.4 ha. This exemption does not apply to native vegetation on a roadside or rail reservation.</p> <p>Surveying Native vegetation that is to be removed, destroyed or lopped to the minimum extent necessary by, or on behalf of, a licenced surveyor (with the meaning of section 3 of the Surveying Act 2004) using hand-held tools to establish a sightline for the measurement of land.</p> <p>Traditional owners Native vegetation that is to be removed, destroyed or lopped by a person acting under, and in accordance with:</p> <ul style="list-style-type: none"> ▪ A natural resource agreement under Part 6 of the <i>Traditional Owner Settlement Act 2010</i>; or ▪ An authorisation order made under sections 82 or 84 of the <i>Traditional Owner Settlement Act 2010</i> as those sections were in force immediately before the commencement of section 24 of the <i>Traditional Owner Settlement Amendment Act in 2016</i> (1 May 2017). <p>Utility Installations Native vegetation that is to be removed, destroyed or lopped to the minimum extent necessary:</p> <ul style="list-style-type: none"> ▪ To maintain the safe and efficient function of a Minor Utility Installation; or ▪ By or on behalf of a utility service provider to maintain or construct a utility installation in accordance with the written agreement of the Secretary to the DELWP (as constituted under Part 2 of the Conservation, Forests and Lands Act 1987). <p>Vehicle access from public roads Native vegetation that is to be removed, destroyed or lopped to the minimum extent necessary to enable the construction or maintenance of a vehicle access across a road reserve from a property boundary to a public road. This exemption only applies to properties which share a common boundary with the road reserve, and the total width of clearing must not exceed 6m. This exemption does not apply where there is a practical opportunity to site the accessway to avoid the removal, destruction or lopping of native vegetation.</p>

Relevant land use/activity	Clause of the planning scheme	Exemption	Relevant condition
			<p>In this exemption, roadside and public road have the same meanings as in section 3 of the <i>Road Management Act 2004</i>.</p> <p><i>Note: Under the Road Management Act 2004, the written consent of the coordinating road authority is required to conduct any works, including removing a tree or other vegetation, in, on, under or over a road.</i></p> <p>Weeds</p> <p>Native vegetation that is to be removed, destroyed or lopped to the minimum extent necessary to enable the removal or destruction of a weed listed in the schedule to Clause 52.17.</p> <p>The maximum extent of native vegetation that may be removed, destroyed or lopped under this exemption on contiguous land in the same ownership in a five year period must not exceed any of the following:</p> <ul style="list-style-type: none"> 1 hectare of native vegetation which does not include a tree. 15 native trees with a trunk diameter of less than 20 cm at a height of 1.3 m above the ground level.

Exemptions for use and development (including excavation) under Clause 62.01 and Clause 62.02 of the planning scheme do not apply as all works occur with a Public Conservation and Resource Zone.

There is no native vegetation precinct plan or schedule providing exemption for native vegetation removal, destruction or lopping.

While there is the potential for limited small-scale exemptions for native vegetation associated with the proposed works, widescale exemptions that could apply relate to 'Conservation Work' and 'Utility Installations'. A written agreement from the Secretary to DELWP is required for these to apply. Exemptions under 'Utility Installation' requires the works to be done by or on behalf of a utility service provider.

Clause 72 of the planning scheme defines utility service provider as:

A person, other than a public authority or municipal council, having responsibility under an Act for the generation, transmission, distribution or supply of electricity, gas, power, telecommunications, water supply, drainage and sewerage services.

All native vegetation removal must comply with the *Guidelines for the removal, destruction or lopping of native vegetation* (Department of Environment, Land, Water and Planning, 2017) (the Guidelines).

4.5 Zone and overlay exemptions

Table 4.5 identifies the relevant zone and overlay approval exemptions that apply to the proposed project works in relation to use, buildings and works and vegetation removal, destruction and lopping (including native vegetation).

Table 4.5: Zone and overlay exemptions

Relevant Zone / Overlay	Exemption	Relevant condition
<p>Clause 36.03 Public Conservation and Resource Zone (PCRZ)</p> <p>Clause 36.03-2 Permit requirement</p>	Buildings and works	A building or works shown in an Incorporated plan which applies to the land.
		A building or works specified in Clause 62.02-1 or 62.02-2 carried out by or on behalf of a public authority or municipal council, if the public authority or municipal council is carrying out functions, powers or duties conferred by or under the <i>Local Government Act 1989</i> , the <i>Reference Areas Act 1978</i> , the <i>National Parks Act 1975</i> , the <i>Fisheries Act 1995</i> , the <i>Wildlife Act 1975</i> , the <i>Forests Act 1958</i> , the <i>Water Industry Act 1994</i> , the <i>Water Act 1989</i> , the <i>Marine Act 1988</i> , the <i>Port of Melbourne Authority Act 1958</i> or the <i>Crown Land (Reserves) Act 1978</i> .
		A building or works carried out by or on behalf of a public land manager or Parks Victoria under the <i>Local Government Act 1989</i> , the <i>Reference Areas Act 1978</i> , the <i>National Parks Act 1975</i> , the <i>Fisheries Act 1995</i> , the <i>Wildlife Act 1975</i> , the <i>Forests Act 1958</i> , the <i>Water Industry Act 1994</i> , the <i>Water Act 1989</i> , the <i>Marine Act 1988</i> , the <i>Port of Melbourne Authority Act 1958</i> or the <i>Crown Land (Reserves) Act 1978</i> .
		Subdivide land
<p>Clause 35.07 Farming Zone (FZ)</p> <p>Clause 35.07-1 Table of uses, Section 1 Permit not required</p>	Use (minor utility installation only)	Any use listed in Clause 62.01
<p>Clause 42.01 Environmental Significance Overlay</p> <p>Clause 42.01-2 Permit requirement</p>	Remove, destroy or lop any vegetation, including dead vegetation	If a schedule to this overlay specifically states that a permit is not required
		If the table to Clause 42.01-3 specifically states that a permit is not required
		To the removal, destruction or lopping of native vegetation in accordance with a native vegetation precinct plan specified in the schedule to Clause 52.16.
<p>Clause 42.01-3</p> <p>Table of exemptions</p>	Remove, destroy or lop any vegetation, including dead vegetation	<p><u>Noxious weeds</u></p> <p>Vegetation that is a noxious weed subject of a declaration under section 58 or section 58A of the Catchment and Land Protection Act 1994. This exemption does not apply to the Australian Dodder (<i>Cuscuta australis</i>).</p> <p><u>Pest animal burrows</u></p> <p>Vegetation that is to be removed, destroyed or lopped to the minimum extent necessary to enable the removal of pest animal burrows.</p> <p>In the case of native vegetation the written agreement of an officer of the department responsible for administering the <i>Flora and Fauna Guarantee Act 1988</i> is</p>

