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Form 2

NOTICE OF AN APPLICATION FOR PLANNING PERMIT

| The land affected by the application is located at: | 230 Rossiter Road, Koo Wee Rup VIC 3981 L2 PS743936 |
|---|---|
| The application is for a permit to: | Subdivision of the land into five (5) lots, removal of restrictive covenant PS849372B (building envelope), alteration to access to a road in a Transport Zone 2 and removal of native vegetation |
| The applicant for the permit is: | Nobelius Land Surveyors |
| The application reference number is: | T210869 |
| You may look at the application and any documents that support the application at the office of the Responsible Authority: | Cardinia Shire Council 20 Siding Avenue Officer 3809 This can be done during office hours and is free of charge. Documents can also be viewed on Council's website: https://www.cardinia.vic.gov.au/advertisedplanningapplications |

Any person who may be affected by the granting of the permit may object or make other submissions to the responsible authority.

 An objection must
 *
 be sent to the Responsible Authority in writing, at Cardinia Shire Council, PO Box 7, Pakenham, Vic, 3810 or email at mail@cardinia.vic.gov.au.

 *
 include the name and address of the objector/ submitter.

- * include the application number and site address.
- * include the reasons for the objection, and
- * state how the objector would be affected.

| The Responsible Authority will not decide on the application before:21 | March 2024 |
|---|------------|
|---|------------|

If you object, the Responsible Authority will tell you its decision.

Please be aware that copies of objections/submissions received may be made available to any person for the purpose of consideration as part of the planning process.

For additional information or advice contact Cardinia Shire Council, Planning Department on 1300 787 624 or mail@cardinia.vic.gov.au.

Your objection/submission and personal information is collected by Cardinia Shire Council for the purposes of the planning process as set out in the *Planning and Environment Act* 1987. If you do not provide your name and address, Council will not be able to consider your objection/submission. Your objection/submission will be available free of charge at the Council office for any person to inspect and copies may be made available on request to any person for the relevant period set out in the *P&E Act*. You must not submit any personal information or copyright material of third parties without their informed consent. By submitting the material, you agree that the use of the material as detailed above does not breach any third party's right to privacy and copyright.







Application Summary

| Portal Reference | A42136PS | |
|------------------|---|--|
| Basic Informatio | n | |
| Proposed Use | Subdivision of the land into 6 lots & removal of vegetation | |
| CurrentUse | Refer attached planning report | |
| Site Address | 230 Rossiter Road Koo Wee Rup 3981 | |

Covenant Disclaimer

 Does the proposal breach, in any way, an encumbrance on title such as restrictive covenant, section 173
 No such encumbrances are breached agreement or obligation such as an easement or building envelope?

 Note: During the application process you may be required to provide more information in
 Image: Comparison of the such as an easement or building envelope?

relation to any encumbrances.

Contacts

| Туре | Name | Address | Contact Details |
|-------------------|---------------------------------|------------------------------------|-----------------|
| Applicant | Nobelius Land Surveyors Pty Ltd | 20 Henry Street, Pakenham VIC 3810 | |
| Preferred Contact | Nobelius Land Surveyors Pty Ltd | 20 Henry Street, Pakenham VIC 3810 | |

Fees

| Regulatio | n Fee Condition | Amount | Modifier | Payable | |
|--------------|----------------------------|------------|----------|------------|--|
| 9 - Class 20 | To subdivide land (6 Lots) | \$1,337.70 | 100% | \$1,337,70 | |
| | | Total | | \$1,337.70 | |

Meetings

| Meeting Type | Officer Name | Date of Meeting |
|-----------------|--------------|--|
| Pre Application | Evie | 07 jul 2021 |
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Postal Address Cardinia Shire Council P.O. Box 7, Pakenham VIC, 3810

Email: mail@cardinis.vic.gov.au



Monday to Friday 8.30am-5pm Phone: 1300 787 624 After Hours: 1300 787 624 Faa: 03 5941 3784



ePlanning

Documents Uploaded

| Date | Туре | Filename | |
|------------|---------------------|---|--|
| 21-11-2021 | Subdivision Plan | Sub(BN) Permit2 2.pdf | |
| 21-11-2021 | Explanatory Letter | Cover latter .pdf | |
| 21-11-2021 | Explanatory Letter | Planning report.pdf | |
| 21-11-2021 | Additional Document | Copy of plan.PDF | |
| 21-11-2021 | Additional Document | Copy of title PDF | |
| 21-11-2021 | Additional Document | Ecological and Tree Impact Assessment Report .pdf | |
| 21-11-2021 | Additional Document | Stormwater Management Plan.pdf | |
| 21-11-2021 | Additional Document | F+L - Vegetation removal plan.pdf | |

Remember it is against the law to provide false or misleading information, which could result in a heavy fine and cancellation of the permit

Lodged By

| Site User | Jan Cussen Nobelius Land Surveyors Pty Ltd | Henry Street, Pakenham VIC 3810 | E:jan@nobelius.com.au | |
|-----------------|---|---------------------------------|-----------------------|--|
| Submission Date | 21 November 2021 - 02:44.9M | | | |

Declaration

declare that all the information in this application is true and correct; and the Applicant and/or Owner (If

not myself) has been notified of the application.

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Council's Operations Centre (Depot) Purton Road, Pakanham, Victoria



Postal Address Cardinia Shire Council P.O. Box 7, Pakenham VIC, 3810

Email: mel@cardinia.vic.gov.au



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20 Hency Street PO Box 461 Pakenham VIC 3610

ABN: 25 D05 181 344 PHONE: 03 5941 4112 ENAIL: mailBrobellus.com.au WEB: www.nabelus.com.au

30/11/2023

Nobelius Land Surveyors renee@nobelius.com.au

Principal Statutory Planner Cardinia Shire Council

Dear Evie,

| Application No.: | T210869 |
|------------------|---|
| Property No.: | 5000011295 |
| Address: | L2 PS743936, 230 Rossiter Road, Koo Wee Rup VIC 3981 |
| Proposal: | Subdivision of the land into five (5) lots, removal of restrictive covenant |
| | PS849372B, alteration to access to a road in a Transport Zone 2 and |
| | removal of native vegetation. |

Thank you for your letter dated 4th September 2023 requesting further information pursuant to Section 54 of the *Planning and Environment Act 1987*.

We wish to provide below the following responses to each of the items requested by Council:

FURTHER INFORMATION

1. Written submission and Clause 56 Assessment

Please provide an updated written planning report (including an updated Clause 56 Assessment) in accordance with the amendments made in response to the relevant policy, zone and overlays (including the DPO12 and Koo Wee Rup Long Lots Fill Plan).

Response: An updated planning report and Clause 56 Assessment is provided for Council's review. We anticipate that any planning permit granted will include conditions that require the site to be filled in accordance with the Koo Wee Rup Long Lots Fill Plan. This copied document is made available for the purpose of the planning process as set out in the Planning one Environment Act 1947. The information must not be used for any other purpose. By laking a copy of this document you acknowledge and agree that you will only use the document for the purpose specified above and that any dissemination, distribution or copying of this document is strictly promoted.

2. Vegetation Assessments

Please provide an updated copy of the vegetation retention and removal plan in response to the amendments made. This plan must:

- Be coloured to easily differentiate which trees are to be retained, removed, native, non-notive and/or qualify for an exemption for removal.
- il. Show TPZ's for retained trees outside of building envelopes.
- iii. Identify any trees impacted by the Koo Wee Rup 'DPO12 Long Lots Fill Plan'.

Response: An updated response has been provided to Clause S2.17 Native Vegetation in our town planning report and we have prepared a Tree Removal Plan that clearly outlines which trees are proposed to be removed/retained, and any indigenous trees and whether any exemptions apply to the permit requirement for their removal. Given that no trees are proposed to be retained on the site below the carriageway easement, the impacts of the Koo Wee Rup Long Lots Fill Plan are Irrelevant.

3. Stormwater Management Plan

Please provide on updated copy of the Stormwoter Monagement Plan in response to the omendments made and the DPO12 Koo Wee Rup Long Lots fill Plan.

Response: We are yet to receive any response from the stormwater consultants regarding our request to revise the SWMP in accordance with your request above. We have followed up numerous times to no avail and we kindly ask that Council include this requirement as a condition of any permit granted to enable this application to progress. We are also conscious that external consultants have limited availability at this time of year and are likely to close over the Christmas/New Year period which reduces the likelihood of the SWMP being revised before the end of the year. Providing the revised SWMP for endorsement post-permit will also mean that any revisions to the layout can be addressed at the same time which will save the landowner significant time and money in revisions.

Thank you for your continued patience with this application, we appreciate the extension of time to provide you with this response and your assistance in providing DoT with a response.

Please do not hesitate to contact me should you have any questions regarding the above submitted information.

Warm Regards,



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20 Henry Street PO Box 463 Pakenham VIC 3010

ABN: 25 006 181 344 PHONE: 03 6941 4112 ENALL: mail@obelius.com.au WEB: www.nobelius.com.au

30/11/2023



Principal Statutory Planner Department of Transport and Planning statutory.planning@roads.vic.gov.au 03 9881 8086

Dear Kimberley,

 Planning Application No.:
 T210869

 Department Reference No.:
 PPR 41950/22-A

 Property Address:
 230 Rossiter Road, Koo Wee Rup VIC 3981

Thank you for your letter dated 18th September 2023 requesting further information pursuant to Section 55(2) of the *Planning and Environment Act 1987*.

We wish to provide below the following responses to each of the items requested by DTP:

FURTHER INFORMATION

 An assessment of the proposed subdivision against the approved Koo Wee Rup Development Plan including further justification on why vehicular access cannot be provided entirely from the internal access road (i.e Bollen Way).

Response: The town planning report has been amended to provide a thorough assessment of the proposed subdivision against the DPO12 and the Development Plan for Rossiter Road, Koo Wee Rup (November 2011).

The Development Plan outlines that subdivision layouts should incorporate the following principles:

- Maintaining 50 per cent of the lots over 700 square metres.
- Discouraging small allotments of area less than 500 square metres.
- Encouraging larger allotments over 1000 square metres towards the edge of the urban growth boundary.
- Encouraging the inclusion of street trees for shade and aesthetic quality.

• Developing a clear, legible road network that provides a high level of internal connectivity and external linkages for local vehicle, pedestrian and bicycle movements.

The proposed subdivision layout is generally in accordance with these requirements. All lots are greater than 700 square metres in area, street trees will be provided to the satisfaction of Council, and a road that provides a high level of internal connectivity and external linkages for local vehicle, pedestrian and bicycle movements has been provided.

The Development Plan designates the subject site for residential development and the indicative road network shows the site as containing a north-south residential street (Bollen Way) that will provide connection to Rossiter Road to the north of the site. An extract of the development plan is provided below:



EXTRACT OF DEVELOPMENT PLAN SHOWING INDICATIVE ROAD LAYOUT FOR SUBJECT SITE

Connection to Rossister Road has not been provided in this proposed subdivision as:

- Council advised NLS that the internal road should not connect to Rossiter Road as a result of DoT's previous objection to access in application T080524 and the subsequent VCAT proceedings.
- Road abuttal to Rossiter Road for the subject site is to the east of the northern frontage. The Development Plan designates Bollen Way as extending along the west of the site and connecting to Rossiter Road directly to the north.
- A childcare centre was approved for 228 Rossiter Road to the north and is currently under construction making it unlikely that Bollen Way will be extended through the site.

The proposed subdivision and provision of the remainder of Bollen Way is generally in accordance with the Development Plan and provides the road required for the site by the plan. The proposed court bowl allows the site to satisfy the development plan and be developed in a manner that accords with the strategic directions for the wider area.



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The Victorian Government addressible Traditional Owners of Victoria and pays respects to their origing connection to their Country, History and Culture, The Victorian Sovernment address the respect to their Elders, pass, present and enneging.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958 Page 1 of 1

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LAND DESCRIPTION

Lot 2 on Plan of Subdivision 743936U. PARENT TITLE Volume 08962 Folio 696 Created by instrument PS743936U 31/10/2017

REGISTERED PROPRIETOR

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AU060374X 18/02/2021 WESTPAC BANKING CORPORATION

COVENANT PS743936U 31/10/2017

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE PS743936U FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

-----END OF REGISTER SEARCH STATEMENT-----

Additional information: (not part of the Register Search Statement)

Street Address: 230 ROSSITER ROAD KOO WEE RUP VIC 3981

ADMINISTRATIVE NOTICES

NIL

eCT Control 16320Q WESTPAC BANKING CORPORATION Effective from 18/02/2021

DOCUMENT END



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Subdivision of the land into five (5) lots; the removal of restrictive covenant PS849372B, alteration to access to a road in a Transport Zone 2 and removal of native vegetation

at 230 Rossiter Road, Koo Wee Rup

PROPOSED BY

NOBELIUS LAND SURVEYORS 20 Henry Street, Pakenham, VIC 3810

(03) 5941 4112 www.nobelius.com.au



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1. PRELIMINARY

| ADDRESS | Lot 2 PS743936, 230 Rossiter Road, Koo Wee Rup VIC 3981 |
|--------------------------|---|
| AREA | 5,931m ² |
| RESPONSIBLE AUTHORITY | Cardinia Shire Council |
| ZONE | Neighbourhood Residential Zone - Schedule 1 |
| OVERLAY | Development Plan Overlay - Schedule 12 |
| | Land Subject to Inundation Overlay |
| BUSHFIRE PRONE AREA | No |
| CULTURAL HERITAGE | No |
| EASEMENTS, RESTRICTIONS, | Covenant PS743936U (31/10/2017) |
| ENCUMBRANCES | Building envelope restriction |
| | Carriageway easement |
| PROPOSAL | Subdivision of the land into five (5) lots, removal of restrictive covenant |
| | PS849372B, alteration to access to a road in a Transport Zone 2 and |
| | removal of native vegetation. |
| PERMIT TRIGGERS | A permit is required to subdivide land pursuant to: |
| | Clause 32.09-3 Subdivision (NRZ) |
| | Clause 43.02-3 Subdivision (DPO) |
| | Clause 44.04-3 Subdivision (LSIO) |
| | A permit is also required pursuant to: |
| | • Clause 52.02 Permit Requirement – a permit is required to create, |
| | vary or remove an easement or restriction. |
| | • Clause 52.29 Permit Requirement – a permit is required to create |
| | or alter access to a road in a Transport Zone 2 and subdivide land |
| | adjacent to a road in a Transport Zone 2. |
| RELEVANT PLANNING | 11 Settlement |
| CONTROLS AND | 12 Environmental and Landscape Values |
| INCORPORATED DOCUMENTS | 15 Built Environment & Heritage |
| | 16 Housing |
| | 19 Infrastructure |
| | 32.09 Neighbourhood Residential Zone – Schedule 1 |
| | 43.02 Development Plan Overlay – Schedule 12 |
| | 44.04 Land Subject to Inundation Overlay – Schedule |
| | 52.02 Easements, Restrictions and Reserves |
| | 52.29 Land Adjacent to the Principal Road Network |
| | 53.01 Public Open Space Contribution |
| | Clause 56 Residential Subdivision |
| | Clause 65.02 Approval of an application to subdivide land |
| | Development Plan for Rossiter Road, Koo Wee Rup (November 2011) |
| | Koo Wee Rup Township Strategy (October 2015) |
| | Koo Wee Rup Long Lots Fill Plan (2016) |
| SUBMITTED DOCUMENTS | Copy of title and plan |
| | Proposed Plan of Subdivision |
| | Concept Plan |
| | Tree Removal Plan |
| | Stormwater Management Plan prepared by Afflux |
| | Ecological & Tree Impact Assessment prepared by Felix Botanica |
| NLS QUALITY SYSTEM | AUTHOR DATE ISSUED CHECKED BY REVISION |
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2. INTRODUCTION

This town planning report has been prepared by Nobelius Land Surveyors on behalf of the landowner and is submitted to Cardinia Shire Council to support a planning permit application for 230 Rossiter Road, Koo Wee Rup. The planning permit application seeks Council approval to:

- Subdivide the land into five (5) lots;
- Remove restrictive covenant PS849372B;
- Alter access to a road in a Transport Zone 2; and
- Remove native vegetation.

The subject site is located approximately 500m from the activity centre of Koo Wee Rup and is mapped in the *New Residential Estate* preferred character precinct in the Koo Wee Rup Township Strategy. The subject site is zoned Neighbourhood Residential Zone – Schedule 1 in the Cardinia Planning Scheme and the Development Plan Overlay – Schedule 12 and the Land Subject to Inundation Overlay also apply.

The purpose of this report is to assess the proposal against the relevant provisions of the Cardinia Planning Scheme, the Koo Wee Rup Township Strategy and State and local planning policies. The proposal has undergone an extensive design process and is informed by a suite of technical assessments to ensure that the proposal is responsive to key site constraints and considerations, such as overland flows and vegetation. The proposal is responsive to and integrates with surrounding land uses and is consistent with Council's vision for the future development of the 'long lots' in the Koo Wee Rup.

This report aims to demonstrate that the proposal is:

- Consistent with the State and Local Planning Policy Framework;
- Consistent with the NRZ1, DPO12 and LSIO;
- Consistent with the Koo Wee Rup Township Strategy (19 October 2015);
- Achieves the relevant objectives and standards contained within Clause 56;
- Will satisfactorily integrate with surrounding lot sizes and land uses; and
- Responds to all environmental constraints and considerations.

The proposal is entirely appropriate to be granted a planning permit and receive Council's full support. The proposal helps to implement Cardinia's vision for the *New Residential Estates* precinct of Koo Wee Rup and is consistent with State and local planning policies that have regard for the better utilisation of existing residential land. In essence, the subdivision of 230 Rossiter Road, Koo Wee Rup provides an excellent opportunity to provide a net increase in residential lots within the Koo Wee Rup township and the urban growth boundary.

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3. SUBJECT SITE AND SURROUNDING LOCALITY

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SITE ANALYSIS

The land is formally described as Lot 2, PS743936, 230 Rossiter Road, Koo Wee Rup. The land is an elongated rectangular allotment of 5,931m² with dual frontages to Rossiter Road to the north and Bollen Way to the south. The land is demarcated to the south by the Nunn Street Road reserve (unmade), which in the future will provide connection to the residential street network proposed in the DPO12.

The land is vacant and sparsely vegetated with mid-large trees. The balance of the land is grassed. The topography of the site is predominately flat.

The land is encumbered by a building envelope restriction and several easements. Covenant PS743936U (31/10/2017) imposes a rectangular building envelope of 15x29.24m in the north-west corner of the site, and benefits Lot 1 and burdens Lot 2 on PS743936U. The land is encumbered by a 2m wide sewer easement (E-1) in benefit of South East Water and a 10m wide carriageway easement (E-2) in benefit of Lot 1 on PS743936U. A copy of the Certificate of Title is provided for Council's review.

An aerial image of the site is provided below:



230 ROSSITER ROAD, KOO WEE RUP (IMAGE COURTESY OF LASSI, 2022)



PERMIT HISTORY

228 ROSSITER RD, KOO WEE RUP

| APPLICATION NO. | LODGED | REASON FOR PERMIT | DECISION |
|-----------------|----------|---|-----------------|
| T050972 | 24.12.08 | Two lot subdivision | Complete. |
| TO80524 | 14.08.08 | Subdivision of the land into eight (8) lots and the | Permit Refused. |
| | | creation of access to a Road Zone – Category 1 | |
| | | (Rossiter Road), generaly in accordance with the | |
| | | approved plan/s. | |
| | | | |
| | | VicRoads objection under Section 62 (2) of PEA | |
| | | 1987. | |
| T080524 | | VCAT appeal (VCAT Reference No. P1034/2009) | Permit issued. |
| | | Revised to seven lot subdivision. | |
| | | VicRoads withdrew objection. | |
| T120506 | 24.08.12 | Subdivision of the land into two (2) lots and | Application |
| | | creation of easements and a road reserve. | complete. |
| T150555 | 16.09.15 | Two (2) lot subdivision | Permit issued |
| T200302 | 25.05.20 | Seven (7) lot subdivision in stages. | Withdrawn. |
| T210958 | 16.12.21 | 228 and part of 230 Rossiter Road (carriageway | Permit issued. |
| | | easement) | |
| | | Use and development of a Childcare Centre and | |
| | | alteration access to a road in a Transport Zone 2. | |

230 ROSSITER RD, KOO WEE RUP

| APPLICATION NO. | LODGED | REASON FOR PERMIT | DECISION |
|-----------------|----------|--|----------------|
| T180177 | 04.04.18 | Subdivision of the land into two (2) lots and | Withdrawn. |
| | | creation of easements and road reserve. | |
| T210958 | 16.12.21 | 228 and part of 230 Rossiter Road (carriageway | Permit issued. |
| | | easement) | |
| | | Use and development of a Childcare Centre and | |
| | | alteration access to a road in a Transport Zone 2. | |

T080524 is of relevance to this proposal, as VicRoads objected to the grant of a permit to subdivide land as the proposed subdivision layout was not in accordance with proposed planning scheme Amendment C77. Amendment C77 implemented the DPO12 that applies to the subject site. Pursuant to Clause 62 (2) of the Planning and Environment Act 1987, the VicRoads objection required Council to refuse the application. VicRoads provided consent at the subsequent VCAT hearing, but did not permit direct access to Rossiter Road from Lot 1.

The Childcare Centre approved in T210958 has recently been under construction on the land to the north of the subject site, 228 Rossiter Road, Koo Wee Rup. We ackowledge that our survey plans were completed prior to this development and have provided the following aerial imagery below to depict the change in conditions: This copied document is made available for the purpose of the planning process as set out in the Planning and Environment Act 1947. The information must not be

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RECENT AERIAL IMAGE OF SUBJECT SITE AND SURROUNDS (METROMAP, OCTOBER 2023)



AERIAL IMAGE OF CHILDCARE CENTRE UNDER CONSTRUCTION AT 228 ROSSITER ROAD TO THE NORTH OF SUBJECT SITE (METROMAP, OCTOBER 2023)

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SURROUNDS

Rossiter Road (TRZ2) is a main road which extends centrally through Koo Wee Rup, connecting to Koo Wee Rup – Longwarry Road to the north-east and the South Gippsland Highway to the south-west.

The subject site comprises part of the 'long lots' precinct to the south of Rossiter Road, which features elongated rectangular allotments with lot sizes typically greater than 4,000sqm. The Koo Wee Rup Township Strategy designates the subject site as being contained within the existing character precinct *Residential Precinct 3 – Very Large Allotment Residential Areas with large ranch style housing* (below):



EXISTING CHARACTER PRECINCTS MAP (KOO WEE RUP TOWNSHIP STRATEGY)

Much recent residential development has occurred west of the long lots within the Urban Growth Boundary as evidenced in the aerial image below:

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AERIAL IMAGE OF NEW RESIDENTIAL DEVELOPMENT TO SOUTH-WEST OF SUBJECT SITE (METROMAPS, AUGUST 2023)

The site is very well placed with regards to access to town services. The Koo Wee Rup activity centre is a short walk from the site, and the Koo Wee Rup Regional Health centre, Cochranes Memorial Park, the Koo Wee Rup Bowling Club and the local swimming pool are all within 100m of the site. The commercial centre of Koo Wee Rup is 300-500m from the site.

The land immediately adjoining the subject site has been summarised below:

| NORTH | Rossiter Road frontage. | |
|-------|--|--|
| | To the north of Rossiter Road is Koo Wee Rup Regional Health. | |
| | | |
| | 228 Rossiter Road, a residential lot with total area of 1,474m ² . The subject site was created | |
| | in PS743936U which excised No. 228 from the balance of the land. A planning permit is live | |
| | for the use and development of the land for child care centre (T210958). Access to the | |
| | childcare is via the carriageway easement on 230 Rossiter Road in benefit of 228 Rossiter | |
| | Road. | |
| EAST | 232 Rossiter Road, a 'long lot' with a total area of 4,203m ² . Zoned NRZ1 and developed with | |
| | a single dwelling and associated outbuildings. | |
| SOUTH | 26 Bollen Way, a residential lot of 582m ² , developed with a single storey dwelling. | |
| WEST | 226A Rossiter Road is a 'long lot' with a total area of 3,309m ² , zoned NRZ1 and developed | |
| | with a single dwelling. | |
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SUBJECT SITE & WIDER LOCALITY (METROMAPS, AUGUST 2023)

ENVIRONMENTAL CONSIDERATIONS

TOPOGRAPHY

The land is relatively flat and falls less than 0.4m from the north west to the south-east. Please refer to the feature and level survey plan provided as part of this submission for further details.

CULTURAL HERITAGE

The subject site not within an area of potential cultural heritage significance.

BUSHFIRE CONSIDERATIONS

The subject site is not within a designated bushfire prone area.

FLOOD

The Land Subject to Inundation Overlay applies. An assessment of the proposal against the requirements of the LSIO is provided within this report.

The *Koo Wee Rup Long Lots Fill Plan (2016)* will apply to this proposal. We anticipate that the site's fill requirements will be conditioned as part of any permit granted.

