



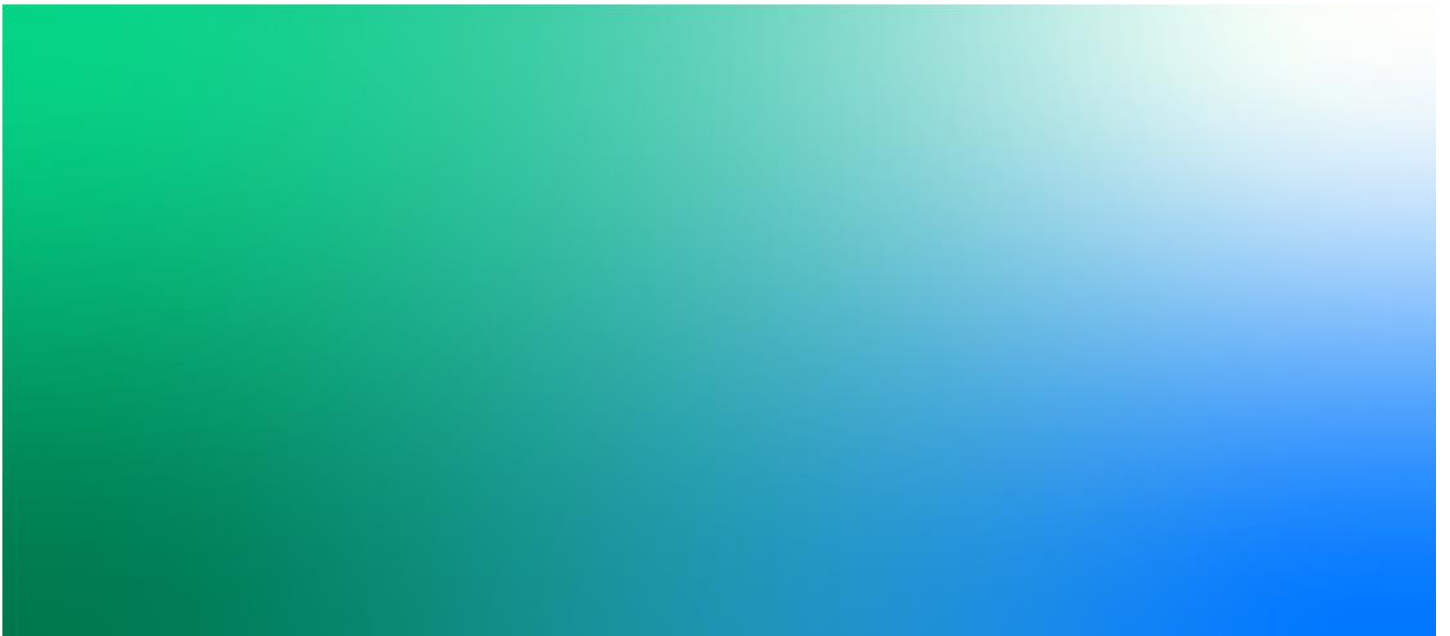
Victoria Murray Floodplain Restoration Project

Desktop Land Use Planning Assessment - Guttrum and Benwell Forests Floodplain Restoration Project

IS297722-AP-AP-RP-0003 | REV 0

30 July 2020

Lower Murray Urban and Rural Water Corporation



Victoria Murray Floodplain Restoration Project

Project No: IS297722
Document Title: Desktop Land Use Planning Assessment - Guttrum and Benwell Forests Floodplain Restoration Project
Document No.: IS297722-AP-AP-RP-0003
Revision: REV 0
Date: 30 July 2020
Client Name: Lower Murray Urban and Rural Water Corporation
Program Manager: John Myers
Author: Diana Savenake
File Name: IS297722-AP-AP-RP-0003.docx

Jacobs Group (Australia) Pty Limited and GHD Pty Ltd trading as R8 Joint Venture
Floor 11, 452 Flinders Street
Melbourne VIC 3000
PO Box 312, Flinders Lane
Melbourne VIC 8009 Australia
T +61 3 8668 3000
F +61 3 8668 3001

© Copyright 2019 The concepts and information contained in this document are the property of Jacobs Group (Australia) Pty Ltd and GHD Pty Ltd trading as R8 Joint Venture. Use or copying of this document in whole or in part without the written permission of R8 Joint Venture constitutes an infringement of copyright.

Limitation: This document has been prepared on behalf of, and for the exclusive use of R8 Joint Venture's client, and is subject to, and issued in accordance with, the provisions of the contract between R8 Joint Venture and the client. R8 Joint Venture accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this document by any third party.

Document history and status

Revision	Date	Description	Author	Reviewed	Approved
A	15 May 2020	Draft for VMFRP review	D. Savenake	D. Neumann/S. Hale	M Shaw / D Lavery
B	24 July 2020	Final Draft to VMFRP (incorporating VMFRP comments on Rev A)	D. Savenake	D. Neumann/S. Hale	M Shaw / D Lavery
0	30 July 2020	Final for referral submission	S. Hale	M Shaw	D Lavery

Contents

Acronyms and abbreviations.....	iv
1. Introduction	1
1.1 Project overview	1
1.2 Project components.....	1
1.3 Area of Investigation, development footprint and construction footprint	6
1.4 Purpose of this report	7
1.5 Limitations.....	7
2.1 Commonwealth legislation	9
2.2 Victorian legislation	10
2.3 New South Wales legislation	13
3. Existing conditions	18
3.1 Land use and development	18
3.2 Land tenure	19
3.3 Instruments on Title.....	19
3.4 Access.....	20
3.5 Native title interests.....	20
3.6 Other relevant features.....	20
4. Victorian Planning Framework	27
4.1 Planning policy	27
4.2 Land use definitions.....	31
4.3 Relevant zones and overlays.....	32
4.4 Particular and general exemptions.....	39
4.5 Zone and overlay exemptions	43
4.6 Planning triggers.....	48
4.7 Notice and referral requirements.....	50
4.8 Other Incorporated documents.....	51
4.9 Other relevant strategies and policies.....	52
5. NSW planning framework.....	57
5.1 NSW Environmental Planning and Assessment Act 1979.....	57
5.2 State environmental planning policies	57
5.2.1 State Environmental Planning Policy (Infrastructure) 2007	57
5.2.2 State Environmental Planning Policy No. 44 – Koala Habitat Protection	58
5.2.3 Murray Regional Environmental Plan No.2 – Riverine Land	58
5.3 Wakool Local Environmental Plan 2013	59
6. Potential impacts and mitigation	61
7. Conclusion	64
8. References	66

Appendix A: Site Description

Acronyms and abbreviations

Acronym / Abbreviation	Definition
BMO	Bushfire Management Overlay
CMA	Catchment Management Authority
DAWE	Commonwealth Department of Agriculture, Water and the Environment (formerly DoEE)
DELWP	Victorian Department of Environment, Land, Water and Planning
DoEE	Commonwealth Department of the Environment and Energy (now DAWE)
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
ESO	Environmental Significance Overlay
Ha	Hectares
HO	Heritage Overlay
Km	kilometre
LMW	Lower Murray Urban and Rural Water Corporation
LPPF	Local Planning Policy Framework
LSIO	Land Subject to Inundation Overlay
M	Metres
Mm	Millimetres
MNES	Matters of national environmental significance as defined under the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
MPS	Municipal Planning Strategy
NCCMA	North Central Catchment Management Authority
PCRZ	Public Conservation and Resource Zone
planning scheme	Gannawarra Planning Scheme
PPF	Planning Policy Framework
Project	Guttrum and Benwell Forests Floodplain Restoration Project
VCAT	Victorian Civil and Administrative Tribunal
VHR	Victorian Heritage Register
VMFRP	Victorian Murray Floodplain Restoration Project
VPP	Victoria Planning Provisions

Important note about your report

The purpose of R8's engagement under the Victorian Murray Floodplain Restoration Project (VMFRP) is to design infrastructure for the VMFRP including regulators, levees, roads, access tracks and culverts. The purpose of this infrastructure is to allow floodplains to be watered at the hydraulic design levels nominated by VMFRP. R8 are also engaged to provide Regulatory Approvals and Cultural Heritage Services. The purpose of these services is to support VMFRP to lodge the necessary approvals documents for the project with the relevant approval authorities.

The sole purpose of this report and the associated services performed by R8 is to complete a desktop review of the planning and environmental controls associated with the proposed works for the Guttrum and Benwell Forests Floodplain Restoration Project. This report will support the preparation of referrals under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and Victorian *Environment Effects Act 1978* (EE Act). This report for VMFRP has been prepared in accordance with the scope of services set out in the contract between R8 and VMFRP. That scope of services, as described in this report, was developed with VMFRP.

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 in the data handover pack at the commencement of the project. In particular, VMFRP has developed ecological objectives and, based on these, has proposed inundation levels and extents. R8 is reliant on VMFRP's prior flood modelling work and has designed the infrastructure in response to the VMFRP defined inundation levels and extents.

This report should be read in full and no excerpts are to be taken as representative of the findings. No responsibility is accepted by R8 for use of any part of this report in any other context. This report has been prepared on behalf of, and for the exclusive use of VMFRP, and is subject to, and issued in accordance with, the provisions of the contract between R8 and VMFRP. R8 accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party.

1. Introduction

The Guttrum Benwell Floodplain Restoration Project (the project) is one of nine discrete environmental works projects being undertaken as part of the Victorian Murray Floodplain Restoration Project (VMFRP), which is being implemented as part of Victoria's obligations under the Murray Darling Basin Plan. The VMFRP aims to restore a more natural inundation regime across more than 14,000 ha of high ecological value Murray River floodplain in Victoria through the construction of new infrastructure and modification of existing infrastructure.

The VMFRP is being implemented in partnership between Lower Murray Urban and Rural Water Corporation (LMW), Goulburn Murray Rural Water Corporation (GMW), Mallee Catchment Management Authority (Mallee CMA), North Central Catchment Management Authority (North Central CMA), Parks Victoria and the Department of Environment, Land, Water and Planning (DELWP), and is funded by the Commonwealth Department of Agriculture, Water and Environment. LMW has been nominated by the partnership as the project proponent for the purpose of submitting referrals and approval applications.

R8 is a joint venture formed between Jacobs and GHD, which has been engaged by VMFRP to deliver design, cultural heritage and approvals services for the VMFRP. This desktop land use planning assessment has been prepared for the project to support the preparation of referrals under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and Victorian *Environment Effects Act 1978*.

1.1 Project overview

The Guttrum and Benwell Forests Floodplain Restoration Project (the project) is located on Crown land under the management of either DELWP or Parks Victoria along with land under private ownership. Goulburn Murray Water is the Rural Water Corporation for the area and the North Central Catchment Management Authority is the relevant catchment management authority (CMA). The land is within the Shire of Gannawarra in Victoria and Murray River Council in NSW (Figure 1.1 Regional Context).

The project aims to restore a more natural inundation across 1,149 ha (668 ha of Guttrum Forest and 481 ha of Benwell Forest) of high ecological value Murray River floodplain. Works will include the construction of new infrastructure and the modification of existing infrastructure to pump inflows of up to 125 ML/d of water from the Murray River into the Forests at each of the three proposed pump stations.

The project aims to reinstate a more natural inundation regime across the area of high-ecological value Murray River floodplain within Guttrum and Benwell forests. This will protect and enhance the ecological values of these areas, restoring healthy floodplain communities to ensure that indigenous plant and animal species and communities survive and flourish (NCCMA, 2014). Four water regime classes comprised of 10 ecological vegetation classes (EVCs), plus non-EVC Billabong Aggregate, have been specifically identified for restoration through this project. This includes Permanent Wetlands, Semi-permanent wetlands, River Red Gum: Flood - dependent understory, and River Red Gum: Flood-tolerant understory.

1.2 Project components

The main components of the project are designed to replicate a natural flood regime that will trigger a range of ecological responses across a representative area of flood dependent communities of both the Guttrum Forest and the Benwell Forest. No structures have been identified as redundant, requiring either removal or decommissioning as part of the project.

The main components of the project including environmental water delivery infrastructure and access tracks, based on the current design for the project, are described below. Design and in some cases the type and location of infrastructure is currently being refined as part of the design process. The area of investigation provides a buffer around the current design of the development footprint and access tracks to allow for future changes. To the extent practicable, changes to the design and construction footprints of the main components of the project would be within the area of investigation. Any changes occurring outside of this area of investigation would

require assessment to identify their potential to trigger planning approval requirements or impact on land use values.

Key design elements that are subject to change include the design and location of power supply and extent of levee works required as these have not yet been confirmed. The levees are subject to further risk assessment to confirm if required and VMFRP are currently working with Powercor to confirm the preferred alignment for the power supply. The potential location of levees have been included in the area of investigation and the kiosk station associated with the potential power supply for the pump stations is included in the development footprint, however the power poles, stays or cables are not included as their locations are still to be confirmed.

Given the design of the proposed environmental water delivery infrastructure is evolving as part of the design and approvals process, the information in this section will need to be reviewed and updated in response to design changes. Findings from on-site assessments particularly ecology fieldwork and cultural heritage complex assessment (undertaken for the Cultural Heritage Management Plan) have and will continue to be progressively fed into the design, with modifications made to avoid and minimise environmental impacts.

The proposed works at Guttrum and Benwell forests include:

Guttrum Forest

- The Guttrum Main Regulator (G5) which is a small regulator at the western end of the site and the lowest point of connectivity with the Murray River. The regulators will enable the water to be contained in the swamp and released at a controlled rate once the duration of planned inundation has been achieved. The regulator would generally remain open to avoid obstructions on the natural floodplain and would only be closed during environmental watering events. The regulator will be opened during natural flooding conditions to allow water to enter the forest and be closed if required to increase the duration of the natural inundation.
- Reed Bed Swamp Regulator (North and South) which are two small regulators to prevent backflow to the Murray River from the pipe supply outlet into the flood runner on the wetland side of the River Track. The regulator would generally remain open to avoid obstructions on the natural floodplain and would only be closed during environmental watering events. The regulators will also be opened during natural flooding events. An outlet at the end of the Guttrum East Pipeline will be located adjacent to both regulators.
- Little Reed Bed Swamp Regulator is a small regulator (box culvert) designed to prevent backflow from entry into Little Reed Bed Swamp to the Murray River (when closed). The regulator would generally remain open to avoid obstructions on the natural floodplain and would only be closed during environmental watering events. The regulator would also be open during natural flooding conditions to allow water to enter the forest. An outlet at the end of the Guttrum East Pipeline would be located adjacent to both regulators.
- The Guttrum East Pipeline to be located along an existing River Track from Guttrum East Pump Station north to three locations within the Reed Bed Swamp Complex of wetlands, via three separate pipelines; Little Reed Bed Swamp flood runner, Reed Bed Swamp northern flood runner and Reed Bed Swamp southern floodrunner.
- Guttrum West Pipeline, a pipeline from the Guttrum West Pump Station and discharge into the Guttrum Main outfall Channel, on the forest side of the Guttrum Main Regulator. The alignment to follow the containment bank.
- Little Reed Bed Swamp Outlet located at the end of the Guttrum East Pipeline and distributes flow into the local floodrunner adjacent to the Little Reed Bed Swamp Regulator area, with erosion protection and rock beaching.
- Reed Bed Swamp North Outlet located at the of end of Guttrum East Pipeline and distributes flow into the local floodrunner adjacent to the Reed Bed Swamp North Regulator area, with erosion protection and rock beaching.

- Reed Bed Swamp South Outlet located at end of Guttrum East Pipeline and distributes flow into the local floodrunner adjacent to the Reed Bed Swamp South Regulator area, with erosion protection and rock beaching.
- Guttrum West Pipeline Outlet located at the end of Guttrum West Pipeline and distributes flow into the local channel adjacent to the Guttrum Main Regulator area, with erosion protection and rock beaching. Guttrum Main Drop Structure designed to transfer flows between the Guttrum Main Regulator and the Murray River, passing planned inundation flow out of the forest to the river. Structure proposed is a gabion weir and rock beaching construction with extensive rock mattresses at the edge of the river and flood runner confluence to provide erosion control. The structure will also allow for natural high flows from the river to enter the forest.
- Guttrum West Pump Station enabling the pumping of water from Murray River via short pipeline to Guttrum Swamp via Guttrum Forest. Pumping rate ranges from 50 ML/d for semi-permanent wetland planned inundation to 125 ML/d for river red gum forest planned inundation. All pumps will contain screens on the pump inlets with a 2 mm hole aperture, a screen approach velocity of 0.12 m/s and automatic screen cleaning mechanisms.
- Guttrum East Pump Station enabling the pumping of water from River Murray via Guttrum East Pipeline to Reed Bed Swamp and Little Reed Bed Swamp either simultaneously or individually through offtake control. Pumping rate ranges from 25 ML/d for semi-permanent wetland planned inundation to 125 ML/d for full river red gum forest planned inundation. All pumps will contain screens on the pump inlets with a 2 mm hole aperture, a screen approach velocity of 0.12 m/s and automatic screen cleaning mechanisms.
- Guttrum Main Containment Bank – Containment bank located at and around Guttrum Main Regulator and along the river bank to hold the maximum design water level and form public access between Millar Road and River Track as well as all-weather access to the Guttrum West Pump Station.
- Little Reed Bed Swamp Containment Bank – minor localised containment bank around Guttrum East Pipeline outlet and regulator.
- Reed Bed Swamp North Containment Bank – minor localised containment bank around Guttrum East Pipeline outlet and regulator.
- Reed Bed Swamp South Containment Bank – minor localised containment bank around Guttrum East Pipeline outlet and regulator.
- One spillway on Guttrum Main Regulator Containment Bank to protect the regulator during natural flooding.

Benwell Forest

- Benwell Main Regulator which is a large regulator to allow natural flows into the forest (when opened) and enable water to be returned to the Murray River during planned inundation events and natural flooding at a controlled rate (from closed to opened) once the duration of planned inundation has been achieved. The regulator would generally remain open to avoid obstructions on the natural floodplain and would only be closed during environmental watering events.
- Benwell East Regulator which is a small regulator designed to allow natural flows into the forest (when opened) and enable water to be contained in the swamp (when closed) and pass planned inundation flows out of the forest to the Murray River at a controlled rate (from closed to opened). The regulator would generally remain open to avoid obstructions on the natural floodplain and would only be closed during environmental watering events
- South West Natural Flood Conveyance Regulator – Small regulator designed to exclude water from Benwell Main Swamp from entering the South West Benwell Swamp. The regulator would generally remain open to avoid obstructions on the natural floodplain and would only be closed during environmental watering events. Main Pump Station Discharge Pipeline along existing access track extending from Benwell Pump Station to Regulator Track to enable separate delivery of water to Benwell

Main Swamp and South West Benwell Swamp. Water spreading and erosion control will be required at the discharge location.

- The South West Station Discharge Pipeline along existing access track extending from Regulator Track to the to the discharge point into South West Benwell Swamp.
- An Emergency Outlet Pipeline which is a gated pipeline to be located along an existing track designed to enable emergency removal of water from the upper part of the forest (South West Benwell Swamp) to the Benwell drainage system in the event of extreme flooding or water quality issues.
- Benwell Main Outlet – location at the end of the Main Pump Station Discharge Pipeline discharge point and distribution of flow into the local existing channel adjacent, with erosion protection and rock beaching.
- Benwell South West Outlet – location at the end of the South West Discharge Pipeline for discharge and distribution of flow into the South West forest area, with erosion protection and rock beaching.
- Emergency Outlet – location at end of the emergency pipeline to enable emergency flows to discharge into the Benwell Drainage System, adjacent to the edge of the forest.
- The Benwell Main Drop Structure which is designed to transfer flows between the Benwell Main Regulator and the Murray River, allowing natural flows into the forest and to pass planned inundation flow out of the forest. Structure proposed is a gabion weir and rock beaching construction with extensive reno mattresses at the edge of the river and flood runner confluence to provide erosion control. The structure will also allow for natural high flows from the river to enter the forest.
- The Benwell Pump Station will be located adjacent to the Murray River at the far north-western end of the forest area. This will enable the pumping of water to Benwell main swamp and South West Benwell Swamp either simultaneously or individually. Pumping rate ranges from 10 ML/d for South West Benwell Swamp to 125 ML/d for full river red gum forest planned inundation. Fish screens to be included on the pump offtake. All pumps will contain screens on the pump inlets with a 2 mm hole aperture, a screen approach velocity of 0.12 m/s and automatic screen cleaning mechanisms.
- Benwell Containment Bank 1 – Containment bank extending to and past the Benwell Main Regulator to hold the maximum design water level. Containment Bank will be trafficable to allow access to the Benwell Main Regulator and Benwell Drop Structure during managed inundation events.
- Benwell Containment Bank 2 – Containment bank designed to enable water to be separated between the Benwell Main Swamp area and Benwell South West Swamp area and enables some continuity of access along Regulator Track during managed inundation events.
- Two spillways are proposed on Benwell Containment Bank 1, one adjacent to Benwell Main Regulator and one further south of Benwell Main Regulator. The spillways will include erosion protection works where containment banks meet existing low points.

Pumping Infrastructure

To enable pumping to occur at varying water levels in the Murray River three pump stations are proposed adjacent to the Murray River: Guttrum East Pump Station, Guttrum West Pump Station and Benwell Pump Station. The proposed pumps would be located on the bank of the Murray River and include fine fish screens on the suction pipes which would have 2 mm hole apertures, a screen approach velocity of 0.12 m/s and automated mechanical cleaning.

The pump stations would consist of a reinforced concrete open structure on the bank housing the pumps and motors, with the suction pipes extending into the Murray River. The concrete structures on the river bank will be mostly below ground and have a removable cover (e.g. grate) that will be flush with the ground surface. The offtake pipe would be below the estimated 10th percentile river water levels. Construction associated with the pipe outlets would occur within the Murray River and riverbank, with excavation and structural works required for the pumps.

Switchboards for electrical works, variable speed drives and other components are required. This infrastructure will be within a fenced compound with a hardstand area for maintenance. Navigation warning signs will also be required around the submerged offtake works.

Fish passage

The design of all regulators and drop structures allows for passive fish passage. Guttrum Main Regulator, Benwell Main Regulator and Benwell East Regulator are all dual leaf gate regulators and therefore will be designed to regulate and pass outflows at different water levels (i.e. they will not just be open or closed). This will ensure that passive fish passage can be achieved in overshot mode with water passing over the gates. A plunge pool at these three regulators will also be provided immediately downstream of the gate for safe fish passage. All other regulator structures would be operated either in fully open or fully closed position. When water is released with the regulator gate in fully open position, fish have passage through the regulator both in managed release and natural flood scenarios. Structures have also been designed to have flow velocities appropriate for fish passage (based on O'Connor et. al, 2015). During watering events, fish will be able to move across all submerged areas.