Relevant Zone / Overlay	Exemption	Relevant condition
		<p>required before the vegetation can be removed, destroyed or lopped.</p> <p><u>Planted vegetation</u> Vegetation that is to be removed, destroyed or lopped that was either planted or grown as a result of direct seeding for Crop raising or Grazing animal production.</p> <p><u>Regrowth</u> Vegetation that is to be removed, destroyed or lopped that has naturally established or regenerated on land lawfully cleared of naturally established vegetation, and is:</p> <ul style="list-style-type: none"> ▪ Bracken (<i>Pteridium esculentum</i>) <p>This exemption does not apply to land on which vegetation has been destroyed or otherwise damaged as a result of flood, fire or other natural disaster.</p> <p><u>Road safety</u> Vegetation that is to be removed, destroyed or lopped to the minimum extent necessary by or on behalf of a public authority of municipal council to maintain the safe and efficient function of an existing public road in accordance with the written agreement of the Secretary to DELWP (as constituted under Part 2 of the <i>Conservation, Forests and Lands Act 1987</i>).</p>
Schedule 1 to the Environmental Significance Overlay Clause 3.0 Permit requirement	Buildings and works	<p>Any buildings or works located more than 100 m from Murray River and 60 m from any other waterway, wetland or lake.</p> <p>Repairs and routine maintenance to existing buildings and works</p> <p>Works undertaken by Swan Hill Rural City, a government department or a public authority for municipal purposes, stream improvement, drainage, channel repairs, flooding regulation, erosion control, water supply, sewerage supply, telecommunications or minor utility installation.</p> <p>Buildings or works associated with a minor utility installation, low impact telecommunications facility or passive recreation.</p>
Clause 44.04 Land Subject to Inundation Overlay 44.04-2 Buildings and works	Buildings and works	<p>If a schedule to this overlay specifically states that a permit is not required.</p> <p>To flood mitigation works carried out by the responsible authority or floodplain management authority.</p>
Schedule to the Land Subject to Inundation Overlay 1.0 Permit requirement	Works (earthworks)	<p>Earthworks that do not raise ground level topography by more than 300 mm.</p> <p>Earthworks greater than 300 mm in height created during the construction of a dam of less than 3000 cubic metres capacity</p>

Relevant Zone / Overlay	Exemption	Relevant condition
Clause 44.06 Bushfire Management Overlay 44.06-2 Permit requirement	Buildings and works	If a schedule to this overlay specifically states that a permit is not required

4.6 Planning triggers

Table 4.6 identifies the planning approval triggers for the project under the Swan Hill Planning Scheme. Relevant exemptions identified in sections 4.4 and 4.5 may apply.

Table 4.6: Summary of potential planning permit triggers, Swan Hill Planning Scheme

Swan Hill Planning Scheme	Planning Approval (Y/N/NA)		
Planning control	Use	Buildings and works	Vegetation removal
Zones			
Clause 36.03 Public Conservation and Resource Zone (PCRZ)	Y	Y	NA
Clause 35.07 Farming Zone (FZ)	Y	Y	NA
Overlays			
Clause 42.01 Environmental Significance Overlay (Schedule 1 Waterway, Wetlands and Lakes Environs) (ESO1)	NA	Y	Y
Clause 43.01 Heritage Overlay (HO186)	NA	Y (includes earthworks)	N
Clause 44.04 Land Subject to Inundation Overlay, Schedule to the Land Subject to Inundation Overlay (LSIO)	NA	N	N
Particular provisions			
Clause 52.17 Native Vegetation	NA	NA	Y

In accordance with the controls identified in Table 4.6, the project will require planning approval in relation to;

- Use
- Buildings and works, including earthworks; and
- Native vegetation and vegetation removal or lopping (in areas of Environmental Significance Overlay).

A planning permit is required for use as a utility installation in accordance with Clause 36.03-1 Table of Uses of the Public Conservation and Resource Zone. The use does not meet the Section 1 condition requiring the work to be conducted by or on behalf of a public land manager or Parks Victoria. It therefore falls into a Section 2¹ use triggering a planning permit.

¹ 'Utility installation' is not described as 'Any other use not in Section 2 or 3' under Section 3 Prohibited use as it is listed separately in Section 1 of the use table.

Approval for buildings and works is also required under the PCRZ. The exemption for buildings and works under Clause 36.03-2 does not apply as the proposed works will not be carried out by or on behalf of the public land manager.

Approval is also required for buildings and works under the Environmental Significance Overlay (ESO1) and the Land Subject to Inundation Overlay (LSIO). There are no exemptions available under ESO1. Relevant exemptions under the LSIO include:

- Earthworks that do not raise ground level topography by more than 300 millimetres.
- Flood mitigation works carried out by the responsible authority or floodplain management authority.

The permit exemption for minor utility installation under Clauses 62.01 (Uses not requiring a permit) and 62.02-1 (Buildings and works not requiring a permit) does not apply as works are located within a Public Conservation and Resource Zone (PCRZ) which does not apply to this exemption.

Approval will be required under Clause 52.17 if native vegetation is to be removed, destroyed or lopped as part of works. Exemption from approval would apply with written agreement for exemption from the Secretary to the DELWP (as constituted under Part 2 of the *Conservation, Forests and Lands Act 1987*).