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4. THE PROPOSAL

THE PROPOSAL

The applicant seeks Council approval to subdivide the land at 230 Rossiter Road, Koo Wee Rup into five (5) lots; the removal of the building envelope restrictive Covenant PS849372 and access to a road in the Transport Zone 2. A copy of proposed Plan of Subdivision PS 849372 B is provided for Council's review (extract below):



PROPOSED PLAN OF SUBDIVISION PS849372B (NOBELIUS LAND SURVEYORS)

PERMIT TRIGGERS

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A permit is required to subdivide land pursuant to:

- Clause 32.09-3 Subdivision (NRZ)
- Clause 43.02-3 Subdivision (DPO)
- Clause 44.04-3 Subdivision (LSIO)

A permit is also required pursuant to:

- Clause 52.02 Permit Requirement a permit is required to create, vary or remove an easement or restriction.
- Clause 52.29 Permit Requirement a permit is required to create or alter access to a road in a Transport Zone 2 and subdivide land adjacent to a road in a Transport Zone 2.



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Details of each of the proposed lots are summarised below:

| LOT | AREA | DETAILS |
|-----|--------------------|--|
| 1 | 753m ² | Vacant. Building envelope of 415m ² |
| 2 | 752m ² | Vacant. Building envelope of 415m ² |
| 3 | 792m ² | Vacant. Building envelope of 369m ² |
| 4 | 1246m ² | Vacant. Building envelope of 440m ² |
| 5 | 702m ² | Vacant. Building envelope 378m ² |

The subdivision layout has considered the requirements of Clause 56.04-2 and ensured each lot has adequate dimensions and orientation to facilitate the construction of a single dwelling. The proposed building envelopes ensure that the siting of any future dwelling will be consistent with the front and side setbacks required in the Koo Wee Rup Township Strategy.

EXTENSION OF BOLLEN WAY & NUNN STREET

It is proposed to extend Bollen Way along the western boundary of the subject site with a court bowl.

The provision of a north-south road on the subject site is consistent with the DPO12 and the proposal is responsive to and integrates with the existing street network (Bollen Way and Nunn Road reserve) to the south of the site.

Advice from Council has been sought on the proposed road layout, and it is our understanding the Department of Transport are unsupportive of Bollen Way providing connection to Rossiter Road from the site. As such, the proposed extension of Bollen Way does not connect to Rossiter Road.

The total area of proposed Lot 4 includes the existing battle-axe shared driveway (carriage way easement in benefit of Lot 1 on PS849372B) to Rossiter Road however it is proposed that Lot 4 only be accessible via Bollen Way. The carriageway easement will be fenced to prevent vehicle access from Rossiter Road to Lot 4. The carriageway easement will continue to provide access to the Childcare Centre approved for 228 Rossiter Road.

VEGETATION

The vegetation on the site has been assessed by Felix Botanica. Please refer to the response to Clause 52.17 Native Vegetation within this report for further details regarding any vegetation proposed for retention/removal.



5. RELEVANT PLANNING CONTROLS

The following section addresses the objectives and requirements of the zoning and overlay controls relevant to the subject site identifying how these planning controls relate to the proposal, trigger an assessment and how we have addressed the requirements of planning provisions.

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ZONING CONTROLS

CLAUSE 32.09 NEIGHBOURHOOD RESIDENTIAL ZONE – SCHEDULE 1

The subject site and all surrounding land is mapped within the Neighbourhood Residential Zone – Schedule 1 (NRZ1) in the Cardinia Planning Scheme:



ZONE MAP (VICPLAN)

PURPOSE

The NRZ1 seeks to:

- To implement the Municipal Planning Strategy and the Planning Policy Framework;
- To recognise areas of predominantly single and double storey residential development;
- To manage and ensure that development respects the identified neighbourhood character, heritage, environmental or landscape characteristics.
- To allow education, recreational, religious, community and a limited range of other nonresidential uses to serve local community needs in appropriate locations.

PERMIT REQUIREMENT

A permit is triggered under the NRZ1 pursuant to **Clause 32.09-3 Subdivision**, as a permit is required to subdivide land.



APPLICATION REQUIREMENTS

The application requirements of **Clause 32.09-11** have been satisfied, and the following information has been provided to support Council's assessment:

- An assessment of the proposal against the relevant objectives and standards of Clause 56 (all clauses except Clauses 56.03-1 to 56.03-3, 56.03-5, 56.06-1 and 56.06-3).
- A site and context description and design response, as per subsection 3: Subject Site and Surrounding Locality within this planning report and the feature and level survey plan prepared by Nobelius Land Surveyors.

DECISION GUIDELINES

Pursuant to **Clause 32.09-13 Decision Guidelines**, for an application to subdivide land, the responsible authority must consider, as appropriate:

General

- The Municipal Planning Strategy and the Planning Policy Framework.
- The purpose of this zone.
- The objectives set out in the schedule to this zone.
- The impact of overshadowing on existing rooftop solar energy systems on dwellings on adjoining lots in a General Residential Zone, Mixed Use Zone, Neighbourhood Residential Zone, Residential Growth Zone or Township Zone.

Subdivision

- The pattern of subdivision and its effect on the spacing of buildings; and
- The objectives and standards of Clause 56.

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RESPONSE

The proposal is consistent with the Municipal Planning Strategy and the State and Local Planning Policy Framework, particularly the policies, objectives, and strategies that have regard for the provision for the better utilisation of existing urban land. The proposal is consistent with the purpose of the zone, including the need to manage and ensure that development respects the identified neighbourhood character, heritage, environmental and landscape characteristics. The proposed design is compatible with the existing and emerging subdivision pattern of Koo Wee Rup and provides building envelopes with setbacks that are consistent with and will contribute to the existing spaciousness between built form within the town's urban areas. The proposal satisfies all relevant standards and objectives of Clause 56. For the reasons outlined above, it is submitted that the proposal is consistent with the relevant requirements and is an appropriate planning outcome when having regard for the decision guidelines of the Neighbourhood Residential Zone – Schedule 1.



OVERLAYS

CLAUSE 43.04 DEVELOPMENT PLAN OVERLAY – SCHEDULE 12

The Development Plan Overlay – Schedule 12 applies to the land:



DPO12 MAP (VICPLAN)

PURPOSE

The purposes of the overlay that are most relevant to this application are:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To identify areas which require the form and conditions of future use and development to be shown on a development plan before a permit can be granted to use or develop the land.
- To exempt an application from notice and review if a development plan has been prepared to the satisfaction of the responsible authority.

PERMIT REQUIREMENT

Pursuant to **Clause 43.04-2** a permit granted must be generally in accordance with the development plan and include any conditions or requirements specified in the relevant schedule to this overlay.

Schedule 12 applies a Development Plan to guide the development of the land south of Rossiter Road and west of Sybella Road in Koo Wee Rup. The *Development Plan for Rossister Road, Koo Wee Rup,* prepared by Taylors Development Strategists Pty Ltd for Monomeath Development Pty Ltd in November 2011 outlines that the 'long lots' will be developed for residential purposes and that the subject site will contain a north-south road (Bollen Way) and be intersected east-west by Nunn Road, as shown in the extract below:

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EXTRACT OF DEVELOPMENT PLAN SHOWING INDICATIVE ROAD LAYOUT FOR SUBJECT SITE



EXISTING SUBDIVISION AND ROAD LAYOUT (VICPLAN) This copied document is made available for the purpose of the planning process as set out in the Planning one Environment Act 1947. The information must not be used for any other purpose. By laking a copy of this document you acknowledge and agree that you will only use the document for the purpose specified above and that any dissemination, distribution or copying of this document is strictly promoted. 16



Subsection 4.0 Requirements for development plan outlines that subdivision layouts should incorporate the following principles:

- Maintaining 50 per cent of the lots over 700 square metres.
- Discouraging small allotments of area less than 500 square metres.
- Encouraging larger allotments over 1000 square metres towards the edge of the urban growth boundary.
- Encouraging the inclusion of street trees for shade and aesthetic quality.
- Developing a clear, legible road network that provides a high level of internal connectivity and external linkages for local vehicle, pedestrian and bicycle movements.

The proposed subdivision layout is generally in accordance with these requirements. All lots are greater than 700 square metres in area, street trees will be provided to the satisfaction of Council, and a road that provides a high level of internal connectivity and external linkages for local vehicle, pedestrian and bicycle movements has been provided.



PROPOSED SUBDIVISION AND ROAD LAYOUT This copied document is made available for the purpose of the planning process as set out in the Planning one Environment Act 1947. The information must not be used for any other purpose. By laking a copy of this document you arknowledge and agree that you will only use the document for the purpose specified above and that any 17 desemination, distribution or copying of this document is strictly promoted.



The Development Plan designates the subject site for residential development and the indicative road network shows the site as containing a north-south residential street (Bollen Way) that will provide connection to Rossiter Road to the north of the site. An extract of the development plan identifying the subject site and the indicative road network is provided below:



EXTRACT OF DEVELOPMENT PLAN SHOWING INDICATIVE ROAD LAYOUT FOR SUBJECT SITE

The proposed road network slightly differs from that shown on the plan above in that connection to Rossiter Road has not been provided. The proposed court bowl alternative is considered appropriate given the following:

- Council advised NLS that the internal road should not connect to Rossiter Road as a result of DoT's previous objection to access in application T080524 and the subsequent VCAT proceedings.
- Road abuttal to Rossiter Road for the subject site is to the east of the northern frontage. The Development Plan designates Bollen Way as extending along the west of the site and connecting to Rossiter Road directly to the north.
- A childcare centre was approved for 228 Rossiter Road to the north and is currently under construction making it unlikely that Bollen Way will be extended to Rossiter Road through this site in the near future.

The proposed subdivision and provision of the remainder of Bollen Way is generally in accordance with the Development Plan and provides the road required for the site by the plan. The proposed court bowl allows the site to satisfy the development plan and be developed in a manner that accords with the strategic directions for the wider area. The road width will reflect that of the constructed portion of Bollen Way abutting the site to the south to integrate the development with the adjoining residential estate to the south. The proposed subdivision layout is considered to provide the high level of street network connectivity sought by the DDO12. All lots are proposed to be accessed via the internal road. No access is proposed via Rossiter Road. The carriageway easement benefits 228



Rossiter Road and provides access to the childcare centre from Rossiter Road. This carriageway easement is proposed to be fenced along the southern boundary to ensure that proposed Lot 4 is accessed via Bollen Way.

For the reasons outlined above, it is submitted that the proposed subdivision is an appropriate planning outcome that is generally in accordance with the DDO12 and the Development Plan for Rossiter Road, Koo Wee Rup (November 2011).

CLAUSE 44.04 LAND SUBJECT TO INUNDATION OVERLAY

Listo - Land Subjects basedides

The Land Subject to Inundation Overlay (LSIO) applies to the land and all surrounding land:

LSIO MAP (VICPLAN)

PURPOSES

The LSIO has the following purposes relevant to this proposal:

- 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.

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Pursuant to Clause 44.04-3 a permit is required to subdivide land.

DECISION GUIDELINES

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Pursuant to Clause 44.04-8, the responsible authority must consider the following when making a decision on this application:

- The Municipal Planning Strategy and the Planning Policy Framework. •
- Any local floodplain development plan.
- Any comments from the relevant floodplain management authority.
- The existing use and development of the land. •
- Whether the proposed use or development could be located on flood-free land or land with a • lesser flood hazard outside this overlay.
- Alternative design or flood proofing responses. •
- The susceptibility of the development to flooding and flood damage. •
- The potential of the development to flooding and flood damage.
- The potential flood risk to life, health and safety associated with the development. Flood risk • factors to consider include:
 - The frequency, duration, extent, depth and velocity of flooding of the site and accessway.
 - The flood warning time available.
 - Tidal patterns.
 - Coastal inundation and erosion. 0
 - The danger to the occupants of the development, other floodplain residents and emergency personnel if the site or accessway is flooded.
- The effect of the development on redirecting or obstructing floodwater, stormwater or drainage water and the effect of the development on reducing flood storage and increasing flood levels and flow velocities.
- The effect of the development on river, marine and coastal health values including wetlands, natural habitat, stream stability, erosion, environmental flows, water quality, estuaries and sites of scientific significance.
- Any other matters specified in a schedule to this overlay (*none are specified in the schedule) •

RESPONSE

A Stormwater Management Plan has been prepared by Afflux Consulting in September 2021 to support this subdivision proposal. The report has aimed to:

- Provide an assessment of major drainage and flooding associated with the site; •
- Retention of post development flows to pre-development levels; •
- Ensure flooding of the site, or potential off-site impacts are reduced or eliminated; •
- Ensure safe conveyance of existing overland flow regimes, if required; •
- Meet the EPA best practice environmental management (BPEM) water quality requirements;
- Inclusion and consideration of guidelines and advice for stormwater management in line with • Cardinia Shire Council and Melbourne Water requirements; and
- Identification or mitigation and treatment options, if required.

The report concludes with set requirements for the site that will work with the current development layout, with the requirements including:-


- Floor Levels set at 4.95m AHD with garages a further 0.15m lower.
- Water quality for the site can largely be achieved through a combination of rainwater harvesting supplying water for toilet flushing and irrigation of proposed garden area. The total tank volume is 45kL and swale area is 82m².
- Stormwater retention and OSD policy can be met through the rainwater tanks, and a further 11m2 of storage, probably within the pipe network and chambers under the common driveway.
- Under Planning ordinances introduced in 2018 Council has obligations to consider reductions in stormwater volume under its planning scheme. These can be met through the tank reused functions.

A copy of the Stormwater Management Plan is attached as part of this application to support our proposal. We anticipate that a condition will be included on any permit granted that requires the site to be filled in accordance with the *Koo Wee Rup Long Lots Fill Plan* (extract below):



EXTRACT – KOO WEE RUP LONG LOTS FILL PLAN This copied document is made available for the purpose of the planning process as set out in the Planning one Environment Act 1947. The information must not be used for any other purpose. By laking a copy of this document you acknowledge and agree that you will only use the document for the purpose specified above and that any desemination, distribution or copying of this document is strictly prohibited.



6. MUNICIPAL PLANNING STRATEGY

CLAUSE 21.01 CARDINIA SHIRE KEY ISSUES AND STRATEGIC VISION

The Cardinia Shire seeks to be recognised as a unique place of environmental significance where the quality of life and sense of community is balanced by sustainable and sensitive development, population and economic growth. The proposal is responsive to the key issues facing Cardinia that have regard to providing housing and services for a growing community and facilitating economic development. The proposal is consistent with the vision for the municipality:

'Cardinia Shire will be developed in a planned manner to enable present and future generations to live healthy and productive lives and to enjoy the richness of the diverse and distinctive characteristics of the Shire.'

Koo Wee Rup is designated for residential land use in the Strategic Framework Plan implemented in **Clause 21.01-5.** The proposal is consistent with the Strategic Framework Plan and provides for the better utilisation of existing residential zoned land within the UGB in a well serviced location.

CLAUSE 21.03 SETTLEMENT AND HOUSING

Clause 21.03 has regards for the provision of housing in the Shire. **Clause 21.03-1 Housing** contains the objective to *encourage a diversity in housing to meet the needs of existing and future residents.*

The proposal is consistent with the strategies to achieve this objective, particularly:

- Ensure that future housing growth is effectively managed to maintain and enhance the qualities of the municipality.
- Encourage a range of lot sizes and housing types in new developments that satisfy the needs and aspirations of the community.
- Encourage an increase in densities that has a high standard of urban design, timely provision of infrastructure and is consistent with the existing and/or preferred neighbourhood character.
- Ensure residential development and subdivisions are designed to be responsive to existing urban character.
- Ensure that new development is located within a safe, attractive and well planned environment that allows residents to maximise opportunities to undertake physical activity.

The proposal is in accordance with the lot size requirements, precinct guidelines for existing and preferred character as contained in the DDO12 and Koo Wee Rup Township Strategy.

Clause 21.03-4 Rural townships designates Koo Wee Rup as a large rural township within the Shire. The proposal is responsive to the key issues facing rural townships, including the need to retain and enhance existing rural township character. The proposal contemplates the subdivision of residential land within the Urban Growth Boundary in accordance with the Development Plan and Council's strategic vision for the precinct. **Clause 21.08-3 Koo Wee Rup** requires any proposed development within the township to be consistent with the *Koo Wee Rup Township Strategy, October 2015*. An assessment of the proposal against the strategy is provided in subsection 7 of this report.

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7. STATE PLANNING POLICY FRAMEWORK

This part of the report assesses and responds to the legislative and policy requirements for the project outlined in the Cardinia Planning Scheme and in accordance with the Planning and Environment Act 1897. The relevant clauses of the State & Local Planning Policy Framework for subdivisions of the type presented in this report are largely contained in Clauses 11, 12, 15, 18 and 19.

An assessment against the relevant clauses of the Cardinia Planning Scheme has been provided below:

CLAUSE 11 SETTLEMENT

Clause 11.01-1S Settlement seeks to *facilitate the sustainable growth and development of Victoria and deliver choice and opportunity for all Victorians through a network of settlements.* The proposal contemplates further subdivision within the township and urban growth boundary, which is consistent with the strategies outlined within **Clause 11.01-1S**, especially the need to *limit urban sprawl and direct growth into existing settlements.*

Clause 11.02-1S Supply of urban land has the objective to ensure a sufficient supply of land is available for residential, commercial, retail, industrial, recreational, institutional and other community uses. The proposal is consistent with the strategy to ensure that sufficient land is available to meet forecast demand. The proposal provides for a net increase in residential land to accommodate population growth within the Shire.

CLAUSE 12 ENVIRONMENTAL AND LANDSCAPE VALUES

Clause 12.01-1S Native vegetation management seeks to *ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation.* An arborist has assessed all vegetation on and adjoining the site, and all efforts have been made to retain vegetation where possible. Building envelopes and lot boundaries have been sited to respond to tree protection zones. A response to **Clause 52.17 Native Vegetation** is provided within subsection 7 of this town planning report.

CLAUSE 15 BUILT ENVIRONMENT AND HERITAGE

Clause 15 Built Environment and Heritage has the objective to ensure planning delivers built form that is of high quality and efficient, responsive to the surrounding landscape and character including its associated risks, protective of heritage and provides the functionality required by the community.

Clause 15.01-15 Urban design seeks to *create urban environments that are safe, healthy, functional and enjoyable and that contribute to a sense of place and cultural identity.* This is enhanced by **Clause 15.01-25 Building design** which has the objective *to achieve building design and siting outcomes that contribute positively to the local context, enhance the public realm and support environmentally sustainable development.* The proposed building envelopes enable the siting of a single detached dwelling on each lot with setbacks that are consistent with built form in the wider locality. The proposed lot configuration and building envelopes provide for landscaping opportunities and passive solar gains to future dwellings. The proposed crossover and driveway locations have regard for the safe movement of vehicles and pedestrians.

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The proposal aligns with the objective of **Clause 15.01-3S Subdivision design**, which seeks to ensure the design of subdivisions achieves attractive, safe, accessible, diverse and sustainable neighbourhoods. The proposal contemplates the subdivision of the land into five lots. The proposed lot configuration and lot sizes are consistent with similar developments in the vicinity. The proposed lot design is safe, functional and does not adversely impact on the existing character or amenity of the neighbourhood. The subject site is conveniently located within walking distance of the Koo Wee Rup activity centre and range of services and facilities which promotes the objective of **Clause 15.01-4S Healthy neighbourhoods**.

Clause 15.01-5S Neighbourhood character has the objective to ..recognise, support and protect neighbourhood character, cultural identity, and sense of place. The immediate area is characterised by new residential subdivision and development, which contributes to the preferred character of Precinct 2 – New Residential Estates. The existing rural township character of Koo Wee Rup is maintained through front and side setbacks and lot size mechanisms which require 80% of new lots to have an area greater than $700m^2$. The proposal is responsive to the emerging character of the precinct.

CLAUSE 18 TRANSPORT

Clause 18 Transport has regard for the connectivity of residents to social and economic opportunities. This connectivity facilitates reliable movement for people and goods and supports environmental sustainability, health and wellbeing. Of salience here are the strategies of Clause 18.01-1S Land use and transport integration which seek to reduce the distance people have to travel from their place of residence to employment, education and service providers and to promote mobility within and between communities. Our proposal implies infill residential development within the existing township boundary where residents are within 500m of the activity centre of Koo Wee Rup. An increase in residential lots in a location where everyday services and facilities are within walking distance promotes an active lifestyle, reduces car dependency and is synonymous with the 20-minute neighbourhood (Clause 18.01-2S Transport system) along with the strategies of Clause 18.02-3S Public Transport, with the Koo Wee Rup Rossiter Road Bus Exchange located 450m walk from the site:



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GOOGLE MAPS DIRECTIONS TO ROSSITER ROAD BUS EXCHANGE

RELEVANT & INCORPORATED DOCUMENTS

KOO WEE RUP TOWNSHIP STRATEGY (19 OCTOBER 2015)

The Koo Wee Rup Township Strategy outlines the following vision for Koo Wee Rup:

Koo Wee Rup is a thriving rural township with a diverse population of 4,000 residents, living in a range of housing which has been developed to respect and enhance the township character and heritage. A lively town centre provides a mix of retail and commercial opportunities for the township and surrounding areas.

Local residents participate in the wide range of community and recreational activities that are available. They have ready access to education, health, aged services, transport options and local jobs. Essential utilities such as water, sewerage and telecommunications have been augmented with the provision of reticulated natural gas. Footpaths, roads, piped drains and consistent quality street landscaping ensures that Koo Wee Rup is a sustainable rural township.

The proposal provides an increase in residential land within the township boundary and helps to give effect to the vision above. The proposal has considered and is consistent with the *Strategic Objectives* outlined in *3.2*, including:

- Contain urban development within the current Urban Growth Boundary;
- Facilitate developments that respects and enhances the existing rural township character and heritage; and
- Provide essential infrastructure including sealed roads, gas, footpaths, drainage, sewerage and telecommunications throughout the township.

The proposal is responsive to the existing character derived from residential development in Koo Wee Rup as described in subsection 4.2 and 4.3. All lots are greater than 700m² in area and contain envelopes with dimensions that can support the siting of a single detached dwelling with setbacks that are consistent with and contribute to the valued township character.

The subject site is designated within the New Residential Areas precinct (Preferred Character Precinct 2). The preferred character for this precinct is described below:

The open and semi-rural atmosphere of Koo Wee Rup's new residential estates will be retained particularly with provision of larger allotments. Existing asphalt roads with pathways on either side will continue into new developments and maintain existing styles and features including brick paved thresholds and street lighting. Other features which improve the overall appearance and functionality of the existing developments, such as underground power and grassed road verges will be combined with street tree planting, wide foot paths and generous street widths with an overall focus on continuity and quality within all new developments.

An extract of Figure 6 is provided below which shows the preferred character precincts:

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KOO WEE RUP PREFERRED CHARACTER PRECINCTS MAP (KOO WEE RUP TOWNSHIP STRATEGY)

The proposal is consistent with the preferred character for the precinct. An assessment of the proposal against the Development Guidelines for Precinct 2 New residential estates is provided below:

| DECISION GUIDELINES | RESPONSE |
|---|--|
| Maintain 80% of the lots with sizes over 700 | Complies. |
| square metres; | |
| Orientate dwellings to maximise retention of | Existing vegetation has been considered in the |
| existing vegetation and allow only one access | proposed design and retained wherever |
| driveway to the site; | possible. |
| | |
| | Each lot is proposed to be accessed via a single |
| | driveway. Lot 4 retains the portion of land that |
| | connects to Rossiter Road which is encumbered |
| | by a carriageway easement in favour of 228 |
| | Rossiter Road, Koo Wee Rup (the new childcare |
| | centre). It is proposed that Lot 4 will be |
| | accessible from Bollen Way and that the |
| | carriageway easement section of land will be |
| | fenced to ensure the lot is not accessed via |
| | Rossiter Road. |
| Maintain a sense of spaciousness between | The building envelopes have adequate |
| allotments of the residential areas through: | dimensions and areas to support the siting of a |

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| a. No front fences or if fenced, low front fences or open wire fences to allow gardens and nature strips to merge; b. Providing sufficient open space or garden areas; c. Retaining existing vegetation; and d. Providing new trees and garden spaces. Encourage larger allotments of over 1000 square metres towards the edge of the Urban Growth Boundary; | single detached dwelling that can achieve high quality private open space and garden area. Existing vegetation has been retained where possible and incorporated into the proposed subdivision. The existing trees will provide the amenity associated with established vegetation within a new residential landscape. Not applicable. |
|--|--|
| square metres in the new residential estates; | All lots are greater than ood square metres. |
| Ensure protection and conservation of native vegetation including street trees and roadside vegetation; | All vegetation on and adjoining the site has been assessed by an arborist in the preliminary design stages of the proposal. Native vegetation has been retained where possible within the subdivision layout. |
| Encourage the inclusion of native vegetation and garden space in new development; | Native vegetation has been retained and incorporated into the proposed subdivision layout where practical. |
| Encourage the inclusion of street trees for shade and aesthetic quality in new developments at an early stage of development; | The provision of street trees is anticipated to be included as a condition of any permit granted. |
| Respect the existing styles of street lighting and road treatments; | The road treatment and provision of street lighting will be to the satisfaction of Council. |
| In the case of subdivisions, clearly outline how the new development relates to the existing and intended use and development of adjoining land; Maintain a high level of quality in the design and | The proposed subdivision is responsive to the requirements of the DDO12 and development plan. The subject site is zoned for residential purposes, and contained within a residential precinct designated for further infill development. The proposal does not adversely impact on the development potential of any adjoining lot and will allow for the construction of a section of Bollen Way and Nunn Street which will provides road connectivity for the adjoining lots to the east and west should they wish to develop in accordance with the DD012. |
| construction of new buildings as well as a continuity with the character of the areas with existing built form; | development of new buildings. The proposed lots and associated envelopes allow for the construction of a single detached dwelling with setbacks that are consistent with existing built form in the vicinity. |
| Ensure building height respects the existing character of the surrounding area; | The building height will be subject to zoning controls and the relevant building regulations, including those that have regard for overshadowing, overlooking and the like. |



| Residential developments should not include | The proposed road layout provides for a high |
|---|--|
| gated street formats but should connect to the | level of connectivity to surrounding areas. |
| surrounding areas; | |
| Develop clear, legible road networks which | As per the above. |
| provide a high level of internal connectivity and | |
| external linkages for local vehicle, pedestrian | |
| and bicycle movements; | |
| Maintain a generous street, footpath and | Complies. |
| easement widths in new developments. Provide | |
| a minimum width of internal streets of 7.3 | |
| metres to allow for parking on either side and | |
| access for emergency vehicles; and | |
| Discourage cul-de-sacs and, if used, they should | Bollen Way is unable to connect with Rossiter |
| be connected through to another street by a | Road to the north given the new childcare centre |
| wide reserve and path for safe pedestrian and | to the north on No. 228 Rossiter Road and |
| bicycle access. | Council have advised that contrary to the |
| | indicative road shown in the development plan |
| | (Taylors, November 2011), the Department of |
| | Transport are unsupportive of the road |
| | connecting to Rossiter Road. As such, Bollen |
| | Way is proposed to end in a court bowl on the |
| | subject site. |

8. PARTICULAR PROVISIONS

The relevant particular provisions/documents that will be addressed are identified below:

- Clause 52.02 Easements, Restrictions and Reserves
- Clause 52.17 Native Vegetation
- Clause 52.29 Land adjacent to the principal road network
- Clause 53.01 Public Open Space Contribution and Subdivision
- Clause 56 Residential Subdivision

CLAUSE 52.02 EASEMENT, RESTRICTIONS AND RESERVES

Clause 52.02 seeks to enable the removal and variation of an easement or restrictions to enable a use or development that complies with the planning scheme after the interests of affected people are considered. A permit is required under Section 23 of the Subdivision Act 1988 to create, vary or remove an easement or restriction or vary or remove a condition in the nature of an easement in a Crown grant.