Ancillary components

Ancillary components of the project will include:

- Access is generally proposed utilising existing tracks, however some of these tracks would need to be upgraded as part of the project. A number of short sections of new access tracks between existing access tracks and proposed infrastructure and associated with containment banks would also need to be constructed.
- Access track maintenance will be undertaken to existing tracks to ensure they will be suitable for use during construction and operation. The construction footprint allows for a 5 m wide corridor along existing access tracks to carry out the maintenance work.
- The pumps will be electrically powered, with the power supply extending from the nearby Powercor supply system to the new pump stations. The cable line will be directly buried (or bored depending on requirements) within the Forest boundary, following the alignment of containment banks and existing access tracks to minimise the area of impact. The approximate length through the forest is 75 m. The power supply within private land will be overhead and consultation with relevant landholders is currently being undertaken. The approximately length through private land is 2.5 km. VMFRP and Goulburn Murray Water are currently working with Powercor to confirm the preferred alignment and develop preliminary footprints and designs for the power supply and therefore power supply is currently not included in the construction footprint. Provision has been made in the area of investigation for a kiosk substation to be located opposite the pump stations.
- Construction sites and laydown areas are included in the construction footprint and involves a working area (approx. 20 m) around the development footprint for proposed infrastructure to accommodate movement of vehicles and machinery and some limited storage of equipment and materials. The location of specific laydown areas is currently under review by VMFRP and it is proposed to locate these laydown areas in private land outside of the forests to minimise and avoid impacts. Consultation with potentially affected landholders is currently being undertaken in relation to locations
- Borrow pits / quarry activities. Potential borrow pits for construction material (clay/rock) is being investigated by VMFRP. Borrow pits will be located as close to the project as possible on private land. As the location of these is not yet known, potential land use impacts and approval requirements, such as may be required under the *Mineral Resources (Sustainable Development) Act 1990* have not been considered in this report.
- On-site concrete batching plants will not be required for the project. Concrete will be sourced commercially and transported to the project site.

- If determined to be required based on the outcomes of further levee risk assessment, levee works locations will correspond to existing levees to minimise disturbance to vegetation and areas of potential cultural heritage significance.

Inundation activities

The proposed works are intended to inundate the project area with pumped inflows from the Murray River through a series of pump stations on the river. Three operating scenarios have been identified for water delivery to the Guttrum and Benwell Forests:

- Forest floodplain watering – broader floodplain (River Red Gum flood dependent understorey and semi-permanent wetlands). The flooding would replicate a 26,000 ML/day natural event in Guttrum Forest and a 24,000 ML/day event in Benwell Forest. The target frequency for forest floodplain watering based on water regime requirements is on average eight years in 10 for between three to five months. Pumping would be required on average three years in 10 to achieve the target eight years in 10 years inundation frequency, with inundation in other years provided through natural inundation and Basin Plan 2750 flows.
- Semi-permanent wetland watering – targeted water delivery to wetlands only. The target inundation regime for semi-permanent wetlands is nine years in 10 for a duration of six months. Top up watering events after natural inflow events (under Basin Plan 2750 flows) to semi-permanent wetlands would be required on average seven years in 10 to achieve this inundation regime. This pumping would be in addition to the forest floodplain watering scenario which would also inundate the semi-permanent wetlands on average three years in 10. Both scenarios combined would require pumping to semi-permanent wetlands every year, which would achieve the target nine years in 10 years inundation frequency.
- Hybrid events – topping up natural flow events for the forest floodplain and semi-permanent wetland watering due to natural flood duration deficits. There are three options for extending the duration of natural floods that inundate the broader forest and semi-permanent wetlands:
 - Follow up watering of the forest floodplain following natural flow peaks and/or flood capture to achieve required flooding extent and/or duration where natural flood event extent or duration is inadequate to achieve ecological objectives.
 - Top-up watering of the semi-permanent wetlands following natural flow peaks to achieve required flooding duration where natural flood event duration is inadequate to achieve ecological objectives.
 - Delivering a waterbird breeding scenario in association with environmental cues including topping up wetlands to support natural bird breeding events when required.

There are two options for extending the duration of natural floods that inundate the broader forest:

- Flood capture to retain floodwater on the floodplain for the required duration by closing the outlet regulators and low-lying inlet regulators from the River Murray after the river flow peak has passed
- Pumped deliveries of up to 125 ML/ day at each of the three pump stations to top up the natural inflows with additional volume of water from the river.

1.3 Area of Investigation, development footprint and construction footprint

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

- Development footprint - this is the area that the project infrastructure will occupy. This includes the kiosk station associated with the potential power supply but does not include power poles, stays or cables, levees or tracks used for access during construction and operation.

- Construction footprint - this includes the project infrastructure (included in the development footprint) as well as the land required to construct the infrastructure. This includes access tracks.
- Inundation area – area of land subject to flooding during managed events, up to a specific design water level. The inundation area comprises the majority of the Guttrum and Benwell forests which extends along the Murray River north of Koondrook-Murrabit Road between Cassidy Lane and Hall Road. The inundation area in the Guttrum forest comprises the upper and lower wetland complexes including Reed Bed Swamp, Little Reed Bed Swamp and Guttrum Swamp. The Benwell forest inundation area comprises Benwell Swamp, a wetland complex representing a large portion of the Forest, and South West Benwell Swamp a wetland complex in the south west corner of the forest, separated by a higher ridge and existing track.
- Area of investigation - this includes the development footprint, as well as:
 - a 20 m buffer around the development footprint (e.g., regulators, drop structures, pump hardstands, containment banks).
 - A 15 m buffer around the development footprint of minor works such as blockage bank removals/modifications.
 - A 20 m wide corridor along access tracks proposed to be used for construction and/or operation of the project (10m either side of centreline of existing tracks).
 - For the purpose of this report, the area of investigation also includes the inundation area.

The area of investigation is not the proposed area of impact. Buffers applied allow for possible design changes to avoid significant values where required without having to undertake further environmental and heritage investigations.

The majority of the area of investigation lies within the State of Victoria. A portion of the area does, however extend into the southern bank of the Murray River within the State of NSW (Figure 1-1)

1.4 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. The report is based on the Issue for Review (DIFR) Design dated April 2020.

1.5 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 planning permits.

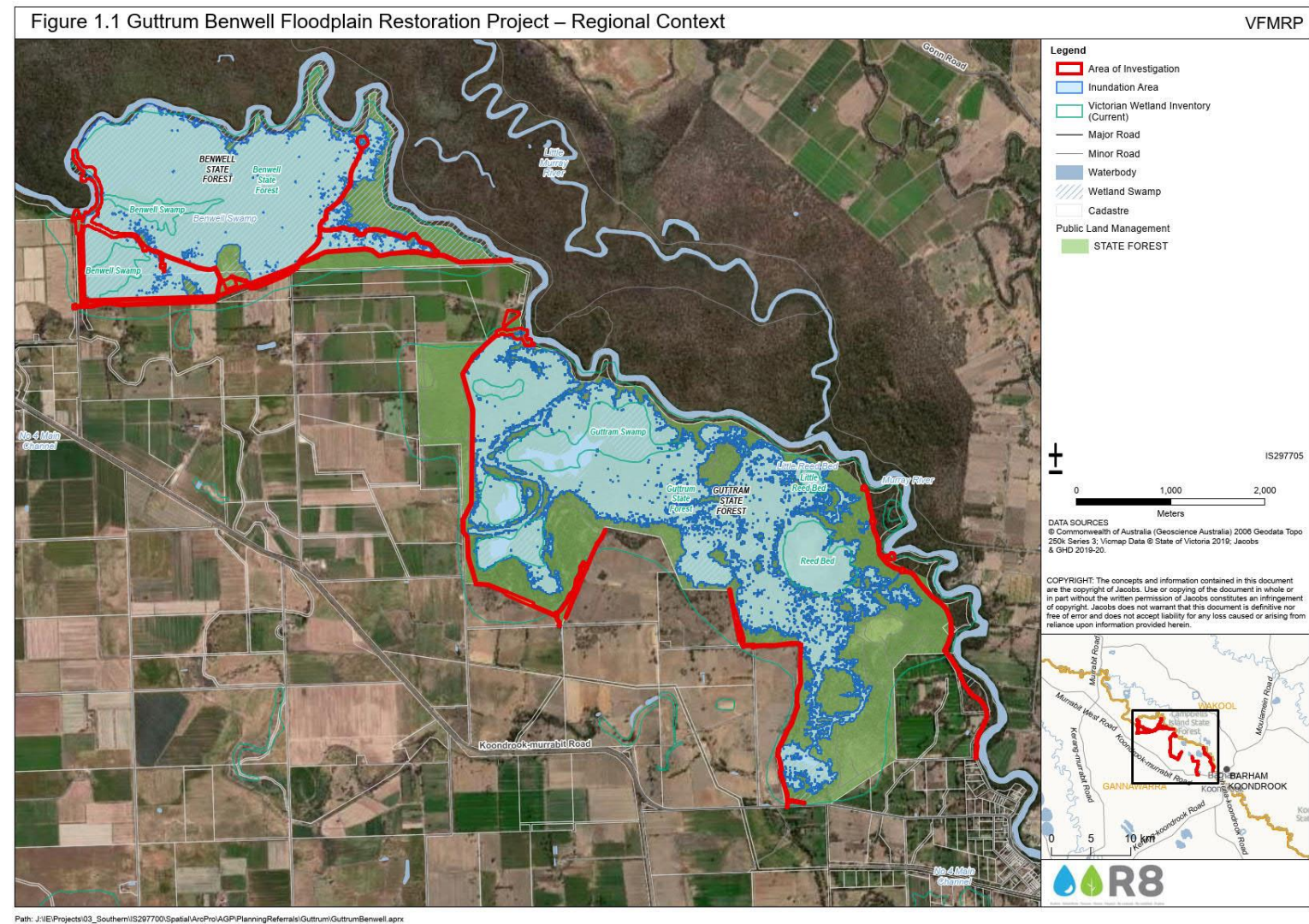


Figure 1-1 Regional Context of the Project

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.

Other environmental and heritage legislation relevant to the project is considered in other technical reports, including the Flora and Fauna Assessment and the Historical Heritage Assessment.

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 nine matters of national environmental significance (MNES) – 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 Agriculture, Water and the Environment (DAWE) for a decision on whether the project is a ‘controlled action’ requiring assessment and approval under the EPBC Act.</p>	<p>The Guttrum and Benwell Floodplain Restoration Project Flora and Fauna Assessment (R8 2020) provides an assessment of the potential presence and impacts on MNES.</p> <p>A number of Wetlands of International Significance are located within 10 km of the project area. These include the Ramsar Wetlands Gunbower Forest, Kerang Wetlands and NSW Central Murray Forests. The closest wetland is the NSW Central Murray Forests Ramsar Wetland located adjacent to the Guttrum and Benwell Forests on the northern side to the Murray River.</p> <p>In addition, a number of EPBC Act listed threatened and migratory species have been identified as present or likely to occur within the area of investigation.</p> <p>Although the Flora and Fauna Assessment concluded it is unlikely that a significant impact will occur on MNES, a precautionary approach to refer the project has been adopted.</p>
<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</p>	<p>The project is located on Crown land therefore must follow government policies of native title.</p> <p>Latest public data shows there are two Indigenous Land Use Agreement (ILUA) registered under the <i>Native Title Act 1993</i>.</p> <p>Agreement V12004/010 was registered in 2006 in response to low impact exploration and mining on land associated with the Wamba Wemba, Barapa Barapa and Wadi Wadi Peoples.</p> <p>Agreement V12011/001 was registered in 2011 in response to regional mining and exploration of the ILUA registered land.</p>

Description	Relevance to this project
or the future act regime of the <i>Native Title Act 1993</i> may apply.	
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>	
The <i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i> protects areas and objects that are of particular 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.	Significant Aboriginal cultural heritage exists on the site. This Act allows the Commonwealth to intervene in any decision for the protection of this heritage.
<i>Water Act 2007</i>	
<p>The <i>Water Act 2007</i> established the Murray-Darling Basin Authority (MDBA), which is responsible for managing the water resources within the basin in a sustainable way. The proposed works would be part of the works and measures that are being delivered under the <i>Water Act 2007</i>.</p> <p>Clause 49 of Schedule 1 of the <i>Water Act 2007</i> outlines that a Contracting Government or a public authority is required to inform the MDBA of any proposal which may significantly affect the flow, use, control or quality of any water in the upper River Murray. There is a requirement to provide the MDBA with all necessary information and data to permit it to assess the potential impacts on the river resulting from the proposal. The <i>Water Act 2007</i> does not expressly provide that approval of the MDBA is required for any such works, but states that the Authority may approve such works subject to conditions.</p>	The project requires notification under clause 49 of Schedule 1 of the <i>Water Act 2007</i> . This notification process is required to be completed before construction commences.

2.2 Victorian legislation

Table 2.2 provides an overview of key Victorian legislation relevant to this land use planning assessment.

Table 2.2: Relevant Victorian legislation

Description	Relevance
<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 is called an Environment Effects Statement (EES) - it is not an approval process itself, rather it is an assessment process that enables statutory decision-makers to make decisions about whether a project with potentially significant environmental effects should proceed.</p>	<p>A referral to the Minister for Planning under the Act will be undertaken to gain a decision on the need or otherwise for an EES.</p> <p>The project may trigger criteria listed in the Guidelines in relation to the potential for significant effects of regional or State significance on the environment.</p>

Description	Relevance
<p>If a project requires assessment under the Act and the EPBC Act, the EES 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>The '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>	
Planning and Environment Act 1987	
<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 area of investigation and proposed inundation area are on land that is subject to the provisions of the Gannawarra Planning Scheme. Use and development of land for the project will require approval under the Gannawarra Planning Scheme and the <i>Planning and Environment Act 1987</i>.</p> <p>Projects can be approved via two processes – the issue of a planning permit or the amendment of the planning scheme.</p>
Crown Land (Reserves) Act 1978	
<p>The <i>Crown Land (Reserves) Act 1978</i> (CLRA) provides for reservation of Crown land for a variety of public purposes without foregoing the intrinsic natural values, and for leasing and licensing of reserves for purposes approved by the Minister for Environment and Climate Change. The CLRA authorises a range of leases and licences for commercial and non-commercial purposes on Crown land.</p>	<p>Title information identifies land within the area of investigation reserved for 'Public Purpose' and managed by Parks Victoria, and 'Temporary Reserved Forest' managed by Parks Victoria or DELWP. Some of this land may be reserved under the CLRA. Parks Victoria will need to confirm the most current reservation and the consents required in relation to the appropriate Act that applies. It is expected that consent will be required from Parks Victoria under section 17 of the CLRA to authorise the use and development of land for the project.</p> <p>If licences on the land exist, VMFRP will need to consult with licence-holders to ensure any existing rights of licences issued under the CLRA are not adversely affected by the project.</p>
Parks Victoria Act 2018	
<p>The <i>Parks Victoria Act 2018</i> repeals and re-enacts with amendments the <i>Parks Victoria Act 1998</i>, establishing Parks Victoria as an independent statutory authority and strengthening Park Victoria's role in protecting, conserving and enhancing Victoria's parks and waterways.</p>	<p>Parts of the area of investigation and the proposed inundation area are located on Crown land consisting of 'State Park' that is managed by Parks Victoria.</p> <p>Parks Victoria is responsible for preparing management strategies and management plans for the land it manages. The project will be required to comply with these management strategies and management plans as relevant. The state park, including parts of the River Murray Reserve and proposed Murray River Park,</p>

Description	Relevance
	which are managed under the River Red Gum Parks Management Plan (Parks Victoria, 2018).
Forests Act 1958	
<p>The <i>Forests Act 1958</i> reserves and protects forest for timber production on Crown land. The Act outlines that all forest produce in state forest is the property of the Crown. The Act prohibits the removal of produce from state forest except in accordance with regulations that apply to Forests. The Department of Environment, Land, Water and Planning (DELWP) is manager of State Forest, with the exception of Section 99(19C) which is administered by the Department of Jobs, Precincts and Regions.</p>	<p>The majority of area of investigation and inundation area is on land reserved for 'State Forest' purposes, managed by DELWP. Any forest management plan and management standards and procedures need to be considered in relation to any land use change within the state forest areas.</p>
Environment Protection Act 1970	
<p>The <i>Environment Protection Act 1970</i> (EP Act) provides the legal framework for protecting the environment in Victoria, having regard to the principles of environment protection as set out in the Act. The Act establishes the powers, duties and functions of the Environment Protection Authority (EPA), which include administration and enforcement of the Act, recommending State Environment Protection Policies (SEPPs) and industrial waste management policies, issuing works approvals, licences, permits, pollution abatement notices and implementing National Environment Protection Measures.</p> <p>SEPPs are subordinate legislation made under the provisions of the EP Act to provide more detailed requirements and guidance. The SEPPs seek to safeguard environmental values and human activities (beneficial uses) from the effect of pollution and waste, including values relating to surface waters, groundwaters, air quality, noise and contamination of land.</p>	<p>The project is not likely to require works approval or licensing under the EP Act.</p> <p>However, discharges and emissions during construction and operation of the project must comply with the applicable SEPPs, including:</p> <ul style="list-style-type: none"> State Environment Protection Policy (Waters) State Environment Protection Policy (Prevention and Management of Contamination of Land) Noise from industry in regional Victoria: Recommended maximum noise levels from commerce, industry and trade premises in regional Victoria (NIRV; EPA publication 1411) State Environment Protection Policy (Ambient Air Quality) State Environment Protection Policy (Air Quality Management). <p>The <i>Environment Protection Act 2017</i> will fully come into effect on 1 July 2021 and will establish a new general environmental duty introduced through the <i>Environment Protection Amendment Act 2018</i>. The new general environmental duty will require that:</p> <p><i>"A person who is engaging in an activity that may give rise to risks of harm to human health or the environment from pollution or waste must minimise those risks, so far as reasonably practicable."</i></p> <p>Design, construction and operation of the project will need to implement measures to comply with the new general environmental duty and any new Regulations that are introduced to support the 2017 Act.</p>
Secondary legislation	
Road Management Act 2004	
<p>The <i>Road Management Act 2004</i> establishes the statutory framework for management of the</p>	<p>Works within the Koondrook-Murrabit Road or council roads leading to the site may require approval from</p>

Description	Relevance
<p>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>Regional Roads Victoria or local council. Proposed works to existing tracks within the Park will be undertaken in accordance with DELWP and Parks Victoria requirements.</p>
Traditional Owner Settlement Act 2010	
<p>The <i>Traditional Owner Settlement Act 2010</i> 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 <i>Native Title Act 1993</i> (Cth) and not to make any future native title claims.</p>	<p>No Traditional Owner Settlement Agreements apply to the area of investigation.</p>
Water Act 1989	
<p>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.</p> <p>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</p>	<p>Works on declared waterways are proposed as part of this project. Application for a licence to construct and operate works on a waterway will be required.</p>

2.3 New South Wales legislation

Table 2.3 provides an overview of key NSW planning and environmental legislation relevant to this land use planning assessment, including identifying likely approvals for the project. This assessment is based on the understanding that activities to be undertaken in NSW are associated with Pump Station suction pipes (remaining works associated with Pump Station are located in Victoria), which along with the two drop structures and their outlet channels and erosion protection measures, would be in the Murray River in NSW.

Table 2.3: Summary of relevant NSW legislation

Description	Relevance to this project
<p><i>Environmental Planning and Assessment Act 1979</i></p> <p>Development in NSW is assessed in accordance with the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act), which institutes a system for environmental assessment, including approvals and environmental impact assessment. It requires 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.</p> <p>The three parts relating to planning approval requirements are:</p> <ul style="list-style-type: none"> Part 4 provides for control of 'local development' that requires development consent from the local Council. State significant development is also assessed under Part 4 (Division 4.7). Part 5 provides for control of 'activities' that do not require approval or development consent under Part 4. Part 5 Division 5.2 provides for control of State significant infrastructure. <p>The need or otherwise for development control is set out in environmental planning instruments – state environmental planning policies (SEPP (NSW)), regional environmental plans (now deemed SEPPs (NSW)) or local environmental plans (LEPs).</p>	<p>The project works in NSW are part of a water reticulation system and are permissible with consent under Part 4 of the EP&A Act due to the application of clause 126A of State Environmental Planning Policy (Infrastructure) 2007. A development application would need to be submitted to the consent authority which is the Murray River Council. The development application is 'integrated development' because a permit is also required under section 201 of the <i>Fisheries Management Act 1994</i>.</p> <p>The development application would need to include a Statement of Environmental Effects that would consider the provisions of relevant environmental planning instruments, including the Murray Regional Environmental Plan No.2 – Riverine Land, and the Wakool Local Environmental Plan 2013.</p>
<p><i>Crown Lands Management Act 2016</i></p> <p>The <i>Crown Lands Management Act 2016</i> sets out how Crown land is to be managed in NSW. The Act is administered by Crown Lands Division within the NSW Department of Planning, Industry and Environment (NSW DPIE).</p> <p>Under the <i>Crown Lands Management Act 2016</i>, it is an offence to erect a structure, clear or dig up public land without a lawful authority.</p>	<p>NSW DPIE Crown Lands has advised that the proposed works in NSW would be undertaken on Crown land. Works on NSW Crown land would require authorisation by a lease, license or other permit to allow the use of Crown land. NSW DPIE Crown Lands has advised that:</p> <ul style="list-style-type: none"> A Crown Lands License will be required for the pump stations and drop structures.
<p><i>Water Management Act 2000</i></p> <p>The <i>Water Management Act 2000</i> (WM Act) controls extracting and using water, constructing works such as dams and weirs, and carrying out activities in or near water sources in NSW. 'Water sources' are defined very broadly and include any river, lake, estuary or place where water occurs naturally on or below the surface of the ground, and NSW coastal waters.</p>	<p>R8 consulted with the NSW Natural Resources Access Regulator (NSW NRAR), who advised that the project would not require a Controlled Activity Approval because the work would be undertaken on Crown land.</p> <p>NSW NRAR also confirmed that the take of water relating to temporary pumps located on the Victorian side of the border would not require a licence under the WM Act because NRAR does not licence pumps that are located in Victoria. NRAR confirmed that the project</p>

Description	Relevance to this project
	does not require a Water Access Licence or a Water Supply Work Approval.
<p><i>National Parks and Wildlife Act 1974</i></p> <p>The <i>National Parks and Wildlife Act 1974</i> (NPW 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.</p> <p>The NPW Act provides the basis for legal protection and management of Aboriginal sites in NSW. All Aboriginal objects within NSW are protected under Part 6 of the NPW Act. The implementation of the Aboriginal heritage provisions is the responsibility of the NSW DPIE.</p> <p>Section 87 of the NPW Act states that a permit may be issued to disturb or excavate archaeological sites or objects. Under section 90 of the NPW Act, it is an offence to knowingly destroy, deface or damage an object, except in accordance with an approval granted under that section.</p>	<p>An Aboriginal heritage assessment will need to be undertaken in accordance with the <i>Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW</i> to confirm whether the proposal would impact on any items of heritage significance and whether an Aboriginal Heritage Impact Permit (AHIP) is required under Section 90 of the NPW Act.</p>
<p><i>Aboriginal Land Rights Act 1983</i></p> <p>The NSW <i>Aboriginal Land Rights Act 1983</i> (ALR Act) recognises the traditional ownership and occupation of the land by Aboriginal peoples and the importance of their connection to land. This means the ALRA recognises the spiritual, social, cultural and economic importance of land to the state's Aboriginal peoples.</p> <p>Section 3 states the purposes of the ALR Act are:</p> <ul style="list-style-type: none"> ▪ To provide land rights for Aboriginal persons in New South Wales ▪ To provide for representative Aboriginal Land Councils in New South Wales ▪ To vest land in those Councils ▪ To provide for the acquisition of land, and the management of land and other assets and investments, by or for those Councils and the allocation of funds to and by those Councils ▪ To provide for the provision of community benefit schemes by or on behalf of those Councils. <p>Since the introduction of the ALR Act, many of the powers within its provisions, and the right to make decisions, have been gradually transferred to Aboriginal Land Councils which are constituted under this Act.</p>	<p>Register searches will be conducted to confirm whether an Aboriginal Land Claim has been lodged over the part of NSW that is within the construction footprint.</p>
<p><i>Fisheries Management Act 1994</i></p> <p>The <i>Fisheries Management Act 1994</i> (FM Act) aims to conserve, develop and share the fishery resources of NSW for the benefit of present and future generations.</p>	<p>As construction of the pump stations and drop structures requires excavation of the bed or bank of the river, this would meet the definition of 'dredging' or 'reclamation' under Clause 198A of the FM Act and would therefore require a permit under section 201 of the FM</p>

