Office Use Only

Application No.: P/2016/6579

Application for Planning Permit

If you need help to complete this form, read How to complete the Application for Planning Permit form.

Any material submitted with this application, including plans and personal information, will be made available for public viewing, including electronically, and copies may be made for interested parties for the purpose of enabling consideration and review as part of a planning process under the Planning and Environment Act 1987. If you have any concerns, please contact Council's planning department.

Questions marked with an asterisk (*) are mandatory and must be completed.

If the space provided on the form is insufficient, attach a separate sheet.

The Land

Address of the land. Complete the Street Address and one of the Formal Land Descriptions.

Street Address

Unit No.: ___________________________ St. No.: 970 and 980 St. Name: Stud Road

Suburb/Locality: Rowville Postcode: 3178

Formal Land Description *

Complete either A or B.

A Lot No.: 1 □ Lodged Plan □ Title Plan □ Plan of Subdivision No.: 649607Q

OR

B Crown Allotment No.: ___________________________ Section No.: ___________________________

Parish/Township Name: ___________________________

Formal Land Description *

Complete either A or B.

A Lot No.: 2 □ Lodged Plan □ Title Plan □ Plan of Subdivision No.: 649607Q

OR

B Crown Allotment No.: ___________________________ Section No.: ___________________________

Parish/Township Name: ___________________________

If this application relates to more than one address, please click this button and enter relevant details.

Add Address

The Proposal

You must give full details of your proposal and attach the information required to assess the application. Insufficient or unclear information will delay your application.

For what use, development or other matter do you require a permit? *

undertake earthworks and remove native and non-native vegetation.

If you need help about the proposal, read: How to complete the Application for Planning Permit form.

Provide additional information on the proposal, including plans and elevations, any information required by the planning scheme, requested by Council or outlined in a Council planning permit checklist; and if required, a description of the likely effect of the proposal.
Existing Conditions

1. Describe how the land is used and developed now*
   
   eg. vacant, three dwellings, medical centre with two practitioners, licensed restaurant with 80 seats, grazing.

2. Provide a plan of the existing conditions. Photos are also helpful.

Title Information

5. Encumbrances on title*
   
   Does the proposal breach, in any way, an encumbrance on title such as a restrictive covenant, section 173 agreement or other obligation such as an easement or building envelope?
   
   ○ Yes. (If 'yes' contact Council for advice on how to proceed before continuing with this application.)
   
   ○ No
   
   ○ Not applicable (no such encumbrance applies).

   Provide a full, current copy of the title for each individual parcel of land forming the subject site.
   
   (The title includes: the covering 'register search statement', the title diagram and the associated title documents, known as 'instruments', eg. restrictive covenants.)

Applicant and Owner Details

6. Provide details of the applicant and the owner of the land.

   
   Applicant*
   
   The person who wants the permit.
   
   Name:
   
   Title: First Name: Surname:
   
   Organisation (if applicable): Stockland C/- Roberts Day
   
   Postal Address:
   
   Unit No.: St. No.: St. Name:
   
   Suburb/Locality:
   
   State:
   
   Postcode:
   
   Contact person's details*
   
   Same as applicant (if so, go to 'contact information')
   
   Name:
   
   Title: Mr First Name: Anthony Surname: Msonda-Johnson
   
   Organisation (if applicable): Roberts Day
   
   Postal Address:
   
   Unit No.: Suite 2 St. No.: 33 St. Name: Chessell Street
   
   Suburb/Locality: South Melbourne State: VIC Postcode: 3205

   Please provide at least one contact phone number*

   Business Phone: 9645 0788 Email: anthony.msonda-johnson@robertsday.com.au
   
   Mobile Phone:
   
   Fax:
<table>
<thead>
<tr>
<th>Owner *</th>
<th>Same as applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>The person or organisation who owns the land</td>
<td></td>
</tr>
<tr>
<td>Where the owner is different from the applicant, provide the details of that person or organisation.</td>
<td></td>
</tr>
</tbody>
</table>

| Name: | |
| Title: | |
| Organisation: | |
| Postal Address: | |
| Unit No.: | |
| Suburb/Locality: | state: | postcode: |
| Owner's Signature (Optional): | Date: day / month / year |

**Declaration**

This form must be signed by the applicant *

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

I declare that I am the applicant; and that all the information in this application is true and correct; and the owner (if not myself) has been notified of the permit application.

Signature: [Signature]

Date: 15/8/2016 day / month / year

---

Knox City Council
RECEIVED
16 AUG 2016
PLANNING DEPARTMENT

---

Knox City Council
RECEIVED
16 AUG 2016
PLANNING DEPARTMENT
Need help with the Application?

If you need help to complete this form, read How to complete the Application for Planning Permit form. General information about the planning process is available at www.delwp.vic.gov.au/planning.