Council approval is sought to remove a restriction to enable the proposed subdivision. Covenant PS743936U imposes a building envelope restriction benefitting Lot 1 and burdening Lot 2 on PS743936U. The building envelope is proposed to be removed and replaced with building envelope restrictions for each of the proposed new lots.



CLAUSE 52.17 NATIVE VEGETATION

Clause 52.17 Native Vegetation is applicable to this proposal and seeks to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. Native Vegetation is defined in Clause 73.01 of the VPP as *plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses.* A permit may be required to remove native vegetation, including dead native vegetation and vegetation that is assumed lost or can be removed as a consequence of the proposal. Any native vegetation to be removed that requires a permit must be offset.

A permit is not required to remove native vegetation under Clause 52.16 and 52.17 if:

- The removal of native vegetation has been provided for in a Native Vegetation Precinct Plan (NVPP) listed in the schedule to Clause 52.16.
- The table of exemptions in Clause 52.16 or 52.17 specifically states that a permit is not required.
- It is specified in the schedule to Clause 52.17.

The avoid, minimise and offset approach outlined in the *Guidelines for the removal, destruction or lopping of native vegetation (DELWP, 2017) (The Guidelines)* has been considered in the proposed subdivision design.

Ten trees are proposed to be removed from the site to facilitate the proposed subdivision. An Ecological & Tree Impact Assessment prepared by *Felix Botanica* in support of the planning application, identified two indigenous trees present on the site both Swamp Paperbarks (*Melaleuca ericfolia*) (Trees 1 & 2) both of which are proposed to be removed to facilitate the subdivision. It is considered that no permit is required for their removal as the fence exemptions tabled at 52.17-7 apply, noting that this exemption is intended to allow the maintenance or construction of the shared boundary fence. Both Tree 1 and 2 are located within 1m of an existing common boundary fence. We have also identified that Tree 4 Late Black Wattle (*Acacia mearnsii*) is an indigenous species, and it's removal is exempt from the permit requirement under the 'fences' exemption tabled at 52.17-7 that provides for the removal of vegetation (to the minimum extent necessary' to enable the operation and maintenance of an existing fence. Tree 4 is within 1m of an existing fence.

No modifications are proposed within the carriageway easement area to Rossiter Road, and all existing trees along this existing driveway are to be retained. We note that trees that were included within the Tree and Ecological Impact Assessment prepared by Felix Botanica (2021) in the frontage of 228 Rossiter Road within the north-east portion of the carriageway easement have since been removed by a third party and are no longer relevant to this proposal.

The details of each of the trees proposed to be removed to facilitate the proposed subdivision are summarised in the table below:

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NOBELIUS LAND SURVEYORS | 19322

VEGETATION TO BE REMOVED

Tree 1

Melaleuca ericfolia Swamp Paperbark (Indigenous) DBH: 20mm

No permit required under the 'fences' exemption tabled in Clause 52.17-7.

Tree 2

Melaleuca ericfolia Swamp Paperbark (Indigenous) DBH: 20mm

No permit required under the 'fences' exemption tabled in Clause 52.17-7.

Tree 3

Eucalyptus globulous Blue Gum (Australian Native) DBH: 530mm

Non-indigenous species. No permit required under Clause 52.17.

Tree 4

Acacia mearnsii Late Black Wattle (Indigenous) DBH 40mm Within 1m of an existing fence and exempt from permit requirement under the 'fences' exemptions tabled at Clause 52.17-7.

Tree 4a

Melaleuca amilaris Giant Honey Myrtle (Australian Native) DBH: 50mm Non-indigenous species, no permit required under Clause 52.17.









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Tree 5

Eucalyptus camaldulensis (?) River Red Gum (Australian Native) DBH: 309mm

Non-indigenous species. No permit required.

Arborist assessment notes: Multi stem coppice regrowth from cut stump

There are two examples of River Red gum Eucalyptus camaldulensis located on the property, but these trees are likely to have been planted due to the geographic separation of the individuals from the natural range of the species.

Tree 6

Eucalyptus camaldulensis (?) River Red Gum (Australian Native) DBH: 619mm

Non-indigenous species. No permit required under Clause 52.17.

The arborist has strongly recommended that Tree 6 not be retained within a residential allotment as it is a coppice regrowth from a felled stump. Trees with this growth pattern tend to fail rapidly when the limbs become overweighed due to the poor juncture of the limb with the seasoned timber of the stump.

Tree 7

Myoporum viscosum Boobialla DBH 260mm (Australian Native)

Tree 8

Myoporum viscosum Boobialla (Australian Native) DBH 180mm

Non-indigenous species. No permit required under Clause 52.17.



#I Exception constitutions (7)







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Tree 9

Eucalyptus botryoides Swamp Mahogany (Australian Native) DBH: 435mm Non-indigenous species. No permit required under Clause 52.17.

Tree 10

Eucalyptus botryoides Swamp Mahogany (Australian Native) DBH: 489mm Non-indigenous species. No permit required under Clause 52.17.



TREE REMOVAL PLAN

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A tree removal plan has been prepared which shows the following details of trees proposed to be removed from the site to facilitate the proposal:

- Indigenous species, and whether they are exempt from requiring a permit under Clause 52.17 (shown as purple on the plan)
- Native species, no permit required under Clause 52.17 (shown as red on the plan)

| No. | Details | Native – No permit required under Clause 52.17 | Indigenous – permit required to remove | Indigenous – exempt from permit requirement | Exemption |
|-----|----------------------------|---|--|--|-----------|
| 1 | Swamp Paperbark | | | Х | 'Fences' |
| | Melaleuca ericifolia | | | | 52.17-7 |
| 2 | Swamp Paperbark | | | Х | 'Fences' |
| | Melaleuca ericifolia | | | | 52.17-7 |
| | (Thicket of ~10 stems) | | | | |
| 3 | Blue Gum | х | | | |
| | Eucalyptus globulous | | | | |
| 4 | Late Black Wattle | | | Х | 'Fences' |
| | Acacia mearnsii | | | | 52.17-7 |
| 4a | Giant Honey Myrtle | Х | | | |
| | Melaleuca armilaris | | | | |
| 5 | River Red Gum | Х | | | |
| | Eucalyptus camaldulensis ? | | | | |
| 6 | River Red Gum | Х | | | |
| | Eucalyptus camaldulensis ? | | | | |
| 7 | Boobialla | Х | | | |
| | Myoporum viscosum | | | | |
| 8 | Boobialla | Х | | | |
| | Myoporum viscosum | | | | |
| 9 | Swamp Mahogany | Х | | | |
| | Eucalyptus botryoides | | | | |
| 10 | Swamp Mahogany | Х | | | |
| | Eucalyptus botryoides | | | | |



CLAUSE 52.29 LAND ADJACENT TO THE PRINCIPAL ROAD NETWORK

Clause 52.29 is applicable to this proposal, and has the following purposes:

- To ensure appropriate access to the Principal Road Network or land planned to form part of the Principal Road Network.
- To ensure appropriate subdivision of land adjacent to Principal Road Network or land planned to form part of the Principal Road Network.

Under Section 55 of the Planning and Environment Act 1987, this application will be referred to the Department of Transport and Planning who are the referral authority under Clause 66.03.

The proposed subdivision is consistent with the road network layout required by the DPO12. The north-south road that is designated in the DPO12 for the site has been provided, however, on the advice of Council, this road is not proposed to connect to Rossiter Road due to previous objections from VicRoads (now DTP). Lot 4 is proposed to be accessed from Bollen Way to the south. The shared driveway will be fenced to prevent vehicular access to proposed Lot 4. The shared driveway will continue to provide access to No. 228 Rossiter Road.

CLAUSE 53.01 PUBLIC OPEN SPACE CONTRIBUTION AND SUBDIVISION

Clause 53.01 outlines that a person who proposes to subdivide land must make a contribution to the council for public open space in an amount specified in the schedule to this Clause (being a percentage of the land intended to be used for residential, industrial, or commercial purposes, or a percentage of the site value of such land, or a combination of both). If no amount is specified, a contribution for public open space may still be required under section 18 of the Subdivision Act 1988.

The requirement for the payment of the public open space contribution is anticipated to be included as a condition of the permit, should one be granted.

CLAUSE 56 RESIDENTIAL SUBDIVISION

Clause 56 is applicable to this proposal, and has the following purposes:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To create liveable and sustainable neighbourhoods and urban places with character and identity.
- To achieve residential subdivision outcomes that appropriate respond to the site and its context for:
 - Metropolitan Melbourne growth areas.
 - Infill sites within established residential areas.
 - Regional cities and towns.
 - To ensure residential subdivision design appropriately provides for:
 - Policy implementation
 - Liveable and sustainable communities.
 - Residential lot design.
 - Urban landscape.
 - Access and mobility management.
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- Integrated water management.
- Site management.
- Utilities.

Clause 32.09 Neighbourhood Residential Zone requires subdivisions that create 3-15 lots to meet all standards and objectives except for Clauses 56.02-1, 56.03-1 to 56.03-4, 56.06-1, 56.06-3 and 56.06-6.

An assessment of the proposal against the relevant objectives and standards of Clause 56 is provided below:

56.01 SUBDIVISION SITE AND CONTEXT DESCRIPTION

56.01-1 Subdivision site and context description

Please refer to **Section 2 Subject Site and Surrounds** within the report and the Feature and Level survey plan lodged in conjunction with this proposal.

56.01-2 Subdivision design response

Please refer to **Section 3 The Proposal** and **Section 4 Planning Controls** and our response to Clause 15.01-3S within the report and the proposed plan of subdivision lodged in conjunction with this proposal.

| 56.03 LIVEABLE AND SUSTAINABLE COMMUNITIES | | |
|--|--|--|
| 56.03-5 Neighbourhood character objective | | |
| To design subc | livisions that respond to neighbourhood character. | |
| Standard C6 | Objective and standard met. | |
| | The proposal is consistent with the preferred character sought for the | |
| | precinct in the Koo Wee Rup Township Strategy. | |

| 56.04 LOT DESIGN | | | |
|---|---|--|--|
| 56.04-1 Lot diversity and distribution objectives | | | |
| To achieve hot | • To achieve housing densities that support compact and walkable neighbourhoods and the | | |
| efficient provis | sion of public transport services. | | |
| To provide high | her housing densities within walking distance of activity centres. | | |
| To achieve incl | reased housing densities in designated growth areas. | | |
| To provide a ro | ange of lot sizes to suit a variety of dwelling and household types. | | |
| Standard C7 | Objectives and standard met. | | |
| | The subject site is designated for infill residential development and has very | | |
| | good access to a range of health, education, leisure, and commercial | | |
| | services and facilities. | | |
| 56.04-2 Lot area and b | ouilding envelope objective | | |
| To provide le | ots with areas and dimensions that enable the appropriate siting and | | |
| construction of a dwelling, solar access, private open space, vehicle access and parking, | | | |
| water management, easements and the retention of significant vegetation and site | | | |
| features. | | | |
| Standard C8 | Objective and standard met. | | |
| | The proposal provides for five residential lots that all exceed 700sqm and | | |
| | meet the minimum lot size sought by the DDO12 and the Koo Wee Rup | | |
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| | Township Strategy. The proposed lot configuration implies lots with areas | |
|---|---|--|
| | and dimensions and associated envelopes that can support the siting of a | |
| | single detached dwelling with setbacks that will provide high quality private | |
| | open space, good solar orientation and off-street parking. The proposed | |
| | setbacks are consistent with the preferred neighbourhood character sought | |
| | by the Township Strategy. | |
| 56.04-3 Solar orientati | on lots objective | |
| • To provide go | ood solar orientation of lots and solar access for future dwellings. | |
| Standard C9 | Objective and standard met. | |
| | All lots have appropriate solar orientation. | |
| 56.04-4 Street orienta | tion objective | |
| • To provide a lot layout that contributes to community social interaction, personal safety | | |
| and property security. | | |
| Standard C10 | Objective and standard met. | |
| | All lots have good visibility and surveillance. | |
| 56.04-5 Common area objective | | |
| • To identify common areas and the purpose for which the area is commonly held. | | |
| • To ensure the provision of common area is appropriate and that necessary management | | |
| arrangements are in place. | | |
| • To maintain direct public access throughout the neighbourhood street network. | | |
| Standard C11 | Not applicable. | |

| 56.05-1 | URBANIANDSCAPE |
|-----------------|----------------|
| JU.UJ -T | |

| 56.05-1 Integrated urb | oan landscape objectives | |
|--|--|--|
| • To provide attractive and continuous landscaping in streets and public open spaces that | | |
| existing or pre | ferred neighbourhood character in existing urban areas. | |
| To incorporate where appropriate | e natural and cultural features in the design of streets and public open space riate. | |
| Standard C12 | Objectives and standard met. | |
| | Vegetation has been retained where possible. | |
| | The road width provides for a nature strip that can support street trees. | |
| | The building envelopes ensure appropriate setbacks for landscaping. | |
| 56.05-2 Public open sp | pace provision objectives | |
| To provide a n open space the regional open | etwork of quality, well-distributed, multi-functional and cost-effective public at includes local parks, active open space, linear parks and trails, and links to space. | |
| • To provide a network of public open space that caters for a broad range of users. | | |
| To encourage healthy and active communities. | | |
| • To provide adequate unencumbered land for public open space and integrate any encumbered land with the open space network. | | |
| • To ensure lan sustainable wa | d provided for public open space can be managed in an environmentally ay and contribute to the development of sustainable neighbourhoods. | |
| Standard C13 | Not applicable. | |
| | No public open space is required. | |
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| 56.06 ACCESS A | ND MOBILITY MANAGEMENT | | |
|---|--|--|--|
| 56.06-2 Walking | g and cycling network objectives | | |
| To contr | • To contribute to community health and well being by encouraging walking and cycling as | | |
| part of t | he daily lives of residents, employees and visitors. | | |
| To provi | ide safe and direct movement through and between neighbourhoods by pedestrian | | |
| and cycl | lists. | | |
| To reduce | ce car use, greenhouse gas emissions and air pollution. | | |
| Standard C15 | Objectives and standard met. | | |
| | The footpath will connect with the existing footpath to the south and future | | |
| | developments to the east and west. The site is well located in terms of access, | | |
| | with the commercial centre of Koo Wee Rup less than 500m walk from the site. | | |
| 56.06-4 Neighbo | ourhood street network objective | | |
| To provi | ide for direct, safe and easy movement through and between neighbourhoods for | | |
| pedestri | ans, cyclists, public transport and other motor vehicles using the neighbourhood | | |
| street ne | etwork. | | |
| Standard C17 | Objectives and standard met. | | |
| | The proposed road layout integrates with the existing road network and is | | |
| | consistent with the DPO12. The proposed road layout facilitates the safe | | |
| | movement of vehicles and access to all lots for service and emergency vehicles. | | |
| 56.06-5 Walking | g and cycling network detail objectives | | |
| To desig | an and construct footpaths, shared path and cycle path networks that are safe, | | |
| comfort | able, well constructed and accessible for people with disabilities. | | |
| • To desig | gn footpaths to accommodate wheelchairs, prams, scooters and other footpath | | |
| bound v | ehicles. | | |
| Standard C18 | Objectives and standard met. | | |
| | The proposal provides for a footpath that is part of the street reservation and | | |
| | connects to the existing footpath to the south on Bollen Way. In time, the footpath | | |
| | will connect to the land to the east and the west as they are developed in | | |
| | accordance with the DPO12. The design and construction of the footpath will be | | |
| | to the satisfaction of Council. | | |
| 56.06-7 Neighbourhood street network detail objective | | | |
| To desig | an and construct street carriageways and verges so that the street geometry and | | |
| traffic s | beeas proviae an accessible and safe neighbourhood street system for all users. | | |
| Standard C20 | Ubjective and standard met. | | |
| | i ne design and construction of all roads will be to the satisfaction of Council. | | |

56.07 INTEGRATED WATER MANAGEMENT 56.07-1 Drinking water supply objectives

- To reduce the use of drinking water.
- To provide an adequate, cost-effective supply of drinking water.

| to provide an adequate, cost effective supply of animing water | | |
|--|--|--|
| Standard C22 | Objectives and standard met. | |
| | The supply of drinking water will be designed and constructed in accordance with | |
| | the requirements and to the satisfaction of the relevant water authority. Drinking | |
| | water will be provided to the boundary of all lots in the subdivision to the | |
| | satisfaction of the relevant water authority. | |
| 56.07-2 Reused and recycled water objective | | |

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| • To provide for the substitution of drinking water for non-drinking purposes with reused and | | |
|---|---|--|
| recycled | water. | |
| Standard C23 | Objective and standard met. | |
| | Reused and recycled water supply will be provided to the boundary of all lots | |
| | within the subdivision where available, and designed, constructed and managed | |
| | to the satisfaction of the relevant water authority. | |
| 56.07-3 Waste w | vater management objective | |
| To provi | de a waste water system that is adequate for the maintenance of public health and | |
| the man | agement of effluent in an environmentally friendly manner. | |
| Standard C24 | Objectives and standard met. | |
| | Waste water systems will be designed, constructed and managed in accordance | |
| | with the requirements and to the satisfaction of the relevant water authority and | |
| | the Environment Protection Authority. | |
| 56.07-4 Stormw | ater management objectives | |
| • To minir | nise damage to properties and inconvenience to residents from stormwater. | |
| To ensu | re that the street operates adequately during major storm events and provides for | |
| public so | afety. | |
| • To minii | mise increases in stormwater and protect the environmental value and physical | |
| characte | characteristics of receiving waters from degradation by stormwater. | |
| • To enco | purage stormwater management that maximises the retention and reuse of | |
| stormwater. | | |
| • To enco | purage stormwater management that contributes to cooling, local habitat | |
| improve | ments and provision of attractive and enjoyable spaces. | |
| Standard C25 | Objectives and standard met. | |
| | The stormwater management system will be designed and managed in | |
| | accordance with the requirements of the relevant drainage authority. A | |
| | Stormwater Management Plan has been prepared by Afflux Consulting to ensure | |
| | that the subdivision is compatible with the local drainage network and achieves | |
| | all stormwater management objectives and standard C25. | |
| | ÷ • | |
| | | |

| 56.08 SITE MANAGEMENT | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| 56.08-1 Site management objectives | | | | | | | | | |
| • To protect drainage infrastructure and receiving waters from sedimentation and contamination. | | | | | | | | | |
| • To protect the site and surrounding area from environmental degradation or nuisance prior to and during construction of subdivision works. | | | | | | | | | |
| • To encourage the re-use of materials from the site and recycled materials in the construction | | | | | | | | | |
| of subdivisions where practicable. | | | | | | | | | |
| Standard C26 Objectives and standard met. | | | | | | | | | |
| Adverse impacts to the environment from erosion and sediment, dust, run-off, | | | | | | | | | |
| litter, concrete and other construction wastes will be managed in accordance with | | | | | | | | | |
| the permit requirements. Trees that are to be retained on the site will be fenced | | | | | | | | | |

throughout the construction period to prevent damage to the TPZ, SRZ and trunk. This copied document is made available for the purpose of the planning process as set out in the Planning one Environment Act (1947) The information must not be used for any other purpose. By laking a copy of this document you acknowledge and agree that you will only use the document for the purpose specified above and that any desemination, distribution or copying of this document is strictly promoted.



| 56.09 UTILITIES | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|
| 56.09-1 Shared trenching objectives | | | | | | | | | | |
| To maximise the opportunities for shared trenching. | | | | | | | | | | |
| • To minir | nise constraints on landscaping within street reserves. | | | | | | | | | |
| Standard C27 | Objectives and standard met. | | | | | | | | | |
| | Shared trenching will be utilised where possible for reticulated services to | | | | | | | | | |
| | minimise construction costs and land allocation for underground services. | | | | | | | | | |
| 56.09-2 Electric | ity, telecommunications and gas objectives | | | | | | | | | |
| To provi | de public utilities to each lot in a timely, efficient and cost effective manner. | | | | | | | | | |
| To reduce | ce greenhouse gas emissions by supporting generation and use of electricity from | | | | | | | | | |
| renewal | ble sources. | | | | | | | | | |
| Standard C28 | Objectives and standard met. | | | | | | | | | |
| | The electricity, telecommunication and gas supply systems will be designed in | | | | | | | | | |
| | accordance with the requirements of the relevant supply agency and be provided | | | | | | | | | |
| | to the boundary of all lots in the subdivision to the satisfaction of the relevant | | | | | | | | | |
| | authorities. | | | | | | | | | |
| 56.09-3 Fire hyd | Irants objective | | | | | | | | | |
| To provi | de fire hydrants and fire plugs in positions that enable fire fighters to access water | | | | | | | | | |
| safely, e | ffectively and efficiently. | | | | | | | | | |
| Standard C29 | Objective and standard met. | | | | | | | | | |
| | | | | | | | | | | |
| | Fire hydrants will be provided to the satisfaction of Council and the relevant fire | | | | | | | | | |
| authority. | | | | | | | | | | |
| 56.09-4 Public li | ghting objective | | | | | | | | | |
| To provi | ide public lighting | | | | | | | | | |
| Standard C30 | Objectives and standard met. | | | | | | | | | |
| | Public lighting will be provided to the satisfaction of Council and will be design in | | | | | | | | | |
| | accordance with the relevant Australian Standards and energy efficient. | | | | | | | | | |

9. **GENERAL PROVISIONS**

The relevant general provisions that will be addressed in this section are identified below:

- Clause 65 **Decision Guidelines** •
- Clause 65.01 Approval of an Application or Plan •
- Approval of an application to subdivide land Clause 65.02 •
- Clause 71.02-1 Purpose of the Planning Policy Framework •
- Clause 71.02-3 Integrated decision making •

CLAUSE 65 DECISION GUIDELINES

Clause 65 states that the Responsible Authority must decide whether the proposal will provide acceptable outcomes in terms of the decision guidelines of this Clause. The decision guidelines of



Clause 65.01 and 65.02 relating to the approval of an application or plan and an application to subdivide the land respectfully are relevant to this application.

CLAUSE 65.01 APPROVAL OF AN APPLICATION OR PLAN

The decision guidelines outlined in Clause 65.01 are applicable to this proposal, in particular:

- The matters set out in Section 60 of the Act.
- Any significant effects the environment, including the contamination of the land, may have on the use or development.

The land is not identified as being contaminated. The site constraints and considerations of the land including native vegetation, topography and any overland flows have been responded to throughout the design process.

- The Municipal Planning Strategy and the Planning Policy Framework.
- The purpose of the zone, overlay or other provision.
- Any matter required to be considered in the zone, overlay or other provision.
- The orderly planning of the area.

The planning considerations have been adequately addressed within this report in sections 4-6.

• The effect on the environment, human health and amenity of the area.

The proposed subdivision does not pose any foreseeable adverse impacts to the environment, human health or the amenity of the area. Any potential adverse impacts have been identified and responded to throughout the design process.