Description	Relevance to this project
Under Section 201(1) of the FM Act, a person must not carry out dredging or reclamation except under the authority of a permit issued by the Minister for Agriculture.	Act. However, section 201(2) indicates that a permit is not required if the work is authorised under the <i>Crown Land Management Act 2016</i> . Consultation with NSW Department of Primary Industries (NSW DPI) Fisheries and NSW DPIE Crown Lands will be required to confirm this permit exemption.
<i>Biodiversity Conservation Act 2016</i>	
<p>The <i>Biodiversity Conservation Act 2016</i> (BC Act) provides the statutory framework for the conservation of biota of significance in NSW. The BC Act aims to, amongst other things, 'conserve biological diversity and promote ecologically sustainable development'. It provides for:</p> <ul style="list-style-type: none"> ▪ The listing of threatened species under Schedule 1 ▪ The listing of threatened ecological communities listed under Schedule 2 ▪ The preparation and implementation of Recovery Plans and Threat Abatement Plans ▪ Requirements or otherwise for the preparation of a Species Impact Statement. <p>The above factors assist within determining whether a proposal is likely to significantly impact on threatened species, populations or ecological communities or their habitats. If a proposal is likely to have a significant impact on a threatened species, population or ecological community, a Species Impact Statement is required.</p>	The project will involve works on only a very small area of land that is limited to the western bank of the Murray River. As such, the project is not likely to significantly impact on a threatened species, population or ecological community.
<i>Local Land Services Act 2013</i>	
The <i>Local Land Services Act 2013</i> regulates the clearing of native vegetation on rural land in NSW. However, the Act does not apply to any clearing that is authorised under other legislation, including clearing authorised by a development consent under Part 4 of the EP&A Act after compliance with that Part (section 600(a)).	As this project would be authorised by a development consent under Part 4 of the EP&A Act, clearing of native vegetation does not require authorisation under the <i>Local Land Services Act 2013</i> .
<i>Heritage Act 1977</i>	
<p>The <i>Heritage Act 1977</i> identifies and protects heritage items and is administered by the Heritage Council of NSW and NSW Heritage Office (part of NSW Office of Environment and Heritage). Any development that would impact on an item listed on the State Heritage Register requires approval from the Heritage Council under section 60 of the Act.</p> <p>The relic provisions in the Act also require that an excavation permit be obtained from the Heritage Council prior to commencement of works if disturbance to a site with known or potential archaeological relics is proposed.</p>	The proposed works within NSW are not located on land containing any known heritage items. There are however several areas of potential heritage in close proximity to the NSW border. Potential impacts on heritage items would be considered during the environmental assessment required under the EP&A Act.
<i>Protection of the Environment Operations Act 1997</i>	
The <i>Protection of the Environment Operations Act 1997</i> (POEO Act) regulates noise, air, land and water pollution. Schedule 1 of the POEO Act defines Scheduled Activities that	The project does not involve a Scheduled Activity. Provided the construction and operation of the project is able to be carried out

Description	Relevance to this project
require an Environment Protection Licence (EPL) under the POEO Act. Section 120 of the POEO Act makes it an offence to pollute waters.	without causing water pollution, an EPL will not be required, although this will need to be confirmed with the EPA.

3. Existing conditions

3.1 Land use and development

3.1.1 Area of Investigation

Land that supports the development footprint, construction footprint and the inundation area is identified as the area of investigation.

The area of investigation extends across the Guttrum and Benwell forests that are located along the Victorian border of the Murray River within the North Central Catchment Management Area. The forests are part of an extensive system of floodplain forests in the Mid-Murray region, just north-west of the Victorian town of Koondrook. The project area lies adjacent to the Campbells Island State Forest and the town of Barham on the northern side of the Murray River in NSW.

The forests are important floodplain ecosystems that rely on periodic flooding to maintain a healthy environment for flora and fauna. They act independently to each other and are unique systems comprised of River Red Gum floodplain forests and woodlands interspersed with swamp low-lying habitats including complexes of semi-permanent wetlands.

The condition of the forests is a reflection of the use of the land over time, which included forestry, grazing, development of roads and levees and the cutting of irrigation channels to direct water to adjacent farm properties.

As a result of clearing for agriculture, there is only a narrow corridor connection between the two forests, limiting movement for fauna within this area. However, the forests are supported by the large expanse of the Campbells Island State Forest directly north of the Murray River, providing an extensive ecological corridor.

3.1.2 Surrounding area

The Guttrum and Benwell Forests are located off the Koondrook-Murrabit Road between the small townships of Koondrook and Murrabit, within the Local Government Area of Gannawarra. A bridge over the Murray River at Koondrook provides direct connection to the NSW town of Barham which is a larger town across the Victorian/NSW border. Both towns form the commercial centre for the region's timber, citrus groves, and fat-lamb cattle and dairy production. Guttrum and Benwell Forests are also an important source of timber for the River Red Gum timber sawmill in Koondrook.

The Gannawarra Shire Council has a strategic objective to develop new businesses and grow tourism and existing businesses as part of strategic regional projects. The development of the Koondrook Wharf is a regional project undertaken as part of this strategic plan and is aimed specifically at further development of tourism in the area. The township and surrounding area contain a number of tourist accommodation with the development of a new 4-star motor inn located on the banks of the Murray River. It also contains a Caravan Park and the new Koondrook Wharf which is helping to drive further tourism investment in the area. With the state forests nearby nature-based tourism is a major focus for the Council.

The history of settlement of the area dates back to early expansion of the pastoralists in the mid-1800s. Development of these towns grew with the development of the Kerang-Koondrook Tramway which linked the river port of Koondrook with Melbourne via the railway link to Kerang, and continued to operate up to the mid 1970's. The connection to Kerang, and to Melbourne helped Koondrook establish a timber harvesting industry which supported the town.

The area now supports close to 1,000 people (ABS, 2016), along with a growing recreational tourism industry and the surrounding agricultural production in dairy and mixed farming.

The project is closest to the small locality of Myall. This area was settled in the 1870s with the establishment of irrigation taking place in the 1880s. The period of 1900–1920 was a significant period in area's history with an increase in population due to irrigated land parcels that supported citrus and dairying (Gannawarra Shire Council 2010). The Shire of Gannawarra Urban and Rural Strategy Plan (Parsons Brinckerhoff, 2007) states that the area of Myall to Benjeroop provides limited opportunity for rural residential development due to its isolation from main towns, its agricultural and environmental values and the flood risk associated with the area.

Murrabit is the closest population hub to the project area. The town and surrounding area has a population of just 200 (ABS, 2016) and is declining. It is known as a citrus producing area. Rural residential development is focused more around this area than the area of Myall. However it is restricted due to productive farming land parcels (Parsons Brinckerhoff, 2007). No dwellings will be directly affected by the construction footprint or inundation area.

The town is recognised as a key tourism area under the Gannawarra Shire Strategic Tourism Plan 2015–2020. The plan highlights tourism opportunities of the town and surrounding area, including a proposal to develop an onroad cycle touring route through this area from Kerang to Cohuna. The Murrabit market that began in the 1970s is seen as a key tourism attraction of the area.

To the south of the project area, the larger town of Koondrook provides an opportunity for residential development close to the Murray River. Land to the west and south of the town provides for conventional residential growth, where there is less flood risk than areas north and east of the town. Koondrook is also identified as one of the Shire's key tourism areas (Gannawarra Shire Council, 2015). It also supports a recognised farmers market promoting the local produce of the area and includes tourism facilities and activities such as the Koondrook Wharf, upgraded caravan and camping facilities and the introduction of cycling trails and mountain bike events.

The project is located at least 20 km from larger townships of Kerang to the south-west and Swan Hill to the north-west.

The project is located off the Koondrook–Murrabit Road that is accessible from the Murray Valley Highway at Cohuna and the Loddon Valley Highway at Kerang. These roads are managed by Regional Roads Victoria.

3.2 Land tenure

The project is predominantly located within the confines of the state forests on Crown land. The construction footprint also extends into four private land parcels within Guttrum Forest (associated with access tracks) and seven land parcels in Benwell Forest (associated with the construction of containment banks, laydown area, pipelines, outlets and access tracks in Benwell Forest). The potential levee works locations in Guttrum Forests, if required, would involve works on two additional private land parcels.

A summary of land parcels per area affected by the area of investigation and area of inundation is provided in Table 3.1 and illustrated in Figure 3-1.

3.3 Instruments on Title

Instruments such as Section 173 Agreements, Caveats, Covenants and general encumbrances on land title can influence the way the affected land can be used.

A number of allotments associated with the area of investigation and inundation area within the Guttrum Forest and Benwell Forest contain easements on title relating to the protection of drainage and water supply infrastructure, and in some cases power infrastructure. The drainage outlet for the Benwell Pipeline extends into one of these freehold allotments (1\PS640060L) containing easements. A portion of this land title (RES1\PS640060L) is under the ownership and management of Goulburn Murray Water.

No Section 173 Agreements, Caveats or Covenants apply to the affected land.

Crown land parcels associated with the area of investigation are reserved under the *Crown Land (Reserves) Act 1978* and the *Forests Act 1958*. A number of parcels are reserved as 'Temporary Forest' and the remainder of the Crown land is reserved as 'Permanent Public Purpose' for uses such as camping grounds, parks and other public purposes. Parks Victoria will need to confirm the most current reservation and the consents required in relation to the appropriate act that applies.

Location of easements and reserved land in relation to proposed works will be considered and avoided where relevant and if practicable as part of detailed design.

3.4 Access

Access roads for works will use existing local council roads and tracks where possible. The construction of short sections of new access tracks between existing access tracks and proposed infrastructure and associated with containment banks will be required. Existing access tracks will be upgraded where required. Any new access to the Koondrook-Murrabit Road will require consent from the Roads Corporation.

3.5 Native title interests

A search of the National Native Title Tribunal (NNTT) online register and maps shows:

- 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* (Cth) in relation to land within or adjacent to the area of investigation.
- The following two Indigenous Land Use Agreements (ILUA) apply to the whole of the area of investigation and inundation area (Figure 3-2):
 - Agreement V12004/010, registered in 2006 in response to low impact exploration and mining on land associated with the Wamba Wemba, Barapa Barapa and Wadi Wadi Peoples.
 - Agreement V12011/001, registered in 2011 in response to regional mining and exploration of the ILUA registered land associated with the Wamba Wemba, Barapa, Barapa and Wadi Wadi Peoples.

Agreement V12004/010 covers a wide area west of the Murray River. Agreement V12011/001 is localised to the project area.

A search of the Victorian Department of Justice and Community Safety website indicates that no current applications or registered agreements under the *Traditional Owner Settlement Act 2010* (Vic) apply over land within or adjacent to the area of investigation (DoJCS, 2020).

A review of any applications or agreements under the *Aboriginal Land Rights Act 1983* will be conducted on land within or adjacent to the area of investigation in NSW (Section 2.3).

3.6 Other relevant features

The region also supports other features that form an important part of the general land use of the project area and surrounds (Figure 3-3).

3.6.1 Irrigation districts

The project is located within the Torrumbarry Irrigation Area (TIA) as defined by the DELWP.

The TIA lies directly to the west of the project inundation area and is part of the largest irrigation system in Victoria – the Goulburn-Murray Irrigation District (GMID) managed by Goulburn Murray Water. 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.

3.6.2 Apiary

Current public data indicates the location of 11 apiary sites located across the Guttrum and Benwell Forests (Figure 3-3). The hives are part of annual licence agreements that are dependent on seasonal flowering of River Red Gum forests.

3.6.3 Farming

The area of Koondrook has a long history of timber harvesting and dairy farming, from as far back as the 1800's. The early settlers took advantage of the abundance of nearby reg gum forests to support growing settlements. Timber harvesting in the area is now focused on selective harvesting of local forests to produce high quality building products.

Dairy and cropping are currently the prominent agricultural activities of the region. Dairy comprises 50% of the agricultural activity within the Gannawarra Shire with cropping making up 21% (Shire of Gannawarra, 2020). The Gannawarra Shire has a diverse agricultural economy that is supported by the waters of the Murray River and Goulburn River systems via a network of automated channels and natural lakes and creeks. Kilter Rural is a major landholder and producer in the region and is utilising under-performing land for a number of agricultural enterprises including tomatoes, cotton and organic wheat.

Solar farming is a growing activity within the region. The Gannawarra Shire Council has approved building permits for seven solar farm projects, and currently supports a network of infrastructure including a large capacity terminal station and connecting transmission lines. The proposed new farms are located around the area of Kerang in the vicinity of the current 220 kV transmission line.

3.6.4 Recreational activities

The Murray River Reserve and the Guttrum Forest and Benwell Forest are managed by DELWP and Parks Victoria. The area is highly valued for recreation activities such as camping, fishing, canoeing, trail-bike riding and horse riding.

The area also forms part of the Murray River Trail for tourism and recreation purposes and provides direct access to the Murray River for water-based activities and river camping or caravanning. The Gannawarra Shire Council have committed to supporting and promoting nature-based tourism within this area.

Table 3.1: Land parcels affected by project works and inundation areas

SPI	Tenure	Description	Instruments on Title	Owner/land manager	Project component
Guttrum					
23A~E\PP3230	Crown land	Koondrook-Murrabit Road, Koondrook	Reservation Temporary Reserved Forest	DELWP	Guttrum Main, Reed Bed North and Reed Bed Swamp South Regulator, Guttrum Main Containment bank, Guttrum West and Guttrum East pipeline, Guttrum Main spillway, inundation area, access track
23B~E\PP3230	Crown land	River Track, Myall	Reservation Permanent Public Purposes	Parks Victoria	Guttrum Main Containment bank, Guttrum East and Guttrum West pipeline, inundation area, access track
16A~21\PP5427	Crown land	Cassidy Lane, Koondrook	Reservation Permanent Public Purposes	DELWP	Access track
22~E\PP3230	Freehold	Shepard Road, Koondrook	Nil	Private Ownership	Guttrum West Levee bank
23~E\PP3230	Freehold	215 Shepard Road, Koondrook	Nil	Private Ownership	Guttrum East Levee bank
16E\PP3230	Crownland	River Track, Koondrook	Reservation Permanent Public Purposes	Parks Victoria	Access track
23C~E\PP3230	Crown land	River Track, Koondrook	Nil	DELWP	Access track
1\LP75590	Freehold	365 Koondrook-Murrabit Road, Koondrook	Nil	Private Ownership	Guttrum East Levee bank, Access road
16D\PP3230	Crown land	River Track, Koondrook	Reservation Temporary Reserved Forest	Parks Victoria	Access track
16\PP3230	Freehold	23 Brays Lane, Koondrook	Nil	Private Ownership	Access track, power supply
21~E\PP3230	Freehold	99 Millar Road, Myall	Nil	Private Ownership	Access track
24~E\PP3230	Freehold	368 Koondrook-Murrabit Road, Koondrook	Nil	Private Ownership	Guttrum East Levee, Access track
3A~21\PP5427	Freehold	N/A	Reservation Permanent Public Purposes	Gannawarra Shire Council	Access track
Benwell					
5B~B\PP3230	Crown land	River Track, Myall	Reservation Permanent Public Purposes	Parks Victoria	Benwell No. 1 Containment bank, Benwell Main drop structure, South-west pipeline, Benwell No. 1 spillway, Benwell No. 2 spillway, inundation area, access track
5A~B\PP3230	Crown land	Watson Lane, Myall	Reservation Temporary Reserved Forest	DELWP	Benwell Main Regulator, Benwell South-west Regulator, Benwell East Regulator, Benwell East Containment bank, Benwell No. 1 Containment bank, Benwell No. 2 Containment bank, South-west pipeline, Inundation area, access track
1\PS640061	Freehold	84 Hall Road, Myall	<u>Encumbrances</u> E-1 Flood, drainage and ancillary rights E-2, E-3, E-4, E-5 Carriageway E-7 Water supply and drainage E-8, A-1 Water supply	Private Ownership	Benwell Outlet pipeline, access track
1\PS640060L	Freehold	N/A	<u>Encumbrances</u> E-1, E-2, E-5, E-6 – Water supply E-3, E-5 - Powerline E-4 – Drainage E-6, E-7, E-8 – Flood, drainage and ancillary rights	Private Ownership	Buffer to access road
1\PS640060L RESERVE No.1 C/T Vol 10238 Fol 321	Freehold	N/A	<u>Nil</u>	Goulburn Murray Rural Water Corporation	Benwell Outlet
2A~B\PP3230	Crown land	River Track, Myall	Nil	DELWP	Benwell Outlet pipeline, access track

SPI	Tenure	Description	Instruments on Title	Owner/land manager	Project component
3B~B\PP3230	Crown land	Regulator Track, Myall	Nil	DELWP	Benwell Outlet pipeline, inundation area, access track
2\PS640061	Freehold	237 Watson Lane, Myall	<u>Encumbrances</u> E-1 – Flood, drainage and ancillary rights E-2, E-3, E-4, E-5 – Carriageway E-7 – Water supply & drainage E-8 and A-1 Water supply	Private Ownership	Access track
1A~B\PP3231	Crown land	Rosedale Road, Myall	Reservation Permanent Public Purposes	Parks Victoria	Access track
1\LP209485	Freehold	503 Millar Road, Myall	Nil	Private Ownership	Access track and bank
2\LP209485	Freehold	491 Millar Road, Myall	Nil	Private Ownership	Guttrum G5A Containment Bank, Laydown area, Access track
3A~B\PP3230	Freehold	13 Watson Lane, Myall	Nil	Private Ownership	Access track
3\LP209485	Freehold	491 Millar Road, Myall	<u>Encumbrances</u> E-1 – powerline	Private Ownership	Access track