Contact Council's planning department to discuss the specific requirements for this application and obtain a planning permit checklist. Insufficient or unclear information may delay your application.

Has there been a pre-application meeting with a Council planning officer?

☐ No   ☐ Yes  If 'yes', with whom: Greg Kent and Morgan Livingstone

Date: 25 July 2016  day / month / year

Checkpoint

Have you:

☑ Filled in the form completely?

☑ Paid or included the application fee?  Most applications require a fee to be paid. Contact Council to determine the appropriate fee.

☑ Provided all necessary supporting information and documents?

☑ A full, current copy of title information for each individual parcel of land forming the subject site

☑ A plan of existing conditions.

☑ Plans showing the layout and details of the proposal

☑ Any information required by the planning scheme, requested by council or outlined in a council planning permit checklist.

☐ If required, a description of the likely effects of the proposal (eg traffic, noise, environmental impacts).

☐ Completed the relevant Council planning permit checklist?

☑ Signed the declaration (section 7)?

Lodgement

Lodge the completed and signed form, the fee payment and all documents with:

Knox City Council
Private Bag Knox 1, MDC Wantirna South VIC 3152
511 Burwood Highway Wantirna South VIC 3152

Contact Information:
Telephone: 61 03 92388030
Email: knoxcc@knox.vic.gov.au
DX: 18210

Deliver application in person, by fax, or by post:

Print Form

Make sure you deliver any required supporting information and necessary payment when you deliver this form to the above mentioned address. This is usually your local council but can sometimes be the Minister for Planning or another body.

Save Form:

Save Form To Your Computer

You can save this application form to your computer to complete or review later or email it to others to complete relevant sections.
Attachment

Section 6 – Applicant and Owner Details

Owner:

- 970 Stud Road, Rowville: Knox City Council of 511 Burwood Highway Wantirna South VIC 3152.
- 980 Stud Road, Rowville: Stockland Development Pty Ltd of Level 25 133 Castlereagh Street, Sydney NSW 2000
10th August, 2016

Reference: 14339-201

Stockland - Project Manager
Level 7, 452 Flinders Street,
Melbourne Victoria 3000

Attention: Anthony Scafidi

Dear Anthony,

STAMFORD PARK ROWVILLE DEVELOPMENT
EARLY WORKS PACKAGE – 970 & 980 STUD ROAD, ROWVILLE

This letter is to support the TGM Engineering Servicing Report and Roberts Day Planning Application as an explanatory report of the proposed filling works within the abovementioned property addresses.

Attached is a set of drawings that are to be submitted to council for approval for the filling and associated works to be started and completed during the Planning Application process.

The drawings detail the following tasks:

- Filling within the development land 980 Stud Road
- Filling within council reserve 970 Stud Road
- Natural / existing surface levels and Bulk Earthworks finish surface levels for filling and excavation
- Excavation of the Recreational Lake within council reserve
- Excavation of Wetlands & Sedimentation Basins within council reserve
- Excavation of drainage swale along the southern boundary
- Cross sections of proposed fill and excavation area
- Filling of Man Shed pad within council reserve
- Explanatory notes for filling placement and compaction specification
- Installation of Native Grass protection fence enclosures to protect the grass not to be disturbed during constructions works
- Location of topsoil to be stockpiled on council reserve for future use by development and council
- Installation of temporary access track between existing stockpile and fill site
- Indication of existing trees to be retained and removed
- It references relevant geotechnical reports relevant to the site
The earthworks proposed within the two properties 970 & 980 Stud Road, will be stripping of topsoil, excavation of water facilities and filling the development site to above the 1 in 100 year flood level plus free board as required by Melbourne Water.

The approximate volume breakdown of these works are as follows;

- **970 Stud Road – Earthworks**
  - 3,400 m³ will be stripped from excavation & fill areas within 970 Stud Road
  - 9,300 m³ will be excavated from Harvesting Lake, Wetlands & Sedimentation basins within 970 Stud Road, for use to fill the development site within 980 Stud Road
  - 600 m³ will be excavated from the open swale drain along southern boundary to fill the Man Shed Pad site all within 970 Stud Road
  - 5,600 m³ is the volume of fill required to complete the Man Shed Pad site, Paper Roads and batters surrounding 980 Stud Road site, within 970 Stud Road. This fill will be sourced from the existing stockpile also within 970 Stud Road

- **980 Stud Road – Earthworks**
  - 12,000 m³ will be stripped from fill area within 980 Stud Road
  - 93,000 m³ is the volume of fill required to filling the development site within 970 Stud Road, 9,300 will be sourced from Harvesting Lake, Wetlands & Sedimentation basins within 970 Stud Road, the balance will be sourced from the existing stockpile within 970 Stud Road (approximately 100,000m³)