Approval for the removal of vegetation in areas subject to the ESO1 is also required. The schedule to this overlay does not list any exemptions, and there is no native vegetation precinct plan specified in the schedule to Clause 52.16. Approval exemptions may apply in accordance with the Table of Exemptions under Clause 42.01-3.

A Heritage Overlay applies to a section of the proposed containment bank works. HO186 of the Schedule to Clause 43.01 Heritage Overlay relates to the Takasuka Levee Bank, Vinifera Forest, off the Murray Valley Highway, Vinifera. A planning permit is required for buildings and works, including roadworks within this heritage overlay. Tree controls do not apply. The site is not included on the Victorian Heritage Register. It is listed by the National Trust recognising its heritage values however not providing any statutory control over its protection.

4.7 Referral requirements

Referral to a determining referral authority and/or recommending referral authority may be required.

Table 4.7 lists the referral and notice requirements that apply to the works for Vinifera in accordance with the relevant provisions of the planning scheme, and what this means for the planning approvals process.

Table 4.7: Referral and Notice Requirements

Planning controls	Notice and referral requirements	Referral body
Clause 42.01 Environmental Significance Overlay (ESO1)	An application for removal or destruction of native vegetation	Secretary to the DELWP as a determining referral authority
Clause 42.01 Schedule 1 or the Environmental Significance Overlay (ESO1) 4.0 Referral of permit applications	Any application of the kind below must be referred as follows: <ul style="list-style-type: none"> • 30 m of a Goulburn Water channel or drain, Goulburn Murray Water land or Infrastructure asset (Goulburn Murray Water). • 60 m of a lake or waterway 	Goulburn-Murray Water as a determining referral authority
	<ul style="list-style-type: none"> • 100 m of the Murray River (Goulburn Murray Water) 	Goulburn Murray Water and DELWP as determining referral authorities
	<ul style="list-style-type: none"> • 50 m of any public land managed by the Department of 	DELWP as a determining referral authority

Planning controls	Notice and referral requirements	Referral body
	Sustainability and Environment (now DELWP)	
Clause 44.04 Land Subject to Inundation Overlay (LSIO)	An application must be referred to the relevant floodplain management authority under Section 55 of the Act ² unless in the opinion of the responsible authority, the proposal satisfies requirements or conditions previously agreed in writing between the responsible authority and the floodplain management authority.	Mallee Catchment Management Authority as a recommending referral authority
Clause 44.06 Bushfire Management Overlay (BMO)	An application to be referred under Clause 66.03 of the planning scheme referring to an application other than an application to construct a building or carry out works associated with a dwelling.	Country Fire Authority as a determining referral authority
Particular provisions		
Clause 52.17 Native Vegetation	In accordance with Section 52(1)(c) of the Act, notice of an application to remove, destroy or lop native vegetation under Clause 52.17 of this scheme.	Secretary to DELWP as a recommending referral authority
Clause 66.02-2 Native vegetation	An application must be referred to the Secretary to DELWP to: <ul style="list-style-type: none"> Remove, destroy or lop native vegetation in the Detailed Assessment Pathway as defined in the guidelines for the removal, destruction or lopping of native vegetation (DELWP 2017). Remove, destroy or lop native vegetation if a property vegetation plan applies to the site. Remove, destroy or lop native vegetation on Crown land which is occupied or managed by the responsible authority. 	Secretary to the DELWP (as constituted under Part 2 of the Conservation, Forests and Lands Act 1987) as a recommending referral authority
Clause 67.03 Notice Requirements – Native Vegetation	Notice on an application for a permit to remove, destroy or lop native vegetation under Clause 52.17, which, except for the provisions of Clause 67, would be	The Secretary to the Department administering the <i>Flora and Fauna Guarantee Act 1988</i> .

² In this case The Act refers to the *Planning and Environment Act 1987*.

Planning controls	Notice and referral requirements	Referral body
	made to the Minister in accordance with section 96 of the Act. This does not apply if the application is of a kind which must be referred to the Secretary under section 55 of the Act.	

4.8 Other relevant strategies and policies

A review of other relevant regional strategies that apply to the area of investigation is provided in Table 4.8.

Table 4.8: Relevant regional strategies

Regional strategy	Purpose	Relevant messages
Mallee Regional Catchment Strategy 2013-2019	To provide an integrated planning framework for land, water and biodiversity management for the 10 catchment management regions of the Victoria. Key objectives include; <ul style="list-style-type: none"> Maintaining and enhancing long term productivity, while also conserving the environment Ensuring that the quality of the state's land and water resources and associated plant and animal life are maintained and enhanced. 	<ul style="list-style-type: none"> Agriculture is the major land use within the region. Land use change (removal of vegetation, conversion of dryland property to irrigation development) could threaten asset classes.
Mallee Waterway Strategy 2014-2022	To provide a regional planning document for the management of our waterways and surrounding riparian land to 2022.	<p>Nyah is within the Avoca Basin. Environmental, social, cultural and economic values of Mallee waterways include:</p> <ul style="list-style-type: none"> Ecosystem services, such as aquatic habitat, connectivity of landscapes, nutrient recycling and water purification Extensive indigenous cultural sites dating back thousands of years and more recent historic sites relating to European settlement Water supplies for irrigation, industrial, stock and domestic use A rich and diverse landscape for tourism and recreation <p>Inadequate planning and management of water diversion infrastructure can impact on both the environmental and aesthetic value of river frontages, including</p>

		but not limited to decreasing bank stability, soil and water contamination and soil compaction from access to the area.
Mallee Floodplain Management Strategy 2018-28	To provide a regional planning document for floodplain management and a guide for investment priorities	<ul style="list-style-type: none"> Concerns over cross-border flood management – flood modelling should include both the Victorian and NSW floodplains, as well as modelling across CMA boundaries to provide a “whole of floodplain basis” Flood risk to be considered in land use planning decisions so as to avoid intensifying the impact of flooding through inappropriately located uses and developments. Assessment of regional flood risk for area considered low likelihood of a flood event impacting the urban area (with a low number of properties impacted).
Mallee Region New Irrigation Development Guidelines 2017	To provide a comprehensive guide for use in the process of assessing and approving irrigation development applications	<ul style="list-style-type: none"> Expansion of irrigation recognised as being a major threat to the riverine environment in relation to river salinity. Vinifera identified as low impact zone where salinity impacts due to irrigation are lowest.
Mallee Dryland Sustainable Agriculture Strategy 2017-23	To strengthen sustainable agriculture in the region and provide a regional approach to sustainable agriculture.	<ul style="list-style-type: none"> Maintenance of soil health and productive capacity recognised as a significant issue for the Mallee region Soils associated with the Mallee Land Forms – high concentrations of wind blown material. Subsoils can be highly alkaline, inhibiting plant root growth Climate variability a critical issue influencing the regions biophysical, social and productive landscapes with risks to farming. Proposed action is to encourage a culture of diverse, adaptive and flexible farming systems