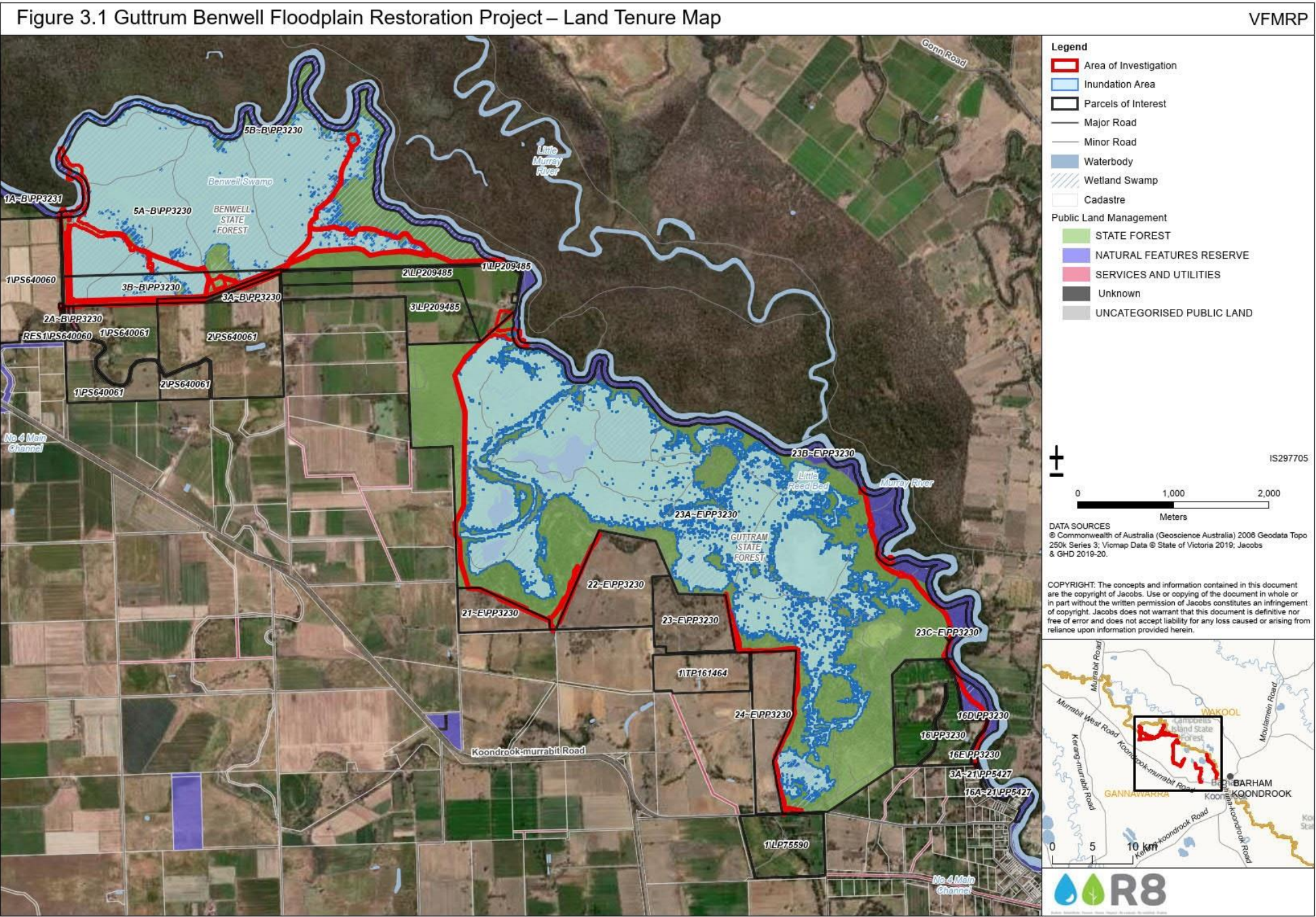


Figure 3-1: Land Tenure

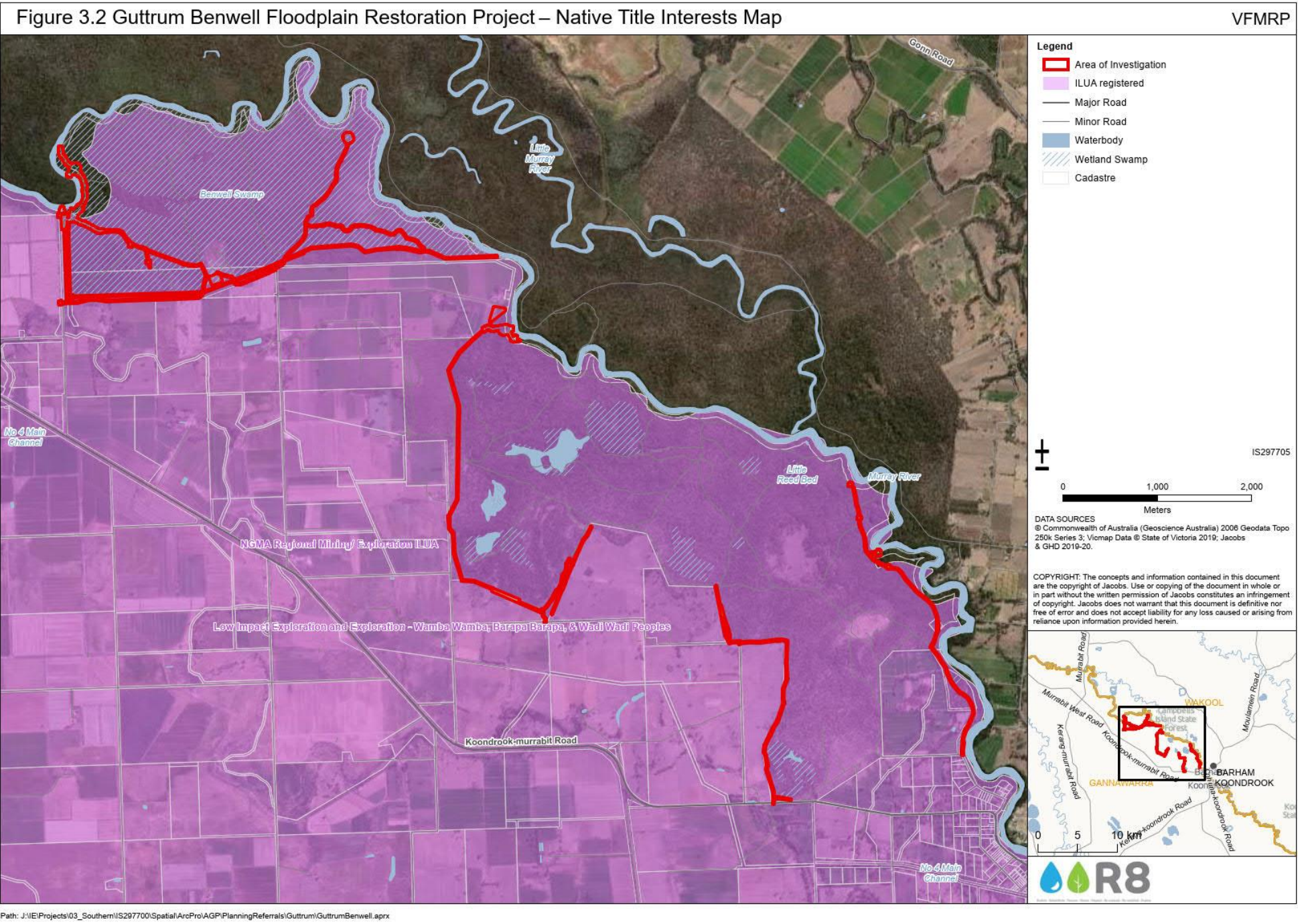


Figure 3-2: Native Title Interests

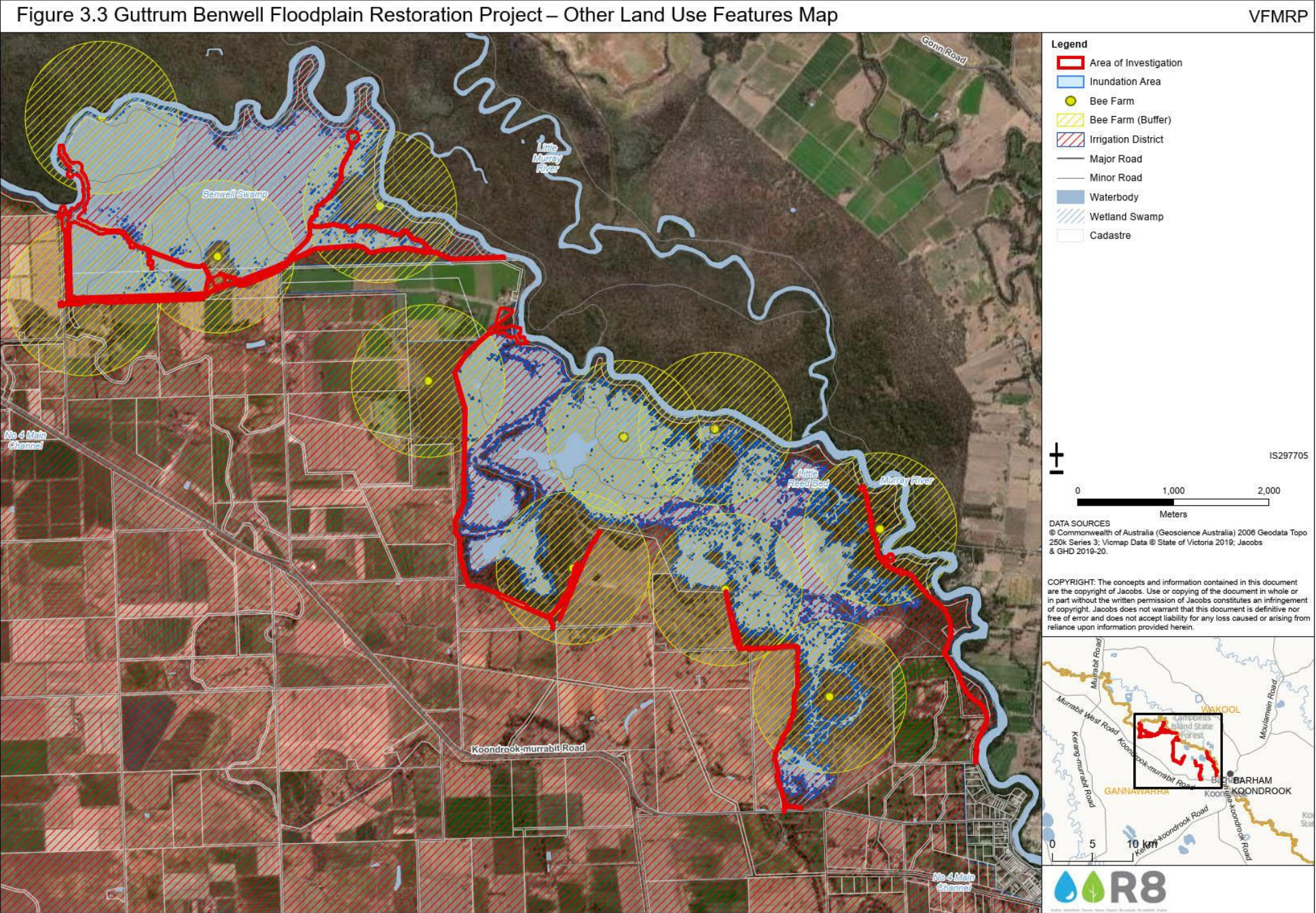


Figure 3-3: Other Land Use Features

4. Victorian Planning Framework

The project is on land subject to the Gannawarra 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 relevant clauses of the Planning Policy Framework of the scheme in relation to the project.

Table 4.1: Relevant Planning Policy

Relevant clause		Objectives
State Planning Policy		
Clause 12 – Environmental and Landscape Values	Clause 12.01 Biodiversity	<p>Clause 12.01-1S – Protection of Biodiversity</p> <ul style="list-style-type: none"> Take account of impact of land use and development on biodiversity. <p>Clause 12.01-2S Native Vegetation Management</p> <ul style="list-style-type: none"> 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).
	Clause 12.03 Water Bodies and Wetlands	<p>Clause 12.03-1S River Corridors, Waterways, Lakes and Wetland</p> <ul style="list-style-type: none"> Ensure development responds to and respects the significant environmental, conservation, cultural, aesthetic, open space, recreation and tourism assets of water bodies and wetlands.
	Clause 12.05 Significant Environments and Landscapes	<p>Clause 12.05-2S Landscapes</p> <ul style="list-style-type: none"> Ensure development does not detract from the natural qualities of significant landscape areas.
Clause 13 Environmental Risks and Amenity	Clause 13.01 Climate Change Impacts	<p>Clause 13.01-1S Natural Hazards and Climate Change</p> <ul style="list-style-type: none"> Integrate strategic land use planning with emergency management decision making.
	Clause 13.02 Bushfire	<p>Clause 13.02-1S Bushfire Planning</p> <ul style="list-style-type: none"> 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.
	Clause 13.03 Floodplains	<p>Clause 13.03-1S Floodplain Management</p> <ul style="list-style-type: none"> Avoid intensifying the impact of flooding through inappropriately located use and development.
	Clause 13.04 Soil Degradation	<p>Clause 13.04-3S Salinity</p> <ul style="list-style-type: none"> Prevent inappropriate development in areas affected by groundwater salinity. Any applicable regional catchment strategy and any associated implementation plan or strategy (particularly salinity management plans and regional vegetation plans). Any special area plan approved under the Catchment and Land Protection Act 1994.
	Clause 13.07 Amenity and Safety	<p>Clause 13.07-1S Land Use Compatibility</p> <ul style="list-style-type: none"> 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.

Relevant clause		Objectives
Clause 14 Natural Resource Management	Clause 14.01 Agriculture	<p>Clause 14.01-3S Forestry and Timber Production</p> <ul style="list-style-type: none"> 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	<p>Clause 14.02-1S Catchment Planning and Management</p> <ul style="list-style-type: none"> Ensure planning is coordinated with the activities of catchment management authorities.
		<p>Clause 14.02-2S Water Quality</p> <ul style="list-style-type: none"> 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	<p>Clause 15.01-1S Urban Design</p> <ul style="list-style-type: none"> Require development to respond to its context in terms of character, cultural identity, natural features, surrounding landscape and climate.
		<p>Clause 15.01-2S Building Design</p> <ul style="list-style-type: none"> Ensure development is designed to protect and enhance valued landmarks, views and vistas.
		<p>Clause 15.01-6S Design for Rural Areas</p> <ul style="list-style-type: none"> To ensure development respects valued areas of rural character.
	Clause 15.02 Sustainable Development	<p>Clause 15.02-1S Energy and Resource Efficiency</p> <ul style="list-style-type: none"> 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	<p>Clause 15.03-1S Heritage Conservation</p> <ul style="list-style-type: none"> Encourage appropriate development that respects places with identified heritage values.
		<p>Clause 15.03-2S Aboriginal Cultural Heritage</p> <ul style="list-style-type: none"> 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	<p>Clause 17.04-1R Tourism – Loddon Mallee North</p> <ul style="list-style-type: none"> Support nature-based tourism and protect these activities from urban encroachment.
Clause 19 Infrastructure	Clause 19.02 Community Infrastructure	<p>Clause 19.02.-06S Open space</p> <ul style="list-style-type: none"> 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 Gannawarra Shire Key issues and Strategic Vision		<p>The Murray River corridor accommodates most 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. The North Central Catchment Management Authority (CMA) in partnership with the local councils and water authorities are responsible for the resource management of the basin. The Regional Catchment Strategy (RCS) is the key document for the North Central Region. This strategy is expected to be replaced soon.</p>

Relevant clause		Objectives
		Coordination of strategic and land use planning with the State and local governments in New South Wales is particularly important within the Murray River Corridor, including land within the floodplain. Protecting the Murray River's water quality and riverine habitat are major issues for all Murray River Corridor municipal councils.
Clause 21.01 Gannawarra Shire Key issues and Strategic Vision	Clause 21.01-2 Key Influences	<p><u>Settlement</u></p> <ul style="list-style-type: none"> About 55% of the population live in urban areas. This figure is increasing at the expense of population in the rural balance. <p><u>Environment and landscape</u></p> <ul style="list-style-type: none"> 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><u>Natural resource management</u></p> <ul style="list-style-type: none"> The continued growth of the horticulture industry. The need to support dry land agriculture Access to good quality water is central to the ongoing growth of the farming economy. Any action to reduce agricultural water entitlements could stifle long term horticultural growth. Salinity levels need to be managed to ensure ongoing agricultural growth. <p><u>Built environment and heritage</u></p> <ul style="list-style-type: none"> The protection of Aboriginal and European heritage is critical to the growth in tourism and sense of place. <p><u>Economic development</u></p> <ul style="list-style-type: none"> Farms on both dryland and irrigated land are increasing in size to provide better economies of scale. Tourism should be based on the natural environment, farming history, soldier settlement, river trade, timber processing, Aboriginal heritage and rivers and lakes. <p><u>Infrastructure</u></p> <ul style="list-style-type: none"> Community plans have been developed throughout the municipality and should be considered in planning decisions wherever relevant.
Clause 21.01 Gannawarra Shire Key issues and Strategic Vision	Clause 21.01-3 Key Issues	<p><u>Settlement</u></p> <ul style="list-style-type: none"> Flooding and stormwater management is a major consideration when planning for urban development. Improvements in road access and wastewater management may allow additional land to be considered for development in the future. <p><u>Environment and landscape</u></p> <ul style="list-style-type: none"> Native vegetation coverage has reduced significantly since post-contact settlement <p><u>Environmental risks</u></p> <ul style="list-style-type: none"> Flooding remains a major hazard in the municipality <p><u>Natural resource management</u></p> <ul style="list-style-type: none"> Access to adequate good quality water is central to the ongoing growth of the farming economy. Any action to reduce agricultural water entitlements could stifle long term horticultural growth. Salinity levels need to be managed to ensure ongoing agricultural growth <p><u>Built environment and heritage</u></p> <ul style="list-style-type: none"> The protection of Aboriginal and European heritage is critical to the growth in tourism and sense of place.

Relevant clause		Objectives
		<ul style="list-style-type: none"> Koondrook has significant potential for tourism development <p><u>Housing</u></p> <ul style="list-style-type: none"> Rural living development has the potential to attract new residents to the municipality Suitable land exists for further residential and rural residential development <p><u>Economic development</u></p> <ul style="list-style-type: none"> Water frontages provide a focus and further potential for tourism development Tourism should be based on the natural environment, farming history, soldier settlement, river trade, timber processing, Aboriginal heritage and rivers and lakes <p><u>Transport</u></p> <ul style="list-style-type: none"> A well maintained road network is essential for access to properties and to support the agricultural and manufacturing sectors <p><u>Infrastructure</u></p> <ul style="list-style-type: none"> Solar generation is a major opportunity
Clause 21.01 Gannawarra Shire Key issues and Strategic Vision	Clause 21.01-4 Strategic Vision	The Gannawarra Shire community is aiming to increase opportunities for local employment and investment, sustainable natural resource management, protection of the natural environment and cultural heritage and a high quality of lifestyle for urban and rural residents.
Clause 21.01 Gannawarra Shire Key issues and Strategic Vision	Clause 21.01-5 Land use framework plan	<ul style="list-style-type: none"> Provides a basis for the preparation of zones and overlay provisions Identifies environmental and physical constraints to development and areas of environmental significance Indicates urban centres for which Township Structure Plans have been prepared. <p>The plan identifies south of the project area as 'Irrigated Agriculture'</p>
Clause 21.03 Environmental and Landscape Values	Clause 21.03-1 Native vegetation	Objective 1: To protect and enhance remnant native vegetation and native flora and fauna habitat and promote development of linkages between areas containing remnant vegetation.
	Clause 21.03-2 Natural assets	<p>Objective 1: To protect and maintain natural assets including soil and water for farming, landscape values and amenity with facilitating sensitive development.</p> <p>Objective 2: To protect and enhance areas of public land, including forests, stream environments, lakesides and reserves</p> <p>Objective 3: Recognise the important functions of rivers, lakes, and wetland areas, including flora and fauna habitat, recreation, landscape, water supply, water filtration, water storage and drainage.</p>
	Clause 21.03-3 Murray River Environs	Objective 1: To manage the Murray River corridor's environmental values and resource capacity
Clause 21.04 Environmental risks	Clause 21.04-2 Flooding	Objective 1: To manage flooding and floodplains so as to minimise loss and damage to property and infrastructure, and to preserve the function of the floodplains to convey and store floodwater
Clause 21.05 Natural Resource Management	Clause 21.05-2 Catchment planning	Objective 1: To protect the environmental values and water quality of the land and waters of the Murray – Darling catchment and ensure the sustainable development of the natural resources of the catchment.

Relevant clause	Objectives
Local Planning Policies	
Clause 22.01 Flooding	<p>Applies to all land affected by the Land Subject to Inundation Overlay.</p> <p>Objectives:</p> <ul style="list-style-type: none"> To maintain the unobstructed passage of floodwaters. To recognise appropriate public and community based flood management organisations and their role in maintenance and development of existing flood protection levee banks. To provide suitable flood plain management which will ensure that any new development is suitably designed to ensure that development is compatible with the identified flood hazard and local drainage characteristics. To protect and encourage the rural and riverine character of the area. To recognise the agricultural value of land within levee protected areas and to support the continued use of these areas for agricultural production.

The project supports both state and local planning policy, particularly in relation to the protection and enhancement of 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 where the Gannawarra Council are encouraging development around nature-based tourism associated with the region's ecological values.

In particular, the project strongly supports the objectives of Clause 21.05 Natural Assets of the Gannawarra Planning Scheme Municipal Strategic Statement in relation to the promotion and management of the natural assets of the area and resource capacity of the Murray River. Objectives for the support of primary land use of dryland agriculture within the municipality is also strongly recognised.

4.2 Land use definitions

Land use of proposed works are defined in Clause 73 of the scheme and summarised 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 Pumping station Drop structure Pipeline	Utility Installation	<p>Land used:</p> <ul style="list-style-type: none"> 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 sillage <p>It includes any associated flow measurement device or a structure to gauge waterway flow</p>
Regulator Box Culvert Power Supply Pump Station	Minor Utility Installation	<p>Land used for a utility installation comprising any of the following:</p> <ul style="list-style-type: none"> 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

Project works	Clause 73 General term/ use	Definition
		<p>d) Siphons, water storage tanks, disinfection booster stations and channels</p> <p>e) Gas mains providing gas directly to consumers</p> <p>f) A sewerage treatment plant, and any associated disposal works, required to serve a neighbourhood</p> <p>g) A pumping station required to serve a neighbourhood</p> <p>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</p> <p>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</p>
<p>Access tracks</p> <p>Roadworks</p> <p>Containment bank</p> <p>Temporary construction laydown areas</p>	Earthworks	Land forming, laser grading, levee banks, raised access road and tracks, building pads, storage embankments, channel banks and drain banks and associated structures
Native Vegetation	Native Vegetation	Plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses.

Conservation is the primary purpose of the area of investigation. 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 Gannawarra Planning Scheme apply to the area of investigation (Figure 4-1, Figure 4-2 and Figure 4-3):

- Public Conservation and Resource Zone (PCRZ)
- Farming Zone (FZ)
- Environmental Significance Overlay (Schedule 1 – Waterway Environs) (ESO1)
- Environmental Significance Overlay (Schedule 4 – Areas of Poor Drainage or Potentially Subject to Inundation) (ESO4)
- Vegetation Protection Overlay (Schedule 1 – Roadside and Corridor Protection) (VPO1)
- Public Acquisition Overlay, (Schedule 2 - Goulburn-Murray Water) (PAO2)
- Specific Controls Overlay (Schedule 2 – Goulburn-Murray Water Connections Project Incorporated Document, June 2020) (SCO2) Land Subject to Inundation Overlay (LSIO)
- Bushfire Management Overlay (BMO)

A summary of zones and overlays applying to the proposed project components is provided in Table 4.3.

Table 4.3: Summary of zones and overlays relevant to project components

Zone ID	Zone Name	Project component
Guttrum Forest		
PCRZ	Public Conservation and Resource Zone	Guttrum Main Outlet Channel, Guttrum Main Outfall Channel, Guttrum West Pump Station, Spillway Guttrum Main, Guttrum Power Kiosk, Guttrum East Pump Station, Outlet Reed Bed Swamp South, Regulator Reed Bed Swamp South, Regulator Little Reed Bed Swamp, Outlet Reed Bed Swamp, Guttrum East Pipeline Access tracks Inundation Area
FZ	Farming Zone	Guttrum Laydown area Access tracks/levees
ESO1	Environmental Significance Overlay (Schedule 1 – Waterway Environs)	Guttrum West Pump Station, Guttrum Main Outlet Channel, Pump Station Guttrum East
ESO4	Schedule 4 – Areas of Poor Drainage or Potentially Subject to Inundation	Guttrum access tracks, inundation area
VPO1	Vegetation Protection Overlay (Schedule 1 – Roadside and Corridor Protection)	Guttrum access track
SCO2	Specific Controls Overlay (Schedule 2 – Goulburn - Murray Connections Project Incorporated Document, June 2020)	All Guttrum project components and inundation
LSIO	Land Subject to Inundation Overlay	All Guttrum project components except Regulator South West
BMO	Bushfire Management Overlay	All Guttrum project components
Benwell Forest		
PCRZ	Public Conservation and Resource Zone	Pipeline Benwell, Spillway Benwell No.1 & No. 2, Containment Bank Benwell No. 1, Main Benwell Regulator, Benwell Main Drop Structure, Regulator Benwell East, Benwell access tracks, Benwell Inundation Area
FZ	Farming Zone	No project components
ESO1	Environmental Significance Overlay (Schedule 1 – Waterway Environs)	Benwell Pump Station, Power Supply, Benwell Drop Structure
VPO1	Vegetation Protection Overlay (Schedule 1 – Roadside and Corridor Protection)	Benwell access tracks, inundation
PAO2	Public Acquisition Overlay (Schedule to Public Acquisition Overlay - PAO2)	Power kiosk for the pump station (excluding development footprint), Outlet 3
SCO2	Specific Controls Overlay (Schedule to Specific Controls Overlay -SCO2)	All Benwell project components and inundation
LSIO	Land Subject to Inundation Overlay	All Benwell project components except Regulator South West
BMO	Bushfire Management Overlay	All Benwell project components

The purpose of the zones and overlays associated with the area of investigation is provided in Table 4.4.