The plan also details the two stage filling works sequence;

- **Stage 1 - Bulk Earthworks**
  - Excavation works associated with the Recreational Lake, Wetland and Sediment basins within 970 Stud Rd to enable filling at 980 Stud Rd
  - Excavation of open swale drain to be used filling the Man Shed Pad within 970 Stud Road
  - Partially filling of Paper Roads and batters surrounding 980 Stud Road within 970 Stud Road
  - Transporting fill from existing stockpile pile to fill balance of 980 Stud Road and Man Shed Pad within 970 Stud Road

- **Stage 2 - Ultimate Earthworks**
  - Final filling and excavation of the development site within 980 Stud Road using excavation material from road works also within 980 Stud Road
  - Complete the partially filled Paper Roads and batters within 970 Stud Road using excavation material from road works also within 980 Stud Road
  - Completion of works associated with the Recreational Lake, Wetlands & Retarding basins in accordance with the relevant authorities

Yours sincerely,

**TGM GROUP PTY LTD**

**BENNY VOCALE**

General Manager – Melbourne
Urban Development & Infrastructure
10th August, 2016

Reference: 14339-201

Stockland - Project Manager
Level 7, 452 Flinders Street,
Melbourne Victoria 3000

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www.tgmgroup.com
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The plan also details the two stage filling works sequence;

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Yours sincerely,

TGM GROUP PTY LTD

BENNY VOCALE
General Manager – Melbourne
Urban Development & Infrastructure
10th August, 2016

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Yours sincerely,

TGM GROUP PTY LTD

BENNY VOCALE
General Manager – Melbourne
Urban Development & Infrastructure
REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 11601 FOLIO 644

Security no : 124061819122F
Produced 15/08/2016 08:05 am

LAND DESCRIPTION

Lot 1 on Plan of Subdivision 649607Q.

PARENT TITLES :
Volume 09584 Folio 491 Volume 10284 Folio 878 Volume 11048 Folio 749

Created by instrument PS649607Q 29/09/2015

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
KNOX CITY COUNCIL of 511 BURWOOD HIGHWAY WANTIRNA SOUTH VIC 3152
PS649607Q 29/09/2015

ENCUMBRANCES, CAVEATS AND NOTICES

COVENANT as to part AF989120G 24/07/2008

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 PS649607Q 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: 970 STUD ROAD ROWVILLE VIC 3178

DOCUMENT END
The document following this cover sheet is an imaged document supplied by LANDATA®, Land Victoria.

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<th>Document Type</th>
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<tr>
<td>Number of Pages</td>
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<td>Document Assembled</td>
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© State of Victoria. This publication is copyright. No part may be reproduced by any process except in accordance with the provisions of the Copyright Act and for the purposes of Section 32 of the Sale of Land Act 1962 or pursuant to a written agreement. The information is only valid at the time and in the form obtained from the LANDATA® System. The State of Victoria accepts no responsibility for any subsequent release, publication or reproduction of the information.

The document is invalid if this cover sheet is removed or altered.
PLAN OF SUBDIVISION

Location of Land
Parish: NARREE WORRAN
Township: 
Section: 
Crown Allotment: 
Crown Portion: 2 (PART)

Title Reference: VOL. 11048 FOL. 749
VOL. 9584 FOL. 491, VOL. 10284 FOL. 878

Last Plan Reference: LOT 2 ON PS 604489W,
LOT 1 ON TP 104856V, LOT 2 ON PS 332670A

Postal Address: EMMELINE ROW,
ROWVILLE 3178.

MGA 94
E 344 330
Co-ordinates N 5 802 190 Zone: 55

Vesting of Roads and/or Reserve
Identifier Council / Body / Person

NIL

DIMENSIONS UNDERLINED ARE NOT BASED ON SURVEY

Area of Site: 44.09ha (BY DEDUCTION)
No. of Lots: 3

Easement Information

Legend:
A - Appurtenant Easement  E - Encumbering Easement  R - Encumbering Easement (Road)

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<th>Easement Reference</th>
<th>Purpose</th>
<th>Width (Metres)</th>
<th>Origin</th>
<th>Land Benefited/In Favour Of</th>
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</thead>
<tbody>
<tr>
<td>E-1</td>
<td>SEWERAGE</td>
<td>SEE DIA</td>
<td>THIS PLAN</td>
<td>SOUTH EAST WATER LIMITED</td>
</tr>
<tr>
<td>E-2</td>
<td>CARRIAGeway</td>
<td>SEE DIA</td>
<td>THIS PLAN</td>
<td>KNOX CITY COUNCIL</td>
</tr>
</tbody>
</table>

Council Certificate and Endorsement

Council Name: KNOX

1. This plan is certified under section 6 of the Subdivision Act 1988.
2. This plan is certified under section 11(1) of the Subdivision Act 1988.
   Date of original certification under section 6: / / 2015
3. This is a statement of compliance issued under section 21 of the Subdivision Act 1988.
   PUBLIC OPEN SPACE
   (i) A requirement for public open space under section 16 of the Subdivision Act 1988 has/has not been made.
   (ii) The requirement has/has not been satisfied.
   (iii) The requirement is to be satisfied in Stage
   (iv) The requirement has been satisfied for

Council delegate signature
Council seal signature

Date / / 2015

This plan is re-certified under section 11(1) of the Subdivision Act 1988

Council delegate signature
Council seal signature

Date / / 2015

Staging
This is not a staged subdivision.
Planning Permit No.