• The proximity of the land to any public land.

The proposed subdivision does not adversely impact any public land within the vicinity of the site.

• Factors likely to cause or contribute to land degradation, salinity or reduce water quality.

No foreseeable factors that may cause or contribute to land degradation, salinity or reduced water quality have been identified during the design process.

• Whether the proposed development is designed to maintain or improve the quality of stormwater within and exiting the site.

A stormwater and drainage assessment has been undertaken as part of the design process, and the proposed subdivision design is responsive to the findings of the assessment.

- The extent and character of native vegetation and the likelihood of it's destruction.
- Whether native vegetation is to be or can be protected, planted or allowed to regenerate.

Native vegetation is proposed to be removed, with three trees requiring a permit under Clause 52.17. Each of the three trees are exempt from the permit requirement under the 'fences' exemption tabled at 52.17-7. The subject site in its existing state is a highly modified and long cleared of any significant remnant vegetation. The proposed subdivision provides nature strip and lot sizes with dimensions appropriate for the planting and establishment of native vegetation.

• The degree of flood, erosion or fire hazard associated with the location of the land and the use, development or management of the land so as to minimise any such hazard.

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The subject site (and wider Koo Wee Rup region) are subject to inundation, and it is anticipated that any permit granted will contain conditions that require the land to be filled in accordance with the Koo Wee Rup Long Lots Fill Plan (2016). Any future dwelling on each lot will need to be built to the flood levels specified by Melbourne Water.

• The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.

Loading and unloading facilities are not relevant to this proposal.

• The impact the use or development will have on the current and future development and operation of the transport system.

The proposed subdivision does not adversely impact on the current and future development and operation of the transport system.

CLAUSE 65.02 APPROVAL OF AN APPLICATION TO SUBDIVIDE LAND

The decision guidelines outlined in Clause 65.02 have been considered in the proposed design. A response has been provided where applicable to demonstrate how the proposal meets the decision guidelines outlined below:

- The suitability of the land for subdivision.
- The existing use and possible future development of the land and nearby land.
- The availability of subdivided land in the locality and the need for the creation of further lots.

The land is zoned for residential purposes and has been designated for future residential development in the Koo Wee Rup Township Strategy (2015) and Development Plan for Rossiter Road, Koo Wee Rup (2011). Surrounding land is experiencing infill residential development in accordance with the DDO12, and the lot sizes and street network of the proposed subdivision will integrate with and compliment the emerging character of the new residential precinct.

• The effect of development on the use or development of other land which has a common means of drainage.

A stormwater and drainage strategy has been developed to support the proposed subdivision to ensure that overland flows do not adversely affect any other land with common means of drainage.

• The subdivision pattern having regard to the physical characteristics of the land including existing vegetation.

The subdivision is responsive to the constraints and considerations posed by the site, including native vegetation and overland flows.

• The density of the proposed development.

The density of the proposed subdivision is appropriate for the locality and reflects the subdivision patterns seen on surrounding land.

• The area and dimensions of each lot in the subdivision.

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The proposed subdivision has achieved lots with areas and dimensions consistent with those required by the Koo Wee Rup Township Strategy (2015) and the Development Plan for Rossiter Road, Koo Wee Rup (2011) in the DDO12.

- The layout of roads having regard to their function and relationship to existing roads.
- The movement of pedestrians and vehicles throughout the subdivision and the ease of access to all lots.

The proposed street layout is functional in design and integrates with the existing street network.

The movement of pedestrians and vehicles is facilitated through the north-south street that is proposed to extend along the western portion of the subject site.

• The provision and location of reserves for public open space and other community facilities.

The proposal does not include reserves for public open space or other community facilities.

• The staging of the subdivision.

The subdivision is not proposed to be staged.

• The design and siting of buildings have regard to safety and the risk of spread of fire.

All future dwellings will be required to satisfy the relevant requirements of the Building Regulations.

• The provision of off-street parking.

All lots are able to support off-street parking.

- The provision and location of common property.
- The functions of any body corporate.

No common property is proposed as part of this subdivision.

- The availability and provision of utility services, including water, sewerage, drainage, electricity and gas.
- If the land is not sewered and no provision has been made for the land to be sewered, the capacity of the land to treat and retain all sewage and sullage within the boundaries of each lot.

The subject site is able to connect to all reticulated services, including sewer.

• Whether, in relation to subdivision plans, native vegetation can be protected through subdivision and siting of open space areas.

An assessment of the vegetation on and adjoining the site has been undertaken that has outlined where native vegetation can be retained. All efforts have been made to retain as much vegetation as possible.

• The impact the development will have on the current and future development and operation of the transport system.

The proposed subdivision does not adversely impact on the current and future development and operation of the transport system.

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10. CONCLUSION

The proposed subdivision of 230 Rossiter Road, Koo Wee Rup into five (5) lots provides an excellent opportunity for additional residential lots within the Koo Wee Rup township boundary in a precinct designated for residential infill development. The proposal is consistent with and helps to give effect to the DDO12, *Development Plan for Rossiter Road, Koo Wee Rup (2011)* and the *Koo Wee Rup Township Strategy (2015)*.

The proposal is consistent with and supported by the Municipal Planning Strategy and State and Local Planning Policy Framework, particularly the policies, objectives and strategies that have regard for the better utilisation of existing urban land and the provision of further housing in well serviced locations. The relevant environmental considerations have been addressed throughout the design process, and an assessment of the vegetation on and adjoining the site has been undertaken, and a stormwater management plan has been prepared that shows how the site will manage drainage and overland flows.

The proposal meets all relevant objectives and standards of Clause 56 Residential Subdivision and the proposed extension of Bollen Way will integrate with and provide a high level of connectivity to the existing street network. The proposal also contributes to the construction of Nunn Street which further enhances the site's future connectivity as adjoining lots to the east and west experience development in accordance with the layout sought by the DDO12.

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Koo Wee Rup

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Executive Summary

- The project area contains a very low diversity of scattered native tree and shrub flora intermixed with European fruit and ornamental trees.
- There is no significant indigenous vegetation within or adjacent to the project area
- All shrub and ground flora has been significantly disturbed/ altered through a historical regime of pastoralisation and regular, low mowing.
- No rare / threatened species (flora and or fauna) were observed within the project area.
- Limited indigenous tree removals will be required to achieve the current development response plan
- The site of proposed development and area of impact incorporates existing dwellings, outbuildings and cleared lands.

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DOCUMENT Quality Assurance

| Reviewed | MATC | 22 nd October 2021 | |
|------------|------|-------------------------------|---------------|
| Revision A | DRC | 20th October 2021 | Initial Draft |

1.0 INTRODUCTION used for any other purpose By laking a copy of this document you acknowledge and agree that you will only use the document for the purpose specified above and that any desemination, distribution or copying of this document is strictly promoted.

1.1 Project Background

This report "Ecological & Tree Impact Assessment – 230 Rossiter Rd Koo Wee Rup" has been prepared as part of proposed re development works within LOT 2 on PS743936 -the *"project area"*. This report assesses the value of the existent vegetation and defines the statutory offset obligations as applicable for any anticipated vegetation losses from the proposed redevelopment of the land.

Felix Botanica P/L was commissioned by Mr Brandon Murphy ("*the client*") to produce this report. This report responds to the statutory requirements of the Local Planning Scheme, Flora and Fauna Guarantee Act (1988 Vic), Environment Protection and Biodiversity Conservation Act (1999 Aust), the State Governments Native Vegetation Management Strategy.

1.2 Objectives

This report responds to the State Governments Native Vegetation Management Strategy, local planning authority, key report objectives are:

- 1. identify existent remnant vegetation
- 2. respond to any rare and or threatened species requirements
- 3. provide advice to the client regarding the development design in response to items 1 & 2
- 4. determine vegetation losses which are unavoidable as a result the proposed redevelopment

1.3 Study Area

The project area (see Map 1) is freehold lands; it represents approximately 0.5918 hectares of land characterised by a scattered canopy of native Eucalypts with a sparse shrub layer and slashed pasture. The project area is defined as Neighbourhood Residential Zone (NRZ) on the Cardinia Planning Scheme. The project area is subject to Development Plan Overlay (DPO12) and Land Subject to Inundation Overlay (LSIO) planning controls.

2.0 DESCRIPTION OF METHODS

2.1 Review of Existing Information

Cardinia Council's Planning scheme allows for the use of lands classified as NRZ for the purpose of residential living. The site currently has been developed and is utilised for residential living with a single storey dwelling and associated out buildings / sheds located within the northern portion of the site. None of the planning overlay controls prohibit the redevelopment of the site subject to the approval of the Responsible Authority. No previous flora and fauna studies of the project area exist.

2.2 Field Survey

Vegetation sampling was undertaken on 9th October 2021 with all indigenous ground flora, shrubs and canopy tree vegetation recorded (see section 3.2.4). The history of site development, agricultural use and heavy mowing rendered many of the floristic identifying features of ground flora null and void, but all effort has been made to successfully identify indigenous vegetation within the project area.

The ideal timing for vegetation survey is multiple visits through Spring/Summer as this affords the best opportunity to observe the majority of seasonal botanical species. As field inspections were restricted to Spring 2021 some cryptic and ephemeral species may not have been evident at time of survey.

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3.0 STUDY OUTCOMES

3.1 Site Condition

The vegetation on site varied from improved pastures and landscaped gardens, through to canopy trees with heavily slashed understorey vegetation with an entirely absent indigenous ground flora. The location and approximate extent of vegetation or canopy trees is detailed in section 3.2.4

The Department of Environment Water and Land Use Planning (DEWLP) has mapped the project area as containing remnant of Swamp Scrub - ecological vegetation class (EVC) 53. Swamp Scrub is determined to be ENDANGERED on a bioregional conservation scale within the Gippsland Plains Bioregion (see Map 2).

The Environment Protection and Biodiversity Conservation Act 1999 listed several species as "likely to occur" within 5km of the site (see Appendix A). Due to the history of the sites land use and highly disturbed nature of the remnant vegetation on site no flora specimens of individual conservation significance were found, nor are the likely to occur on the site.

3.2 Habitat Values

The study site has suffered from rural and residential development and is isolated by roads, houses, and improved pasture. Microhabitats such as fallen timber are extremely scarce and leaf litter is below that of a naturally functioning woodland ecosystem. The general habitat value of the site is considered as LOW.

3.2.1 Determination of Conservation Significance

The vegetation throughout the project area presents as a disturbed, and largely cleared landscape affected by weed invasion and human intervention (slashing etc). Due to the lack of intact and significant indigenous vegetation cover (less than 25% indigenous cover, no large old indigenous trees) the removal of indigenous vegetation from within the project area does not meet the threshold for consideration under the "Guidelines for the removal, destruction or lopping of native vegetation" (DWELP 2017).

3.2.2 Fauna

While no fauna survey was conducted as part of this study an active area search of the immediate surrounds was undertaken with specific intent to identify potential use and or occupation of the site by indigenous fauna.

The mature canopy trees throughout the project area does provide local avifauna and arboreal mammals limited cover and forage. Faunal value of habitat throughout the study site is considered LOW due its lack of connectivity, poor of structure and low floristic diversity.

3.3.3 Flora

The vegetation within the project site is fragmented and degraded with a projected canopy cover at 5%. Much of the canopy vegetation is exotic to the locality (non-native, non-indigenous) with only two thickets of Swamp Paperbark *Melaleuca ericifolia* representing indigenous vegetation. There are two examples of River Red gum *Eucalytpus camaldulensis* located on the property, but these trees are likely to have been planted due to the geographic separation of the individuals from the natural range of the species. The vast majority of the project area is dominated by improved pastures and lands cleared entirely of any indigenous vegetation and or tree/ shrub cover.

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All trees found throughout the project area and located on Map 3, Table 1 provides details on these trees inclusive of height and spread, diameter at breast height, health, form, Tree Protection Zones and Structural Root Zones (to AS4970-2009).

| Tree # | Botanical Name | Common Name | Height | Width (E-W) | Width (N-S) | DBH | | | Health | Form | Combined DBH (mm) | Tree Protection Zone (m) (Min. 2.0m- Max. 15.0m) | Structural Root Zone(m) (min. 1.5m) | | | |
|--------|------------------------------|-----------------------|--------|----------------|----------------|-----|-----|------|--------|------|----------------------|---|--|----------------|------|--|
| | | | (m) | (m) | (m) | | | (mm) | | | | | | to AS4970-2009 | | Comments |
| 1 | Melaleuca ericifolia | Swamp Paperbark | 4 | 1 | 1 | 20 | | | | | Good | Good | 20 | 2 | 1.5 | |
| 2 | Melaleuca ericifolia | Swamp Paperbark | 4 | 1 | 1 | 20 | | | | | Good | Good | 20 | 2 | 1.5 | |
| 3 | Eucalyptus globulous | Blue Gum | 10 | 8 | 7 | 530 | | | | | Good | Fair | 530 | 6.36 | 2.54 | |
| 4 | Acacia mearnsii | Late Black Wattle | 2 | 1 | 1 | 40 | | | | | Poor | Poor | 40 | 2 | 1.5 | |
| 4a | Melaleuca armillaris | Giant Honey Myrtle | 2 | 1 | 1 | 50 | | | | | Good | Fair | 50 | 2 | 1.5 | |
| 5 | Eucalyptus camaldulensis? | River Red Gum | 10 | 4 | 5 | 200 | 150 | 180 | | | Fair | Poor | 309 | 3.71 | 2.03 | Multi stem coppice regrowth from cut stump |
| 6 | Eucalyptus camaldulensis? | River Red Gum | 10 | 8 | 8 | 300 | 270 | 350 | 210 | 230 | Fair | Poor | 619 | 7.43 | 2.71 | Multi stem coppice regrowth from cut stump |
| 7 | Myoporum viscosum | Boobialla | 5 | 7 | 5 | 260 | | | | | Good | Good | 260 | 3.12 | 1.88 | |
| 8 | Myoporum viscosum | Boobialla | 4 | 5 | 4 | 180 | | | | | Good | Good | 180 | 2.16 | 1.62 | |
| 9 | Eucalyptus botryoides | Swamp Mahogany | 8 | 8 | 7 | 420 | 110 | | | | Good | Fair | 435 | 5.22 | 2.34 | |

Table 1: Trees of the project area (Image file in Appendix B)

- 5 –

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| Tree # | Botanical Name | Common Name | Height | Width (E-W) | Width (N-S) | DBH | | | | Health | Form | Combined DBH (mm) | Tree Protection Zone (m) (Min. 2.0m- Max. 15.0m) | Structural Root Zone(m) (min. 1.5m) | | |
|--------|----------------------------|----------------------------|--------|----------------|----------------|------|-----|------|--|--------|------|----------------------|---|--|------|-----------|
| | | | (m) | (m) | (m) | | | (mm) | | | | | | to AS4970-2009 | | Comments |
| 10 | Eucalyptus botryoides | Swamp Mahogany | 8 | 6 | 6 | 450 | 190 | | | | Good | Fair | 489 | 5.87 | 2.46 | |
| 11 | Eucalyptus botryoides | Swamp Mahogany | 12 | 10 | 11 | 930 | | | | | Fair | Fair | 930 | 11.16 | 3.22 | |
| 12 | Myoporum viscosum | Boobialla | 5 | 4 | 4 | 130 | | | | | Good | Fair | 130 | 2 | 1.5 | |
| 13 | Eucalyptus globulous | Blue Gum | 12 | 14 | 14 | 1030 | | | | | Good | Fair | 1030 | 12.36 | 3.36 | |
| 14 | Melaleuca linniarifolia | Snow in Summer | 8 | 6 | 5 | 320 | | | | | Good | Fair | 320 | 3.84 | 2.06 | |
| 15 | Melaleuca linniarifolia | Snow in Summer | 7 | 5 | 4 | 280 | | | | | Good | Fair | 280 | 3.36 | 1.94 | |
| 16 | Eucalyptus botryoides | Swamp Mahogany | 12 | 8 | 8 | 620 | | | | | Fair | Poor | 620 | 7.44 | 2.71 | Hollow |
| 17 | Eucalyptus botryoides | Swamp Mahogany | 14 | 10 | 12 | 940 | | | | | Good | Fair | 940 | 11.28 | 3.23 | |
| 18 | Melaleuca linniarifolia | Snow in Summer | 8 | 5 | 5 | 210 | 190 | 230 | | | Fair | Fair | 365 | 4.38 | 2.17 | |
| 19 | Eucalyptus botryoides | Swamp Mahogany | 4 | 3 | 2 | 710 | | | | | Poor | Poor | 710 | 8.52 | 2.87 | Pollarded |
| 20 | Acacia spp.? | Wattle | 4 | 3 | 4 | 100 | 50 | 70 | | | Fair | Fair | 132 | 2 | 1.5 | |
| 21 | Eucalyptus nicholii | Black Peppermint Gum | 10 | 8 | 7 | 610 | | | | | Good | Good | 610 | 7.32 | 2.69 | |

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| Tree # | Botanical Name | Common Name | Height | Width (E-W) | Width (N-S) | DBH | | | DBH | | DBH | | Health | Form | Combined DBH (mm) | Tree Protection Zone (m) (Min. 2.0m- Max. 15.0m) | Structural Root Zone(m) (min. 1.5m) | |
|--------|-------------------------|---------------------|---------------|----------------|----------------|---------------|-------------|---------|--------------|------------------|----------------|------------------|-----------------------|------------|---|---|--|--|
| | | | (m) | (m) | (m) | | | (mm) | | | | | to AS4970-2009 | | Comments | | | |
| 22 | Cupressus macrocarpa | Cypress Hedgerow | 12 | 4 | 4 | 750 | | | | Good | Fair | 750 | 9 | 2.94 | NOTE this is a hedgerow of approximately 20 individuals on the frontage of 230/228 Rossiter Rd | | | |
| 23 | Persica spp | Nectarine | 3 | 3 | 3 | 140 | | | | Good | Good | 140 | 2 | 1.5 | | | | |
| 24 | Prunus spp | Wild Plum | 3 | 2 | 2 | 80 | | | | Good | Good | 80 | 2 | 1.5 | | | | |
| 25 | Prunus spp | Wild Plum | 4 | 3 | 3 | 100 | | | | Good | Good | 100 | 2 | 1.5 | | | | |
| 26 | Prunus spp | Wild Plum | 4 | 4 | 3 | 110 | | | | Good | Good | 110 | 2 | 1.5 | 228 Rossiter Rd | | | |
| 27 | Coprosma repens | Mirror Bush | 3 | 4 | 4 | 150 | | | | Good | Good | 150 | 2 | 1.5 | | | | |
| 28 | Prunus spp | Wild Plum | 3 | 4 | 3 | 100 | | | | Good | Good | 100 | 2 | 1.5 | | | | |
| 29 | Grevillia spp | Grevillia | 3 | 7 | 6 | 120 | | | | Good | Good | 120 | 2 | 1.5 | | | | |
| | Table 1a: Tree | e details and i | recommei | ndations | - descrip | tors | | | | | | | | | | | | |
| | Catego | ory Descr | iption | | | | | | | | | | | | | | | |
| | Good | Crown | full and show | ving both vigc | our and densi | ty in leaf co | over with r | minimal | or no damage | evident by insec | ct or pathoger | ns. Obvious grow | th and good wound woo | d healing. | | | | |

| | Good | Crown full and showing both vigour and density in leaf cover with minimal or no damage evident by insect or pathogens. Obvious growth and good wound wood healing. |
|--------|-----------|--|
| ealth | Fair | Tree foliage is generally uniform in colour, some discolouration may be present. Tree has <30% deadwood or could have minor dieback symptoms but growth, leaf colour and canopy density is typical for species in the area. |
| Tree H | Poor | Tree has >30% deadwood and obvious signs of dieback. Leaves are distorted and or discoloured and there is excessive epicormic growth. Generally, the tree exhibits signs of stress that could or are leading to tree decline and death. |
| | Dead | Tree is dead. |
| E | Good | Branches are well attached and show no or minor structural defects. Timber appears generally sound with minor damage and trunk / branches taper well. Structural roots and buttressing of tree are well formed and there are no obvious pests or diseases. |
| For | Fair | Minor structural damage including missing bark and presence of hollows or cavities. Typical form for species in the area. |
| Iree | Poor | Major defects including co dominance of limbs, over extension of branches, bifurcation and girdling roots. Any of which could become problematic and result in limb or tree failure and |
| | Hazardava | Ulidpse. |
| | Hazardous | Tree poses immediate risk through limb of tree failure and collapse and should be addressed as soon as possible. |

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4.0 Vegetation retention / Protection recommendations

All trees on adjoining properties should be protected through the instigation of a "Tree Protection Zone" during all construction activities.

Tree protection zones (TPZ¹) and structural root zones (SRZ²) are defined in Australian Standard AS 4970-2009 "Protection of Trees on Building Sites"; up to 10% of the area of the TPZ can be disturbed if commensurate gains to the TPZ are made in other directions (see Figure 1). Table 1 (as above) details the TPZ's and SRZ's of all trees to be retained within the project area or on adjoining properties.



- General: All works within the tree protection zone (TPZ) be overseen by an experienced Arborist. <u>Damage to</u> <u>tree roots may occur but should be kept to a minimum by close supervision of excavations</u>. No filling or reduction of existing levels or compaction shall occur within the structural root zone (SRZ) of trees marked for retention.
- 2. Tree Protection: Trees earmarked for retention must have an exclusion zone located as far as practicable from the trunk, but not less than the defined limits of the TPZ. Protective fencing must be erected prior to commencement of any civil and construction works so as to enclose and fully protect the TPZ as a minimum of all trees marked for retention. The protective fence must remain in place for the duration of the works. No storage of building materials, paints, tools, overburden, contaminants or the like are to be placed within the fenced area.
- 3. Trunk Protection: Where space does not permit the erection of fencing as defined in item 2 above, trunk protection measures must be taken. Trunk protection shall comprise of the placement of 2.0 metre lengths of 100mmx50mm hardwood spaced at 150mm centres around the trunk secured in place by metal strap bindings or 10 gauge fencing wire fixed at 300mm centres. Prior to placing battens install soft protective padding to ends of timbers to prevent damage to bark and conducting tissue. Trunk protection must remain in place for the duration of works.
- 4. Ground Protection: All areas enclosed by protective fencing must have accepted horticultural practices (weed control, slashing/mowing, watering etc) applied throughout the duration of the works. Any areas where the TPZ is subject to traffic (due to site access constraints) the traffic path must be protected by the installation of temporary timber crossover/s (100mmx50mm width of path banded together by metal strap bindings) for the duration of the works.

¹ TPZ radius = DBH X 12

² SRZ radius = (Diametre at base \times 50)^{0.42} \times 0.64

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- 5. Irrigation: Install temporary irrigation to all trees for retention so that water may be applied to maintain adequate soil moisture. Trees in active construction sites are subject to additional stresses and the application of water at a rate of 30mm per week will ensure good soil moisture and ease the trees stress levels.
- 6. Installation of Services: Where possible services and utilities should be located in common trenches to reduce unnecessary adverse impacts. Open excavation within the SRZ should be avoided. Directional or thrust boring techniques should be adopted to minimize root damage. Should excavation be necessary the works should be closely observed with roots greater than 70mm diametre being retained as these roots are intrinsic to the structural stability and health of the tree.
- 7. Site access and establishment: Site sheds, access paths, stock piling and storage of materials must be placed clear of the TPZ.
- 8. Tree Pruning / Work: All tree work or pruning shall be carried out in accordance with AS4373 (Pruning of amenity trees), the Occupational Health and Safety Act 2001 and the Occupational Health and Safety Regulations 2017.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The vegetation within the project area is determined to be of LOW conservation significance. The proposed development of the site as per Map 4 will require the removal of all vegetation from the lands

On whole the trees / shrubs within the project area contribute nominally to the landscape amenity of the surrounding area. No tree / shrub within the project area is significant and the proposed removals will not impact significantly on the character and or aesthetic of the locality. Replacement of removed trees with tree/ shrub species consistent with the neighbourhood character would benefit the long-term character of the locality.