<p>Mallee Natural Resource Management Plan for Climate Change 2016</p>	<p>To provide a planning framework to foster adaptation in relation to climate change. Primary aim to re-evaluate the region's priority landscapes and management actions.</p>	<ul style="list-style-type: none"> ▪ Nyah part of the Murray River & Floodplain: Nyah to Robinvale catchment assets ▪ Vinifera not part of a priority area for revegetation and corridor linkages to support climate adaptation in the Mallee ▪ Vinifera area recognised as influenced by major population centres and popularity as a recreational resource, as well as significant irrigated agricultural development, all considered as human induced threatening processes of concern. ▪ Inappropriate water use and land use change could be exacerbated through climate adaptation processes as land managers change management techniques in response to new climatic paradigms. ▪ Identified as constrained regenerative capacity in a changing climate due to the areas reliance on ongoing direct human intervention for maintaining ecological capacity
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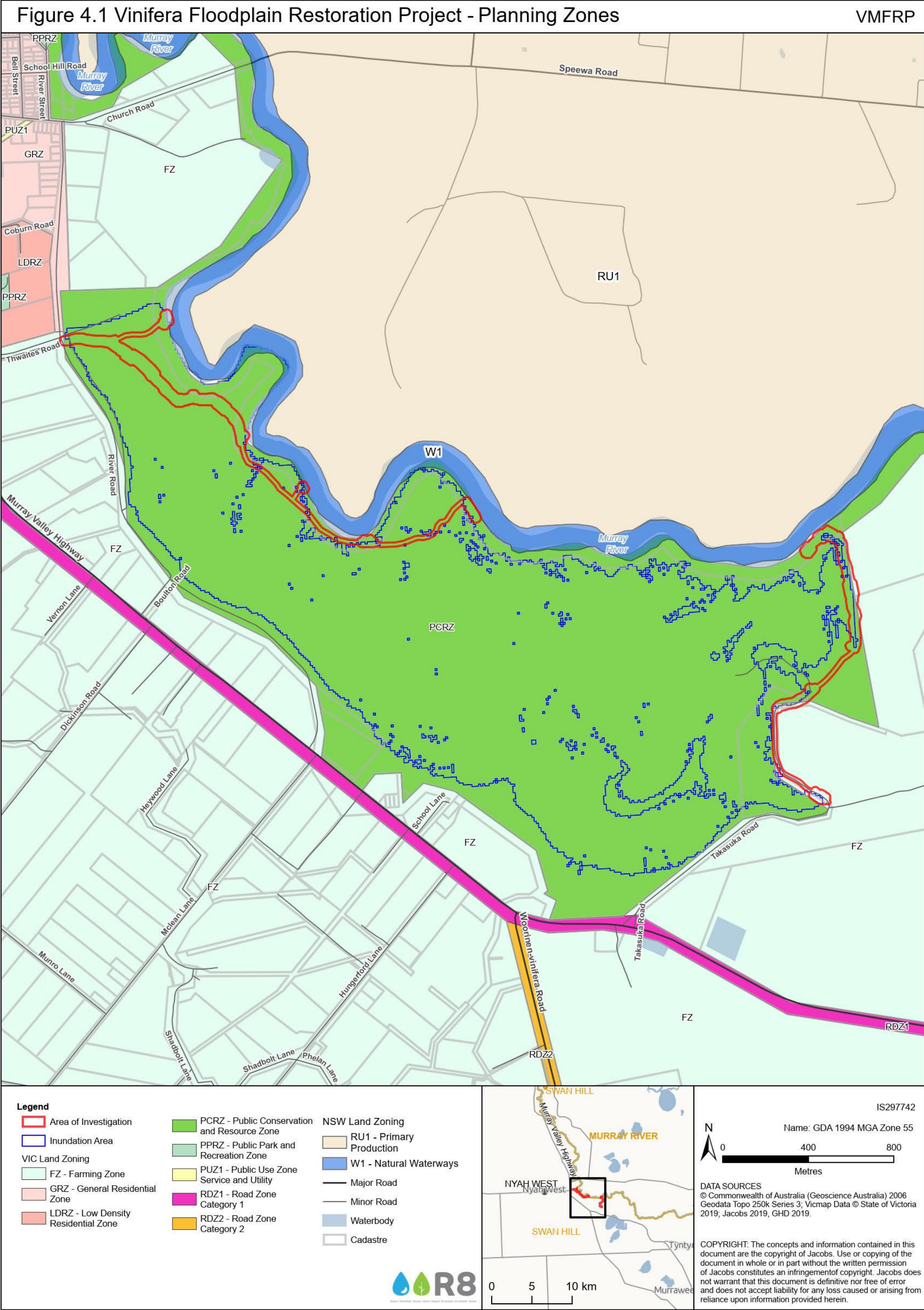
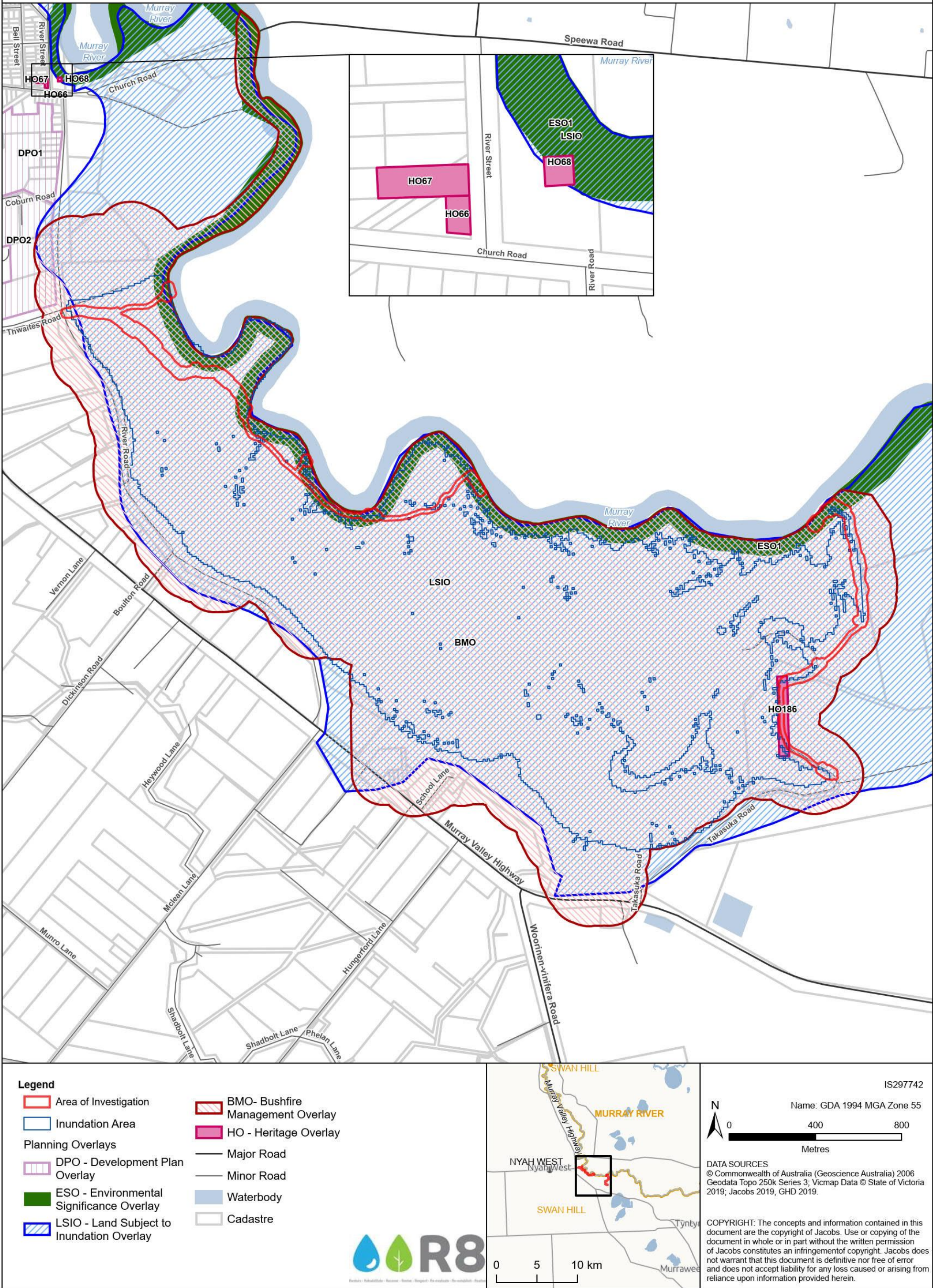