Depth Limitation DOES NOT APPLY

Other Purpose of Plan:
1. Removal of drainage easements shown as E-2, E-3(Par)(Par), E-5, E-9(Par) and E-10(Par) on PS 332670A.
2. Removal of the drainage, sewerage and water supply easement shown as E-6 and E-7 on PS 332670A.
3. Removal of the easements (if any) existing by virtue of Section 98 of the Transfer of Land Act shown as E-2 and E-3 on TP 104856V.
4. Removal of part of sewerage easements created by C/E K286674, C/E K8298380, C/E K281753 and PS 604489W.

Grounds for Removal of Easement:
By Direction of Planning Permit No. P/2012/6169

THIS IS A SPEAR PLAN
Survey This plan is based on survey.

This survey has been connected to permanent mark No(s)
In Proclaimed Survey Area No.

LRS use only

Statement of Compliance/Exemption Statement

LRS use only

PLAN REGISTERED
TIME 8:08 am
DATE 29/09/2015

Council Delegate Signature

PLAN OF SUBDIVISION

STAGE NO.

Plan Number

PS 649607 Q

ENLARGEMENT

SCALE 1:400

EMMELINE ROW

1.637ha

ORIGINAL SCALE LICENSED SURVEYOR MICHAEL HERWALD HIPFEL

Sheet 4

LICENSSED SURVEYOR : MICHAEL HERWALD HIPFEL

REF. 14732 VERSION 11

CREATION OF RESTRICTION

THE FOLLOWING RESTRICTION IS TO BE CREATED UPON REGISTRATION OF THIS PLAN OF SUBDIVISION.

LAND TO BENEFIT: LOTS 1 & 3 ON THIS PLAN OF SUBDIVISION.

LAND TO BE BURDENED: LOT 2 ON THIS PLAN OF SUBDIVISION.

DESCRIPTION OF RESTRICTION: THE REGISTERED PROPRIETOR OR PROPRIETORS OF LOT 2 ON THIS PLAN OF SUBDIVISION MUST NOT:

1. COMMENCE ANY BUILDING OR CONSTRUCTION WORKS UPON THE LAND TO BE BURDENED (LOT 2) UNTIL LOT 2 HAS BEEN FILLED IN ACCORDANCE WITH A REPORT BY WATER TECHNOLOGY PTY LTD ENTITLED "STAMFORD PARK STAGE 1 - FLOOD ASSESSMENT" DATED NOVEMBER 2009 TO THE SATISFACTION OF MELBOURNE WATER.
Plan of Subdivision PS649607Q

Concurrent Certification and Statement of Compliance (Form 3)

SUBDIVISION (PROCEDURES) REGULATIONS 2011

SPEAR Reference Number: S021573C
Plan Number: PS649607Q
Responsible Authority Name: Knox City Council
Responsible Authority Reference Number 1: 2012/8047
Responsible Authority Reference Number 2: 2012/6169
Surveyor's Plan Version: 11

Certification

☒ This plan is certified under section 6 of the Subdivision Act 1988

Statement of Compliance

☒ This is a statement of compliance issued under section 21 of the Subdivision Act 1988

Public Open Space

A requirement for public open space under section 18 of the Subdivision Act 1988

☒ Has not been made at Certification

Digitally signed by Council Delegate: Phillip Singh
Organisation: Knox City Council
Date: 18/06/2015

Knox City Council
RECEIVED
16 AUG 2016

PLANNING DEPARTMENT

Signed by: Phillip Singh (Knox City Council) 18/06/2015
## MODIFICATION TABLE

**RECORD OF ALL ADDITIONS OR CHANGES TO THE PLAN**

**PLAN NUMBER**

**PS649607Q**

WARNING: THE IMAGE OF THIS DOCUMENT OF THE REGISTER HAS BEEN DIGITALLY AMENDED. NO FURTHER AMENDMENTS ARE TO BE MADE TO THE ORIGINAL DOCUMENT OF THE REGISTER.