A Construction Environmental Management Plan must be produced prior to commencement of works; this document must include as a minimum

- Project personnel contact information
- Public safety and site security
- Site amenities
- Vegetation protection measures inclusive of - tree protection to AS4970-2009
- Stockpile/s locations
- Noise control
- Air and dust management
- Stormwater and sediment control
- Waste management
- Traffic management

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www.dewlp.vic.gov.au www.cardinia.vic.gov.au

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Appendix A- Environment Protection and Biodiversity Conservation Act 1999 listed species as "likely to occur" within 5km of the site



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected

information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 21/10/21 09:51:34

Summary Details Matters of NES Other Matters Protected by the EPBC Act. Extra Information Caveat

Acknowledgements



Coordinates Buffer: 5.0km



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Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

| World Heritage Properties: | None |
|---|------|
| National Heritage Places: | None |
| Wetlands of International Importance; | 1 |
| Great Barrier Reef Manne Park: | None |
| Commonwealth Marine Area | None |
| Listed Threatened Ecological Communities. | 2 |
| Listed Threatened Species: | 61 |
| Listed Migratory Species. | 58 |

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As beritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A <u>permit</u> may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed manne species.

| Commonwealth Land: | None |
|-----------------------------------|------|
| Commonwealth Heritage Places: | None |
| Listed Marine Species: | 69 |
| Whales and Other Cetaceans: | 7 |
| Critical Habilats: | None |
| Commonwealth Reserves Terrestrial | None |
| Australian Marine Parks: | None |

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

| State and Territory Reserves. | 1 | |
|----------------------------------|------|---|
| Regional Forest Agreements: | None | _ |
| Invasive Species: | 42 | |
| Nationally Important Wetlands. | 1 | - |
| Key Ecological Features (Marine) | None | |

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Details

Matters of National Environmental Significance

| Wetlands of International Importance (Ramsar) | [Resource Information] |
|---|------------------------|
| Name | Proximity |
| Western port | Within Ramsar site |

| Listed Threatened Ecological Communities | | [Resource Information] |
|--|--|--|
| For threatened ecological communities where the de plans, State vegetation maps, remote sensing image community distributions are less well known, existing produce indicative distribution maps. | stribution is well known, map my and other sources. When g vegetation maps and point | is are derived from recovery e fhreatened ecological location data are used to |
| Name | Status | Type of Presence |
| Natural Demp Gressland of the Victorian Coastal Plains Subtropical and Temperate Coastal Saitmarsh | Critically Endangered Vulnerable | Community likely to occur within area Community likely to occur within area |
| Listed Technical Constant | | f Desserve laferration |
| Listed Threatened Species | | Likesource Information |
| Name | Status | Type of Presence |
| Birds | | |
| Anthochaera phygia | | |
| Regent Honeyeater [82338] | Critically Endangered | Species or species habitat likely to occur within area |
| Bosaurus poloiloptilus | | |
| Australasien Bittern [1001] | Endangered | Species or species habitat known to occur within area |
| Calidris canutus | | |
| Red Knot, Knot [855] | Endangered | Species or species habitat known to occur within area |
| Calidris ferruginea | | |
| Curlew Sandpiper (\$56) | Critically Endangered | Species or species habitat known to occur within area |
| Calidris tenurostria | | |
| Great Knot [962] | Critically Endangered | Reasting known to occur within area |
| Charadrius.mongolus | | |
| Lesser Sand Plover, Mongolian Plover [879] | Endangered | Roosting known to occur within area |
| Diomedea antipodensis | 10.040.000 | and the second s |
| Antipodean Albatross [64458] | Vuinerable | Foraging, feeding or related behaviour likely to occur within area |
| Diomedea antipodensis gibsoni | | |
| Gibson's Albatross [82270] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area |
| Diomedea ecomophora | | |

Southern Royal Albatross (89221)

Diomedea exulans Wandering Albatross [89223]

Vulnerable

Foraging, feeding or related behaviour likely to occur

Foraging, feeding or related behaviour likely to occur

within area

within area

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Vulnerable
| Name | Status | Type of Presence |
|--|-----------------------|--|
| Diomedes sanfordi | | and the second sec |
| Northern Royal Albatross (64456) | Endangered | Foraging, feeding or related behaviour likely to occur within area |
| Ealog hypoleuces | 100 mil | |
| Grey Falcon (929) | Vuinerable | Species or species habitat likely to occur within area |
| Fregetta grallaria, grallaria | | |
| White-bellied Storm-Petrel (Tasman Sea), White- bellied Storm-Petrel (Australasian) (64438) | Vulnerable | Species or species habitat likely to occur within area |
| Graniiella picta | | |
| Painted Honeyeater [470] | Vulnerable | Species or species habitat likely to occur within area |
| Hirundapus caudacutus | | |
| White-throated Needletail [662] | Vulnerable | Species or species habitat likely to occur within area |
| Lathamus discolor | | |
| Swift Parrot [744] | Critically Endangered | Species or species habitat likely to occur within area |
| Limosa lapponica, baueri | | |
| Nunivak Bantailed Godwit, Western Alaskan Bantailed Godwit (86380) | Vulnerable | Species or species habitat known to occur within area |
| Macronectes giganteus | | |
| Southern Giant-Petrel, Southern Giant Petrel [1060] | Endangered | Species or species habitat may occur within area |
| Macronectes hall | | |
| Northern Giant Petrel [1061] | Vuinerable | Species or species habitat may occur within area |
| Neophema chrysogaster | | |
| Orange-bellied Parrot [747] | Critically Endangered | Migration route likely to occur within area |
| Numenius madagascanensis | Colorest Francisco | President and an and a balance |
| Eastern Conew, Far Eastern Canew (647) | Chlically Endangered | known to occur within area |
| Pachyphia lurtur, subantarctica | | |
| Fairy Prion (southern) (64445) | Vulnerable | Species or species habitat likely to occur within area |
| Phoebetha fusca | | |
| Scoty Albatross [1075] | Vuinerable | Species or species habitat likely to occur within area |
| Pterodroma leucoptera, leucoptera | | |
| Gould's Petrel, Australian Gould's Petrel (26033) | Endangered | Species or species habitat may occur within area |
| Rostratula australis | | |
| Australian Painted Snipe [77037] | Endangered | Species or species habitat likely to occur within area |
| Sternula nereis nereis | | |
| Australian Fairy Tem (82950) | Vuinerable | Breeding likely to occur within area |
| Indexserche bullen Bullede Albebrase, Draffe Albebrase 1544505 | Manageria | Provide provide het lief |
| puller's Albarross, Pachic Albarross (54460) | vuinerable | may occur within area |
| Thalessarche bullen, platei | | |
| Northern Buller's Albatross, Pacific Albatross [82273] | Vulnerable | Species or species habitat may occur within area |
| Thalassarche cauta | | |
| Shy Albatross [89224] | Endangered | Foraging, feeding or related behaviour likely |

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| Name | Status | Type of Presence to occur within area |
|---|-----------------------|--|
| Thalassarche chrysostoma Grey-headed Albetross [66491] | Endangered | Species or species habitat may occur within area |
| Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459] | Vuinerable | Foraging, feeding or related behaviour likely to occur within area |
| Thalassarche melanophris Black-browed Albetross [66472] | Vulnerable | Species or species habitat may occur within area |
| Thalassarche salvini Salvin's Albetross (64463) | Vuinerable | Foraging, feeding or related behaviour likely to occur within area |
| Thalassarche stead White-capped Albatross [64462] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area |
| Thinomis cucullatus cucullatus Eastern Hooded Plover, Eastern Hooded Plover [90381] | Vulnerable | Species or species habitat likely to occur within area |
| Fab | | |
| Galaxiella pusilla Eastern Dwarf Galaxies, Dwarf Galaxies (56790) | Vulnerable | Species or species habitat known to occur within area |
| Prototroctes maraena Australian Grayling (26179) | Wilnerable | Species or species habitat known to occur within area |
| Progs | | |
| Literia caniformia Growing Grass Frog. Southern Bell Frog. Green and Golden Frog. Warty Swamp Frog. Golden Bell Frog [1828] | Vulnerable | Species or species habitat known to occur within area |
| Insects | | |
| Golden Sun Moth [25234] | Critically Endangered | Species or species habitat may occur within area |
| Mammals | | |
| Antechinus minimus manifimus Swamp Antechinus (mainland) [83085] | Vulnerable | Species or species habitat may occur within area |
| Dasyurus maculatus maculatus (SE mainland populati Spot-tailed Quol, Spotted-tail Quol, Tiger Quol (southeastern mainland population) [75184] | on) Endangered | Species or species habitat may occur within area |
| Eubalacea australis Southern Right Whale (40) | Endangered | Species or species habitat known to occur within area |
| Isoodon obesulus obesulus Southern Brown Bandicoof (eastern), Southern Brown Bandicoot (south-eastern) (68050) | Endangered | Species or species habitat known to occur within area |
| Megaptera novseangliae Humpback Whale [38] | Vulnerable | Species or species habitat may occur within area |
| Petauroides volans Greater Glider [254] | Vulnerable | Species or species habitat may occur within area |
| Potorous tridactylus tridactylus Long-nosed Potoroo (SE Mainland) [66645] | Vulnerable | Species or species habitat may occur within area |

| Name | Status | Type of Presence |
|--|----------------------|---|
| Pteropus poliocephalus | | |
| Grey-headed Flying-fox [186] | Vulnerable | Foraging, feeding or related behaviour known to occur |
| Plants | | within area |
| Amphibromus fluitans | | |
| River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215] | Vulnerable | Species or species habitat likely to occur within area |
| Caladenia tessellata | | |
| Thick-lipped Spider-orchid, Daddy Long-legs (2119) | Vulnerable | Species or species habitat may occur within area |
| Dianella ampena | | |
| Matted Flax-IIIy [64\$86] | Endangered | Species or species habitat likely to occur within area |
| Givcine latrobeana | | |
| Clover Glycine, Purple Clover [13910] | Vuinerable | Species or species habitat may occur within area |
| Prasophyllum spicatum | | |
| Dense Leek-orchid (55146) | Vulnerable | Species or species habitat likely to occur within area |
| Pterostylis chlorogramma | | |
| Green-striped Greenhood [56510] | Vulnerable | Species or species habitat may occur within area |
| Pterostylis cuculate | | |
| Leafy Greenhood [15459] | Vulnerable | Species or species habitat may occur within area |
| Senecio psilocarpus | | |
| Swamp Fireweed, Smooth-fruited Groundsel [64976] | Vuinerable | Species or species habitat likely to occur within area |
| Thelymitra epipactoides | | |
| Metallic Sun-orchid [11896] | Endangered | Species or species habitat may occur within area |
| Xerochrysum gelusire | | |
| Swamp Everlasting, Swamp Paper Daisy [76215] | Vulnerable | Species or species habitat likely to occur within area |
| Reptiles | | |
| Caretta caretta | | |
| Loggerhead Turtle (1763) | Endangered | Species or species habitat known to occur within area |
| Chelonia mydas | | |
| Green Turtle [1765] | Vulnerable | Species or species habitat may occur within area |
| Demochetys coriacea | | |
| Leatherback Turtle, Leathery Turtle, Luth [1768] | Endangered | Species or species habitat known to occur within area |
| Sharks | | |
| Carcharodon carcharias | | |
| White Shark, Great White Shark (64470) | Vulnerable | Species or species habitat known to occur within area |
| Listed Migratory Species | | Resource Information I |
| * Species is listed under a different scientific name on | the EPBC Act - Threa | tened Species list |
| Name | Threatened | Type of Presence |
| Migratory Manne Birds | | |
| Apus pecificus | | |
| Fork-tailed Swift [678] | | Species or species habitat |

| Name | Threatened | Type of Presence |
|---|---------------|--|
| Ardenna cameipes | | 12 In the State of State of State |
| *lesh-footed Shearwater, Fleshy-footed Shearwater (82404) | | Foraging, feeding or related behaviour likely to occur within area |
| irdenna gosea | | and the local states of the second |
| Sooty Shearwater [82651] | | Species or species habitat may occur within area |
| Diomedea antipodensis | Milliorable | Foreging Section or related |
| ninihoneen vireerose (naaco) | Vunciable | behaviour likely to occur within area |
| Diomedea epomophora | 1 | |
| Southern Royal Albatross (89221) | Vuinerable | Foraging, feeding or related behaviour likely to occur within area |
| Diomedea esulans | With Company | |
| Nandering Albatross (89223) | Vuinerable | Foraging, feeding or related behaviour skely to occur within area |
| Jomedea santordi | woman and a | Provide and a second second second |
| vormem Royal Albatross (64456) | Endengered | Foraging, heeding or related behaviour likely to occur within area |
| Southern Giant Petral, Southern Giant Petral (1080) | Endangered | Species or species habitat |
| and the second second second second second second | miner Gereo | may occur within area |
| Vacronectes hall | | |
| Vorthern Giant Petrel [1051] | Vulnerable | Species or species habitat may occur within area |
| Phoebetria fusca | | |
| Sooty Albetross [1075] | Winerable | Species or species habitat likely to occur within area |
| Sternula albitrons | | |
| Little Tem [82849] | | Species or species habitat may occur within area |
| Chalessarche bulleri | | |
| Buller's Albaiross, Pacific Albatross [54460] | Vulnerable | Species or species habitat may occur within area |
| Chalesserche caula | 2020000000 | |
| Shy Albatross [89224] | Endangered | Foraging, feeding or related behaviour likely to occur within area |
| Thelessarche chrysostoma Greu bearted Athetimes (SEAD 11 | Endonnered | Searies or secoles habitat |
| Profession vinsuos (00481) | Changered | may occur within area |
| halassarche impavida | A description | Engelies funder such tild |
| Campbell Albatross, Campbell Black-browed Albatross 64459] | vuinerable | behaviour likely to occur within area |
| Thalassarche melanophris | | Alianti alea |
| Black-browed Albatross [66472] | Vulnerable | Species or species habitat may occur within area |
| halassarche salvini | | |
| saivin's Alberross (54453) | Vulnerable | Foraging, feeding or related behaviour likely to occur within area |
| halassarche steaci Ahite-capped Albatross (64462) | Vuinerable | Foraging, feeding or related |
| | | behaviour likely to occur within area |
| Agratory Marine Species | | |
| taisena glacialis australis touthern Rinht Whale (75530) | Enderstand | Species or semilier habited |
| sommern reight rangin (rasza) | mandelen. | known to occur within area |

| Name | Threatened | Type of Presence |
|--|-----------------------|---|
| Caperea marginata | | |
| Pygmy Right Whale [39] | | Species or species habitat may occur within area |
| Carcharodon carcharias | | |
| White Shark, Great White Shark [84470] | Vulnerable | Species or species habitat known to occur within area |
| Caretta caretta | | |
| Loggerhead Turtle [1763] | Endangered | Species or species habitat known to occur within area |
| Chelonia mydas | | |
| Green Turtle [1765] | Vulnerable | Species or species habitat may occur within area |
| Dermochelys coriacea | | |
| Leatherback Turtle, Leathery Turtle, Luth [1768] | Endangered | Species or species habitat known to occur within area |
| Lagenoritynchus obscurus | | |
| Dusky Delphin [43] | | Species or species habitat may occur within area |
| Lamna nasus | | |
| Porbeagle, Mackerel Shark [83288] | | Species or species habitat likely to occur within area |
| Megaptera novesanglae | | |
| Humpback Whale [38] | Vulnerable | Species or species habitat may occur within area |
| Migratory Terrestrial Species | | |
| Hrundapus caudacudus | | |
| White-throated Needletail [582] | Vulnerable | Species or species habitat likely to occur within area |
| Motacila flava | | |
| Yellow Wagtaii [544] | | Species or species habitat may occur within area |
| Mylagra cyanoleuca | | |
| Satin Flycatcher [612] | | Species or species habitat known to occur within area |
| Rhipidura rufifrons | | |
| Rufous Fantail [592] | | Species or species habitat likely to occur within area |
| Migratory Wetlands Species | | |
| Actitis hypoleucos | | |
| Common Sandpiper (59309) | | Species or species habitat known to occur within area |
| Arkinaria interpres | | |
| Ruddy Turnstone [872] | | Rosating known to occur within area |
| Sharp-tailed Sandpiper [874] | | Roosting known to occur within area |
| Calidns canutus | Protocolar | Parallel and an and a state of |
| Lind wuldt' woor (sool | Endengered | known to pecur within area |
| Calidris ferruginea | | 85 TO 5228200 |
| Curlew Sandpiper [856] | Critically Endangered | Species or species habitat known to occur within area |
| Calidris metanotos | | |
| Pectoral Sandpiper [858] | | Species or species habitat likely to occur within area |

| Name | Threatened | Type of Presence |
|---|-----------------------|--|
| Calidris ruficollis | | and the second management |
| Red-necked Stint [860] | | Roosting known to occur within area |
| alidas tenurosiria | 222/01/262-02-00 | 23% 25% |
| Great Knot (862) | Critically Endangered | Roosting known to occur within area |
| 2haradrius bioinclus | | |
| touble-bended Plover [895] | | Roosting known to occur within area |
| haradrius mongolus | | |
| esser Sand Plover, Mongolian Plover [879] | Endangered | Roosting known to occur within area |
| lallinage hardwicki | | |
| atham's Snipe, Japanese Snipe [863] | | Species or species habitat known to occur within area |
| Sallinago megala | | |
| winhoe's Snipe [864] | | Roosting likely to occur within area |
| tallinago stenura | | |
| in-tailed Snipe [841] | | Roosting likely to occur within area |
| micola falcinetus | | |
| road-billed Sandpiper (842) | | Roosting known to occur within area |
| imosa lapponica | | |
| ar-tailed Godwit (844) | | Species or species habitat known to occur within area |
| umenius madapascariensis | | |
| astern Curlew, Far Eastern Curlew [847] | Critically Endangered | Species or species habitat known to occur within area |
| lumenius minutus | | |
| ittle Curlew, Little Whimbrel [848] | | Roosting likely to occur |
| umenius phaeopus | | WINNELOIGE |
| himbrel (849) | | Roosting known to occur |
| andion haliaetus | | water area |
| sprey [952] | | Species or species habitat may occur within area |
| | | |
| acifa Caldae Discor (25545) | | Departure la prover la prover |
| acine Goldan Plovar [25545] | | within area |
| nynais squatania | | Reading log in the second |
| rey Plaver [865] | | Westing known to occur within area |
| nnga brevipes | | Benetice to make a |
| rey-tailed Tattler [851] | | Roosting known to occur within area |
| ninga glareola | | |
| Nood Sandpiper (829) | | Roosting known to occur within area |
| ringa incana | | |
| andering Tattler (831) | | Roosting known to occur within area |
| ringa nebularia | | |
| ommon Greenshank, Greenshank [832] | | Species or species habitat known to occur within area |
| ince stagnatilia | | |
| larsh Sandpiper, Little Graenshank [833] | | Roosting known to occur within area |
| enus cineraus | | Contest and the top state |
| apple Conditions (E0200) | | Roosting known to occur |

Other Matters Protected by the EPBC Act

| SCHORK IS USING UTDER IS CUTHEND, SCHOOL, DATE | s on the the Bay Act - Fitteatene | d-Species list |
|--|-----------------------------------|---|
| Name | Threatened | Type of Presence |
| Birds | | and the second second |
| Actitis hypoleucos | | |
| Common Sandpiper (59309) | | Species or species habitat known to occur within area |
| Apus pacificus Fork-tailed Swift (678) | | Species or species habitat |
| | | likely to occur within area |
| Ardea ibis | | |
| Cattle Egret (59542) | | Species or species habitat may occur within area |
| Avenaria interpres | | |
| Ruddy Turnstone [872] | | Roosting known to occur within area |
| Calidris acuminata | | Description in the local of |
| Sharp-talled Sandpiper [674] | | within area |
| Red Knot, Knot [855] | Endangered | Species or species habitat |
| | | whown to occur within area |
| Calidris ferruginea | | |
| Curlew Sandpiper [856] | Critically Endangered | Species or species habitat known to occur within area |
| Calidris melanolos | | |
| Pectoral Sandpiper (858) | | Species or species habitat likely to occur within area |
| Calidns ruficollis | | |
| Red-necked Stint (860) | | Roosting known to occur within area |
| Calidns tenurostris | | |
| Great Knot [862] | Critically Endangered | Roosting known to occur within area |
| Charadrius bicinclus | | |
| Double-banded Ployer [895] | | Roosting known to occur within area |
| Lesser Sand Plover, Mongolian Plover (879) | Endangered | Roosting known to occur within area |
| Charadrius ruficapillus | | montation |
| Red-capped Plover [881] | | Roosting known to occur within area |
| Chrysococcyx osculans | | Paratas an encoder backing |
| Black-Bared Cuckoo [/ub] | | likely to occur within area |
| Diomedea antipodensis | | |
| Antipodean Albatrosa (64458) | Vuinerable | Foraging, feeding or relate behaviour likely to occur within area |
| Diomedea epomophora | | |
| Southern Royal Albatross (89221) | Vulnerable | Foraging, feeding or relate behaviour likely to occur within area |
| Alexandering Alexandre (000001 | Milmanhla | Encodes faither sector |
| Wandering Aubatross [64223] | Vulneracie | behaviour likely to occur within area |

| Name | DeneteentT | Type of Presence |
|---|-----------------------|--|
| Diomedea gibsoni | | |
| Gibson's Albatross (64466) | Vuinerable* | Foraging, feeding or related behaviour likely to occur within area |
| Diomedea sanierdi | | |
| Northern Royal Albatross [54456] | Endangered | Foraging, feeding or related behaviour likely to occur within area |
| Gallinago hardwicka | | |
| Latham's Snipe, Japanese Snipe [863] | | Species or species habitat known to occur within area |
| Gallinace megala | | |
| Swinhoe's Snipe (864) | | Roosting likely to occur within area |
| Gallinago stenura | | |
| Pin-talled Snipe [841] | | Roosting likely to occur within area |
| Haliacetus leucogaster | | |
| Ahite-bellied Sea-Eagle [943] | | Species or species habitat known to occur within area |
| Hatemoralus travinas | | |
| Grey-tailed Tattler [59311] | | Roosting known to occur within area |
| Heteroscelus incanus | | 14 (14 - 10) C (2) |
| Nandering Tattler (59547) | | Roosting known to occur within area |
| Himantopus himantopus | | |
| Pied Still, Black-winged Still [870] | | Roosting known to occur within area |
| firundapus caudacutus | | |
| Ahite-throated Needletail (682) | Vulnerable | Species or species habitat likely to occur within area |
| alhamus discolor. | | |
| Swift Parrot [744] | Critically Endangered | Species or species habitat likely to occur within area |
| Instanta Internettion | | |
| Limicola reichelus | | BORNESS CONTRACTOR |
| sroad-billed Sandpiper (842) | | Hoosting known to occur |
| imosa Jannonina | | within area |
| Restailed Contait (\$44) | | Species or species habitat |
| Ser-inter Count (Count | | known to occur within area |
| Macronectes giganteus | | |
| Southern Giant-Petrel, Southern Giant Petrel [1060] | Endengered | Species or species habitat may occur within area |
| Macropecter hall | | |
| Northern Giant Petrel [1061] | Vulnerable | Species or species habitat may occur within area |
| Merops ematus | | |
| Rainbow Bee-eater [670] | | Species or species habitat may occur within area |
| Motacilla flava | | |
| rellow Wagtail [544] | | Species or species habitat may occur within area |
| Vylagra cyanolouca | | |
| sann Flycatcher (6.12) | | known to occur within area |
| Veophema.chrysogaster | | |
| Drange-bellied Parrot [747] | Critically Endangered | Migration route likely to occur within area |
| Neophema chrysostoma | | Constant and an article bablist |
| sine-wußed Latiot [\.50] | | known to occur within area |
| | | |

| Name | Threatened | Type of Presence |
|---|----------------------------|--|
| Numerius madagascanensis | Orikinih Enderstand | Paradas as an aire babilat |
| zastem Cunew, Par Eastern Cunew [647] | Chocally Endangered | known to occur within area. |
| Numenius minutus | | |
| Jitle Curlew, Little Whimbrei (848) | | Roosting likely to occur within area |
| fumenius phaeopus | | |
| Ahimbrei (849) | | Roosting known to occur within area |
| Pachypilla Juriur | | |
| airy Prion (1066) | | Species or species habitat likely to occur within area |
| Pandion haliaetus | | |
| Osprey (952) | | Species or species habitat |
| | | may occur within area |
| Phoebetria fusca | | |
| icoty Albatross [1075] | Vulnerable | Species or species habitat likely to occur within area |
| Pluvialis Autva | | |
| acific Golden Plover [25545] | | Roosting known to occur within area |
| Pluvialis squatarola | | |
| Srey Plover [865] | | Roosting known to occur within area |
| Flash Inded Shaarwatar, Flashy Indiad Shearwater | | Foreging feeding or related |
| lotaj | | behaviour likely to occur within area |
| fuffinus griseus | | |
| iooty Shearwater [1024] | | Species or species habitat may occur within area |
| Recurvingstra novaehollandiae | | |
| red-necked Avocet [871] | | Roosting known to occur within area |
| Chipidura rufifrons | | |
| tufous Fantail (592) | | Species or species habitat likely to occur within area |
| Tostraluia benchalensis (sensu lato) | | |
| Painted Snipe (889) | Endangered* | Species or species habitat likely to occur within area |
| Street of Barrier | | |
| ittle Tem (813) | | Species or species habitet |
| and a set for all | | may occur within area |
| halasserche bulleri | | |
| Julier's Albaiross, Pacific Albaiross (64460) | Vulnerable | Species or species habitat may occur within area |
| halassarche cauta | | |
| shy Albatross [89224] | Endangered | Foraging, feeding or related behaviour likely to occur within area. |
| Thalassarche chrysostoma | | WIGHT ATTA |
| Srey-headed Albatross (66491) | Endangered | Species or species habitat |
| | | may occur within area |
| halassarche impavida | 1003444613 | A CONTRACTOR OF CONTRACTOR |
| Campbell Albatross, Campbell Black-browed Albatross 64459] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area |
| Chalassarche melanophris | | |
| llack-browed Albatross (66472) | Vulnerable | Species or species habitat may occur within area |
| halassarche salvini | | |
| alvin's Albatross (64463) | Vulnerable | Foraging, feeding or |
| | CONTRACTOR DURING CONTRACT | |