Table 4.4 Purpose of zones and overlays

Relevant zone/overlay	Purpose	Project response
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. 	<p>The PCRZ covers almost all of the area of investigation. Only one small area of a laydown area associated with the Guttrum works is located on land in the Farming Zone (FZ1).</p> <p>The project is considered to be consistent with the purpose of the PCRZ "to protect and conserve the natural environment and natural processes".</p> <p>The aim of the project is to restore a more natural inundation regime to improve the ecological condition of high ecological value floodplain and anabranch habitats mostly located within natural features reserves that are managed primarily for conservation and recreational purposes.</p>
Clause 35.07 Farming Zone (FZ)	<ul style="list-style-type: none"> To implement the Municipal Planning Strategy and the Planning Policy Framework. To 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 encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision. To provide for the use and development of land for the specific purposes identified in a schedule to this zone. 	<p>The area of investigation associated with an area allocated for laydown area for Guttrum works along with what appears to be a very small encroachment of an access track in the south-eastern part of the Guttrum Forest is located in the FZ.</p> <p>The maintenance of existing access tracks and establishment of temporary construction laydown areas is consistent with the purpose of the FZ in that these activities will not adversely affect the predominant use of the land for agriculture.</p> <p>It is not expected that inundation will occur on land in the FZ.</p>
Clause 42.01 Environmental Significance Overlay (Schedule 1 – Waterway, 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><u>Schedule 1 Environmental objectives</u></p> <ul style="list-style-type: none"> To maintain the quality and availability of water within waterways and water bodies. 	<p>The ESO1 covers the length of the Murray River Reserve on land immediately adjoining the Murray River. Proposed works such as the pump stations and drops structures will occur within the ESO1. Due to the nature of their role in diverting, retaining and releasing floodwaters, construction of these proposed infrastructure components within the ESO1 is unavoidable.</p> <p>Parts of the proposed inundation area for both Guttrum Forest and Benwell Forest may extend into the ESO1, however this is only expected to be a small portion of the floodplain inundation area across the site.</p> <p>The project aims to restore a more natural inundation regime to improve the ecological condition of high ecological value floodplain and its habitats, mostly located with natural features reserves that are managed primarily for conservation and recreational. As such,</p>

Relevant zone/overlay	Purpose	Project response
	<ul style="list-style-type: none"> To protect and enhance the natural environment and cultural heritage qualities of the Murray River and its tributaries. To ensure that the use of the land and the construction and carrying out of any buildings and works in waterway environs are of a scale, character and form which is compatible with the high environment quality of the waterway environs. To maintain the ability of the streams and waterways to carry natural flows. To prevent erosion of banks, streambeds and adjoining land and the siltation of waterways, drains and other features. To prevent and encourage the long term future of flora and fauna habitats along waterways. To prevent pollution and increased turbidity of water in natural waterways. To prevent increased surface run-off or concentration of surface water run-off leading to erosion or siltation of waterways. To conserve existing wildlife habitats close to natural waterways and, where appropriate, to allow for generation and regeneration of habitats. To ensure that waterway environments maintain a volume, quality and seasonal pattern of water flow that conserves natural processes and conditions. 	<p>the project is considered to be consistent with the purpose and objectives of the ESO1, specifically those aiming to:</p> <p>protect and enhance the natural environment and cultural heritage qualities of the Murray River and its anabranches</p> <ul style="list-style-type: none"> prevent and encourage the long term future of flora and fauna habitats along waterways. maintain the ability of the streams and waterways to carry natural flows. conserve existing wildlife habitats close to natural waterways and, where appropriate, to allow for generation and regeneration of habitats. ensure that waterway environments maintain a volume, quality and seasonal pattern of water flow that conserves natural processes and conditions.
Clause 42.01 Environmental Significance Overlay (Schedule 4 – Areas of Poor Drainage or Potentially Subject to Inundation) (ESO4)	<ul style="list-style-type: none"> To identify land in urban and non-urban areas which is potentially liable to inundation by overland flow or sheet flooding and is likely to suffer from poor drainage which could inhibit development. To ensure that any development maintains the free passage and temporary storage of floodwaters, minimises flood damage, is compatible with the flood hazard and with local drainage conditions and will not cause any significant rise in flood levels or flow velocity. 	<p>Land to the south of the Area of Investigation is under ESO4, identified as an area of poor drainage or potentially subject to inundation.</p> <p>Only a small area of access tracks and the inundation area within the Guttrum Forest area of investigation fall within or abut the ESO4. The impact of the proposed inundation as a result of the conservation works must be assessed to prevent /minimise opportunities for flooding on freehold farming land that has been identified in the planning scheme as an area of poor drainage.</p>
Clause 42.02 Vegetation Protection Overlay (Schedule 1 – Remnant Vegetation)	<ul style="list-style-type: none"> To implement the Municipal Planning Strategy and the Planning Policy Framework. To protect areas of significant vegetation. To ensure that development minimises loss of vegetation. To preserve existing trees and other vegetation. To recognise vegetation protection areas as locations of special significance, natural beauty, interest and importance. 	<p>Proposed works within the VPO1 will be limited to existing access tracks for both the Guttrum Forest and the Benwell Forest. Works would be required to avoid or minimise impacts to native vegetation. It is recommended that any works to upgrade access within the two road reserves subject to the VPO1 be minimised to minimise impact on the purpose and objectives of VPO1.</p>

Relevant zone/overlay	Purpose	Project response
	<ul style="list-style-type: none"> To maintain and enhance habitat and habitat corridors for indigenous fauna. To encourage the regeneration of native vegetation. <p><u>Schedule 1 Vegetation protection objectives</u></p> <ul style="list-style-type: none"> To protect and preserve indigenous vegetation and rare and endangered flora and fauna species on linear reserves. To achieve high landscape quality on roadsides To maintain and enhance habitat and corridor requirements for indigenous fauna. To encourage the establishment and enhancement of habitat corridors to link pockets of remnant vegetation. 	<p>Provided the works are operated in accordance with private and public land manager agreements and consents with affected land and infrastructure owners, the project is not likely to be inconsistent with the purpose of the VPO.</p> <p>The project aims to restore a more natural inundation regime to the floodplain area with the objectives of maintaining native plant cover and diversity, maintaining threatened native flora presence, and maintaining the health of native trees, amongst other objectives. As such, operation of the project including managed inundation of land within the VPO1, is considered to be consistent with the purpose and objectives of the VPO1.</p>
Clause 45.01 Public Acquisition Overlay (Schedule to Public Acquisition Overlay -PAO2)	<ul style="list-style-type: none"> To implement the Municipal Planning Strategy and the Planning Policy Framework. To identify land which is proposed to be acquired by a Minister, public authority or municipal council. To reserve land for a public purpose and to ensure that changes to the use or development of the land do not prejudice the purpose for which the land is to be acquired. To designate a Minister, public authority or municipal council as an acquiring authority for land reserved for a public purpose. <p><u>Schedule to Public Acquisition Overlay -PAO2</u></p> <ul style="list-style-type: none"> Acquiring authority is Goulburn-Murray Water. Acquisition is for the construction and management of the Benwell Primary Surface Water Management System. 	<p>The Benwell Primary Surface Water Management System was constructed between the Murray River and Koondrook-Murrabit Road to improve the surface water management of the Koondrook-Benjeroop sub-catchment and reduce the impacts of water logging, raised groundwater levels, water quality and salinity on productive agricultural land and the neighbouring Guttrum and Benwell forests. The system is managed by Goulburn-Murray Water.</p> <p>Although the 'area of investigation' and 'construction footprint' for the pump station power kiosk extends into the PAO the development footprint is outside the PAO.</p> <p>Outlet 3, which will be constructed in the PAO, will allow for this project to connect into existing infrastructure of the Benwell Primary Surface Water Management System for the area.</p>
Clause 45.12 Specific Controls Overlay (Schedule to Specific Controls Overlay – SCO2)	<ul style="list-style-type: none"> To apply specific controls designed to achieve a particular land use and development outcome in extraordinary circumstances <p><u>Schedule to Specific Controls Overlay -SCO2</u></p> <ul style="list-style-type: none"> Enforce Goulburn-Murray Water Connections Project Incorporated Document, (June 2020) Purpose of the incorporated document is to allow the use and development of land for the purpose of irrigation modernisation works to be undertaken by or on behalf of the Goulburn-Murray Rural Water Corporation (Goulburn Murray Water). 	<p>The Goulburn-Murray Water Corporation Project aims to modernise irrigation infrastructure for the Goulburn-Murray Irrigation District to reduce water losses in the irrigation delivery system through renewal, rationalisation and decommissioning of existing infrastructure. He upgrade will improve water delivery management and irrigation services. The incorporated document covers the whole of the Guttrum and Benwell Forests project area.</p> <p>The Guttrum and Benwell Forests Floodplain Restoration Project may support the upgrades to infrastructure required for these modernisation works with the upgrades to access roads, containment banks and provision on utility installation infrastructure. It will be managed by Goulburn-Murray Water and will help to manage the delivery of water throughout the Guttrum and Benwell forest area.</p>

Relevant zone/overlay	Purpose	Project response
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 compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity. ▪ To reflect any declaration under Division 4 of Part 10 of the Water Act 1989 where a declaration has been made. ▪ To protect water quality in accordance with the provisions of relevant State Environment Protection Policies, particularly in accordance with Clauses 33 and 35 of the State Environment Protection Policy (Waters of Victoria). ▪ To ensure that development maintains or improves river and wetland health, waterway protection and flood plain health. 	<p>The area of investigation and proposed inundation area are entirely located on land affected by the LSIO.</p> <p>The project aims to restore a more natural inundation regime within the floodplain area, including the removal of some existing blockages and installation of regulators to manage the frequency and duration of managed inundation events to more closely align with natural conditions. The project is designed to provide for erosion protection where necessary based on modelled flow velocities.</p> <p>The project is designed to facilitate changes to flood levels and velocities compared to existing conditions. However, provided the works are operated in accordance with private and public land manager agreements and consents with affected land and infrastructure owners, the project is likely to be consistent with the purpose of the LSIO.</p>
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. 	<p>The area of investigation and proposed inundation area are entirely within the BMO.</p> <p>The project does not conflict with the primary purpose of the BMO which is to minimise risk of bushfire to life and property. The purpose of inundation may work as a measure to minimise bushfire risk. The project is therefore consistent with the primary purpose of the BMO.</p>

4.4 Particular and general exemptions

Table 4.5 provides a summary of particular and general provision exemptions under the planning scheme that apply to works for the project

Table 4.5: 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	Does not apply to use of land in the PCRZ.
Minor utility installation	Clause 62.02-1 Buildings and works not requiring a permit	Buildings and works/earthworks	Does not apply to buildings and works within the PCRZ.
Roadworks	Clause 62.02-2 Buildings and works not requiring a permit unless specifically required by the planning scheme	Buildings and works	Does not apply to buildings and works within the PCRZ.
Native vegetation	Clause 52.17-1 Permit requirement	Remove, destroy or lop native vegetation	<p>If the table to Clause 52.17-7 specifically states that a permit is not required.</p> <p>To the removal, destruction or lopping of native vegetation specified in the schedule to this clause.</p>
	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> (DELWP, 2017)
	Clause 52.17-7 Table of exemptions	Remove, destroy or lop native vegetation	<p>Conservation work</p> <p>To the minimum extent necessary to enable the carrying out of conservation work:</p> <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)
			<p>Crown land</p> <p>To the minimum extent necessary to manage Crown land:</p> <ul style="list-style-type: none"> By or on behalf of the Secretary to the DELWP (as constituted under Part 2 of the Conservation, 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>With written permission from the Secretary to the DELWP (as constituted under Part 2 of the Conservation, Forests and Lands Act 1987).</p>
			<p>Dead native vegetation</p> <p>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>
			Grasses

Relevant land use/activity	Clause of the planning scheme	Exemption	Relevant condition
			<p>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>New buildings and works in the Farming Zone and Rural Activity Zone</p> <p>Native vegetation that is to be removed, destroyed or lopped to the minimum extent necessary to enable the construction of a building or works used for Agricultural production, including a dam, utility service, bore and accessway, in the Farming Zone or the Rural Activity Zone. New buildings and works in the Farming Zone and Rural Activity Zone.</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 ha of native vegetation which does not include a tree. 15 native trees with a trunk diameter of less than 40 cm at a height of 1.3 m above ground level. 5 native trees with a trunk diameter of 40 cm or more at a height of 1.3 m above ground level. <p>This exemption does not apply to the construction or operation of a pivot irrigation system or horticultural trellising.</p> <p>Pest animal burrows</p> <p>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 ha 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. <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</p>

Relevant land use/activity	Clause of the planning scheme	Exemption	Relevant condition
			<p>permission of the agency (or its successor) that provided the funding.</p> <p>Regrowth 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 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 Native vegetation that is to be removed, destroyed or lopped on land, together with all contiguous 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</p>

Relevant land use/activity	Clause of the planning scheme	Exemption	Relevant condition
			<p>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</p> <p>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.</p> <p>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.</p> <p>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> <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 under Clause 62.01, Clause 62.02-1 and Clause 62.02-2 of the planning scheme do not apply to the majority of project components as they are located within the PCRZ, but do apply to laydown area and access tracks in the FZ.

There is some potential for small-scale exemptions listed in Clause 52.17-7 to apply to the removal, destruction or lopping of native vegetation for the project (e.g. regrowth, weeds, planted vegetation). Some wide-scale exemptions may also apply in relation to 'Conservation Work', 'Crown Land' and 'Utility Installations', however the application of these exemptions would require written agreement from the Secretary to the DELWP.

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 4.6 identifies the relevant zone and overlay approval exemptions that apply or may apply to the proposed project works.

Table 4.6: 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	<p>A building or works shown in an Incorporated plan which applies to the land.</p> <p>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>.</p> <p>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>.</p>
<p>Clause 32.07 Farming Zone (FZ)</p> <p>Clause 32.07-1 Table of uses, Section 1 Permit not required</p>	Use (minor utility installation)	Any use listed in Clause 62.01
<p>Clause 35.07 Farming Zone (FZ)</p> <p>Clause 35.07-4 Buildings and works</p>	Buildings and works (earthworks)	Earthworks specified in a schedule to this zone, if on land in a schedule (see below).
Schedule to the Farming Zone	Buildings and works (earthworks)	<p>Permit required for the following earthworks on all land, excluding earthworks carried out in accordance with an approved whole farm plan:</p> <ul style="list-style-type: none"> Earthworks which change the rate of flow or the discharge point of water across a property boundary Earthworks which increase the discharge of saline groundwater.
<p>Clause 42.01 Environmental Significance Overlay</p> <p>Clause 42.01-2 Permit requirement</p>	Buildings and works	If a schedule to this overlay specifically states that a permit is not required (see below for Schedule 1 and Schedule 4 to the Environmental Significance Overlay).
<p>Schedule 1 to the Environmental Significance Overlay (Waterway Environs)</p> <p>Clause 3.0 Permit requirement</p>	Buildings and works	<p>Any buildings or works located more than 100 m from the bank of the waterway, drainage line or channel.</p> <p>Repairs and routine maintenance to existing buildings and works</p> <p>Works undertaken by a public authority to:</p> <ul style="list-style-type: none"> Regulate flooding Construct or redirect a waterway <p>Buildings or works associated with a minor utility installation or passive recreation.</p>
Schedule 4 to the Environmental Significance Overlay	Buildings and works (including earthworks)	Earthworks less than 500 mm in height

Relevant Zone / Overlay	Exemption	Relevant condition
(Areas of Poor Drainage or Potentially Subject to Inundation) Clause 3.0 Permit requirement		A single non-habitable building with a floor area less than 200 square metres
		Repairs and routine maintenance to existing buildings and works including levees
		Repairs and routine maintenance that do not affect the overall height, length or location of an existing levee bank
		Works undertaken by a public authority to: <ul style="list-style-type: none"> Regulate the flow in a waterway Regulate flooding Construct or redirect a waterway
		A minor utility installation
		The development of land for passive recreation
Clause 42.01 Environmental Significance Overlay Clause 42.01-2 Permit requirement	Remove, destroy or lop any vegetation, including dead vegetation	If a schedule to this overlay specifically states that a permit is not required
Clause 42.01-3 Table of exemptions	Remove, destroy or lop any vegetation, including dead vegetation	<u>Noxious weeds</u> Vegetation that is a noxious weed subject of a declaration under section 58 or section 58A of the <i>Catchment and Land Protection Act 1994</i> . This exemption does not apply to the Australian Dodder (<i>Cuscuta australis</i>).
		<u>Pest animal burrows</u> Vegetation that is to be removed, destroyed or lopped to the minimum extent necessary to enable the removal of pest animal burrows. 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 required before the vegetation can be removed, destroyed or lopped.
		<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.
		<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: <ul style="list-style-type: none"> Bracken (<i>Pteridium esculentum</i>) 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.

Relevant Zone / Overlay	Exemption	Relevant condition
		<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 the DELWP (as constituted under Part 2 of the <i>Conservation, Forests and Lands Act 1987</i>).
		<u>Surveying</u> Vegetation that is to be removed, destroyed or lopped to the minimum extent necessary by, or on behalf of, a licenced surveyor (within the meaning of section 3 of the <i>Surveying Act 2004</i>) using hand-held tools to establish a sightline for the measurement of land.
Clause 42.02 Vegetation Protection Overlay Clause 42.02-2 Permit requirement	Remove, destroy or lop any vegetation, including dead vegetation specified in a schedule to the overlay	If the table to Clause 42.02-3 specifically states that a permit is not required (see table of exemptions below) 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.
Clause 42.02-3 Table of exemptions	Remove, destroy or lop any vegetation, including dead vegetation	Same as relevant exemptions listed for Clause 42.01-3 Table of exemptions above.
Schedule 1 to the Vegetation Protection Overlay (Remnant Vegetation) Section 3.0 Permit requirement	Remove, destroy or lop any vegetation, including dead vegetation	A permit is required to remove, destroy or lop any native vegetation, including any dead trees that are standing.
Clause 45.01 Public Acquisition Overlay Clause 45.01-1 Permit required	Use, demolition, buildings and works, damage, remove, destroy or lop any vegetation	To the acquiring authority for the land if the land has been acquired and any of the above matters for which a permit is required is consistent with the purpose for which and land was acquired To an authority or a municipal council if the responsible authority, after consulting with the acquiring authority for the land, is satisfied that any of the above matters for which a permit is required is consistent with the purpose for which and land is to be acquired.
	Damage, remove, destroy or lop any vegetation	If the vegetation has been planted for pasture, timber production or any other crop To any action which is necessary to keep the whole or any part of a tree clear of an electric line provided the action is carried out in accordance with a code of practice prepared under Section 86 of the Electricity Safety Act 1998 If the vegetation presents an immediate risk of personal injury or damage to property
Clause 45.12 Specific Controls Overlay Clause 45.12-1 Use or Development	Use or development	In accordance with a specific control contained in the incorporated document corresponding to the notation on the planning scheme map
Clause 45.12-2 Expiry of a Specific Control	Use and development	If the use and development has not stated within two years of the approval date of the incorporated document

Relevant Zone / Overlay	Exemption	Relevant condition
		If the development is not completed within one year of the date of commencement or works or another date specified in the incorporated document
Clause 45.12 Specific Controls Overlay Schedule to the Specific Controls Overlay – Goulburn-Murray Water Connections Project Incorporated Document, June 2020	Use and development, demolition, earthworks, remove, destroy, prune or lop native and non-native vegetation	For the purposes of irrigation modernisation works to be undertaken by or on behalf of the Goulburn-Murray Rural Water Corporation (Goulburn-Murray Water)
		<p>No permit is required to undertake the following use or development of land within the Project Area to implement the Project:</p> <ul style="list-style-type: none"> Use and develop land for a Utility Installation including a Minor utility installation Activities ancillary to the use and development of land for the purposes of a Utility installation and Minor utility installation, including but not limited to the creation of access roads, radio communication towers, provision for car parking, erection of temporary structures and materials storage Remove, destroy, prune or lop native and non-native vegetation Erect fencing Demolish structures Undertake earthworks to create access roads, bunds, borrow pits, mounds, wetlands and otherwise to excavate land, salvage artefacts and alter drainage Create or alter access to a road in a Road Zone – Category 1 <p>This control is subject to the conditions of clauses 6.1 to 6.4 of the incorporated document</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 (see Schedule to the Land Subject to Inundation Overlay below).</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	Buildings	<p>A single non-habitable agricultural building with a floor area less than 200 square metres</p> <p>Open type fencing (not including solid fences such as wooden or metal paling fences, cyclone mesh fences or brick, stone or concrete walls)</p>
	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>
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 4.7 identifies the planning approval triggers for the project under the Gannawarra Planning Scheme. Relevant exemptions identified in report sections 4.4 and 4.5 may apply.

Table 4.7: Summary of potential planning permit triggers

Gannawarra Planning Scheme	Planning approval trigger (Y/N/NA)		
Planning control	Use	Buildings and works	Vegetation removal
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 Environs) (ESO1)	NA	N	Y
Clause 42.01 Environmental Significance Overlay (Schedule 4 Areas of Poor Drainage or Potentially Subject to Inundation) (ESO4)	NA	N	Y
Clause 42.02 Vegetation Protection Overlay (Schedule 1 – Remnant Vegetation) (VPO1)	NA	N	Y
Clause 45.01 Public Acquisition Overlay (Schedule to the Public Acquisition Overlay PAO2)	N	N	N
Clause 45.12 Specific Controls Overlay	Y	Y	Y
Clause 44.04 Land Subject to Inundation Overlay, Schedule to the Land Subject to Inundation Overlay (LSIO)	NA	Y	N
Clause 44.04 Bushfire Management Overlay (BMO)	NA	N	N
Particular provisions			
Clause 52.17 Native Vegetation	NA	NA	Y

In accordance with the triggers identified in Table 4.7, the project will require planning approval in relation to;

- Use
- Buildings and works, including earthworks;
- Removal, destruction or lopping of native vegetation, and
- Removal, destruction or lopping of any vegetation, including dead vegetation in ESO1.

Clause 36.03 (Public Conservation and Resource Zone)

A planning permit is required for:

- Use as a utility installation (including minor 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 (Permit not required) 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.
- Buildings and works for a utility installation in the PCRZ triggered under Clause 36.03-2 as the proposed use does not meet the exemption condition for this use requiring the buildings and works to be conducted by or on behalf of a public land manager or Parks Victoria. However, no planning approval is required for buildings and works associated with a minor utility installation and roadworks, or any other

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.

buildings and works specified in Clause 62.02-1 or Clause 62.02-2 in the PCRZ, as the proposed works will be undertaken by a public authority (i.e. LMW) carrying out its functions under the *Water Act 1989*.

Clause 35.07 (Farming Zone)

Planning approval will be required for:

- Use of land for a utility installation in the FZ as it is specified as a Section 2 (Permit required) use in Clause 35.07-1. Planning approval will not be required for the use of land for a minor utility installation in the FZ in accordance with the general exemption in Clause 62.01 (Uses not requiring a permit).
- Building and works for a utility installation in the FZ under Clause 35.07-4 as a utility installation is a Section 2 use and no relevant exemptions apply. Planning approval will not be required for buildings and works for a minor utility installation in the FZ in accordance with the general exemption in Clause 62.02-1.

Clause 42.01 (Environmental Significance Overlay)

Planning approval will be required for:

- Building and works in the ESO1 under Clause 42.01-2 unless an exemption in Schedule 1 or Schedule 4 to this overlay applies. Most relevantly under Schedule 1 and Schedule 4 of the overlay no planning approval will be required for buildings and works if the works are undertaken by a public authority to regulate flooding.
- Removal, destruction or lopping of any vegetation in the ESO1 under Clause 42.01-2 unless an exemption in the Table to Clause 42.01-3 applies.

Clause 42.02 (Vegetation Protection Overlay)

Planning approval will be required for:

- Removal, destruction or lopping of any native vegetation in the VPO under Clause 42.02-2 unless an exemption in the Table to Clause 42.02-3 applies. Schedule 1 to the VPO requires a permit to remove, destroy or lop native vegetation on land within the road reserve and within 50 m of the road reserve under the overlay.

Clause 42.12 (Specific Controls Overlay)

Schedule to the Specific Controls Overlay

Planning approval will be required for:

- Demolition, Use, development of a utility installation, earthworks and destruction, removal, and lopping of native and non-native vegetation in the SCO if not for the specific purpose of the Schedule to the Special Controls Overlay (SCO2).