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<th>MODIFICATION</th>
<th>DEALING NUMBER</th>
<th>DATE</th>
<th>EDITION NUMBER</th>
<th>ASSISTANT REGISTRAR OF TITLES</th>
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<td>PLAN AMENDED (CORRECT LOT AREA)</td>
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<td>02/02/16</td>
<td>2</td>
<td>RBB</td>
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REGISTER SEARCH STATEMENT (Title Search) Transfer of
Land Act 1958

VOLUME 11601 FOLIO 645 Security no : 124061819085V
Produced 15/08/2016 07:59 am

LAND DESCRIPTION

Lot 2 on Plan of Subdivision 649607Q.

PARENT TITLES :
Volume 09584 Folio 491 Volume 10284 Folio 878 Volume 11048 Folio 749
Created by instrument PS649607Q 29/09/2015

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
STOCKLAND DEVELOPMENT PTY LTD of LEVEL 25 133 CASTLEREAGH STREET SYDNEY NSW 2000
AM657780D 24/03/2016

ENCUMBRANCES, CAVEATS AND NOTICES

COVENANT as to part AF989120G 24/07/2008
COVENANT PS649607Q 29/09/2015

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AGREEMENT Section 173 Planning and Environment Act 1987
AM657781B 24/03/2016

DIAGRAM LOCATION

SEE PS649607Q 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: 980 STUD ROAD ROWVILLE VIC 3178

DOCUMENT END
The document following this cover sheet is an imaged document supplied by LANDATA®, Land Victoria.

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The document is invalid if this cover sheet is removed or altered.
PLAN OF SUBDIVISION

Location of Land
Parish: NARREE WORRAN

Township: 
Section: 
Crown Allotment: 
Crown Portion: 2 (PART)

Title Reference: VOL. 11048 FOL. 749
VOL. 9584 FOL. 491, VOL. 10284 FOL. 878

Last Plan Reference: LOT 2 ON PS 604489W,
LOT 1 ON TP 104856V, LOT 2 ON PS 332670A

Postal Address: EMMELINE ROW,
ROWVILLE 3178.

MGA 94 E 344 330
Co-ordinates N 5 802 190 Zone: 55

Vesting of Roads and/or Reserve
Identifier Council / Body / Person
NIL
NIL

DIMENSIONS UNDERLINED ARE NOT BASED ON SURVEY

Area of Site: 44.09ha (BY DEDUCTION)
No. of Lots: 3

Easement Information

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Council Certificate and Endorsement

Council Name: KNOX
Ref.
1. This plan is certified under section 6 of the Subdivision Act 1988.
2. This plan is certified under section 11(7) of the Subdivision Act 1988.
3. This is a statement of compliance issued under section 21 of the Subdivision Act 1988.

PUBLIC OPEN SPACE

(i) A requirement for public open space under section 16 of the Subdivision Act 1988 has/has not been made.
(ii) The requirement has/has not been satisfied.
(iii) The requirement is to be satisfied in Stage
(iv) The requirement has been satisfied for

Council delegate signature print name
Council seal signature print name

Date

Staging

This plan is re-certified under section 11(7) of the Subdivision Act 1988

Council delegate signature print name
Council seal signature print name

Date

Notations

Deph Limitation DOES NOT APPLY

Other Purpose of Plan:
1. Removal of drainage easements shown as E-2, E-3(Part1, E-4(Part), E-5, E-9(Part) and E-10(Part) on PS 332670A.
2. Removal of the drainage, sewerage and water supply easement shown as E-6 and E-7 on PS 332670A
3. Removal of the easements (if any) existing by virtue of Section 98 of the Transfer of Land Act shown as E-2 and E-3 on TP 104856V
4. Removal of part of sewerage easements created by C/E K266874, C/E K829838Q, C/E K261753 and PS 604489W.

Grounds for Removal of Easement:
By Direction of Planning Permit No. P/2012/6169

THIS IS A SPEAR PLAN
Survey This plan is based on survey.

This survey has been connected to permanent mark No(s).

In Proclaimed Survey Area No.

John Chivers & Associates Pty Ltd
Level 1, 292 Main Street
Lyndel Vale, Australia 3140
Phone: (03) 9735 4888
Fax: (03) 9735 1473
Email: jca@jca.com.au
www.jca.com.au
Licensed Surveyor

Quality Management System
ISO 9001

LICENCED SURVEYOR: MICHAEL HERWALD HIPPEL

Signature DIGITALLY SIGNED Date

Date

LRS use only

Statement of Compliance/Exemption Statement

Received ✔

Date 25/08/2015

LRS use only

PLAN REGISTERED
TIME 8:08 am
DATE 29/09/2015

R. Bissell
Assistant Registrar of Titles

Sheet 1 of 5

# PLAN OF SUBDIVISION

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## CREATION OF RESTRICTION

The following restriction is to be created upon registration of this plan of subdivision.