Figure 4.2 Vinifera Floodplain Restoration Project - Planning Overlays

VMFRP



5. NSW Planning Framework

It is expected that works and inundation associated with the Vinifera project will extend into the banks and bed of the Murray River within the border of NSW. The affected land is within the Murray Shire Council.

Local Environmental Plans (LEPs) guide planning decisions for local government area. However, the proposed works do not require development consent from the Murray Shire as the proposed works are permissible without consent under clause 13(3) of the NSW Murray Regional Environmental Plan No. 2 – Riverine Land. The aim of the plan is to

to conserve and enhance the riverine environment of the River Murray for the benefit of all users.

5.1 Land use definitions

The works within the bank relate to 'Bank and/or Bank Work which is defined under the plan as;

Works which relate to the excavation, dredging or alteration to the alignment or shape of the bank or bed of the River Murray (including construction of weirs and floodgates, boat ramps and bank stabilisation works).

The works may also be described as 'Flood Control Works' which are defined as;

Works which change the natural or existing condition or topography of land (such as the construction of and alteration of levees, channels and mounds) and which are likely to affect the hydrology of the River Murray system.

5.2 Planning triggers

The area where works and inundation will occur is zoned as Natural Waterways (W1) which covers the extent of the river. Land north of the river is zoned Primary Production (RU1) under Murray Council planning controls (Figure 4.1).

Development in NSW is assessed in accordance with the provisions of the NSW *Environmental Planning and Assessment Act 1979* (NSW EP&A Act) and the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). The EP&A Act institutes a system for environmental assessment, including approvals and environmental impact assessment for proposed developments. The need or otherwise for development control is set out in environmental planning instruments. The drop structures are permissible without development consent under the Murray Regional Environmental Plan No. 2 – Riverine Land and is able to be assessed under Part 5 of the NSW EP&A Act. A Review of Environmental Factors would be prepared to assess the impacts of the drop structure.

The pump station is part of a water supply reticulation system and development for this purpose may be carried out with consent on any land under *State Environmental Planning Policy (Infrastructure) 2007*. A development application would be submitted to the Murray River Council.

The NSW Natural Resource Access Regulator has confirmed that the temporary pumping station would not require approval under the NSW Water Management Act 2000 because the pump itself is located within Victoria

6. Risk Assessment

An initial environmental risk assessment has been completed for the Vinifera Project. The initial risk assessment identifies potential environmental risks, the likelihood of adverse impact occurring, and potential mitigation to reduce the risk. This assessment will inform impact assessment and the adoption of appropriate mitigation and management measures for the project.

The initial land use risks are identified in Table 6.1. In order to assign level of risk to these key land use issues it is recommended that further planning and modelling of inundation is required along with engagement with landowners to help accurately quantify the risk and determine appropriate measures to mitigate and manage.