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| Vame | | |
|--|---|---|
| 12002 | Deneteent | Type of Presence |
| | | related behaviour likely to |
| | | occur within area |
| Chalassarche sp. nov. | | |
| Pacific Albatross [66511] | Vulnerable* | Species or species habitat |
| | 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | may occur within area |
| | | The second is used with the second |
| halassarche steadi | | |
| Ahite-capped Albatross [64462] | Vulnerable | Foraging, feeding or related |
| | | behaviour likely to occur |
| | | within area |
| hinomis rubricellis, rubricellis | | and and an order of the second |
| fooded Plover (eastern) [66726] | Vulnerable* | Species or species habitat |
| | | likely to occur within area |
| tinga glaceola | | |
| Nood Sandhiger (820) | | Boostine known to every |
| reco canadabai locat | | within area |
| ringa nebularia | | BALING OUT & GRITHLINE |
| ommon Greensback, Greensback (832) | | Spaces or spacing habitat |
| autorian autoriana autorianana loost | | known to oncur within area |
| | | Another to occur mover allow |
| ringa stagnatilis | | |
| larsh Sandpiper, Little Greenshank (833) | | Ropsting known to occur |
| and a support since a sourcement facal | | within area |
| enus cinereus | | |
| erek Sandpiper (59300) | | Repating known to occur |
| CONTRACTOR CONTRACTOR | | within area |
| lanvnals | | |
| rctocephalus forsteri | | |
| ong-nosed Fur-seal, New Zealand Fur-seal (20) | | Species or species habitat |
| | | may occur within area |
| | | |
| rctocephalus pusitus | | |
| ustralian Fur-seal, Australo-African Fur-seal [21] | | Species or species habitat |
| | | may occur within area |
| Se outroine | | |
| ceptiles | | |
| arella carelta | | |
| oggerhead Turtle [1763] | Endangered | Species or species habitat |
| | | known to occur within area |
| balagia midat | | |
| neiona myaas | | |
| man Turtle [1255] | Made and the second states | Control on the size size is a billed |
| ineen Turtle [1765] | Vulnerable | Species or species habitat |
| reen Turtle [1765] | Vulnerable | Species or species habitat may occur within area |
| ineen Turtle [1765] | Vuinerable | Species or species habitat may occur within area |
| reen Turtle [1765] ermachelys conacea | Vulnerable | Species or species habitat may occur within area |
| reen Turtle [1765] emischelys conacea satherback Turtle, Leathery Turtle, Luth [1788] | Vulnerable | Species or species habitat may occur within area Species or species habitat |
| ireen Turtle [1765] Iermochelys coniacea eatherback Turtle, Leathery Turtle, Luth [1768] | Vulnerable | Species or species habitat may occur within area Species or species habitat known to occur within area |
| reen Turtle [1765] ermochelys coriacea satherback Turtle, Leathery Turtle, Luth [1768] | Vulnerable | Species or species habitat may occur within area Species or species habitat known to occur within area |
| reen Turtle [1765] ennochelys conacea eatherback Turtle, Leathery Turtle, Luth [1768] whales and other Cetaceans | Vulnerable | Species or species habitat may occur within area Species or species habitat known to occur within area |
| reen Turtle [1765] emischelys conacea eatherback Turtle, Leathery Turtle, Luth [1768] males and other Cetaceans ame | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area [Resource Information] Type of Presence |
| reen Turtle [1765] emischelys conacea satherback Turtle, Leathery Turtle, Luth [1768] shales and other Cetaceans ame lammals | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area <u>[Resource Information]</u> Type of Presence |
| reen Turtle [1765] emochelys conacea eatherback Turtle, Leathery Turtle, Luth [1768] whales and other Cetaceans ame lammals aperes marginals | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area <u>[Resource Information]</u> Type of Presence |
| reen Turtle [1765] emischelys conacea satherback Turtle, Leathery Turtle, Luth [1768] shales and other Cetaceans ame lammals aperea marginata yorry Richt Whale [39] | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area <u>LResource Information</u> Type of Presence |
| reen Turtle [1765] emochelys conacea eatherback Turtle, Leathery Turtle, Luth [1768] whales and other Cetaceans ame lammals aperes marginata ygmy Right Whale [39] | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area <u>LResource Information</u> Type of Presence Species or species habitat may occur within area |
| reen Turtle [1765] emischelys conacea satherback Turtle, Leathery Turtle, Luth [1768] shales and other Cetaceans ame lammals aperea marginata ygmy Right Whate [39] | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area <u>LResource Information</u> Type of Presence Species or species habitat may occur within area |
| Ireen Turtle [1765] Iemachelys conacea eatherback Turtle, Leathery Turtle, Luth [1768] Whales and other Cetaceans Iame Iammals Iaperea marginata ygmy Right Whale [39] | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area <u>LResource Information</u> Type of Presence Species or species habitat may occur within area |
| reen Turtle [1765] emochelys conacea satherback Turtle, Leathery Turtle, Luth [1768] males and other Cetaceans ame ammals aperea marginata ygmy Right Whale [39] eiphinus delphis ommon Dolphin, Short-beaked Common Dolphin M | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area <u>LResource Information</u> Type of Presence Species or species habitat may occur within area |
| reen Turtle [1765] emochelys conacea satherback Turtle, Leathery Turtle, Luth [1768] fhales and other Cetaceans ame ammals aperea marginata ygmy Right Whale [39] elphinus delphis ommon Dolphin, Short-beaked Common Dolphin (6 | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area I Resource Information Type of Presence Species or species habitat may occur within area |
| reen Turtle [1765] emochelys conacea satherback Turtle, Leathery Turtle, Luth [1768] fhales and other Cetaceans ame ammals aperea marginata ygmy Right Whale [39] elphinus delphis ommon Dolphin, Short-beaked Common Dolphin (6 | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area I Resource Information Type of Presence Species or species habitat may occur within area Species or species habitat may occur within area |
| reen Turtle [1765] ennochelys conacea satherback Turtle, Leathery Turtle, Luth [1768] thales and other Cetaceans ame tammals aperea marginata ygmy Right Whale [39] elphinus delphis ommon Dolphin, Short-beaked Common Dolphin (6 ubalanna australis | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area I Resource Information (Type of Presence Species or species habitat may occur within area |
| reen Turtle [1765] ennochelys conacea eatherback Turtle, Leathery Turtle, Luth [1768] chales and other Cetaceans ame ammals aperea marginata ygmy Right Whale [39] elphinus delphis ommon Dolphin, Short-beaked Common Dolphin (6 ubalaena australis outhern Right Whale [40] | Vulnerable Endengered Status | Species or species habitat may occur within area Species or species habitat known to occur within area <u>I Resource Information</u> Type of Presence Species or species habitat may occur within area Species or species habitat may occur within area |
| reen Turtle [1765] enmochelys conacea eatherback Turtle, Leathery Turtle, Luth [1768] whales and other Cetaceans ame tammals aperea marginata ygmy Right Whale [39] elphinus delphis ommon Dolphin, Short-beaked Common Dolphin (6 ubalaena australis outhern Right Whale [40] | Vulnerable Endengered Status | Species or species habitat may occur within area Species or species habitat known to occur within area I Resource Information Type of Presence Species or species habitat may occur within area Species or species habitat may occur within area |
| reen Turtle [1765] emiochelys conacea satherback Turtle, Leathery Turtle, Luth [1768] males and other Cetaceans ame lammals aperes marginats ygmy Right Whale [39] elphinus delphis ommon Dolphin, Short-beaked Common Dolphin (6 ubalanna australis outhern Right Whale [40] | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area <u>I Resource Information</u> Type of Presence Species or species habitat may occur within area Species or species habitat may occur within area |
| Areen Turtle [1765] Permochelys conacea eatherback Turtle, Leathery Turtle, Luth [1768] Whales and other Cetaceans Jame Mammals aperes marginats aperes marginats aperes marginats aperes marginats aperes marginats aperes marginats aperes marginats aperes marginats outhern Dolphin, Short-beaked Common Dolphin (6 ubalarna sustralis outhern Right Whale [40] agenomynchus obscurus | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area <u>I Resource Information</u> Type of Presence Species or species habitat may occur within area Species or species habitat may occur within area |
| reen Turtle [1765] enmochelys conacea eatherback Turtle, Leathery Turtle, Luth [1768] whales and other Cetaceans ame lammals aperea marginata ygmy Right Whale [39] elohinus delohis ommon Dolphin, Short-beaked Common Dolphin (6 whalanna australis outhern Right Whale [40] agenoritynchus obscurus usky Dolphin [43] | Vulnerable Endangered Status 50) Endangered | Species or species habitat may occur within area Species or species habitat known to occur within area <u>LResource Information</u> Type of Presence Species or species habitat may occur within area Species or species habitat may occur within area Species or species habitat known to occur within area |
| reen Turtle [1765] enmochelys conacea eatherback Turtle, Leathery Turtle, Luth [1768] males and other Cetaceans ame ammals aperea marginata ygmy Right Whale [39] elohinus delohis ommon Dolphin, Short-beaked Common Dolphin (6 vbalanna australis outhern Right Whale [40] sgenoritynchus obscurus usky Dolphin [43] | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area <u>LResource Information</u> Type of Presence Species or species habitat may occur within area Species or species habitat may occur within area Species or species habitat known to occur within area |
| Seen Turtle [1765] Semachelys coniacea eatherback Turtle, Leathery Turtle, Luth [1768] Whales and other Cetaceans Jame Sammals aperea marginata yomy Right Whale [39] Selphinus delphis Sommon Dolphin, Short-beaked Common Dolphin [6 ubalanna australis outhern Right Whale [40] agenoffwnchus obscurus Jusky Dolphin [43] | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area LResource Information (Type of Presence Species or species habitat may occur within area Species or species habitat known to occur within area Species or species habitat known to occur within area |
| reen Turtle [1765] emochelys conacea eatherback Turtle, Leathery Turtle, Luth [1768] fhales and other Cetaceans ame lammals aperea marginata ygmy Right Whale [39] elohinus delohis ommon Dolphin, Short-beaked Common Dolphin (6 ubalanna australis outhern Right Whale [40] sgenoffwrichus obscurus usky Dolphin [43] | Vulnerable Endangered Status | Species or species habitat may occur within area Species or species habitat known to occur within area LResource Information (Type of Presence Species or species habitat may occur within area Species or species habitat known to occur within area Species or species habitat known to occur within area |
| Ireen Turtle [1765] Iermochelys conacea eatherback Turtle, Leathery Turtle, Luth [1768] Whales and other Cetaceans lame tammals aperea marginata ygmy Right Whale [39] Ielohinus delohis common Dolphin, Short-beaked Common Dolphin (6 ubalanna australis outhern Right Whale [40] agenoritynchus obscurus husky Dolphin [43] | Vulnerable Endangered Status 10) Endangered Vulnerable | Species or species habitat may occur within area Species or species habitat known to occur within area I Resource Information Type of Presence Species or species habitat may occur within area Species or species habitat known to occur within area Species or species habitat known to occur within area Species or species habitat may occur within area |

| Name | Status Type of F | resence |
|--|--|--|
| Turting advance | area | |
| Indian Ocean Bottlenose Dolphin, Spotled Bottlenose Dolphin (68418) | Species o likely to o | or species habitat cour within area |
| Tursiops truncatus s., str. | | |
| Bottlenose Dolphin (68417) | Species of may occu | or species habitat ir within area |
| Euton Information | | |
| Extra information | | |
| State and Territory Reserves | [Resol | rce Information |
| Name North Mastern Bort N C P | State | |
| AND DI ANGROTI LOLI IA'O'LL | VIC | |
| invasive Species | LReso | rce Information |
| that are considered by the States and Territories to po- following feral animals are reported; Goat, Red Fox, Ci Landscape Health Project, National Land and Water R | a particularly significant threat to bin Rabbit, Pig. Water Buffalo and Can souces Audit, 2001 | odiversity. The e Toad. Maps from |
| Name | Status Type of F | resence |
| Birds Agridathagas birdis | | |
| Acricollieres tristis Common Myna, Indian Myna (387) | Species | v species habitat |
| service relation and react | likely to o | ocur within area |
| Alauda arvensis | | |
| Skylark (656) | Species of likely to o | or species habitat ocur within area |
| Anas platyrhynchos | | |
| Mallard (974) | Species of likely to o | or species habitat |
| Carduelis carduelis | | |
| European Goldfinch (403) | Species | or species habitat |
| | likely to o | cour within area |
| Carduelis chloris | 24.53 | |
| European Greenfinch [404] | Species of likely to o | or species habitat ocur within area |
| Columba livia | | |
| Rock Pigeon, Rock Dove, Domestic Pigeon (803) | Species of likely to o | or apecies habitat ocur within area |
| Passer domesticus | | |
| House Sparrow [405] | Species of likely to o | x species habitat cour within area |
| Passer montanus | | |
| Eurasian Tree Sparrow (406) | Species of likely to o | or species habitat ocur within area |
| Pycnonotus jocosus | | |
| Red-whickered Bulbul [631] | Species of likely to of | a species habitat |
| | and the second second | |
| Streptopelia chinensis | | |
| Streptopelia chinensis Spotted Turte-Dove [780] | Species | or species habitat |

| Name | Status | Type of Pr within area |
|---|--------|----------------------------|
| Sturnus vulgaris Common Starling (389) | | Species or likely to oc |
| Turdus merula Common Blackbird, Eurasian Blackbird (596) | | Species o |

Turdus philomelos Song Thrush (597)

Mammals Bos taurus

Na

Co

Domestic Cattle [16]

Canis lupus Tamiliaris Domestic Dog (82654)

Capra hircus Goat [2]

Felis catus Cat, House Cat, Domestic Cat [19]

Feral deer Feral deer species in Australia [85733]

Lepus capensis Brown Hare [127]

Mus musculus House Mouse [120]

Oryctolagus cuniculus Rabbit, European Rabbit [128]

Rattus norvegicus Brown Rat, Norway Rat [83]

Rattus rattus Black Rat, Ship Rat [84]

Sus scrola Pig [6]

Vulpes vulpes Red Fox, Fox [18]

Plants

Alternanthera philoxeroides Alligator Weed [11620]

Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asperagus (22473)

Asparagus scanders Asparagus Fern, Climbing Asparagus Fern esence

species habitat cur within area

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Species or species

Name [23255]

Carrichtera annua Ward's Weed [9511]

Chrysanthemoides monilifera Bitou Bush, Bonesced [18983]

Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]

Chrysanthemoides monilifera subsp. rotundata Bitou Bush (16332)

Genista Inifolia Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]

Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, Franch Broom, Soft Broom [20126]

Genista sp. X Genista monspessulana Broom (67538)

Lycium ferodisaimum African Boxthorn, Boxthorn [19235]

Nassella neesiana Chilean Needle grass (67699)

Nassella tricholoma Serrated Tussock, Yass River Tussock, Yass Tussock, Nassella Tussock (NZ) [18884]

Oles europees Olive. Common Olive [9160]

Rubus fruticosus aggregate Blackberry, European Blackberry (68406)

Salix spp. except S babytonica, S x calodendron & S x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow (68497)

Ulex europaeus Gorse, Furze (7693)

Nationally Important Wetlands Name Western Port Status

Type of Presence habitat likely to occur within area

Species or species habitat may occur within area

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[Resource Information] State VIC

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is dissigned to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Bodivandy Conservation Act 1906. It holds mapped locations of World and National Heritage properties. Wallanck of international and National Importance. Commonwealth and State/Tentiony reserves, lated threatened, migratory and marine species and lated threatened ecological communities. Mapping of Commonwealth and is not complete at this stage. Mappinane been collated from a range of sources at vasious resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the gualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the disbibution is well known, maps are derived from recovery plans. State vegetation maps, remote serving imaging and other sources, where threatened ecological community distributions are less with known, existing vegetation maps and paint location data are used to produce indicative distribution maps.

Treatened, migratory and makes species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. segetation, solar, geology, elevation, espect, termin, etc) together with point locations and described habitat or emintermental modeling (MAXENT or BIOCLIM habitat modeling) using permit locations and environmental data locations.

Whele very it is information is available for species or large number of maps are required in a short time-hans, maps are derived either from 0.04 or 0.02 decimal degree cells: by an automated process using polygon capture techniques (static two Wiometre grid cells, agria-hait and convex null); or captared manually or by using topographic teatures (national park boundaries), wonds, etc). In the early stages of the distribution mapping process (1969-early 2000b) distributions rever whether distributions, 100K or 250K (map sheets to repictly create distribution mapping distribution mapping methods are used to update these distributions as the permits.

Only selected opecies covered by the following provisions of the EPBC Act have been mapped - migratery and

- marine

The following agencies and ecological communities have not been mapped and do not appear in reports produced from this dotatoase

- Treatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been lated
- acrea terrestrial species that overly the Commonwealth metre area
- migratory species that are very videspread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- ion-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent.

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-36.20185.145.48547

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales -Department of Environment and Primary Industries, Victoria -Department of Primary Industries, Parks, Water and Environment, Tasmania -Department of Environment, Water and Natural Resources, South Australia. Department of Land and Resource Management, Northern Territory -Department of Environmental and Heritage Protection, Queensland -Department of Parks and Wildlife, Western Australia -Environment and Planning Directorate, ACT Birdlife Australia Australian Bird and Bat Banding Scheme -Australian National Wildlife Collection -Natural history museums of Australia -Museum Victoria -Australian Museum -South Australian Museum Queensland Museum Online Zoological Collections of Australian Museums -Queensland Herbarium National Herbarium of NSW -Royal Botanic Gardens and National Herbanum of Victoria -Tasmanian Horbarium -State Herbarium of South Australia -Northern Territory Herbarium Western Australian Herbarium -Australian National Herbarium, Canberra -University of New England -Ocean Biogeographic Information System -Australian Government, Department of Defence Forestry Corporation, NSW -Geoscience Australia -CSIRO -Australian Tropical Herbarium, Calma -eBird Australia -Australian Government - Australian Antarctic Data Centre -Museum and Art Gallery of the Northern Territory. -Australian Government National Environmental Science Program -Australian Institute of Marine Science Reef Life Survey Australia -American Museum of Natural History -Queen Victoria Museum and Art Gallery, Inveresk, Tasmania -Tasmanian Museum and Art Gallery, Hobert, Tasmania -Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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#1 Melaleuca ericifolia thicket (~30 Stems Stems Stelly provided





#2 Melaleuca ericifolia thicket (~10 Stems a converter of the purpose as set autors the purpose by laking a converter of the purpose as set autors the purpose by laking a converter of the purpose as set autors the purpose by laking a converter of the purpose by laking a

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#3 Eucalytpus botryoides





#4 Acacia mearnsii





#5 Eucalyptus camaldulensis (?)



#6 Eucalyptus camaldulensis (?)





#8 Myoporum insulare

#7 Myoporum insulare

#10 Eucalytpus botryoides

#9 Eucalytpus by the transformer of the second seco



#11 Eucalytpus botryoides







#23 Persica spp.

FALOON

#27 Coprosma repens

#28 Prunus spp.

#26 Prunus spp.

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#25 Prunus spp.

#24 Prunus spp.

#29 Grevillia spp.

8.0 MAPS Map 1 - The Project Area

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Map 2 – DELWP modelled vegetation cover, Ecological Vegetation Class Swamp Scrub (EVC) 53



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Map 3 – Tree Locations









A report to support an application to remove, destroy or lop native vegetation in the **Intermediate** Assessment Pathway using the modelled condition score

This report provides information to support an application to remove native vegetation in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation*. The report <u>is not</u> an assessment by DELWP or local council of the proposed native vegetation removal. Biodiversity information and offset requirements have been calculated using modelled condition scores contained in the *Native vegetation condition map*.

Date and time: 18 March 2022 14:46 PM

| Lat./Long.: | -38.2025448377746, 145.486160737867 |
|-------------|---------------------------------------|
| Address: | 232 ROSSITER ROAD KOO WEE RUP 3981 |
| | 230 ROSSITER ROAD KOO WEE RUP 3981 |

Native vegetation report ID: 311-20220318-042

Assessment pathway

The assessment pathway and reason for the assessment pathway

| Assessment pathway | Intermediate Assessment Pathway |
|--|---|
| Extent of past plus proposed native vegetation removal | 0.124 hectares |
| No. large trees | 2 large tree(s) |
| Location category | Location 2 The native vegetation is in an area mapped as an Endangered Ecological Vegetation Class. Removal of less than 0.5 hectares of native vegetation will not have a significant impact on any habitat for a rare or threatened species. |
| | This copied document is made available for the purpose of the clanning process |

Offset requirement

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The offset requirement that will apply if the native vegetation is approved to be removed

| Offset type | General offset |
|--|---|
| Offset amount | 0.035 general habitat units |
| Offset attributes | |
| Vicinity | Port Phillip And Westernport Catchment Management Authority (CMA) or Cardinia Shire Council |
| Minimum strategic biodiversity value score | 0.199 |
| Large trees | 2 large tree(s) |



Biodiversity information about the native vegetation

Description of any past native vegetation removal

Any native vegetation that was approved to be removed, or was removed without the required approvals, on the same property or on contiguous land in the same ownership, in the five year period before the application to remove native vegetation is lodged is detailed below.

| Permit/PIN number | Extent of native vegetation (hectares) |
|-------------------|--|
| None entered | 0 hectares |

Description of the native vegetation proposed to be removed

| Extent of all mapped native vegetation | 0.124 hectares |
|--|-----------------|
| Condition score of all mapped native vegetation | 0.290 |
| Strategic biodiversity value score of all mapped native vegetation | 0.249 |
| Extent of patches native vegetation | 0.006 hectares |
| 1 | 0.004 hectares |
| 2 | 0.002 hectares |
| Extent of scattered trees | 0.118 hectares |
| No. large trees within patches | 0 large tree(s) |
| No. large scattered trees | 2 large tree(s) |
| No. small scattered trees | 0 small tree(s) |

Additional information about trees to be removed, shown in Figure 1

| Tree ID | Tree circumference (cm) | Benchmark circumference (cm) | Scattered / Patch | Tree size |
|---------|-------------------------|---------------------------------|-------------------|-----------|
| А | 427 | 126 | Scattered | Large |
| В | 166 | 126 | Scattered | Large |



Other information

Applications to remove, destroy or lop native vegetation must include all the below information. <u>If an appropriate response has not been provided the application is not complete.</u>

Photographs of the native vegetation to be removed

Recent, dated photographs of the native vegetation to be removed must be provided with the application. All photographs must be clear, show whether the vegetation is a patch of native vegetation or scattered trees, and identify any large trees. If the area of native vegetation to be removed is large, provide photos that are indicative of the native vegetation.

Ensure photographs are attached to the application. If appropriate photographs have not been provided the application is not complete.

Topographical and land information

Description of the topographic and land information relating to the native vegetation to be removed, including any ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate. This may be represented in a map or plan. This is an application requirement and your application will be incomplete without it.

Generally flat with minor terrain slope of less than 1% from east to west

Avoid and minimise statement

This statement describes what has been done to avoid the removal of, and minimise impacts on the biodiversity and other values of native vegetation. This is an application requirement and your application will be incomplete without it.

due to the location of the two scattered trees (both of which are multi stemmed from coppice regrowth from felled tree stumps) site constraints, access requirements and infrastructure to be installed as a result of the proposed development avoidance is not possible. Note that the two patches of vegetation are monocultures of Melaleuca ericifolia which have naturally recruited to the existing drainage swale lines.

Defendable space statement

Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This statement must have regard to other available bushfire risk mitigation measures. This statement is not required if your application also includes an application under the Bushfire Management Overlay.

not applicatble

Offset statement

An offset statement that demonstrates that an offset is available and describes how the required offset will be secured. This is an application requirement and your application will be incomplete without it.

There are significant offsets available (GBU's) within the Gippsland plains bioregion for the vegetation proposed to be removed as listed on the DEWLP offset register.





Next steps

Applications to remove, destroy or lop native vegetation must address all the application requirements specified in *Guidelines for the removal, destruction or lopping of native vegetation*. If you wish to remove the mapped native vegetation you are required to apply for a permit from your local council. This *Native vegetation removal report*must be submitted with your application and meets most of the application requirements. The following needs to be added as applicable.

Property Vegetation Plan

Landowners can manage native vegetation on their property in the longer term by developing a Property Vegetation Plan (PVP) and entering in to an agreement with DELWP.

If an approved PVP applies to the land, ensure the PVP is attached to the application.

Applications under Clause 52.16

An application to remove, destroy or lop native vegetation is under Clause 52.16 if a Native Vegetation Precinct Plan (NVPP) applies to the land, and the proposed native vegetation removal <u>is not</u> in accordance with the relevant NVPP. If this is the case, a statement that explains how the proposal responds to the NVPP considerations must be provided.

If the application is under Clause 52.16, ensure a statement that explains how the proposal responds to the NVPP considerations is attached to the application.