**Land to Benefit:** lots 1 & 3 on this plan of subdivision.

**Land to be Burdened:** lot 2 on this plan of subdivision.

**Description of Restriction:** The registered proprietor or proprietors of lot 2 on this plan of subdivision must not:

1. Commence any building or construction works upon the land to be burdened (lot 2) until lot 2 has been filled in accordance with a report by Water Technology Pty Ltd entitled "Stamford Park Stage 1 - Flood Assessment" dated November 2009 to the satisfaction of Melbourne Water.

---

**Original sheet size:** A3

**Version:** 11

**Date:** 22/01/15

---

**LICENSSED SURVEYOR:** Michael Herwald Hiptel (JCA Land Consultants)
Plan of Subdivision PS649607Q
Concurrent Certification and Statement of Compliance
(Form 3)

SUBDIVISION (PROCEDURES) REGULATIONS 2011

SPEAR Reference Number: S021573C
Plan Number: PS649607Q
Responsible Authority Name: Knox City Council
Responsible Authority Reference Number 1: 2012/8047
Responsible Authority Reference Number 2: 2012/6169
Surveyor's Plan Version: 11

Certification

✓ This plan is certified under section 6 of the Subdivision Act 1988

Statement of Compliance

✓ This is a statement of compliance issued under section 21 of the Subdivision Act 1988

Public Open Space

A requirement for public open space under section 18 of the Subdivision Act 1988

✓ Has not been made at Certification

Digitally signed by Council Delegate: Phillip Singh
Organisation: Knox City Council
Date: 18/06/2015

Signed by: Phillip Singh (Knox City Council) 18/06/2015
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Received Date: 16/08/16

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<tr>
<td>Yes / No</td>
<td>ANTHONY</td>
<td>Sue C</td>
<td></td>
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<td>Yes / No</td>
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Information to be forwarded via: Mail, Email, In Person

Additional information or Comments:

Left message for Anthony as advised by Greg Kant, that we require a cheque for Application & if they would carry across tomorrow, we will lodge tomorrow.

Name of Officer: Sue C

Action completed by Officer: Sue C

Date: / / /
Planning Permit Application

Proposed Earthworks and Native and Non-Native Vegetation Removal at 970 and 980 Stud Road, Rowville

Prepared for Stockland

PREPARED BY ROBERTSDAY

August 2016
Contents

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Part One_Introduction

This planning report has been prepared by Roberts Day on behalf of Stockland Development Pty Ltd (Stockland), the permit applicant, for undertaking staged earthworks and removing both native and non-native vegetation on land at 970 and 980 Stud Road, Rowville.

In respect to the two parcels of land subject to this proposal, Council are the landowner of 970 Stud Road and Stockland are the landowner of 980 Stud Road. As per the pre-application meeting with Council on 25th July 2016 and in accordance with the ongoing discussions between Stockland and Council, Stockland propose to undertake works on Council's behalf at 970 Stud Road.

Stockland is preparing a Development Plan in accordance with the requirements of Development Plan Overlay - Schedule 9 of the Knox Planning Scheme, which proposes a contemporary, residential community at 980 Stud Road. In accordance with the provisions of the Development Plan Overlay - Schedule 9 of the Knox Planning Scheme, Council can only issue a planning permit for the proposed earthworks and removal of native and non-native vegetation upon Council's approval of the Development Plan.

The following reports should be read in conjunction with this report:
- A covering letter and associated civil plans, prepared by TGM;
- A Fauna and Flora Assessment, prepared by Brett Lane and Associates;
- An Arboricultural Assessment, prepared by Tree Logic;
- A covering letter and associated Integrated Water Management Strategy, prepared by Alluvium; and
- A draft Cultural Heritage Management Plan, prepared by Ochre Imprints.

In accordance with the Knox Planning Scheme, a planning permit is required to:
- Undertake earthworks: Clause 43.04 – Development Plan Overlay and Clause 44.04 – Land Subject to Inundation; and
- Remove native and non-native vegetation: Clause 43.01 – Heritage Overlay and Clause 52.17 – Native Vegetation.
Part Two—Background

The land at 970 and 980 Stud Road previously formed part of a larger 52 hectare landholding, owned by Knox Council. Through an Expression of Interest Process in 2015, Stockland successfully acquired from Council a 6.3 hectares parcel of land, now referred to as 980 Stud Road. The balance of the land, referred to as 970 Stud Road, continues to be owned by Council.

Prior to Council commencing the Expression of Interest Process for the land currently referred to as 980 Stud Road, Council and Tract prepared a master plan for the future residential development site. The master plan’s objectives and strategies regarding the preferred built form and community outcome for the site are incorporated within the Development Plan Overlay – Schedule 9 planning control in the Knox Planning Scheme.