Clause 52.17 (Native Vegetation)

Planning approval will be required:

- To remove, destroy or lop native vegetation under Clause 52.17 unless all native vegetation to be removed, destroyed or lopped is subject to an exemption. An exemption from planning approval for all native vegetation impacted by the project would only be available if The Goulburn-Murray Water Native Vegetation Code of Practice 2011 applies or the written agreement of the Secretary to the DELWP (as constituted under Part 2 of the *Conservation, Forests and Lands Act 1987*) is obtained in relation to the conservation work or utility installation exemption.

4.7 Notice and referral requirements

Notice and/or referral of a required planning approval to a determining referral authority² and/or recommending referral authority³ may be required under the requirements of the planning scheme.

Table 4.8 lists the notice and referral requirements of the Gannawarra Planning Scheme that apply to the works and what this means for the planning approvals process.

Table 4.8: 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	<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 Sustainability and Environment (now DELWP) 	DELWP as a determining referral authority
Clause 4 of Schedule 4 to Clause 42.01 Environmental Significance Overlay (ESO4)	Before deciding on an application, the responsible authority must consider, as appropriate, any comments of the floodplain management authority	North Central Catchment Management Authority
Clause 4 of Schedule 1 to Clause 42.02 (VPO)	<p>An application for removal of native vegetation:</p> <ul style="list-style-type: none"> In an area of high or very high conservation value under the Victorian Native Vegetation Management: A Framework for Action, 2002. If the native vegetation is identified as threatened flora and habitat or providing habitat for threatened fauna under the <i>Flora and Fauna Guarantee Act 1988</i>. If the native vegetation is identified in a depleted, endangered or vulnerable ecological vegetation class identified in the Department of Sustainability and Environment (now DELWP) ecological vegetation communities mapping. If the area of native vegetation to be removed is 4,000 sqm or greater. If the native vegetation is within 50 m of any public land managed by the Department of Sustainability and Environment (now DELWP). If the native vegetation is within 100 m of the Murray River. 	Secretary to the DELWP.
Clause 44.04 Land Subject to Inundation Overlay (LSIO)	An application must be referred to the relevant floodplain management authority	North Central Catchment Management Authority as a recommending referral authority

² Determining referral authority: If a determining referral authority objects then the responsible authority must refuse to grant a permit, and if a determining referral authority specifies conditions, those conditions must be included in any permit granted.

³ A responsible authority must consider the recommending referral authority's advice but is not obliged to refuse the application or to include any recommended conditions.

Planning controls	Notice and referral requirements	Referral body
	under Section 55 of the Act ⁴ 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.	
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
Clause 45.01-3 Public Acquisition Overlay (PAO2)	An application under the overlay	The acquiring authority specified in the schedule to the overlay, 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 the DELWP as a recommending referral authority
Clause 66.02-2 Native vegetation	An application must be referred to the Secretary to the 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 <i>Conservation, Forests and Lands Act 1987</i>) 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 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.	The Secretary to the Department administering the <i>Flora and Fauna Guarantee Act 1988</i> .

4.8 Other Incorporated documents

The following documents, incorporated at Clause 72.04 of the planning scheme (other than the incorporated document to the Schedule to Special Controls Overlay) are likely to be relevant to the planning, design and operation of the project:

- Apiary Code of Practice, May 2011

⁴ In this case The Act refers to the *Planning and Environment Act 1987*.

- Building in Bushfire prone areas – CSIRO & Standards Australia (SAA HB36-1993), May 1993
- Code of Practice for Bushfire Management on Public Land, 2012
- Construction Techniques for Sediment Pollution Control, Environment Protection Authority, May 1991
- Guidelines for Environmental Management: Code of Practice – Onsite Wastewater Management (Publication 891.4. Environment Protection Authority, 2016)
- Guidelines for the removal, destruction or lopping of native vegetation (DELWP, 2017)
- Local Government Planning Guide for Dry Land Salinity - Department Conservation and Natural Resources, 1995.
- Goulburn-Murray Water Native Vegetation Code of Practice, February 2011

4.9 Other relevant strategies and policies

A review of relevant regional strategies that apply to the area of investigation is provided in Table 4.9. Key messaging of these strategies/policies are considered in future land use planning for the region.

Table 4.9: Relevant regional strategies

Regional strategy	Purpose	Relevant messages
Gannawarra Urban and Rural Strategy Plan 2007	To provide a strategy to guide future development of land in and around towns across the rural areas, particularly those close to water.	The area of Myall to Benjeroop is not suited to extensive rural residential development due to its isolation from the main towns, agricultural and environmental values and flood risk. The towns of Murrabit and Koondrook provide more opportunity for rural residential and residential development close to the Murray River.
North Central Regional Floodplain Management Strategy, 2018 - 2028	To provide a regional planning document for floodplain management within the North Central CMA region and a high-level Regional Work Plan to guide future investment.	A main priority is to construct a new flood mitigation infrastructure, resolving ownership and maintenance accountabilities, and improving floodplain options. The vision of the strategy is to manage floodplains and waterways sustainably to protect and enhance their diversity and ecological function while also supporting the regional community's recreational use.
North Central Waterway Strategy 2014-2022	To provide an integrated strategy for managing and improving the region's waterways (rivers, streams and wetlands)	Guttrum and Benwell Forests identified as 'Priority Wetlands' of the strategy. Part of the Gunbower Program Area which specifies the following relevant long-term Resource Condition Management Outcome Targets: <ul style="list-style-type: none"> ▪ Removal of willows to improve in-stream habitat and bank stability ▪ Improve vegetation structure and diversity ▪ Increase landholder skills and awareness in riparian management practices ▪ Monitoring of fish populations through partnerships with angling clubs
DRAFT North Central CMA Regional Catchment Strategy (for consultation), 2021-27	To provide a long-term vision for Natural Resource Management of its assets within the North Central Catchment Management Authority region. Provide a framework for integrated and co-ordinated management of its catchments to maintain and enhance biodiversity, land and water	The Guttrum and Benwell Forests are identified as part of 'Wetland' assets under the strategy, protected for nature conservation with a bioregion conservation status considered as 'presumed extinct'.

Regional strategy	Purpose	Relevant messages
	<p>Note this strategy is currently in review (see https://engage.vic.gov.au/north-central-regional-catchment-strategy-2021-27) The new strategy will have an increased emphasis on aligning with the requirements of traditional owners and responding to climate change.</p>	<p>The CMA region is projected to see significant population growth in townships along the Calder Freeway corridor and the Murray River, bringing challenges on how to balance urban growth and environmental protection. There has been a population shift away from agricultural areas towards provincial towns with Rural living or small hobby farms increasing in numbers.</p> <p>The following key impacts of this shift are recognised:</p> <ul style="list-style-type: none"> ▪ Increased salinity levels ▪ Changed vegetation structure and species composition ▪ Reduced regeneration of native vegetation ▪ Reduced input of organic matter and structural woody habitat to rivers ▪ Reduction or loss of floodplain linkages ▪ Disrupted longitudinal and lateral linkages to waterways ▪ Changes in flow patterns leading to loss of biological cues for aquatic species, reduced linkages, changes to habitat availability and changed geomorphic processes. <p>The strategy identifies the need to consider the implications of climate change on environmental, economic and social values of the region.</p> <p>The strategy identifies the need to work with regional local councils to ensure better alignment of objectives with local government planning.</p>
<p>North Central CMA Regional Catchment Strategy 2013-19</p>	<p>To provide a long-term vision for Natural Resource Management of its assets within the North Central Catchment Management Authority region. Provide a framework for integrated and co-ordinated management of its catchments to maintain and enhance biodiversity, land and water</p>	<p>The Guttrum and Benwell Forests are identified as part of 'Wetland' assets under the strategy, protected for nature conservation with a bioregion conservation status considered as 'presumed extinct'. The Forests exists in a region that is agriculturally diverse with extensive areas of irrigation. Rural living is an emerging and expanding land use.</p> <p>Focus on the development of Regional Growth Plans for the area.</p>

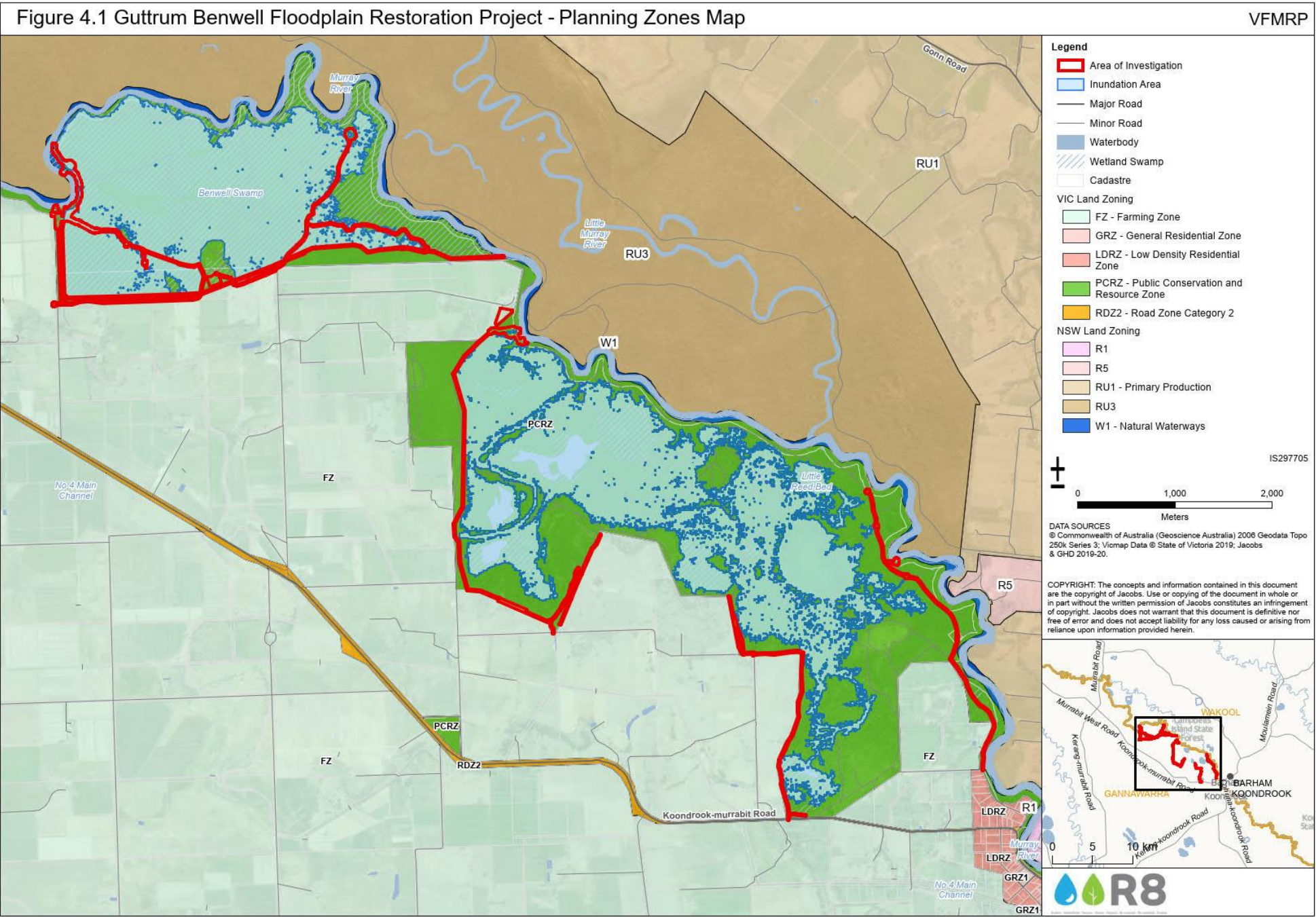


Figure 4-1: Planning Zones

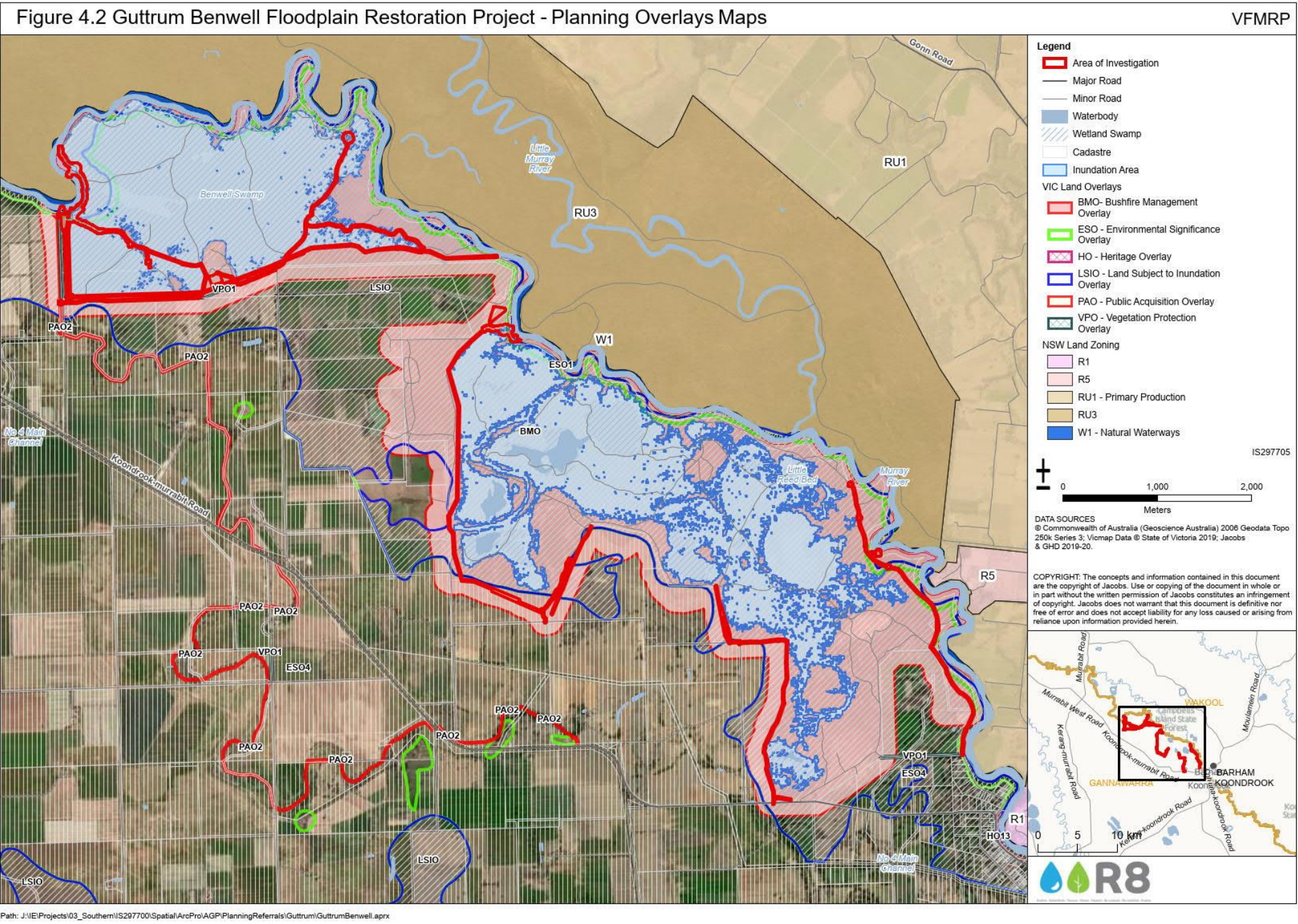


Figure 4-2: Planning Overlays

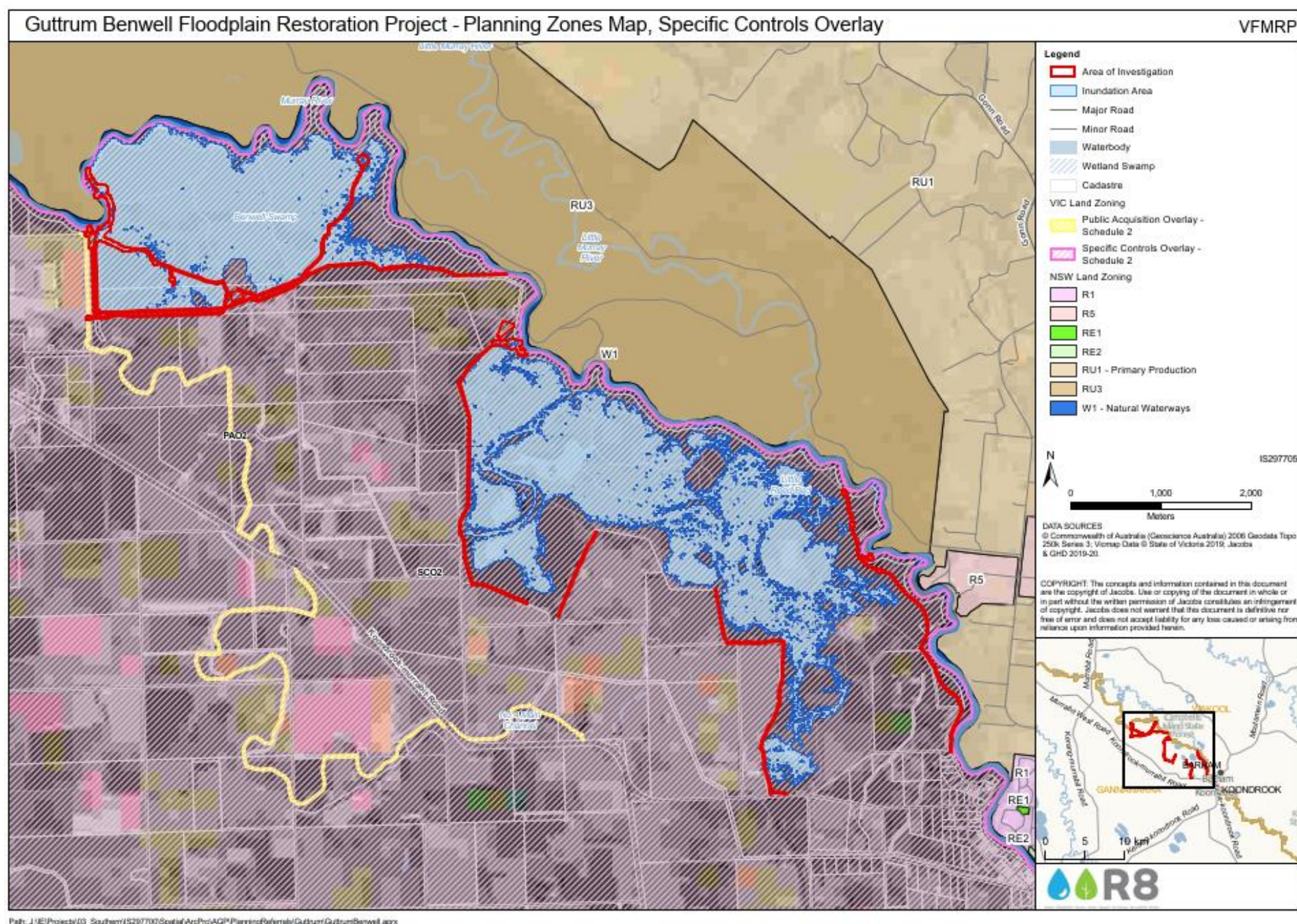


Figure 4-3 Specific Controls Overlay

5. NSW planning framework

5.1 NSW Environmental Planning and Assessment Act 1979

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 key environmental planning instruments that are relevant to the proposed works are discussed below and indicate that the project is permissible with the development consent of the Murray River Council under clause 126A of the State Environmental Planning Policy (Infrastructure) 2007. It therefore requires approval under Part 4 of the EP&A Act and a Statement of Environmental Effects must be submitted as part of the development application.

Integrated development

Under section 4.46 of the EP&A Act, development that requires both development consent and one or more listed approvals or licences is 'integrated development'. This proposal is classified as integrated development as the project requires a permit under section 201 of the *Fisheries Management Act 1994* (refer to section 2.3) in addition to development consent under the EP&A Act. The EP&A Act provides that, upon receipt of an application for integrated development, copies of the application must be forwarded by the consent authority to each 'approval body'. The integrated approval bodies will review the development application and Statement of Environmental Effects and advise the consent authority whether they will grant the relevant approval or licence and identify any general terms of approval. Any development consent granted must be in accordance with the general terms of approval given by the integrated approval bodies.

5.2 State environmental planning policies

5.2.1 State Environmental Planning Policy (Infrastructure) 2007

The following sections indicate that the proposal would be permissible with development consent due to the application of Division 4 of State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP (NSW)).

The proposed works will involve installing the following:

- Two pump stations and one drop structure at Guttrum Forest; and
- One pump station and two drop structures at Benwell Forest.

For the pump stations the works within the Murray River and its banks will include excavation and construction of intake pipes near the edge of the bank profile. Works for the drop structures required involve modifying the existing outlet channel and extending the section of rock mattress erosion protection onto the Murray River. A temporary cofferdam may be required to undertake these works.

A water reticulation system is a type of water supply system and is defined as *a building or place used for the transport of water, including pipes, tunnels, canals, pumping stations, related electricity infrastructure and dosing facilities*.

Under clause 126A of Division 4 of the Infrastructure SEPP (NSW), development for the purpose of water reticulation systems may be carried out by any person with consent on any land.

Under clause 125(5) of Division 4 of the Infrastructure SEPP (NSW), *a reference to development for the purpose of a water supply system of any kind includes a reference to development for any of the following purposes if the development is in connection with the water supply system—*

(e) water intakes, pumping stations, pipelines, channels, tunnels, canals and aqueducts,

(k) environmental management works,

Both the pump stations and drop structures, used to transport water would be part of a water reticulation system (clause 125(5)(e)) and be permissible with development consent due to the application of clause 126A.

The proposed work would be undertaken in the Murray River Shire and the consent authority is Murray River Council.

A development application would need to be submitted to the Murray River Council and this would need to be supported by a Statement of Environmental Effects that addresses section 4.15 of the NSW EP&A Act.

5.2.2 State Environmental Planning Policy No. 44 – Koala Habitat Protection

State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP (NSW) 44) aims to encourage conservation and management of areas of natural vegetation that provide habitat for koalas. As the Murray River Shire is included in Schedule 1 of the SEPP (NSW), SEPP (NSW) 44 potentially applies to the project. SEPP (NSW) 44 does not apply to land dedicated under the *National Parks and Wildlife Act 1974* or *Forestry Act 1916* (refer to Clause 5(2)).

SEPP (NSW) 44 only applies to development that requires consent. The provisions of SEPP (NSW) 44 would need to be considered when preparing the Statement of Environmental Effects.

5.2.3 Murray Regional Environmental Plan No.2 – Riverine Land

The proposal would be undertaken on land that is subject to the Murray Regional Environmental Plan No.2 (MREP). The MREP aims to conserve and enhance the riverine environment of the River Murray for the benefit of all users. Under the MREP, the term 'River Murray' refers to the river and its tributaries and this includes the land in NSW upon which the proposed works would be undertaken.

Clause 5 of MREP states that it does not permit development which is prohibited by another environmental planning instrument. Section 5.2.1 indicates that the proposed works are permissible with consent under the Infrastructure SEPP (NSW).

The Statement of Environmental Effects would address relevant provisions of the MREP, including but not limited to those listed in Table 5.1.