Table 6.1: Initial risk assessment

Land use Risk	Phase of the project	Status of risk	Potential mitigation
Inundation of private land without prior agreement of landowner resulting in damage or loss of crops, or property improvements.	Planning and design	Further planning and modelling required and ongoing engagement with landholders regarding planned watering events and outcomes.	Negotiate conservation covenants and/or flood / access easements to be registered on title if ownership changes.
Access to recreational areas may be restricted or prohibited during construction causing inconvenience to those using the area for recreation.	Construction	Further planning and modelling to predict access limitations during construction and operation, and consider upgrades to roads to improve access or provide boat access as an alternative, where practicable.	Prepare and implement a stakeholder management strategy, including agency consultation to ensure they are aware of the extent and timing of construction works and watering events and can plan accordingly (e.g., signage, notification to park users).
Managed environmental watering events may inundate vegetation with pollination potential and beehive sites, and restrict access to beehive sites.	Operation	Further planning and modelling to predict access limitations during construction and operation, and affected commercial operations.	Prepare and implement a stakeholder management strategy, including engaging with relevant stakeholders (apiary, tourism operators, timber harvesting and sand mining licencees as applicable) to ensure they are aware of the extent and timing of upcoming watering events and can plan accordingly.
Managed environmental watering events may restrict access to or operation of other commercial operations such as camping and kayaking tours.	Operation	Further planning and modelling to predict access limitations during construction and operation, and affected commercial operations.	Prepare and implement a stakeholder management strategy, including engaging with relevant stakeholders (apiary, tourism operators, timber harvesting and sand mining licencees as applicable) to ensure they are aware of the extent and

			timing of upcoming watering events and can plan accordingly.
Managed environmental watering events may inundate roads and bridges, limiting or prohibiting public access, which may reduce opportunities for active and passive recreation, potentially reducing tourism expenditure and causing economic loss to small rural communities.	Operation	Further planning and modelling to predict access limitations during construction and operation, and consider upgrades to roads to improve access or provide boat access as an alternative, where practicable.	Prepare and implement a stakeholder management strategy, including agency consultation (Parks Victoria, DELWP, tourism operators) to ensure they are aware of the extent of upcoming watering events and can plan accordingly (e.g. signage / notification of park users).

The project is in an area that supports a number of differing land use including conservation, residential and commercial, agriculture, recreation and tourism. Land use risks identified as part of the initial risk assessment centre around the impact of inundation of the area on existing use and development, particularly in relation to agriculture which is the primary land use of the region outside of the townships of Nyah and Vinifera. Although flooding is already a risk to the area, the extent of the proposed inundation at any one time may raise different impacts and increase risk to existing surrounding use and development.

Restrictions to access in times of inundation is also raised as a potential risk that requires further investigation.

Risk to the identified heritage site (HO186 - Takasuka Levee Bank) within the area should also be included as part of the assessment of impact and for the adoption of appropriate mitigation and management.

7. Conclusion

The Vinifera Flood Restoration Project supports land use policy objectives at a state and local government level. The aim of the project is that of conservation - to conserve and enhance ecological environments and landscapes, reflecting conservation and biodiversity objectives for the environment under state policy, and the objectives of the Swan Hill Municipal Strategic Statement, zones and overlays at the local level

The project is located on land within the state of Victoria and state of NSW.

Proposed works in Victoria will require planning approval in accordance with the requirements of the Swan Hill Planning Scheme for:

- Use
- buildings and works; and
- Native vegetation removal and non-native vegetation removal within areas identified under an Environmental Significance Overlay, Schedule 1 (Waterways, Wetlands and Lakes Environs) (ESO1)

Approval of proposed works within the bank of the Murray River is subject to NSW legislation. An approvals process under Part 4 of the *NSW Environmental Planning and Assessment Act 1979* does not apply and it is expected that a Review of Environmental Factors (REF) environmental assessment will be required for this project. Discussions with government are required to determine the required approvals process.

Although a level of flood management already exists on the site, the level of inundation proposed as part of the project could have a wider impact on existing and future land uses of the area especially as inundation, and potentially works could extend into adjoining freehold farming land. Current land use is predominantly dryland farming and viticulture. The Municipal Strategic Statement (MSS) identifies the need to support and protect the dryland agriculture of the municipality. In response to this objective of the MSS any impacts from the project to this primary land use of the Vinifera area and surrounds must be minimised and managed.

Further assessment into this area of potential impact will be required as part of planning and environmental approval. Areas of sensitivity include:

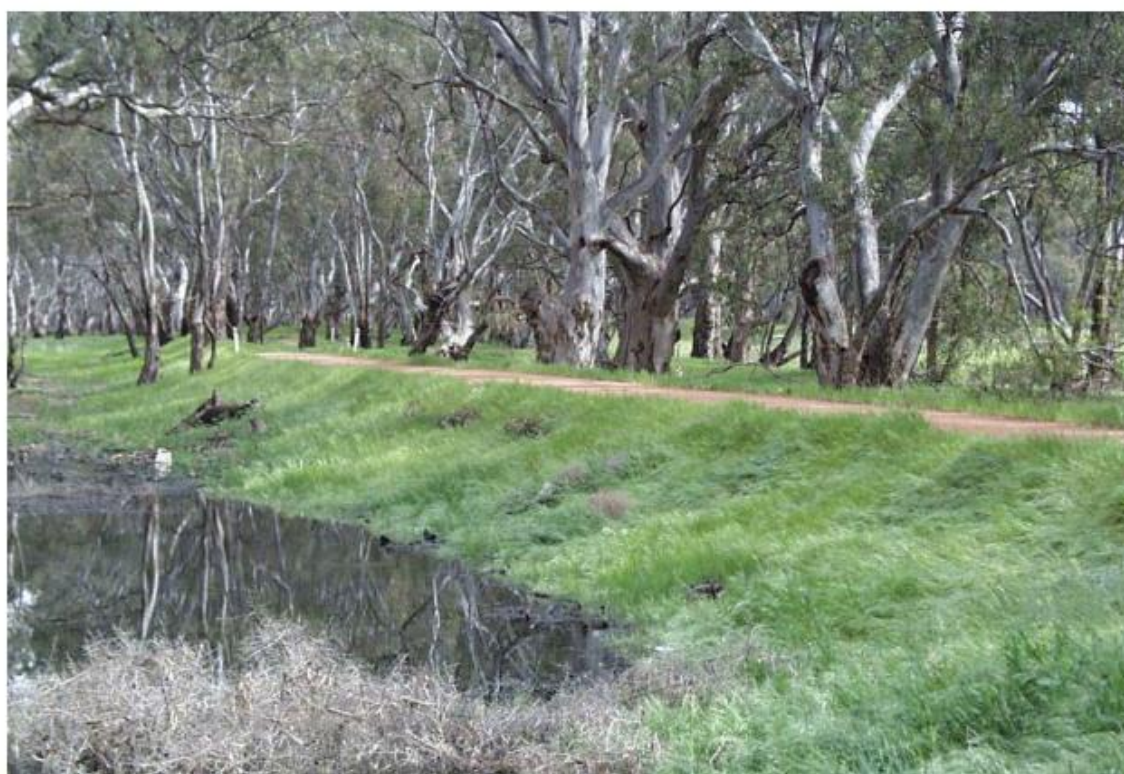
- Residential and commercial land use within the townships of Vinifera and Nyah.
- Adjacent agricultural freehold land under the Farming Zone that shares a boundary with the area of inundation.
- Adjacent agricultural freehold land adjacent to the Murray River in NSW.
- The heritage site (HO186 - Takasuka Levee Bank) within/adjacent to the area of investigation (including area of inundation).
- Current recreational use and access of the Nyah Vinifera Park and adjacent Murray River floodplain.

Appendix A. Citation on the Takasuka Levee Bank (HO186) from Allom Lovell & Associates 2001

Identified By

Andrew Ward, 1 August 1998.

Current Name	-	Reference No.	HO188 (V1)
Former Name	Takasuka Levee bank	Grade	B
Address	Murray Valley Highway, Vinifera	Construction Date	c.1909
Map Reference	-	Ownership	Swan Hill Council



Survey Date September 2000

Intactness

☒ Good ☐ Fair ☐ Poor

Condition

☒ Good ☐ Fair ☐ Poor

No. B6238 (File only)

Heritage Listings

	Existing	Recommended
VHR	<input type="checkbox"/>	<input type="checkbox"/>
RNE	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Planning Scheme	<input type="checkbox"/>	<input checked="" type="checkbox"/>
National Trust (Vic)	<input checked="" type="checkbox"/>	

Curtilage

A nominal curtilage should be maintained of ten metres to each side of the levee bank, in order to preserve its setting and views.

History

On 14 March 1905, Japanese immigrant Jo Takasuka arrived in Melbourne with his wife and two young children. He informed the Federal government his prime reason for coming to Australia was to establish a rice import and export business. Because of this he was granted exemption from the 'dictation' test then compulsory for all 'alien' immigrants but was still required to reapply annual for residency permits until 1924 when the Federal Government removed this requirements because of being impressed by his commercial activities at Vinefera. Between 1906 and 1908, he leased 35 acres [14 hectares] of land at Nyah, owned by S V Watson, and another 65 acres [26 hectares] at Piangil, owned by E O'Reilly, on which he attempted, somewhat unsuccessfully, to cultivate rice. He also established the business and operated from premises in Queen Street Melbourne and Richmond.

On 1 January 1908, Takasuka was granted a permit to occupy 200 acres of flood-prone land between Tyntynder Homestead and the Vinifera Forest. In order to control the annual flooding, he erected a levee bank across the Gunbower Creek, although his crop was continually washed out by floodwaters for several years thereafter. A drought in 1914 reduced flooding, and Takasuka produced a particularly successful crop. Some of this rice was sold to commercial seedsmen and to the Yanco Agriculture College in NSW for the purpose of establishing further trial crops elsewhere. Takasuka continued to cultivate rice at Vinifera through the 1910s and '20s, eventually abandoning the project in 1927 due to lack of finance. He subsequently turned to growing grapes and citrus fruit in Nyah until the mid-1930s, then attempted tomato cultivation in Huntly. He returned to Japan in 1940, where he later died.

To mark the site of Jo Takasuka's rice farm at Vinifera, a memorial cairn was unveiled by the Consul-general of Japan, Yasunori Kikuchi, on 18 October 1991, in the presence of the then Shire President, Margaret Schintler, and members of the Takasuka family.¹

Description

The remnant portion of the Takasuka Levee bank appears to extend through the Vinifera Forest for several kilometres. The start of the bank is marked by a concrete cairn and an interpretative signboard. The bank, which is about 1500mm high, runs parallel to the forest roadway for approximately 500 metres.

Thematic Context

Thematic Environmental History

- 5.3 Closer Settlement
- 11.2 Crops
- 12.3 Japanese settlers

Australian Heritage Commission

- 2.4 Migrating
- 3.4 Developing primary production
- 3.8 Farming for export under Australian conditions

Significance

The Takasuka Levee Bank, in the Vinifera Forest, off the Murray Valley Highway, Vinifera, is of considerable historic significance. Erected by Japanese migrant Jo Takasuka in 1908, the bank provides evidence of the first attempt to cultivate rice in Australia. At a local level, it is associated with farming activity during the pivotal period of Closer Settlement in the early twentieth century, and demonstrates a typical attempt to make the low-lying riverside land viable for agricultural development.

1 G Willoughby. *On "this bend" of the River*. p 68.

References

G Willoughby. *On "This Bend" of the River*. pp 67-68.

Interpretative signage located at site.

Takasuka: an Immigrant Family. Unpublished typescript in File B6238 held at National Trust Offices (Victoria)

Recommendations

The levee bank should be retained intact, without further penetrations or excavation. Any future roadways proposed through the forest should be laid out sympathetically in relation to the position of the levee bank. For example, roadways should ideally run parallel to the levee bank, and should not cross it, as they currently do in some instances

Identified By

Andrew Ward, 1 October 1998

Appendix B. Environmental Significance Overlay, Schedule 1 (Waterway, Wetlands and Lakes Environs) (ES01)

02/08/2012
C41**SCHEDULE 1 TO THE ENVIRONMENTAL SIGNIFICANCE OVERLAY**

Shown on the planning scheme map as **ESO1**.