As the land at 980 Stud Road is located within a flood plain, Council worked collaboratively with Melbourne Water, the authority responsible for the regional drainage and waterways, in the preparation of the master plan. Melbourne Water identified measures to ensure future residential development at 980 Stud Road will not be subject to flooding, namely through the raising of the ground level.

During the course of the master plan preparation work, Council engaged Water Technology, to carry out flood water modeling and assessment. The modeling, which has been accepted by Melbourne Water, requires minimum floor pad levels to be 600mm above the 1 in 100 year flood level. Council also requires road levels to be set a minimum 300mm above the 1 in 100 year flood level. TGM, Stockland’s civil engineers, has determined that in order to meet these requirements, the average depth of the fill across 980 Stud Road to raise the ground level to the required height will range between 1.1 and 2.0 metres (inclusive of the free board).

Furthermore, as a result of Water Technology’s modeling, Melbourne Water advised the filling of 980 Stud Road could be supported only if:

- There was an appropriate offset to ensure the floodplain maintained an acceptable flood storage. In this regard, it was considered the offset could be achieved by removing a similar volume of existing fill stockpiled on land at 970 Stud Road and within the floodplain; and
- No fill is proposed directly north of the splayed northern corner of 980 Stud Road, as this is the narrowest point to the existing levee bank within the floodplain and Melbourne Water’s wetlands.

In respect to the fill required, TGM has estimated approximately 93,000 cubic metres of material will be required to fill the land at 980 Stud Road in accordance with Melbourne Water’s requirements. Furthermore, there has been in-principle support provided by Melbourne Water and Council to allow fill outside the boundaries of 980 Stud Road and onto Council’s land at 970 Stud Road (associated with batters), subject to offsetting flood storage requirements.

Melbourne Water has also requested the land at 980 Stud Road be filled prior to the commencement of works associated with the future residential development of the site.

This proposal responds to Melbourne Water’s requirements (as outlined above) and expectations in respect to using fill to raise the ground level at 970 and 980 Stud Road, Rowville in order to mitigate the risk of flooding within the future residential development at 980 Stud Road.
Part Three_Proposal

3.1 What is Proposed?

The proposal is for undertaking earthworks and the removal of native and non-native vegetation at 970 and 980 Stud Road, Rowville. These works are a precursor to future buildings and works associated with a future contemporary, residential community at 980 Stud Road, which will be guided by an approved Development Plan (to be prepared in accordance with the requirements of the Development Plan Overlay – Schedule 9 of the Knox Planning Scheme). At the time of lodging this Planning Application, the Development Plan has not been lodged with Council.

The following is a summary of the proposal as it relates to the properties at 970 and 980 Stud Road, Rowville:

970 Stud Road (owned by Council)

- The provisions contained within the Development Plan Overlay – Schedule 9 planning control in the Knox Planning Scheme specify that the residential development at 980 Stud Road is to implement an integrated water strategy. In this regard, the Development Plan currently being prepared, showcases a number of water management initiatives across the site. In addition to these initiatives, Stockland are also proposing works within Council's land at 970 Stud Road to enhance the function and amenity of the regional parkland for the Rowville community.

These features include a recreation lake, wetland and sediment basin. From a WSUD perspective:

- Stormwater runoff associated with the residential development at 980 Stud Road will drain into the proposed sediment basin and wetland for treatment before entering the local drainage network.
- Stormwater that is harvested from Corhanwarrabul Creek is to be stored within the proposed recreation lake and is to be treated to a suitable standard for irrigation of the two open spaces within the residential development at 980 Stud Road and the permaculture garden within the proposed 970 Stud Road.

As a result, excavation works are proposed to create a 4,200 square metre recreation lake (located directly north of the land at 980 Stud Road), a 900 square metre wetland and a 300 square metre sediment basin (both of which are located in the south-western corner of the land at 970 Stud Road).

- During the course of the stakeholder engagement process Council undertook prior to approving the master plan for 980 Stud Road, the community and Council identified an opportunity to create a community permaculture garden. In order for the permaculture garden to be a sustainable community asset, Council has identified opportunities to ensure it can be watered without solely relying upon potable water. The opportunity Council has chosen to pursue is the creation of an open swale within 970 Stud Road, between the southern boundaries of 970 and 980 Stud Road. The open swale is to be fed by stormwater harvested from the recreation lake.

As a result, excavation works are proposed to daylight the existing drain along the southern boundary of 970 Stud Road.

- Council wish to erect a Men’s Shed within the south-western corner of Stamford Park. Given the land within 970 Stud Road is flood prone, a 1,800 square metre pad site is required to ensure any future Men’s Shed is sited above the applicable flood level.

As a result, earthworks associated with the creation a pad site in the south-western corner of the site are proposed.

- Earthworks associated with the creation of batters within 970 Stud Road are proposed to create a smooth transition in ground level between the ground levels at 970 and 980 Stud Road.