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Figure 1 – Map of native vegetation to be removed, destroyed or lopped





Figure 2 – Map of property in context





Figure 3 – Biodiversity information maps



Native vegetation removal report



Native vegetation removal report





Appendix 1 - Details of offset requirements

Native vegetation to be removed

| Extent of all mapped native vegetation (for calculating habitat hectares) | 0.124 | The area of land covered by a patch of native vegetation and/or a scattered tree, measured in hectares. Where the mapped native vegetation includes scattered trees, each tree is assigned a standard extent and converted to hectares. A small scattered tree is assigned a standard extent defined by a circle with a 10 metre radius and a large scattered tree a circle with a 15 metre radius. The extent of all mapped native vegetation is an input to calculating the habitat hectares. |
|---|-------|---|
| | | |
| Condition score* | 0.290 | The condition score of native vegetation is a site-based measure that describes how close native vegetation is to its mature natural state. The condition score is the weighted average condition score of the mapped native vegetation calculated using the <i>Native vegetation condition map</i> . |
| Habitat hectares | 0.036 | Habitat hectares is a site-based measure that combines extent and condition of native vegetation. It is calculated by multiplying the extent of native vegetation by the condition score: |
| | | Habitat hectares = extent x condition score |
| Strategic biodiversity value score | 0.249 | The strategic biodiversity value score represents the complementary contribution to Victoria's biodiversity of a location, relative to other locations across the state. This score is the weighted average strategic biodiversity value score of the mapped native vegetation calculated using the <i>Strategic biodiversity value map</i> . |
| General landscape factor | 0.625 | The general landscape factor is an adjusted strategic biodiversity value score. It has been adjusted to reduce the influence of landscape scale information on the general habitat score. |
| General habitat score | 0.023 | The general habitat score combines site-based and landscape scale information to obtain an overall measure of the biodiversity value of the native vegetation. The general habitat score is calculated as follows: |
| | | General habitat score = habitat hectares x general landscape factor |

* Offset requirements for partial removal: If your proposal is to remove parts of the native vegetation in a patch (for example only understorey plants) the condition score must be adjusted. This will require manual editing of the condition score and an update to the calculations that the native vegetation removal tool has provided: habitat hectares, general habitat score and offset amount.

Offset requirements

| Offset type | General offset | A general offset is required when the removal of native vegetation does not have a significant impact on any habitat for rare or threatened species. All proposals in the Basic and Intermediate assessment pathways will only require a general offset. |
|--|--|--|
| Offset multiplier | 1.5 | This multiplier is used to address the risk that the predicted outcomes for gain will not be achieved, and therefore will not adequately compensate the biodiversity loss from the removal of native vegetation. |
| Offset amount (general habitat units) | 0.035 | The general habitat units are the amount of offset that must be secured if the application is approved. This offset requirement will be a condition to any permit or approval for the removal of native vegetation. |
| Minimum strategic biodiversity value score | 0.199 | The offset site must have a strategic biodiversity value score of at least 80 per cent of the strategic biodiversity value score of the native vegetation to be removed. This is to ensure offsets are located in areas with a strategic biodiversity value that is comparable to the native vegetation to be removed. |
| Vicinity | Port Phillip And Westernport CMA or Cardinia Shire Council | The offset site must be located within the same Catchment Management Authority boundary or municipal district as the native vegetation to be removed. |
| Large trees | 2 large tree (s) | The offset site must protect at least one large tree for every large tree removed. A large tree is a native canopy tree with a Diameter at Breast Height greater than or equal to the large tree benchmark for the local Ecological Vegetation Class. A large tree can be either a large scattered tree or a large patch tree. |



Stormwater Management Plan

230 Rossiter Road, Kooweerup

| Date | 9 September 2021 |
|-------------|-------------------------|
| Project No. | 561 |
| Version | 01 |
| Author | MMM |
| Client | Nobelius Land Surveyors |

Project History

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| Project Number | 561 |
|----------------|-------------------------|
| Author/s | MMM |
| Checked | CMB |
| Approved | CMB |
| Issued to | Nobelius Land Surveyors |

Document History

| Version | Date | Description |
|---------|------------|--------------------------------|
| 01 | 23/08/2021 | SWMP for 230 Rossiter Road KWR |

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Climate Change Statement

A wide range of sources, including but not limited to the IPCC, CSIRO and BoM, unanimously agree that the global climate is changing. Unless otherwise stated, the information provided in this report does not take into consideration the varying nature of climate change and its consequences on our current engineering practices. The results presented may be significantly underestimated; flood characteristics shown (e.g. flood depths, extents and hazards) may be different once climate change is taken into account.

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1. Introduction

Afflux Consulting have been engaged by Nobelius Land Surveyors to complete a stormwater management plan for the proposed development at 230 Rossiter Road, Kooweerup (Figure 1). This will cover the major drainage, flooding and water quality associated with the development. If necessary, it will include an assessment of associated stormwater drainage assets, regional overland flow paths/creek systems and stormwater conditions within neighbouring properties. The intention of this report is to:

- Provide an assessment of major drainage and flooding associated with site;
- Retention of post development flows to pre-development levels;
- Ensure flooding of the site, or potential off-site impacts are reduced or eliminated;
- · Ensure safe conveyance of existing overland flow regimes, if required;
- Meet the EPA best practice environmental management (BPEM) water quality requirements;
- Inclusion and consideration of guidelines and advice for stormwater management in line with Cardinia Shire Council and Melbourne Water requirements; and
- Identification of mitigation and treatment options, if required.

To meet these requirements a range of hydrological, hydraulic and water quality modelling has been undertaken. The proposed development plan is shown in Figure 2.







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Figure 2. Proposed Development

1.1. Information Sources

A number of information sources have been used in the formation of this strategy; these include:

- Site inspection
- Aerial imagery
- Discussions with Cardinia Shire Council
- Discussions and information as provided by Melbourne Water (ref: MWA-1216675)
- Design Guidelines and Guidelines for Development
- Various Environmental Planning instruments and Planning Frameworks

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- Preliminary plans and Site survey received from client
- Past models and existing infrastructure information
- Historic flood and water quality studies



Figure 3. Site Regional Context

1.2. Melbourne Water Drainage Scheme

This area is not in a Melbourne Water Drainage scheme and as such will need to provide water quality and quantity treatment.



Figure 4. Melbourne Water Drainage Scheme areas



2. Existing Catchment

The site is approximately 5931m² and zoned neighbourhood residential and as per most of Kooweerup the development parcel is subject to a Land Subject to Inundation Overlay (LSIO).



Figure 5. Existing catchment

2.1. Site Visit

Investigation into the best discharge configuration to meet water management requirements will be undertaken in this report. A number of photos of the existing site can be seen in Figure 6 and Figure 7



Figure 6. Site visit – looking to the South



Figure 7. Site visit – looking to the North



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3. Catchment Design Objectives

All development has the potential to adversely affect downstream environments through the effects of stormwater runoff. Increased impervious areas resulting in increased volumetric and peak flows have been extensively researched and linked to downstream environmental degradation. Contaminants contained in the runoff have also been linked with adverse changes to both water quality and stream ecology. The contribution of increased runoff can be linked to downstream flooding and capacity constraints.

To combat these affects a range hydrological and water quality mitigation measures have been researched and legislated. The design objectives for this catchment are considered below.

3.1. General Considerations

The Victorian State Planning Policy Framework includes provisions incorporating the provisions for stormwater management in its integrated water management clauses. The Cardinia Shire Council, as part of its planning requirements, incorporates BPEM water quality targets, setting out objectives for stormwater runoff.

3.2. Water Quality Requirements

Current water quality guidelines require developers to ensure water quality for the site meets best practice load-based reduction targets when compared with the unmitigated developed scenario. As listed by the Victorian EPA Best Practice Environmental Management (BPEM) Guidelines (1999) the development must meet:

- 80% Total Suspended Solids (TSS) reduction
- 45% Total Nitrogen reduction
- 45% Total Phosphorus reduction
- 70% Gross Pollutant capture

These water quality requirements will be met in water quality treatment recommendations as part of this development.

3.3. Integrated Water Management

Water quality and re-use have interactions relevant to stormwater management requirements. In attempt to reduce potable water consumption and ensure volumetric flow reductions within waterways, stormwater management incorporates consideration of integrated water management strategies as appropriate to site. Generally, when implementation is appropriate, flows from site will be reduced due to reuse and provision of alternative water sources. Recommended water saving and reuse targets must be explored alongside water quality requirements as reuse results in an improved capacity to meet TN removal. Thereby, allowing opportunities to reduce treatment downstream. Provision of water quality requirements alongside reuse opportunities and current planning provisions have been analysed within this report as a part of stormwater management.



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3.4. Flood Storage Requirements

The development shall be designed to ensure that flows are not to increase above the pre-development levels. Generally, this would be applied to the 1 % Annual Exceedance Probability (AEP) storm only and checked at each of the site discharge points. The size and/or requirement of any on-site detention will be explored within this report.

3.5. Flood Protection Requirements

All lots within the development will be provided at least 300mm freeboard above any predicted 1 % Riverine AEP flood level (with floors a further 300mm higher). All retardation infrastructure will be designed to be cut into the natural surface avoiding any potential dam wall construction issues. Local stormwater protection may have a lower level of freeboard (300mm).

3.6. Additional Planning Controls

The development parcel has several complex pieces of water related infrastructure to consider including:

• Land Subject to Inundation Overlay (LSIO),

Land Subject to Inundation/Urban Flood Zone (LSIO/UFZ)

The site is located in Cardinia Shire Council with a LSIO/UFZ from the Kooweerup South Drainage system extending over the South section of the parcel. This study will use a standardised approach to flood reporting within a LSIO/UFZ, including:

- Assessment of major drainage and flooding associated with the relevant greater regional catchment;
- Assess immediate catchment influence to mitigate flooding risk to the proposed development and flood impacts to neighbouring properties;
- Ensure flooding of the site, or potential off-site impacts are reduced or eliminated;
- Ensure developed site conditions are compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity;
- Ensure that the development maintains the free passage and temporary storage of floodwaters;
- Meet the EPA best practice environmental management (BPEM) water quality requirements, particularly in accordance with Clauses 33 and 35 of the State Environment Protection Policy (Waters of Victoria);
- Inclusion and consideration of any comments from the relevant floodplain management authority.

To meet these requirements a range of hydrological, hydraulic and water quality modelling have been undertaken.

3.7. Specific Concerns for This Site

Based on the review of the catchment, and listed objectives and requirements the following stormwater elements should be considered for this site:

- Managing flood extents and ensuring no worsening conditions on adjacent properties
- Fill requirements and waterway offsets
- Existing drainage infrastructure capacity
- Interactions with regional waterway systems



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4. Hydrology and Hydraulic Assessment

4.1. Site Discharge

To evaluate the macro site hydrology of the proposed development the Rational Method for urban hydrology is applied to calculate the runoff coefficients and discharge for pre and post development conditions. The results for the site are shown in Table 1.

| ARI (years) | Q (m³/s) | | l (mm/hr) | Тс |
|-------------|--------------------|---------------------|-----------|------|
| | Pre-Dev FI=0.05 | Post-Dev FI=0.50 | | |
| 1 | 0.01 | 0.04 | 51.5 | 6.53 |
| 2 | 0.02 | 0.04 | 58.9 | 6.53 |
| 5 | 0.03 | 0.07 | 83.0 | 6.53 |
| 10 | 0.03 | 0.09 | 100.0 | 6.53 |
| 20 | 0.04 | 0.11 | 117.2 | 6.53 |
| 50 | 0.05 | 0.14 | 140.8 | 6.53 |
| 100 | 0.06 | 0.17 | 159.6 | 6.53 |

Table 1. Pre-Developed and Post-Developed discharge

Based on this we have set a discharge limit of around 60-70L/s for the site.

4.2. Flood and Floor level

A number of flood level data sources are available for this site, with varying levels of accuracy and application. The three sources main sources for the site have been compared and reconciled below:

- 2D Tuflow flood modelling completed by Cardno Pty in 2012 with an applicable flood level of 4.52 mAHD (Figure 8).
- Melbourne Water's Pre-Development advice (unknown source) with has a flood level of 4.65 mAHD.
- Melbourne Water's Guidelines for Development within the Koo Wee Rup and Longwarry Flood Protection District which depicts a flood level of approximately 4.80m AHD

Table 2. Flood and Floor level comparison

| | Flood level (mAHD) | Floor level (mAHD) |
|----------------|--------------------|--------------------|
| Cardno | 4.52 | 4.82 |
| Pre-dev advise | 4.65 | 4.95 |



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KWR Guidelines

4.80

5.10



Figure 8. 1% AEP Flood level in Cardno's model

Clearly the KWR flood protection guidelines are the most conservative and inaccurate of all of the estimates and have been ignored for the purpose of this report. The two other sources are reasonably similar, however given the status of the pre-development official advice it is recommended that this level (4.65m AHD) be adopted as the flood level for the site.





Figure 9. 1% AEP Flood level in Guidelines for Development within the Koo Wee Rup and Longwarry Flood Protection District



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5. Integrated Water Management

Clauses 55.03 and 55.07 of the Victorian Planning provisions require consideration of a range of elements to reduce the impact of new development on the water cycle and the appropriateness of options available for this development are considered in Table 3 below.

These include aspects associated with stormwater harvesting, potable water use reduction, alternative water supply, sewage management, flood protection, waterway health and urban amenity.

Options for further exploration have been found and will be modelled and tested further in this report using the InSite online assessment tool.

Table 3.IWM Options Analysis

| Option | Comment | Option Assessment |
|---|---|--------------------------|
| Alternate Wate | er en | |
| Sewer mining | Scale not appropriate to consider | Not included |
| Greywater recycling Reticulated sewerage | Limited land application, site is in sewer area and complexities with ongoing management | Not included |
| Passive irrigation systems | Limited opportunity for integration with landscape around site perimeter. Encourage infiltration and passive irrigation of trees where appropriate | Include in assessment |
| Aquifer storage and recovery | Scale not appropriate to consider | Not included |
| Class A recycled water supply | There is no Class A recycled water supply available at this site. | Not included |
| Stormwater capture and reuse | Minimal reuse opportunities and not efficient at this scale | Include in assessment |
| Rainwater tanks and reuse | Recommended through design guidelines | Recommended |
| Class B & C recycled water supply | There are no Class B or C recycled water supplies available at this site. | Not available |



| Infiltration and | reduced stormwater impact | |
|---------------------------------------|---|---|
| Infiltration trenches | Not appropriate on slopes or near waterway. Unlikely to be effective where basement excavation occupies the majority of site footprint | Not included |
| WSUD Options | WSUD options for passive watering of trees or other buffer planting can be integrated into overall landscape response. Rainwater harvesting can improve overall quality and rate of stormwater discharge | Include in assessment |
| Flood manage | ment | |
| Impacts on surrounding land-use | Impacts on surrounding land-use have been considered in sections above | Include assessment outcomes in recommendatio ns |
| Reduction in Peak Flow | On Site Detention (OSD) is a technique to partially detain stormwater generated for the site to below thresholds required for the operation of Council drainage system. Council has advised OSD is required for this site. | Include in assessment |
| Weter Efficien | | |
| water Enicient | Cy | |
| Water efficient appliances | Water efficient appliances can be specified using the WELs labelling scheme, and may be required as part of ESD requirements. | Include in assessment |
| | Water efficient appliances impact on demand placed on alternate water systems (such as rainwater harvesting). | |
| Digital/ sub metering | Digital/ sub metering is able to provide accurate billing information for individual tenants and can provide additional information on usage trends to support water efficient behaviour. | Not included |
| | Water authorities will have standards for metering required as part of their connection requirements; as such it is not recommended to provide any metering additional to water authority requirements. | |
| Community education | Information provided to tenants can reinforce messages around water efficiency. | Not included |
| | Metering requirements stipulated by the water authority will dictate how effective any further information is likely to be. Billing information generally provides messaging around water efficiency. | |
| | The effectiveness of any community education initiatives is difficult to quantify in a predictive manner. | |



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| Amenity | | |
|-----------------------|---|--|
| Treed streetscapes | Landscaping around buildings and along public interfaces can improve amenity within and outside the site. | Include as part of WSUD analysis |
| parks and gardens | It is expected that Council will have landscaping requirements that will need to be implemented. | |
| | Assessments for infiltration and WSUD (as above) can support vegetation through passive and alternate water sources and can be analysed as a proxy. | |

InSite Water Assessment

The InSite assessment tool is an online calculator that was developed by Organica Engineering for undertaking complex assessments of site water impacts of developments to consider a range of factors including

- Water Quality treatment
- Water Efficiency
- Alternate water sources
- Reductions in water demand
- Reductions in site peak flow through the use of OSD approaches; and (where supported by Council)
- The combined use rainwater harvesting to reduce OSD requirements.

InSite is referenced in South Australian requirements for development and in guidance provided by Clearwater. The InSite calculator uses similar methods for water quality assessment as contained in the Melbourne Water STORM assessment tool, and benchmarking against standard treatments indicates the InSite results are conservative.

We have used particulars of this development to undertake an InSite analysis and a modified report containing those elements recommended for consideration in Table 3 is included in Appendix B.

In summary the InSite assessment shows (Figure 12):

- Rainwater harvesting using a 45kL aggregate storage water tanks connected to at least 2150m² of roof area and supplying toilet flushing and irrigation demand can aid to reduce the total water demand by close to 25% compared against a benchmark site.
- Rainwater harvesting results in a reduced volume of stormwater runoff of 58.2%.
- This outcome is supported using water efficient appliances that are commercially available through the WELs labelling scheme.
- Water quality requirements for this site can be met through a combination of
 - 82m² swale treatment connected to 820m² of driveway.
 - It is acknowledged that these areas may change as a result of updated design configurations but should be broadly indicative.
- Ideally swale treatments would be integrated into the landscaping to support passive irrigation
- On Site Detention is a technique to limit offsite discharge to meet the capacity of its drainage system. This is achieved by using a combined rainwater/ OSD system that includes 11kL of dedicated detention volume connected to roof area and a further dispensation based on expectations of tank drawdown to increase the effective volume to 34kL.



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• Permissible Site Discharge (PSD) calculated for the site is 64.5 l/s which can achieve through the 45kL tank (retention plus detention volume). This PSD has been set through the Swinburn Method as calculated by Insite, however it is inline with the Rational Method calculations for the site.

The attached Appendix B also contains diagrams to further conceptualise how the recommended rainwater harvesting, landscape and integrated OSD treatments can be included.

| Results | | | 2 |
|--|--|---|--|
| VOLUME | FLOW N | QUALITY | EFICIENCY |
| Objective: Reduce annual average runoff volume by harvesting or infiltrating stormwater | Objective: Control peak discharge flow (litres per second) with adequate on site detention | Objective: Improve stormwater runoff water quality (Equivalent to STORM score) | Objective: increase drought resilience |
| Target: No Increase in pre- development annual average runoff volume (Up to a 10% increase is allowed to account for uncertainties) | Target: less than or equal to zero. If greater than zero this is the additional Site Storage Requirement (SSR) volume required | Target: Achieve a score of 100 or more This corresponds to a 45% reduction in nitrogen runoff | Target: Achieve greater than 25% potable water use reduction |
| VOLUME RESULT | FLOW RESULT | QUALITY RESULT | EFFICIENCY RESULT |
| -58.2 | -0.2 | 100 | 36.0 |
| % change in annual average volume | m ³ of additional site storage required | Pollution reduction score (out of 100) | % water saving |
| VOLUME PASSES | PLOW PASSES | QUALITY PASSES | EFFICIENCY PASSES |

Figure 10. InSite results



6. Design Requirements

The following elements will be required as part of the final design.

6.1. Building envelope

Th proposed building envelope as analysed is acceptable and will not detriment adjoining properties. This is primarily based on the low flood depth and backwater flood extent in this area. No active flowing water occurs through the site (see Figure 8) and as such no afflux is expected.

6.2. Floor levels

Floor levels can be set at levels recommended by Melbourne Water to the site at the level of 4.95 mAHD. Garages can be set at a lower level of 4.80mAHD. These levels are based on an applicable flood level of 4.65m AHD

Building penetrations (e.g. for plumbing and electrical access), plant and equipment (such as air conditioners and external power outlets) should be located above the applicable flood level of 4.65 mAHD.

6.4. Water quality treatment

A 45,000L combined rainwater tank and OnSite Detention tank collecting from at least 2150m² of untrafficked roof area should be plumbed to supply internal water uses (such as toilet flushing) and irrigation for 120m² of garden area.

This equates to for each dwelling:

- A water tank of 10,000 Ltrs on each of the new lots, tank to include:
 - Approximately 7,500 of static water for reuse
 - Approximately 2,500L of storage to be used for retention
 - A bung hole located 3⁄4 of the height of the tank to facilitate the above quantities
 - Tank to be plumbed into the toilet functions

Swale treatments should be utilised and where feasible included as part of a passive irrigation response for the site to treat runoff from roof area not connected to the rainwater tank and balcony areas. Indicative calculations for the initially proposed building suggested that an aggregated area of 82m² would be required to treat 820m² of driveway.

6.5. OnSite Detention

Provide additional 11,000 litres (11m³) of overflow storage added to the rainwater system with an orificecontrolled outlet. Orifice diameter should be confirmed once the final dimension of the combined storage is known as this will affect outflow calculations which is 64.5 l/s.

The OSD component of the storage must be located sufficiently high enough above Council's nominated Legal Point of Discharge to allow it to freely drain by gravity.







Figure 11. Site Outfall (LPD)



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6. Concept Design and layouts

The following concept design (Figure 12) is provided for this site and should be read in conjunction with Design requirements and general information provided in the attached InSite Water report. The concept designs show important aspects of the site layout and the relationship of the various elements to each other.

Importantly, levels need to be checked and confirmed early in the design phase to ensure site drainage can be achieved by gravity.



Figure 12. Rossiter Road Concept- Treatment elements



7. Conclusions

This report provides a stormwater management summary for the proposed development at 230 Rossiter's Road, Koo Wee Rup. The following requirements have been set for the site, and shown to work with the current development layout:

- Floor Levels set at 4.95m AHD with garages a further 0.15m lower
- Water quality for the site can largely be achieved through a combination of rainwater harvesting supplying water for toilet flushing and irrigation of proposed garden area. The total tank volume is 45kL and swale area is 82m². The swale area is expected to fringe the common driveway.
- Stormwater retention and OSD policy can be met through the rainwater tanks, and a further 11m³ of storage, probably within the pipe network and chambers under the common driveway.
- Under Planning ordinances introduced in 2018 Council has obligations to consider reductions in stormwater volume under its planning scheme. These can be met through the tank reuse functions



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Abbreviations and glossary

For clarification, provided are terms referred to within this report and their definitions as applicable to stormwater and water engineering.

| TERM (Abbreviation) | DEFINITION |
|--|---|
| Afflux | A measure of the increase in water elevation (or flood level difference) at a given location, relative to the water elevation that would have occurred. |
| Alluvium\alluvial material | Extensive deposits of sand, silt and/or clay formed by a river or flood, typically forming a floodplain. Alluvium is generally unconsolidated. |
| Annual Exceedance Probability (AEP) | The likelihood of a storm event or flood occurring or being exceeded within any year. Where, |
| | $AEP = 1 - e^{\left(\frac{-1}{ARI}\right)}$ |
| Attenuation | Reduction in the magnitude of a flood peak |
| Australian Rainfall and Runoff (ARR) | Australian Rainfall and Runoff guidelines document. |
| Average Recurrence Interval (ARI) | A statistical estimate of the average length of time (in years) between equivalent (or larger) flood events. |
| | Note. Events do not occur at regular intervals. This is an average and not the expected elapsed time until the next exceedance. |
| | e.g. a "100 year ARI flood event" has a 1% exceedance probability each year. |
| Australian Height Datum (AHD) | Vertical height in meters above the mean sea level. |
| Baseflow | The slow component of catchment runoff, not immediately in response to a storm event. Encompasses interactions with seepage and groundwater discharge into a waterway. |
| BPEM | Best practice environmental management guidelines used for planning, designing or managing stormwater systems or urban land uses |
| Catchment | The upstream land and water surface area that drains to a specified location under consideration. |
| Consequence | Outcome or impact of an event. |
| Critical Storm Duration | The length of time of a rainfall event that results in the peak flow or level at a particular location of interest for a given AEP. |
| Cumec | An abbreviation of cubic meters per second, a unit of discharge (m³/s) |
| Drainage Network or System | A system of natural or constructed flow paths within a catchment used to convey runoff to its outlet. This may include surface or subsurface systems such as pipes, channels, gutters, overland flow paths, culverts, water storages, etc. |



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|--|--|
| Design Event | A probabilistic or statistical flood or rainfall event used for flood/flow estimation processes for a given AEP. |
| DELWP | Department of Environment, Land, Water and Planning |
| EPA | Environmental protection agency |
| Extended Detention | Distance above normal water level in where stormwater is temporarily stored |
| Evaporation | The transfer of water, as vapour, from a water surface to the air |
| Evapotranspiration | The transfer of water, as vapour, from near the earth's surface to the air. Includes open water surfaces, ice, frost, soil and transpiration from plants. |
| Freeboard | The difference in height between the calculated water surface elevation and the top, obvert, crest of a structure or the floor level of a building, provided for the purpose of ensuring a safety margin above the calculated design water elevation. |
| Flood | Inundation of normally dry land by water that has exceeded the capacity of the normal confines of waterbodies, water storages or watercourses. |
| Flood Frequency | Descriptor for the annual exceedance probability or average recurrence interval of a flood |
| Floodplain | The land area which experiences flooding during high discharge events. |
| Hazard | Potential for damage or harm. Considered alongside consequence and likelihood of occurrence. |
| Hydrological Analysis | Developing and understanding a set of relationships to determine how rainfall is converted into runoff or streamflow (includes consideration of climate, losses, soil types, etc). |
| Hydraulic Design | The process of numerically analysing actual or expected flow conditions (such as water surface elevation and velocity) associated with a given hydraulic structure or overland flow. |
| Infiltration | The downward movement of water into a catchment surface or infiltration system. Largely governed by soil conditions, vegetation and antecedent moisture content. |
| Loss rate | Removal (loss) of water from the rate of rainfall that occurs during the process of forming stormwater runoff. Usually measured in units of mm/hr. The assumed loss rate usually varies across the drainage catchment in accordance with known or assumed surface conditions. |
| Local Authority | Any local or regional external authorities (including local and State Governments or non-government authorities) that have a legal interest in the regulation or management of a given activity, or the land on which the activity is occurring, or is proposed to occur. |
| Manning's 'n' Roughness Coefficient | The numerical representation of the hydraulic roughness of a conduit, flow path or channel as used in the Manning's formula. |
| Rainfall Excess | The portion of rainfall that contributes to streamflow |
| Rainfall Intensity | The rate at which rain falls, typically measured in mm/hour. |


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|--------------------------------|--|
| Runoff | The part of rainfall (or snow/hail) not lost to infiltration, evaporation, transpiration or depression storage that flows from the catchment area past a specified point. |
| Sedimentation Basin | A basin or tank in which sediment collects primarily through the actions of gravitational settlement. |
| | The basin facilitates low-velocity, low-turbulent flows to facilitate the settling of coarse sediment particles from stormwater runoff. |
| Soil Erosion | The detachment and transportation of soil and its deposition at another site by wind, water or gravitational effects. Although a component of natural erosion, it becomes the dominant component of accelerated erosion as a result of human activities, and includes the removal of chemical materials. |
| Stage | Elevation of the water surface in a stream measure to some convenient datum |
| Storm | In hydrology this includes any rainfall event. Unlike common usage implying a period of extreme weather with intense rain and strong wind. |
| Stormwater Flooding | Inundation by local runoff caused by heavier than usual rainfall. Stormwater inundation is caused by local runoff before it has entered a watercourse or joined watercourse flow. In a rural setting and within large rural allotments, we define stormwater flooding as sheet flow caused by local runoff before it has concentrated into a watercourse, including a drainage channel, stream, gully, creek, river, estuary, lake or dam, or any associated water holding structure. |
| Surface Water or Inundation | Any water collecting on the ground or in an open drainage system or receiving water body. In this report we use these terms to discuss water before it is categorised into flood, stormwater or other. |
| Temporal pattern | The time sequence of rainfall intensity. A representation of the variability of rainfall throughout a storm event. |
| Water Balance | An account of all the water in a specified system. Includes measurement of all inflows, outflows and changes in stored water volumes. |
| Wetland | A natural or constructed area of land inundated temporarily or permanently with shallow water that is usually slow moving or stationary |



References

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Melbourne Water. (2019). Guidelines for Development within the Koo Wee Rup and Longwarry Flood Protection District

Cardno. (2013). Flood Modelling

InSite Water www.insitewater.com.au



Appendix A- Melbourne Water advice



10 August 2021

Afflux Consulting PO Box 457 Emerald VIC 3782

Dear Laurel,

Proposal: Pre-development advice - 7 lot subdivision Site location: Lot No 2, 230 ROSSITER ROAD, KOO WEE RUP 3981

Melbourne Water reference: MWA-1216675 Date referred: 06/07/2021

Thank you for your application regarding the proposed subdivision at the above property. Melbourne Water has reviewed the proposal and provides the following information for your consideration.