Table 5.1: Relevant clauses in the Murray Regional Environmental Plan No.2 Riverine Land to be addressed in the Statement of Environmental Effects

Clause in the MREP	Relevance to the project
12 – General provisions for consultation	<p>This clause lists consultation that is required for certain development, and is additional to consultation required under other clauses in the MREP. Consultation is potentially required under this clause for the following reasons:</p> <ul style="list-style-type: none"> ▪ If the development would impact on endangered fauna under the NSW <i>National Parks and Wildlife Act 1974</i> consultation with the Department of Planning, Industry and Environment, Biodiversity Conservation Division is required. ▪ If the development would affect boating safety consultation with the NSW Roads and Maritime Services is required.
13 – Planning Control and Consultation Table	<p>This clause identifies the planning controls for development that is subject to the MREP. The project may trigger planning controls under this clause including:</p>

Clause in the MREP	Relevance to the project
	<ul style="list-style-type: none"> 13(3) – Bank and/or bed work. This relates to work that involves excavation, dredging or alteration of the alignment or shape of the bank or bed of the River Murray. 13(8) – Desnagging operations (including snag maintenance). This relates to any work to move or remove trees of woody debris from the water of the River Murray. 13(10) Flood control works. This relates to works which change the natural or existing condition or topography of land (such as the construction or alteration of levees, channels and mounds) and which are likely to affect the hydrology of the River Murray system. <p>This clause lists consultation requirements and clause 11 details how that consultation is to be undertaken.</p>

5.3 Wakool Local Environmental Plan 2013

The Guttrum Forest and Benwell Forest Floodplain Restoration Project is located on land that is zoned W1 Natural Waterways under the Wakool Local Environmental Plan 2013 (Wakool LEP). Environmental protection works are the only activity that is permitted without development consent within the W1 zone.

Activities that are permitted with consent in the W1 zone are Aquaculture; Emergency service facilities; Environmental facilities; Information and education facilities; Water recreation structures, Water recycling facilities and Wharf or boating facilities.

Activities are prohibited in the W1 zone if they are not permissible with consent or without consent. A water reticulation system of which these works are defined as part of a water supply system is not an activity that is permissible with or without consent in the W1 zone. Clause 5.12 states that the LEP does not restrict or prohibit, or enable the restriction or prohibition of, the carrying out of any development, by or on behalf of a public authority, that is permitted to be carried out with or without development consent, or that is exempt development, under State Environmental Planning Policy (Infrastructure) 2007. The project is permissible with consent under clause 126A of the Infrastructure SEPP (NSW).

The Statement of Environmental Effects would address relevant provisions of the Wakool LEP, including but not limited to those listed in Table 5.2.

Table 5.2: Relevant clauses in the Wakool LEP to be addressed in the Statement of Environmental Effects

Clause in the Wakool LEP	Relevance to the project
2.3 – Zone objectives and Land Use Table	The Statement of Environmental Effects would need to address the land use objectives for the W1 Natural Waterways zone
6.1 - Earthworks	Earthworks are required within the River bank. Development consent is required for 'earthworks'
6.2 – Flood Planning	The project would be undertaken on flood liable land in river front areas. Development is permissible on flood liable land in the river front area if it complies with the requirements of section (3) of this clause.
6.4 – Riparian land and watercourses	This clause applies to land identified as 'Waterways' on the Waterways Map that is part of the LEP, and is within 40 m of the top of the bank of that waterway. The project is located on land that is mapped as a waterway on this map. This clause lists matters that Council must consider before granting consent to development on land mapped as a watercourse.

Clause in the Wakool LEP	Relevance to the project
6.5 - Wetlands	This clause applies to land identified as 'Wetlands' on the Wetlands Map that is part of the LEP. The project is located on land that is mapped as a wetland area. This clause lists matters that Council must consider before granting consent to development on land mapped as a Wetland.
6.6 – Development on River Front Areas	The project would be undertaken on river front areas. The clause lists matters that Council must consider before granting appropriate development on riverfront areas. It allows for consent of development for environmental protection works
6.7 – Development on river beds and banks	This clause applies to land comprising the bed of the river and up to the top of the bank of the river and is relevant because the project would involve development on the bed and bank of the Murray River. This clause is concerned with water quality and environmental values of river beds and banks. It lists matters where development consent must not be granted.

6. Potential impacts and mitigation

Table 6.1 provides a summary of potential land use related impacts and potential mitigation measures. These will need to be assessed further as part of any application for planning approval. Potential land use related impacts associated with the project are generally predicted to be associated with:

- Increase in flooding potential for surrounding land use
- Temporary disruptions to access to private land and infrastructure, recreational areas and commercial activities (apiary) during construction and managed environmental watering
- Temporary amenity impacts on surrounding land uses during construction.

Table 6.1: Summary of potential land use impacts and proposed mitigation measures

Potential impacts	Proposed mitigation measures
Construction phase	
Removal of vegetation (within VPO1) and temporary loss of land for farming on a small area of private land for establishment of Construction Laydown Area adjacent to the Guttrum Forest area.	<p>Avoid disturbance of land containing native vegetation within the VPO1 where practicable due to potential conflicts with the purpose and objectives of the VPO1.</p> <p>Engage with private landowners and ensure construction management plans include appropriate measures to minimise disruption to ongoing farming activities and avoid permanent degradation of farming land.</p> <p>Obtain agreements with private landowners prior to commencement of works.</p>
Loss of timber forest resources recognised under the current State Forest reservation of the majority of the investigation area. Construction activities will need to adhere to Forest Management Plans, including consultation with stakeholders re the implementation of precautionary approach to biodiversity management.	Adhere to Forest Management Plans as practicable and engage with key stakeholders to protect the objectives of the current reservation of this land.
Possible disruptions to access to private infrastructure (e.g. irrigation pump sites and channels) during construction, including during maintenance of access tracks (Note: No access tracks are being used for the project that provide sole access to residential dwellings).	<p>Engage with private land and infrastructure owners potentially affected by construction works and ensure construction management plans include appropriate measures to avoid or minimise access disruptions to private land and infrastructure.</p> <p>Prepare and implement a stakeholder management strategy to ensure potentially affected private land and infrastructure owners are aware of the extent and timing of construction works, and establish communication protocols to provide adequate notification prior to any access disruptions.</p>
Possible disruptions to recreational access to the Murray River and other parts of the River Murray Reserve during construction.	<p>Conduct further planning and modelling to predict access limitations during construction and in consultation with the public land manager (DELWP and Parks Victoria) identify opportunities to maintain or provide alternative access, where practicable.</p> <p>Engage with DELWP and Parks Victoria to ensure construction management plans include appropriate measures to manage access disruptions within the River Murray Reserve.</p>

Potential impacts	Proposed mitigation measures
	Prepare and implement a stakeholder management strategy to ensure the public land manager (DELWP and Parks Victoria) is aware of the extent and timing of construction works, and can plan accordingly (e.g. signage, notification to park users).
Possible disruption to access to water from the Murray River	Engage with potentially affected water frontage licence and water licence holders to determine potential impacts and associated mitigations and provide adequate notification prior to any potential disruptions to river access during construction.
Possible disruption to apiary activities during construction.	Engage with apiary licence holders in conjunction with DELWP and Parks Victoria as public land manager, to identify opportunities to temporarily or permanently relocate the affected apiary site if it cannot be avoided during construction.
Potential for temporary amenity effects (increased noise, dust etc) on residents and flora and fauna in close proximity to work sites or access tracks during construction.	Prepare and implement a construction environmental management plan including appropriate noise and dust management measures in accordance with EPA Publication 480: Environmental guidelines for major construction sites.
Operational phase	
Possible damage to private pump infrastructure and / or disruptions to access to private infrastructure during managed inundation events.	Engage with potentially affected private infrastructure owners, to assess potential for any impacts and, if identified as required, ensure operating plans include appropriate measures to avoid or minimise impacts to infrastructure during managed inundation events. Prepare and implement a stakeholder management strategy, to ensure private infrastructure owners are aware of the extent and timing of upcoming watering events and can plan accordingly.
Possible disruptions to recreational access to the Murray River and other parts of the River Murray Reserve during managed inundation events, which may reduce opportunities for active and passive recreation, potentially reducing tourism expenditure and causing economic loss to small rural communities.	Conduct further planning and assessment to predict access limitations during planned operating scenarios and in consultation with the public land manager (Parks Victoria and DELWP), identify opportunities to maintain or provide alternative access, where practicable. Liaise with Parks Victoria and DELWP as the public land manager to ensure operating plans include appropriate measures to avoid or minimise access disruptions during managed inundation events. Prepare and implement a stakeholder management strategy, including Parks Victoria, DELWP and 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).
Potential disruption to the operations of the Benwell Primary Surface Water Management System during inundation	Prepare and implement an operating plan including appropriate measures to minimise any potential impacts on the Benwell Primary Surface Water Management System.
Possible inundation or disruption to access to up to eleven apiary sites during managed inundation events.	Engage with apiary licence holders in conjunction with DELWP and Parks Victoria as the public land manager, to ensure operating plans include appropriate measures to avoid or minimise disruption to apiary activities during managed inundation events. Prepare and implement a stakeholder management strategy, to ensure potentially affected commercial operators, are aware of the extent and timing of upcoming watering events and can plan accordingly.

In addition to these potential impacts, operation of the proposed works to restore a more natural inundation regime to the Guttrum and Benwell Forest floodplain, has the potential to generate benefits to recreational users of the River Murray Reserve by improving the health and structure of floodplain vegetation, and restoring connectivity and improving in-stream habitats for fish and other aquatic fauna.

7. Conclusion

The Guttrum and Benwell Forests are part of an extensive system of floodplain forests in the Mid-Murray region, just north-west of the Victorian town of Koondrook. The forests are important floodplain ecosystems that rely on periodic flooding to maintain a healthy environment for flora and fauna. They act independently to each other and are unique systems comprised of River Red Gum floodplain forests and woodlands interspersed with swamp low-lying habitats including complexes of semi-permanent wetlands.

The Guttrum and Benwell Forests Flood Restoration Project aims to restore a more natural inundation regime to the area. The project has the potential to generate significant benefits to the ecological regime of the area as well as benefits to the recreational users of the River Murray Reserve by improving the health and structure of floodplain vegetation and restoring connectivity and improving in-stream habitats.

An assessment of the potential permit triggers under the Gannawarra Planning Scheme has identified that the project will require planning approval in relation to:

- Use of the land for a minor utility installation (in PCRZ) and utility installation
- Buildings and works, including earthworks
- Removal, destruction or lopping of native vegetation
- Removal, destruction or lopping of any vegetation, including dead vegetation in ESO1

In addition, the proposed works involve two pump stations and one drop structure at Guttrum Forest, and one pump station and two drop structures at Benwell Forest. For the pump stations the works within the Murray River and its banks will include excavation and construction of intake pipes near the edge of the bank profile. Works for the drop structures required involve modifying the existing outlet channel and extending the section of rock mattress erosion protection onto the Murray River in NSW, within the Murray River Council. A temporary cofferdam may be required to undertake these works. A development application would need to be submitted to the Murray River Council and this would need to be supported by a Statement of Environmental Effects that addresses section 4.15 of the NSW EP&A Act.

An assessment of the potential land use impacts has identified that the project has the potential to result in:

- Removal of vegetation (within VPO1) and temporary loss of land for farming on a small area of private land for establishment of Construction Laydown Area adjacent to the Guttrum Forest area.
- Loss of timber forest resources recognised under the current State Forest reservation of the majority of the investigation area.
- Possible disruptions to access to private infrastructure (e.g. irrigation pump sites and channels) during construction and operations.
- Possible disruption to the operation of the Benwell Primary Surface Water Management System during inundation events.
- Possible disruptions to recreational access to the Murray River and other parts of the River Murray Reserve during construction and operations.
- Possible disruption to apiary activities during construction and operation.
- Potential for temporary amenity effects (increased noise, dust etc) on residents and flora and fauna in close proximity to work sites or access tracks during construction.

To mitigate the likelihood and consequence of these potential impacts, construction of the project would be undertaken in accordance with a Construction Environmental Management Plan (CEMP). This CEMP will require the development of a risk management process to use throughout the construction phase.

An Environmental Water Management Plan (EWMP) will be adopted for the management of inundation events as part of operations.

Engagement with private and public infrastructure owners is critical prior to works occurring and ensuring construction and operation management plans include appropriate measures to avoid or minimise access disruptions to infrastructure as much as possible. Notification and engagement is also required with all parties to covenants and caveats on affected land parcels to ensure impacts to the objectives of these instruments are avoided where possible.

Consultation with affected water licence holders, commercial apiary operators, recreational operators, DELWP and Parks Victoria is also recommended in relation to operational plans to minimise or address impact on current land use activities in the project area. VMFRP has consulted with the relevant apiary groups and will continue to do so during construction and operation. Parks Victoria and DELWP are VMFRP partners and will work with each other to ensure mitigation measures are achieved and visitor engagement is suitably managed throughout development and operations.

VMFRP is operating in accordance with a robust stakeholder engagement strategy to deliver this project. It is recommended that consultation continue to be delivered through this strategy to ensure appropriate engagement prior and during construction, with mechanisms in place for ongoing engagement prior to and during inundation events that will feed into the CEMP and EWMP.

8. References

Biosis (2014). Flora and fauna assessment of the Gunbower National Park and the Guttrum and Benwell State Forests. Final Report V3. 10 November 2014.

Department of Environment, Land, Water and Planning (2020). *Interactive maps online*. Available: <https://www2.delwp.vic.gov.au/maps/maps-and-services/interactive-maps>. Accessed: 14 April 2020.

Department of Justice and Community Safety (2020). *Native Title*. Available: <https://www.justice.vic.gov.au/your-rights/native-title>. Accessed: 14 April 2020.

Gannawarra Shire Council, 2020, Business Development: Agriculture, Accessed via <https://www.gannawarra.vic.gov.au/Business-and-Events/Business-Development/Agriculture>. Accessed: 14 April 2020.

Gannawarra Shire Council, 2015. Gannawarra Shire Council Strategic Tourism Plan, 2015-2020. <https://www.gannawarra.vic.gov.au/files/assets/public/document-resources/strategies-and-plans/strategic-tourism-plan>. Accessed 15 July 2020

Gannawarra Shire Council 2010. Gannawarra 2025. Taking up the Challenge. 2 December 2010

National Native Title Tribunal (2020). *NNTT Online Register and Maps*. Available: <http://www.nntt.gov.au/Pages/Home-Page.aspx>. Accessed: 6 April 2020.

North Central Catchment Management Authority (2014). *North Central Waterway Strategy 2014-2022*. Available via <http://www.nccma.vic.gov.au/resources/publications/north-central-waterway-strategy-2014-2022>. Accessed on 6 May 2020

North Central Catchment Management Authority (2012). DRAFT North Central CMA Regional Catchment Strategy (for consultation). Available via http://www.nccma.vic.gov.au/sites/default/files/publications/dm_64212_2012-18_draft_rcs_for_consultation.pdf. Accessed on 6 May 2020

North Central Catchment Management Authority (2013). North Central CMA Regional Catchment Strategy. Available via <http://www.nccma.vic.gov.au/resources/publications/north-central-regional-catchment-strategy-rs>. Accessed on 6 May 2020

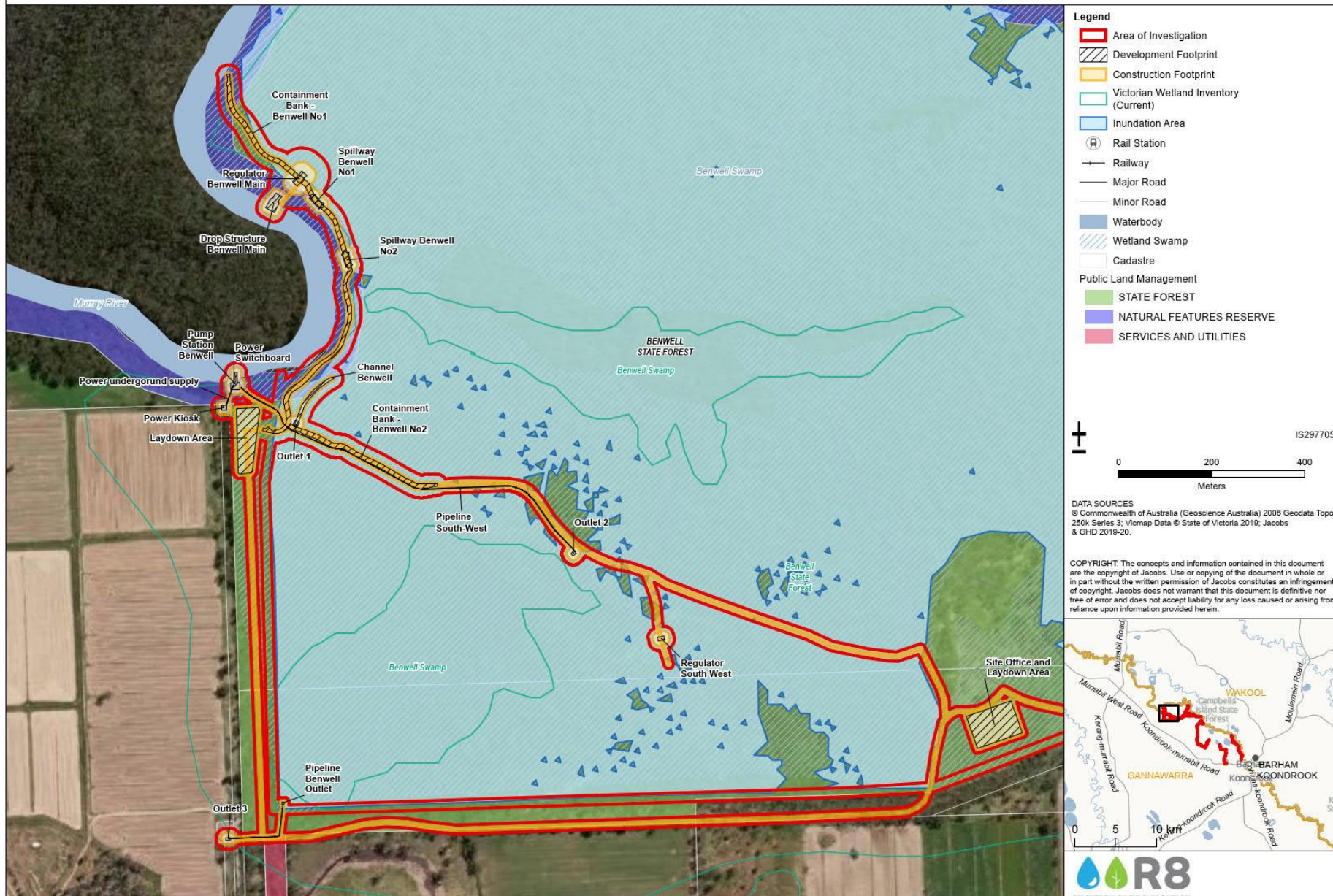
Parks Victoria (2018). *River Red Gum Parks Management Plan, July 2018*. Available: <https://www.parks.vic.gov.au/search?search=river+red+gum+parks+management+plan>. Accessed: 6 April 2020.

Parsons Brinckerhoff (2007). *Gannawarra Urban and Rural Strategy Plan*. Report prepared for the Gannawarra Shire Council, November 2007. R8 (2020). *Flora and Fauna Assessment – Guttrum and Benwell Forests Floodplain Management Project*. Report prepared for the Victorian Murray Floodplain Restoration Project.