WATERWAY, WETLANDS AND LAKES ENVIRONS**1.0**19/01/2006
VC37**Statement of environmental significance**

The Murray River has local, regional, state, national and international significance. The river and environs are an important water supply, tourism, recreational, landscape, cultural and environmental asset. It is essential that the Murray River and its environs be maintained and enhanced as a major resource for these assets. All waterways in the municipality form a vital part of the Murray Darling Basin.

The intensity of development on riparian and riverfront land can result in increased flood hazards, conflicts among recreational uses, loss of riparian vegetation and wildlife habitat, loss of visual amenity and a decline in water quality. Leveebanking, stream modification and construction of water storages for irrigation and domestic water supply has altered flow levels and flooding regimes.

Lakes and wetlands systems are integral to the maintenance of natural, cultural and catchment values associated with major rivers in the municipality and the riparian environments of the Murray River. The lakes and wetlands system in Swan Hill Rural City has outstanding ecological, catchment and recreational values.

Water quality is critical to the riparian environment of waterways and water bodies. Water quality is also vital for other values and uses, such as recreation, tourism, visual landscape, urban water supply, stock and domestic water supply, and irrigation usage.

2.019/01/2006
VC37**Environmental objective to be achieved**

- To protect and enhance the natural environment and cultural heritage qualities of the Murray River and its anabranches as a major waterway of local, regional, state, national and international significance
- To maintain the quality and availability of water within waterways and water bodies
- To ensure that any use, development or works in the environs of waterways, wetlands and lakes are of a scale, character and form that is compatible with the high environment quality of these systems
- To promote tourist and recreational activities in the vicinity of watercourses, wetlands and lakes subject to the design, siting and landscaping of development to protect the values of these environments
- To protect and enhance the biodiversity, ecological, and cultural values of waterway, wetland and lake environments
- To protect the visual and environmental qualities of waterways, wetlands and lakes, restricting the use and development of land in these areas to maintain these qualities
- To maintain the ability of waterways to carry natural flows
- To prevent the erosion and siltation of waterways and adjoining land
- To provide for the use and development of land adjacent to Lake Boga for tourist and recreational purposes, while protecting the natural beauty and amenity of the area

3.002/08/2012
C41**Permit requirement**

A permit is not required for:

- Any building or works located more than 100 metres from Murray River and 60 metres from any other waterway, wetland or lake.

- Any effluent disposal system or line located more than 60 metres from a waterway, wetland, lake or water supply channel in any unsewered area.
- Repairs and routine maintenance to existing buildings and works.
- Alterations or additions to an existing dwelling or building, provided any addition is not located any closer to the waterway, wetland or lake than the existing dwelling or building and that the size of the existing dwelling or building is not increased by more than 100 percent of its existing size.
- Works undertaken by Swan Hill Rural City, a government department or a public authority for municipal purposes, stream improvement, drainage, channel repairs, flooding regulation, erosion control, water supply, sewerage supply, telecommunications or minor utility installation.
- Buildings or works associated with a minor utility installation, low impact telecommunications facility or passive recreation.
- A fence.
- Buildings and works to the minimum extent necessary for actions undertaken by or on behalf of the Roads Corporation in the construction of the Swan Hill Bridge replacement project and associated works.
- Removal, destruction or lopping of any vegetation, including dead vegetation to the minimum extent necessary for actions undertaken by or on behalf of the Roads Corporation in the construction of the Swan Hill Bridge replacement project and associated works.

4.0

19/01/2006
VC37

Referral of permit applications

Any application of the kind listed below must be referred in accordance with Section 55 of the Act to the referral authority specified in Clause 66.04 or a schedule to that clause:

An application for development and/or works within:

- 30 metres of a Goulburn Water channel or drain, Goulburn Murray Water land or infrastructure asset.
- 60 metres of a lake or waterway.
- 100 metres of the Murray River.
- 50 metres of any public land managed by the Department of Sustainability and Environment.

An application for subdivision creating lots less than 40 hectares.

An application for development associated with Intensive animal husbandry.

5.0

19/01/2006
VC37

Decision guidelines

Before deciding on an application, the responsible authority must consider, as appropriate:

Murray River:

- Whether the proposed development has a demonstrated, essential relationship with the Murray River and the location of development is set back as far as possible from the bank of the Murray River.
- The need for development adjoining the main channel of the Murray River to be for public purposes.

All waterways, wetlands and lakes:

- The existing use and development of the land and the reason for development to support that use.
- Impact on and protection of:

- water quality, including reduction of pollution from salts and nutrients
 - environmental and biodiversity values of land and water
 - erosion and siltation
 - ability to maintain natural flows and water levels
 - salinity risk
 - landscape and visual quality
 - recreational and tourism values.
- Maintenance of existing remnant vegetation, and the desirability of protecting this vegetation by excluding stock to enhance environmental values.
 - The need to stabilise and revegetate waterway, wetland and lake environs with indigenous species.
 - The need to avoid the obstruction of any waterway, wetland or lake and keeping disturbance to any waterway or riparian environment to a minimum.
 - The need to avoid the alienation of any waterway, wetland or lake for private purposes and measures to increase public access to them.
 - Potential impact on surrounding land uses, including measures to reduce any adverse effects on this land, including landscaping and provision of vegetation buffers.
 - The desirability of achieving as large setbacks as possible for development and works from waterways, wetlands and lakes, with a preferred minimum setback of 50 metres.
 - The effectiveness of proposed wastewater disposal systems, based on assessment in accordance with the Environment Protection Authority guideline *Land capability assessment for onsite domestic wastewater management*, the *Septic Tank Code of Practice*, Environment Protection Authority, and the *State Environment Protection Policy (Waters of Victoria)*.
 - Relevant reference documents listed in clause 21.05.