The property is located within the Koo Wee Rup and Longwarry Flood Protection District and is subject to ponding flood levels. The applicable 1% Average Exceedance Probability (AEP) flood level for the subject site is **4.65 metres to Australian Height Datum** (AHD) based on a flood event which has a probability of 1% occurrence in any one year.

The property is within the Land Subject to Inundation Overlay (LSIO) under the applicable council planning scheme. It may be necessary to obtain a planning permit for buildings and works under this overlay.

When a property is affected by a flooding overlay or is 'land designated as land liable to flooding', Melbourne Water is a Referral Authority for buildings and works for planning and building permit applications.

The Assessment of your proposal

Melbourne Water has reviewed the submitted information/plans and has the following advice for your consideration.

Development Requirements

Melbourne Water advises that the following requirements will be applicable for the proposed subdivision:

 Pollution and sediment laden runoff shall not be discharged directly or indirectly into Melbourne Water's drains or waterways.



Page 1

Melbourne Woter 40x 61 349 306 953 990 La Trabe Street Docklands VIC 3008 PO Box 4042 Melbourne VIC 3001 Australia T 131 722 F +63 3 9679 7099 melbournewater.com.au

- A stormwater management and drainage strategy must be submitted and approved by Melbourne Water. This strategy must provide details of the outfall/s for the development and calculate the appropriate flow volumes and flood levels for the 100-year ARI storm event and demonstrates how stormwater runoff from the subdivision will achieve State Environment Protection Policy (Waters of Victoria) objectives for environmental management of stormwater.
- Stormwater runoff from the subdivision must achieve State Environment Protection Policy (Waters of Victoria) objectives for environmental management of stormwater as set out in the 'Urban Stormwater Best Practice Environmental Management Guidelines (CSIRO) 1999'.
- Unless otherwise agreed in writing by the relevant drainage authority, the subdivision must retard stormwater back to pre-development levels before entering the downstream drainage system and/or retard stormwater back to the sufficient capacity of the downstream drainage system, whichever is appropriate.
- The subdivision is to make provision for overland flows from the upstream catchment utilising roads and/or reserves.
- Any road or access way intended to act as a stormwater overland flow path
 must be designed and constructed to comply with the safety criteria associated
 with the applicable flood level. Refer to the DELWP 'Guidelines for Development in
 Flood Affected Areas' for further requirements.
- Engineering plans of the subdivision (in electronic format) must be submitted to Melbourne Water for our records. These plans must show road and drainage details and the 100 year ARI flood levels associated with any proposed overland flow paths.
- A Site Environmental Management Plan (SEMP) detailing pollution and sediment control measures will be required to be submitted to Melbourne Water prior to the commencement of works.
- All new lots are to be filled to a minimum of 300mm above the 1 in 100 year flood levels associated with any existing or proposed Melbourne Water pipeline or to a minimum of 600mm above the 1 in 100 year flood level associated with any existing or proposed Melbourne Water wetland, retarding basin or waterway.
- A certified survey plan (CSP) prepared by or under the supervision of a licensed land surveyor, showing finished lot levels reduced to the Australian Height Datum, must be submitted to Melbourne Water for our records.
- A separate application direct to Melbourne Water must be made for any new, temporary or modified storm water connection to Melbourne Water's drains or watercourses.

Page 2



Melbourne Water assesses development applications in accordance with the recently adopted <u>Guidelines for Development in Flood Affected Areas</u> and the <u>Guidelines for</u> <u>Development within the Koo Wee Rup and Longwarry Flood Protection District</u>. Under these guidelines, development in or adjacent to a floodplain may only be acceptable where the new development is protected from flooding, has safe access to and around the development and does not interfere with the passage and storage of floodwaters. The purpose of the guidelines is to provide a clear, consistent and transparent process for managing land use and development in flood affected areas in Victoria.

This advice is valid for a period of three months from the date of this letter.

The above information is only preliminary and forms no contractual agreement between your company and Melbourne Water. Melbourne Water reserves the right to alter any or all of this information at any time.

For enquiries in relation to this application please contact our Customer Service Centre on 131 722.

Regards,

Advice

Development Planning Services

Page 3



Appendix B- InSite Assessment

Stormwater Calculations



Report for Cardinia

Project Details

| Project Name | 561_RossiterRd230Kooweerup | | |
|-----------------------|---|--------|------|
| InSite User Email | | | |
| Web files link | | | |
| Site Area (m2) | 6000 Projec | tID | 2465 |
| Planning number | | | |
| Development type | Multi dwelling (dual occupancy, townhouse, villar uni | t etc) | |
| Existing site details | New residential <350m2 | | |
| Street address | 230 Rossiter Road, Koo Wee Rup VIC, Australia | | |

Results

| VOLUME | E CON | | EFFICIENCY |
|--|--|---|--|
| Objective: Reduce annual average runoff volume by harvesting or infiltrating stormwater | Objective: Control peak discharge flow (litres per second) with adequate on site detention | Objective: Improve stormwater runoff water quality (Equivalent to STORM score) | Objective: Increase drought resilience |
| Target: No increase in pre- development annual average runoff volume (Up to a 10% increase is allowed to account for uncertainties) | Target: less than or equal to zero. If greater than zero this is the additional Site Storage Requirement (SSR) volume required | Target: Achieve a score of 100 or more This corresponds to a 45% reduction in nitrogen runoff | Target: Achieve greater than 25% potable water use reduction |
| VOLUME RESULT | FLOW RESULT | QUALITY RESULT | EFFICIENCY RESULT |
| -58.2 | -0.2 | 100 | 36.0 |
| % change in annual average volume | m ⁴ of additional site storage required | Pollution reduction score (out of 100) | % water saving |
| VOLUME PASSES | FLOW PASSES | CULALITY PASSES | EFFICIENCY PASSES |



Design Criteria

The items on this page must be reflected on other project plans, specifications and engineering drawings.

The development must be designed and constructed in accordance with the following:

Rainwater Tank Specifications

| Total rainwater tank volume (L) | 45000 "This is the rainwater tank volume retention - center tion | | |
|---|---|---------------------------------|--|
| Total rainwater retention* tank volume (L) | 34000 This bits reinwater task volume | | |
| Total rainwater detention* tank volume (L) | 11000 This to be allowater and solve the test | | |
| Roof connected to rainwater tank [m ²] | 2150.0 | | |
| Rainwater tanks connected to | Toilet , Laundry , Irrigation | | ortestro es |
| Other rainwater tank end uses (L/day) | 19 | Ares (m ²) | 120 |
| % building rainwater end uses connected (to rainwater tanks) | 100 | First Fligh Device? | 0 |
| Additional* Site Storage (L) | d | "Site store Ischargt for dee | ge added adjatent to the legal point of a flow detention or reduce inflimation |
| Recycled water source (Yes/No) | | | |
| Water tank reliability % | 86.5 | | |
| Rainwater tank overflow % | 49.3 "Note Polic number is under 25, then SPS of the tank a reservice volume will be counted to eard the determinin volume | | |

| Basin WELS star rating | > 4 Star WELS rating |
|----------------------------------|--|
| Toilet WELS rating | > 4 Star WELS rating |
| Bath WELS star rating | Medium Sized Contemporary Bath |
| Washing Machine WELS star rating | Default or unrated |
| Gtchen Taps WELS rating | > 4 Star WELS rating |
| Jrinal WELS rating | Not Applicable |
| Shower WELS star rating | 3 Star WELS (> 7.5 but <= 9.0) (minimum requirement) |
| Dishwasher WELS star rating | > 3 Star WELS rating |

Stormwater management measures selected are

This includes all impervious areas in the site connected to Council or Stormwater Authority drains. This excludes pervious areas like garden, gravel, and lawn areas)

For the 2150m² roof area all roof, Raintank Volume = 45000 litres connected to 2150m² of roof, additional water tank based detention volume = 11000 litres. Total tank volume (retention + detention volumes) = 45000 litres.
 820m² of Driveway all road draining to 82m² of treatment: Swale

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Building Occupancy Calculations

Building Spaces

+215Dm² of Individual dwellings - BCA Class Ia with an average occupancy of 43.0 people

Estimated Total Building Occupancy 43.0

Stormwater VOLUME Calculations

| Site Area (m²) | 6000 |
|--|--------|
| Post development total impervious area (m2) | 2970.0 |
| Rainwater Tank Overflow (kt/annum) | 912.9 |
| Pre-development Volume (kL/annum) | 3253.4 |
| Post-development Volume (kL/annum) | 1359,4 |
| Change in volume % | -58.2 |

Stormwater QUALITY Calculations

| Rainwater Tank Runoff reduction (%) | 50.7 |
|--|--------|
| Rainwater Tank(s) Total Nitrogen (TN) reduction | 2422.3 |
| Total Nitrogen (TN) % reduction | 44,9 |
| Equivalent STORM Score | 100 |

Water EFFICIENCY Calculations

| Benchmark water use (kL/year) | 3751.1 | | |
|---|--------|------------------------------|--------|
| Predicted potable water use (kt/year) | 2401.2 | | |
| Predicted potable water use (L/person/day) | 212.7 | | _ |
| Water savings from tank {kL/year} | 937.6 | | |
| Water saving from efficiency (kL/year) | 412.30 | 10000 | |
| Total water saving % (efficiency + tank + recycled water) | 36.0 | Wuter Seving (kL/year) | 1349.9 |

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Stormwater FLOW Calculations - Swinburne Method

This section outlines rational method calculations for On Site Detention (OSD) and Site Storage Requirements (SSR) Permissible Site Discharge (PSD) Calculations

| Calculated PSD | 64.5 | | | |
|--|--|--|--|--|
| PSD Override Value Used | | | | |
| Site Storage Calculations | 1 | | | |
| Preliminary On Site Detention (OSD) tank size required estimate (m ³) | 22.11 Swinburne Method Tank formula | | | |
| OSD and storages* provided (m ²) | 22.3 Induces stateges: rainwater tank resention allowance, rainwater tank detervise, and editional edited statege relumes | | | |
| Additional detention / retention volume required (m ³) | -0.2 | | | |
| Base case (pre-development) fraction impervious (ratio) | 0.70 | | | |
| Base case runoff coefficient | 0.68 | | | |
| Post development total impervious area (in hectares) | 0.2970 | | | |
| Post development fraction impervious (ratio) | 0.49 | | | |
| Post development runoff coefficient | 0.525 | | | |
| Pre-development design storm | 20% AEP (~1 in 5 year ARI storm) - default residential | | | |
| Post development detention required | 10% AEP (~1 in 10 ARI) - default residential | | | |
| Critical Storm Duration - the Catchment time of concentration - Tc(catchment) in minutes | 20 | | | |
| Rainfall Depth (mm) for Critical Storm Duration - Tc(catchment) | 15.76 | | | |
| Rainfall intensity - I at Tc(catchment) (mm/h) | 47.3 | | | |
| Travel time from discharge point to catchment outlet (min) - Tcs | 10.0 | | | |
| Rainfall Depth (mm) for Tcs - (IFD at Tcs) | 13.76 | | | |
| Rainfall intensity - i at tc(site) (mm/h) | 82.56 | | | |

Detention Calculator - Site Storage Requirement (SSR)

| Storm Duration (mins) | Rainfall Depth (mm) | Stored Volume (m ³) | | |
|--------------------------|------------------------|------------------------------------|--|--|
| 5 | 9.110244043257 | 17.94 | | |
| 7.5 | 11.720191823042 | 20.88 | | |
| 10 | 13.764316140822 | 22.06 | | |
| 12.5 | 15.433315577820 | 22.11 | | |
| 15 | 16.838484550826 | 21.40 | | |
| 20 | 19.112512945141 | 18.28 | | |
| 30 | 22.405918880792 | 8.74 | | |
| 40 | 25.803790129535 | -9.39 | | |
| 60 | 28.311038077206 | -29.16 | | |

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LEVE BURRY RETER TO ALL DOMONPHS RETENCION STRAKE AMOUNT YORK HISISCRED. HOT HATCH SPACE NESTIMATIN DEPUT, PRIME NOPETICS DYNAME NOPETICS CONTROL OF ALL DEVELOPED LIKERT TEMANTISE RANNETER CHITME WASHE HICHLE TA1 TOKETS RETENTION STORAGE REATIN AT BASE OF TAME PAR IN BY FIRE WITH HARS NATER SALVER ID HECTING. DOMESTI INVERSIÓN DE TORATCE TO TAKE USING RANGARDEN, INFLITENTION SITSTEN, OF LIGHT FORT STALED PRESSURE OF USARY LEEP SYSTEM OF DISIN LARCE ACCENT SHED IN REPORTER

Appendix A: attach further details for this project (if applicable):

RETENTION TANK RETICULATION DETAIL

NT.4. NOTE THE DESIGN WEINSTALLANDWOR ALL STREMWATER SYSTEMS SIMUL CONC.4 WITH AS AND STREET ON "STREMWATER DRAWAR"

Above: all roof treatment drawing (draft for planning approvals only: not for construction, not to scale)



VEGETATED SWALE

NTS

Above: all road treatment drawing (draft for planning approvals only: not for construction, not to scale)

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Mehran Mahdavi

Engineer

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Afflux Consulting Pty Ltd

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the Association of the Association





561_RossiterRd230Kooweerup

Date: Tuesday 19 April 2022

Background

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Afflux consulting has previously undertaken analysis for the proposed development at 230 Rossiter Road, Koo Wee Rup which included assessment of hydraulic and water quality requirements. A series of recommendations was made for the development which included a concept design for stormwater management items.

A Stormwater Management Plan (561_RossiterRd230Kooweerup_R01a) was issued in September 2021 and is understood to have been included as part of the Town Planning application to Council.

Council engineers have raised a number of questions on the stormwater strategy as outlined below. This Memo provides clarification and response to these issues raised.

Engineering comments:

Council's Engineers have reviewed the documentation provided and had the follow comments/ questions:

Stormwater Management

- Where are the swales proposed?
 - Council has concerns about swales as overland flow paths in private property.
- Where is the 11,000L of stormwater detention storage proposed (over and above the 10,000L tank per lot requirement)?
 - They assume this would be piped underground with the common property option, but not sure where it would go in the Council Road option.

Easements

- Are any drainage easement proposed?
- Where does Lot 6 drain to?

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Stormwater Management This copied document is mode available for the purpose of the planning process as set out in the Planning and Environment Act 1947. The information must not be used for any other purpose. By laking a copy of this document you acknowledge **Proposed swales**

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The water quality assessment includes a requirement for 82m² of swale for the site. the water quality treatment function of swales is intended to operate primarily for smaller design storms. As such they should be designed to convey up to the 20% AEP event. The site should be designed to allow for safe passage of overland flow in extreme events, and floor levels set above the expected levels.

This is a level of design detail that should be included in the more detailed brief for subsequent design stages.

On Site Detention

Council's typically require On Site Detention as a way of limiting post development flows back to an acceptable level. The On Site Detention calculations have been undertaken by the InSite online tool using the Swinburne method and with detention volume applied as an extension to the 'rainwater' tank component.

Conceptually, the 11m³ of detention storage can be applied as airspace in the rainwater tanks and distributed between the individual allotments, or as an underground structure located beneath common property (such as a driveway).

Typically, Council's require design details to be provided as part of an application for Legal Point of Discharge that outline the sizing of OSD components, their location, functional levels and flow controls and connection back into the Authority drainage system. We understand this is something the Shire of Cardinia routinely requires on other sites across the municipality

We have updated the concept design to include two options which are intended to provide greater clarity on how OSD could be configured.

- Option 1 includes the additional OSD as an integral component of the rainwater tank
- Option 2 provides the additional OSD as located underground with an outlet control back into Council's drainage system.

In addition to allotment OSD Council has queried how OSD should be applied to the road network. This is typically the domain of Council who should be able to apply their normal protocols in this situation. Given the area of road as a ratio of the proposed development footprint (i.e. approximately 12%), and Council as the final arbiter of the permitted site discharge back into the public network this is something that Council could accommodate through a judicious choice of PSD.

Although this would result in a slightly larger OSD, we expect that there will be sufficient space to accommodate this and may be an acceptable outcome if it allows approvals to progress in a timely manner.

Easements

As shown in the updated concept, drainage from allotments 2-5 will be achieved by connection into Council's network (as extended) directly via the OSD system. Based on the latest layout provided, and to facilitate a single Legal Point of Discharge request, Allotment 6 would need to need to direct stormwater towards the network to the south requiring an easement across Allotment 5.

Typically, a Section 32 agreement would be used to provide conditions for the operation and maintenance of the OSD system, however this may be problematic as it would appear that no direct property rights will exist to tie Allotment 8 to the common area. As such it is recommended that Allotment 6 have a similar arrangement to Allotment 1, in that the OSD is provided as an airspace within the combined rainwater/ OSD tank.

Lot 1 is separate from the other parcels and will require a separate OSD to be installed.

The required layout is shown conceptually in Figure 1.

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Figure 2. Concept Option 1



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- 5. Irrigation: Install temporary irrigation to all trees for retention so that water may be applied to maintain adequate soil moisture. Trees in active construction sites are subject to additional stresses and the application of water at a rate of 30mm per week will ensure good soil moisture and ease the trees stress levels.
- 6. Installation of Services: Where possible services and utilities should be located in common trenches to reduce unnecessary adverse impacts. Open excavation within the SRZ should be avoided. Directional or thrust boring techniques should be adopted to minimize root damage. Should excavation be necessary the works should be closely observed with roots greater than 70mm diametre being retained as these roots are intrinsic to the structural stability and health of the tree.
- 7. Site access and establishment: Site sheds, access paths, stock piling and storage of materials must be placed clear of the TPZ.
- 8. Tree Pruning / Work: All tree work or pruning shall be carried out in accordance with AS4373 (Pruning of amenity trees), the Occupational Health and Safety Act 2001 and the Occupational Health and Safety Regulations 2017.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The vegetation within the project area is determined to be of LOW conservation significance. The proposed development of the site as per Map 4 will require the removal of all vegetation from the lands

On whole the trees / shrubs within the project area contribute nominally to the landscape amenity of the surrounding area. No tree / shrub within the project area is significant and the proposed removals will not impact significantly on the character and or aesthetic of the locality. Replacement of removed trees with tree/ shrub species consistent with the neighbourhood character would benefit the long-term character of the locality.

A Construction Environmental Management Plan must be produced prior to commencement of works; this document must include as a minimum

- Project personnel contact information
- Public safety and site security
- Site amenities
- Vegetation protection measures inclusive of - tree protection to AS4970-2009
- Stockpile/s locations
- Noise control
- Air and dust management
- Stormwater and sediment control
- Waste management
- Traffic management

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Anon., Flora of Melbourne, Society for Growing Australian Plants Maroondah Inc (2001) Anon., Victoria's Native Vegetation Management - A Framework for Action Dept. Natural Resources and Environment (2002) Auld B.A. & Medd R.W., Weeds, an illustrated botanical guide to the weeds of Australia, Inkata Press (2002) Blood K., Environmental Weeds: A Field Guide for SE Australia, Blooming Books (2003) Cheers G. Publisher, Botanica's Tree's and Shrubs, Random House Australia (2003) Costermans L., Native Trees and Shrubs of South Eastern Australia, New Holland Publishers (2001) Cuthbert E.G & Parsons W.T., Noxious Weeds of Australia, Inkata Press (1992) Dept. Sustainability and Environment, Native Vegetation: sustaining a living landscape. Vegetation Quality Assessment Manual - Guidelines for applying the habitat hectares scoring method, Verions 1.3, Dept. Sustainability and Environment (2004) Jones D & B., Native Plants of Melbourne and adjoining areas, Blooming Books (1999) Lamp C. & Collet F., Field Guide to Weeds in Australia, Inkata Press (1999) Lamp et al, Grasses of Temperate Australia, a field guide, Blooming Books (2001) Internet

www.dewlp.vic.gov.au www.cardinia.vic.gov.au

Appendix A- Environment Protection and Biodiversity Conservation Act 1999 listed species as "likely to occur" within 5km of the site



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected

information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 21/10/21 09:51:34

Summary Details Matters of NES Other Matters Protected by the EPBC Act. Extra Information Caveat

Acknowledgements



Coordinates Buffer: 5.0km



| PLA | N OF SUBDIVIS | SION | | EDIT | ION 1 | PS 8 | 849372 B |
|--|--|--|---------------------------------------|--|--|--|--|
| LOCATION (PARISH: Yallock TOWNSHIP: SECTION: CROWN ALLOT CROWN PORTIO TITLE REFEREN LAST PLAN REF POSTAL ADDRE (at time of subdivision MGA CO-ORDIN (of approx centre of in plan) | OF LAND K MENT: 3 & 4 (Parts) ON: NCE: Vol. 11926 Fol. 827 FERENCE: Lot 2 on PS 743936 ESS: 230 Rossiter Road, Koo We MATES: E: 367 460 N: 5 770 620 | 5 U ee Rup 3981 ZONE: 55 GDA 2020 | 1 | Council Name: Cardinia Shire Council This copied document is made available for the purpose of the planning process as set out in the Planning one Environment Act 1947. The information must not be used for any other purpose. By laking a copy of this document you architectage and agree that you will only use the document for the purpose specified above and that any desemination, distribution or copying of this document is strictly promoted. | | | e planning process crimation must not be it you arknowledge : specified above and than any bity promoted |
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CREATION OF RESTRICTION

On registration of this plan the following is created: LAND TO BENEFIT: All Lots on this Plan of Subdivision. LAND TO BE BURDENED: All Lots on this Plan of Subdivision.

DESCRIPTION OF RESTRICTION

 The registered proprietor or proprietors for the time being of all lots shall not construct any garage or dwelling outside the area denoted as building envelope without the further consent of the Responsible Author

| s Authority. | | | | | | |
|-----------------------|----------------------------|---------|--|--|--|--|
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