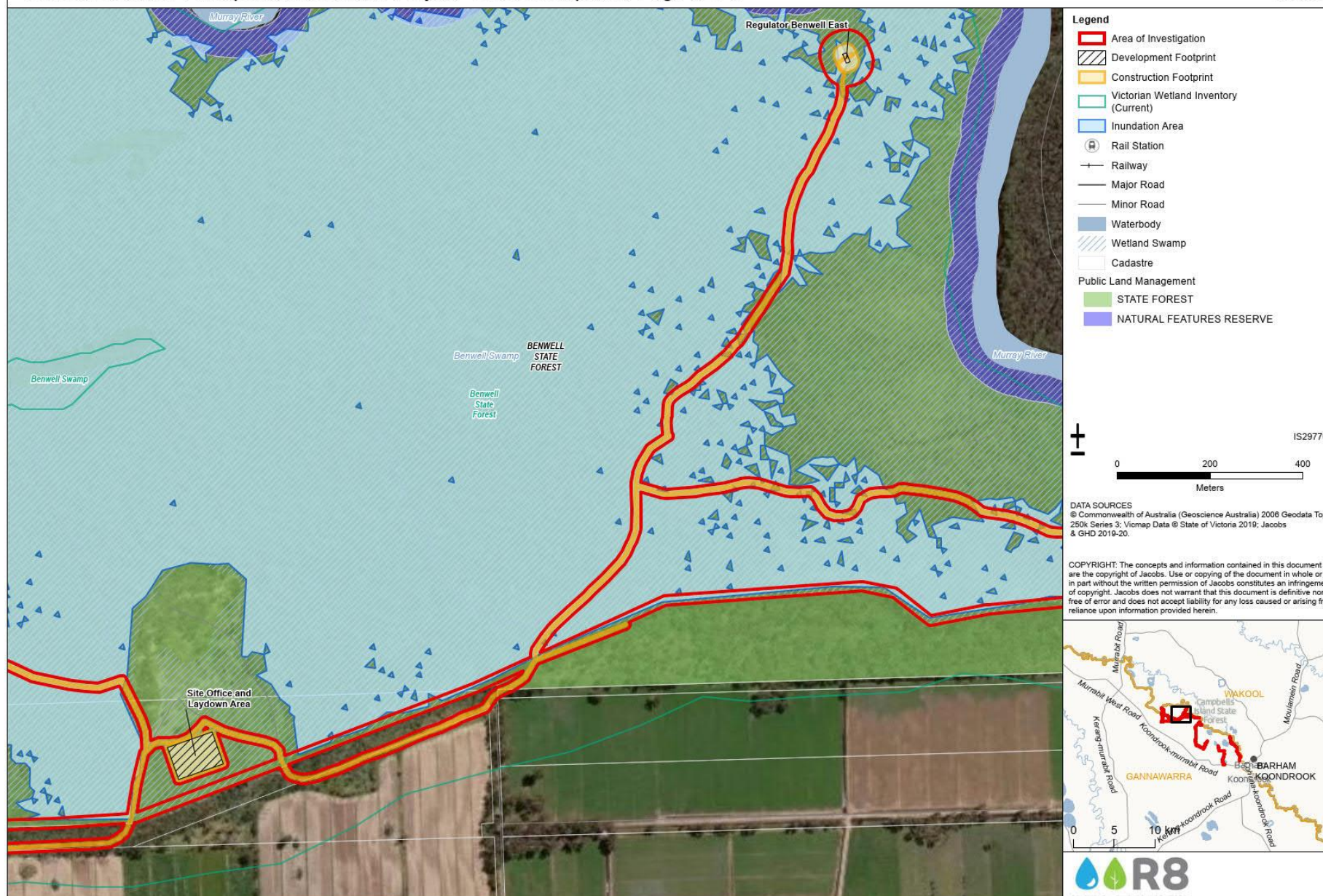
Appendix A: Site Description

Guttrum Benwell Floodplain Restoration Project –Site Description , Page 1 of 9

VFMRP

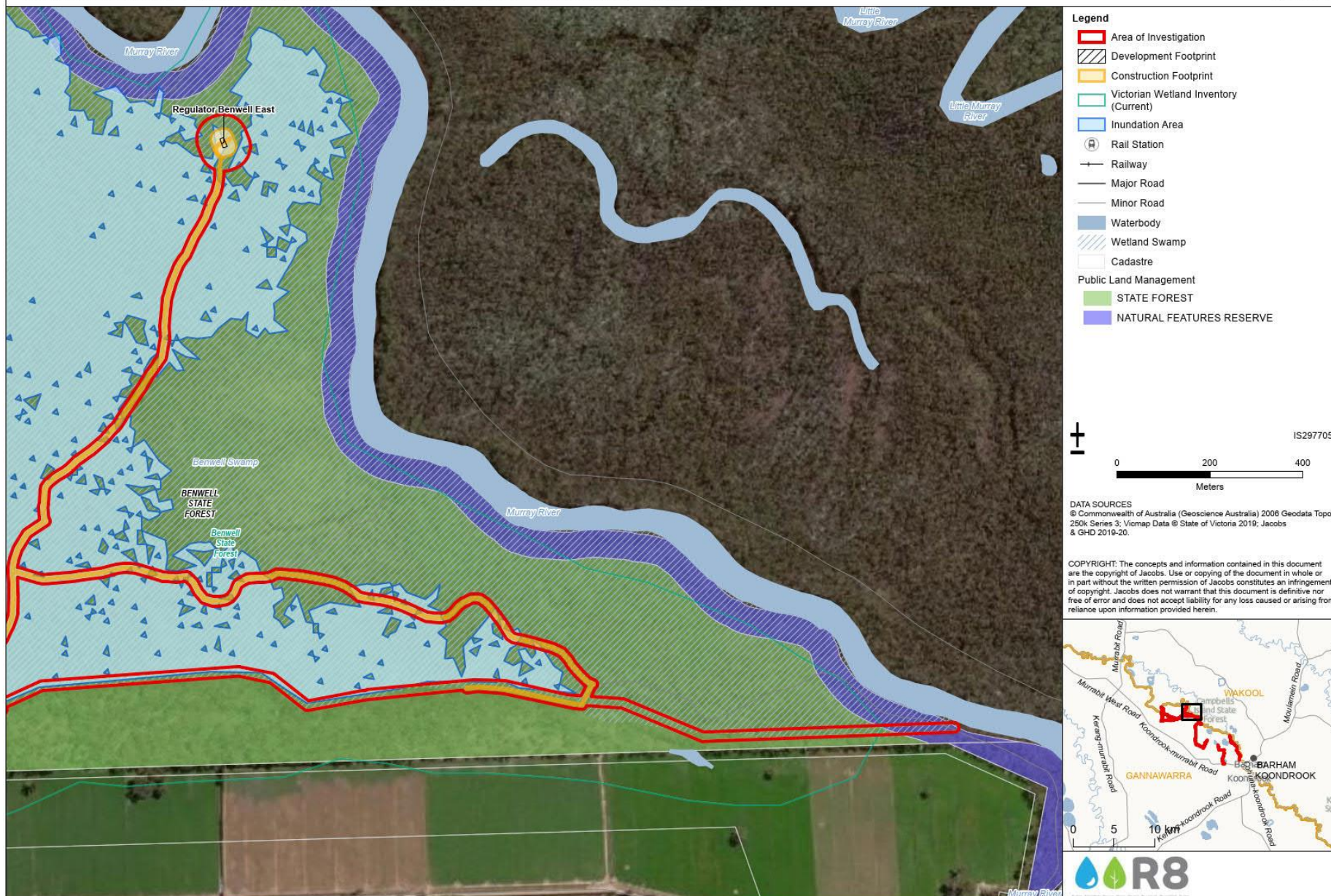


VFMRP



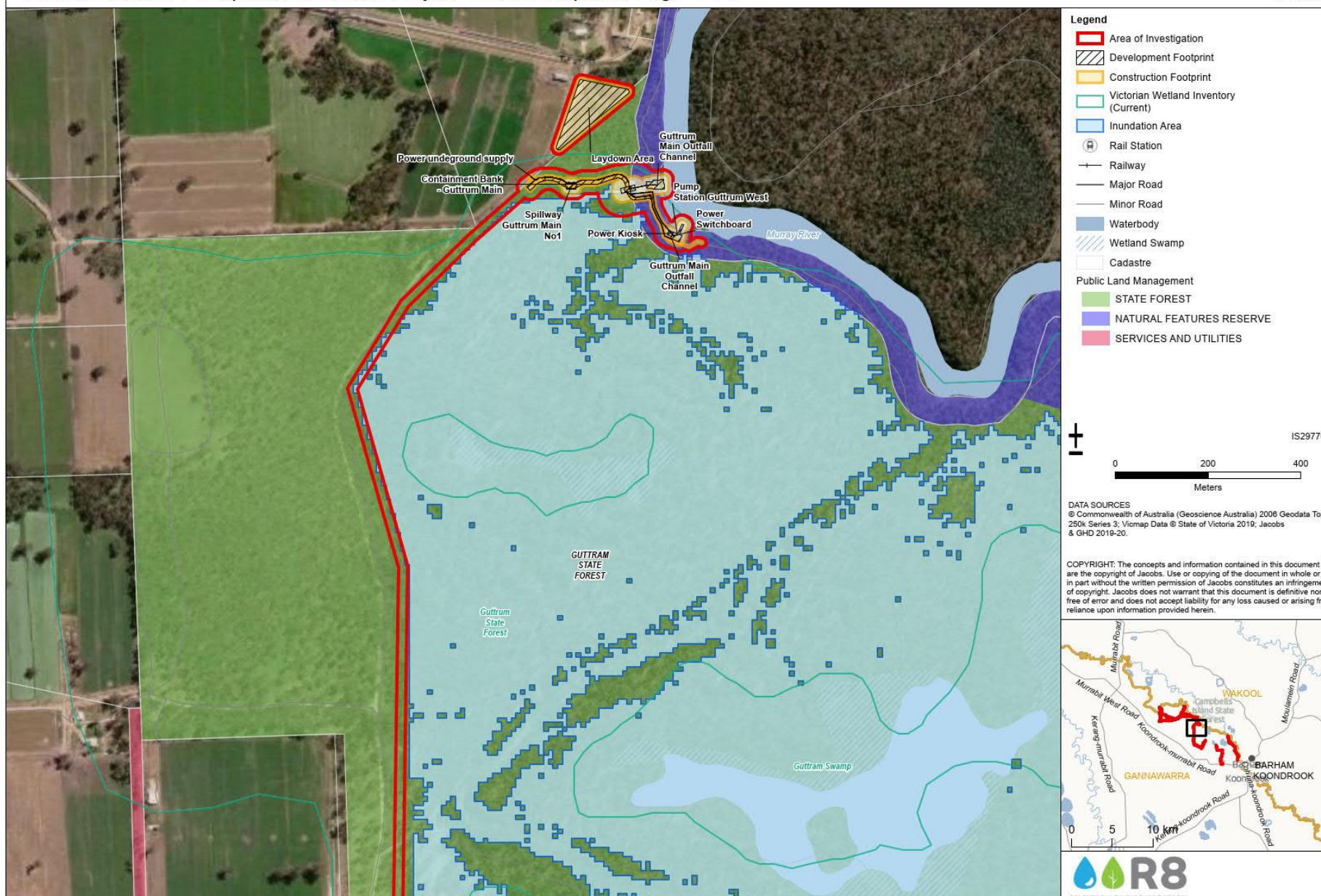
Guttrum Benwell Floodplain Restoration Project –Site Description , Page 3 of 9

VFMRP

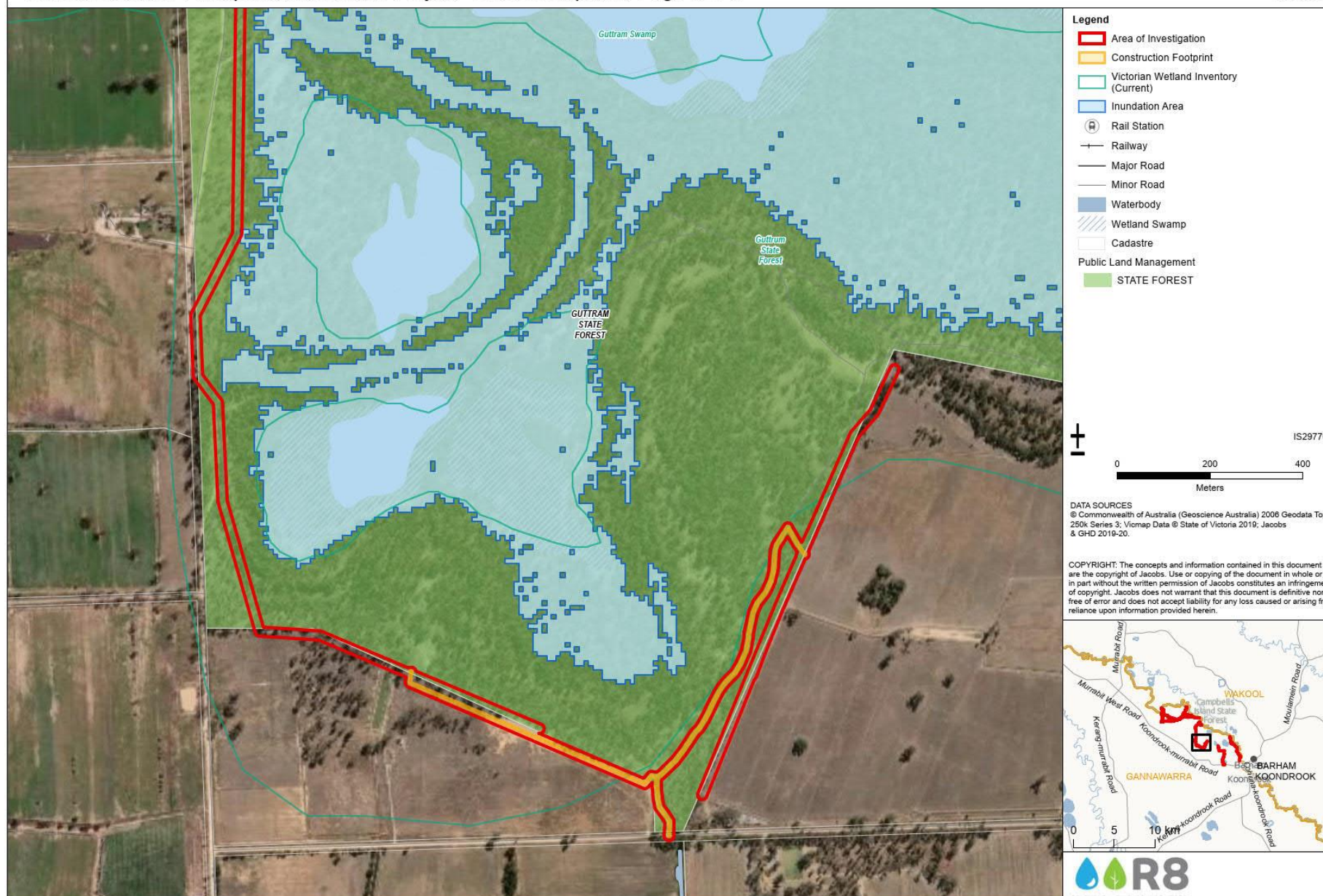


Guttrum Benwell Floodplain Restoration Project –Site Description , Page 4 of 9

VFMRP

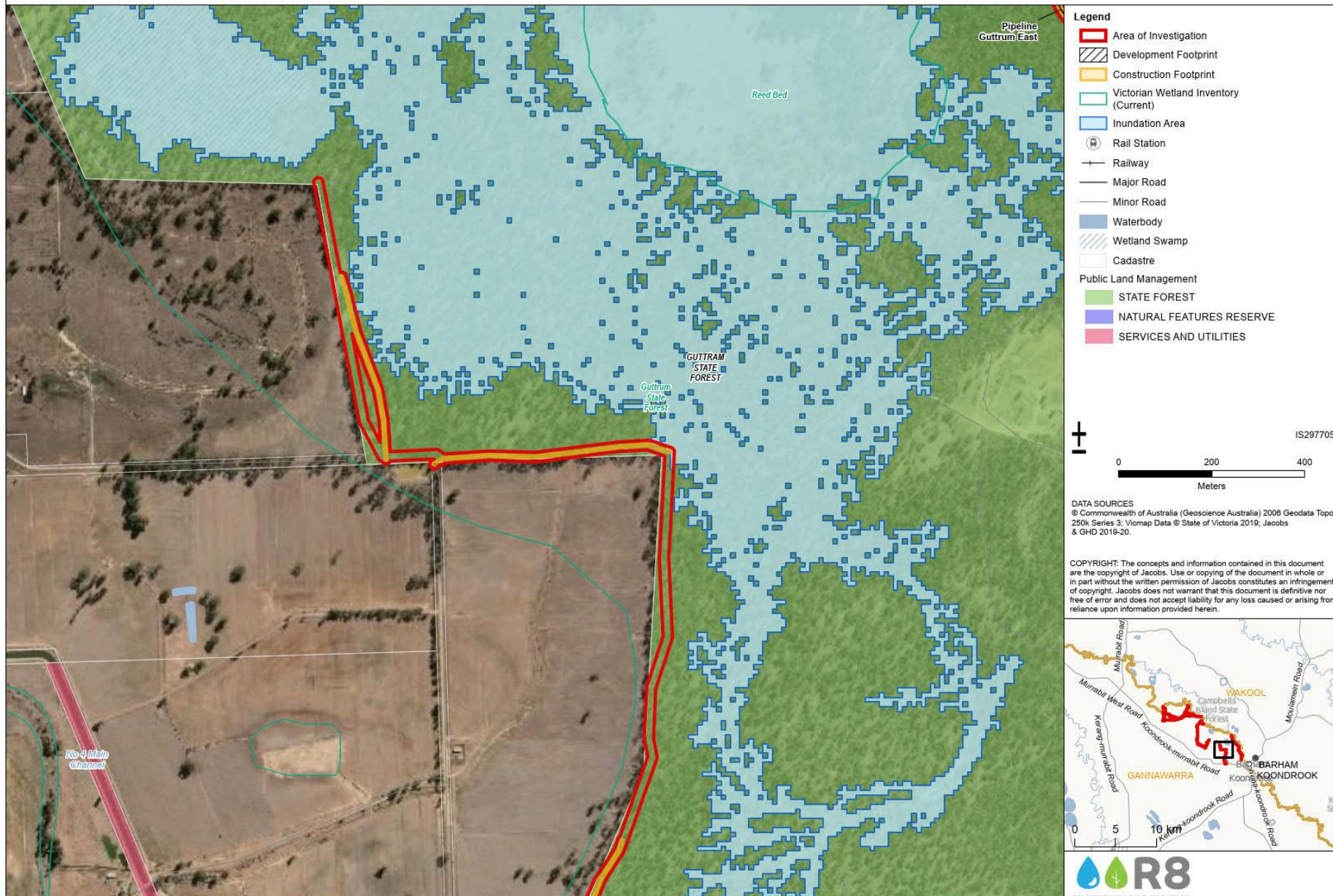


VFMRP



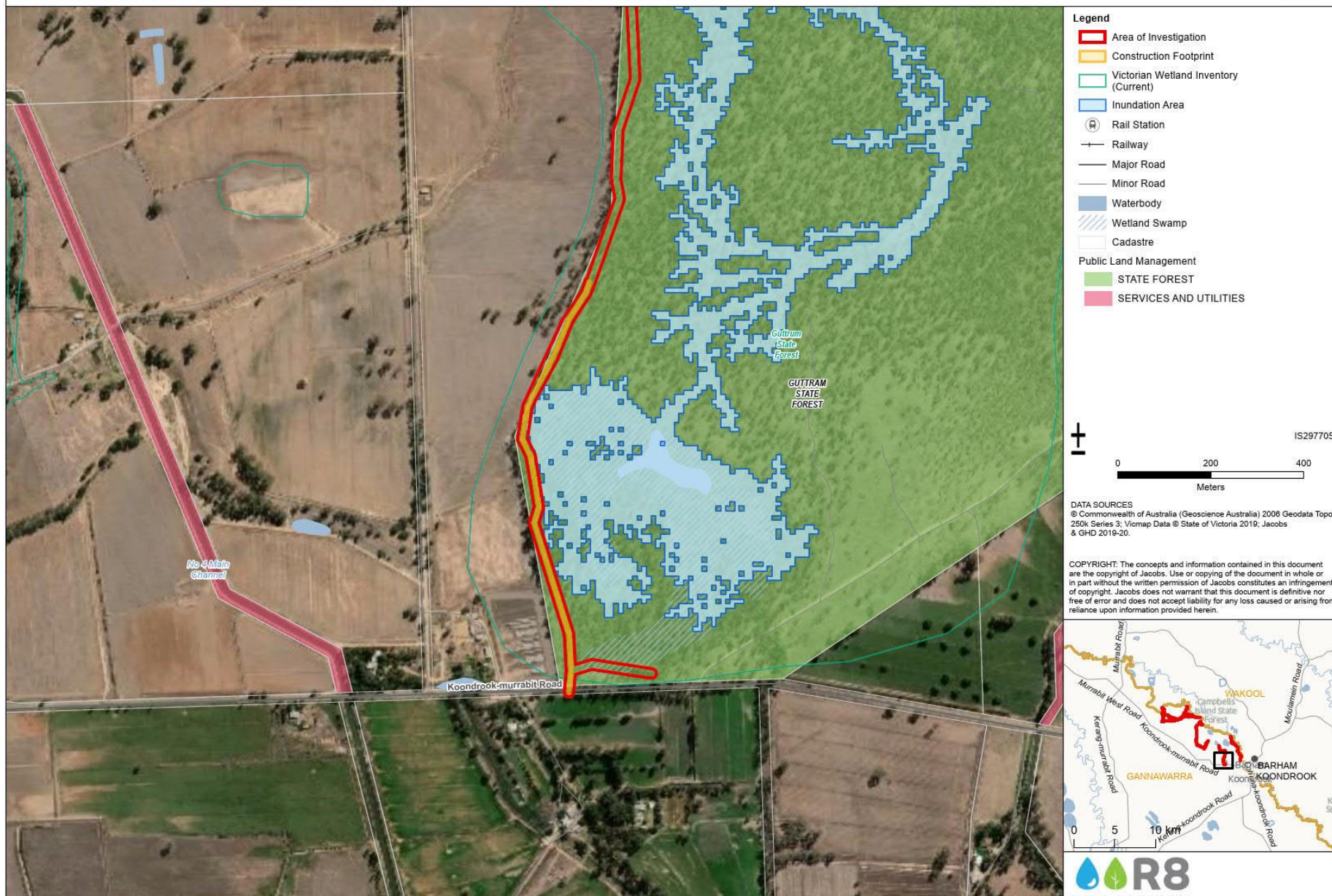
Guttrum Benwell Floodplain Restoration Project –Site Description , Page 6 of 9

VFMRP



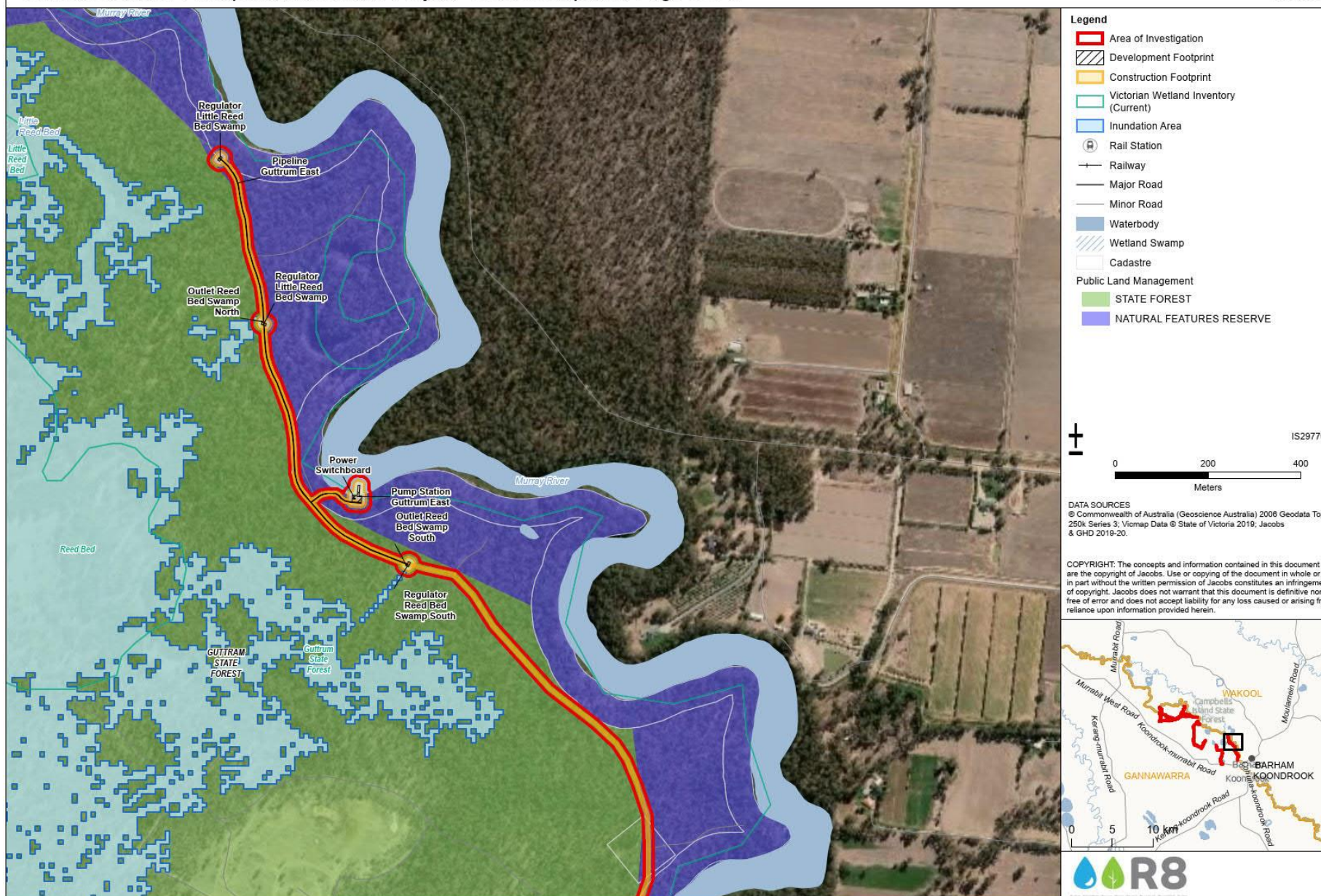
Guttrum Benwell Floodplain Restoration Project –Site Description , Page 7 of 9

VFMRP



Guttrum Benwell Floodplain Restoration Project –Site Description , Page 8 of 9

VFMRP



Guttrum Benwell Floodplain Restoration Project –Site Description , Page 9 of 9

VFMRP