- Given the required earthworks, pockets of swampy woodland (tussock grasses) are proposed to be removed.

- Following an Arboriculture Assessment of the site, one non-native tree group was identified (referred to as Tree 28 in the Arboricultural Assessment, prepared by Tree Logic). As the one non-native tree group is in poor health, exhibits a poor structure, and is of low quality and little amenity value, the tree group is proposed to be removed and replaced by new landscaping which can make a more significant contribution to the surrounding urban environment.
980 Stud Road (owned by Stockland)

- Following an Arboricultural Assessment and a Flora and Fauna Assessment of the site, two remnant native trees were identified (referred to as Trees 29 and 30 in the Arboricultural Assessment, prepared by Tree Logic). As the two native trees are in fair to poor health, at best, a fair-poor structure and of low quality and little amenity, and are located within part of the site where future residential dwellings will be located, they are proposed to be removed.

- Following an Arboricultural Assessment of the site, 10 non-native trees were identified (referred to as Trees 18 and 27 in the Arboricultural Assessment, prepared by Tree Logic). As the 10 non-native trees are, at best, in fair-poor health and structure and their quality and amenity value ranges between low to none, they are proposed to be removed and replaced by new landscaping which can make a more significant contribution to the surrounding urban environment.

- As a result of the required fill to raise the ground level on the site in accordance with Melbourne Water’s requirements, pockets of the swampy woodland (tussock grasses) are proposed to be removed.

- In order to raise the ground level within the site in accordance with Melbourne Water’s requirements, earthworks associated with approximately 93,000 cubic metres of fill (from existing soil stockpiles located within 970 Stud Road and the excavation works associated with the creation of the recreation lake, wetland and sediment basin at 970 Stud Road) are proposed.

Refer to the civil plans for further details (prepared by TGM).

3.2 Staging of Proposal

The proposed earthworks are proposed to be undertaken in two stages:

First Stage

- Excavation works associated with the recreation lake, wetland and sediment basin within 970 Stud Rd to enable filling at 980 Stud Rd;

- Excavation (daylighting) of open swale drain to be used filling the Men’s Shed Pad within 970 Stud Road;

- Partial filling associated with batters surrounding 980 Stud Road within 970 Stud Road; and

- Transporting fill from existing stockpile pile within 970 Stud Road to fill balance of 980 Stud Road and Men’s Shed Pad.

Second Stage

- Final filling and excavation of the development site within 980 Stud Road using excavation material from road works also within 980 Stud Road;

- Complete the partially filled batters within 970 Stud Road using excavation material from road works also within 980 Stud Road; and

- Completion of works associated with the recreation lake, wetlands and sediment basin in accordance with the requirements of the relevant authorities.
3.3 Proposed Fill and Excavation Methodology

As outlined within TGM's covering letter, the approximate breakdown of volumes of excavation and fill associated with the proposed earthworks within 970 and 980 Stud Road can be summarised as follows:

970 Stud Road
- 3,400 cubic metres will be stripped from the excavation and fill areas within 970 Stud Road;
- 9,300 cubic metres will be excavated to create the proposed recreation lake, wetland and sediment basin within 970 Stud Road and will be used as fill within the development site at 980 Stud Road;
- 600 cubic metres will be excavated to create the open swale drain along southern boundary to fill the Men’s Shed pad site; and
- 5,600 cubic metres of fill is required to complete the Men’s Shed pad site and batters surrounding 980 Stud Road site, within 970 Stud Road. This fill will be sourced from the existing stockpile also within 970 Stud Road.

980 Stud Road
- 12,000 cubic metres will be stripped from the fill area within 980 Stud Road; and
- 93,000 cubic metres of fill is required to fill the development site within 980 Stud Road. Approximately 9,300 cubic metres will be sourced from the excavation of the recreation lake, wetland and sediment basin within 970 Stud Road, with the balance sourced from the existing stockpile within 970 Stud Road (which is approximately 100,000 cubic metres).
Part Four_ Planning Policy Framework and Controls

4.1 Planning Policy Framework

The applicable planning policy framework for the proposal can be summarised as follows:

4.1.1 State Planning Policy Framework

- Clause 12.01-1 - Protection of biodiversity
- Clause 13.02-1 - Floodplain management
- Clause 14.02-1 - Catchment planning and management
- Clause 15.03-1 - Heritage conservation
- Clause 15.03-2 - Aboriginal cultural heritage

Of particular relevance to the proposal, these Clauses encourage:

- The protection of conservation of Victoria’s biodiversity, including important habitat for Victoria’s flora and fauna.
- The identification of land that is prone to flooding to ensure land use and development outcomes on surrounding land can be managed appropriately.
- The protection of water catchments from direct and indirect impacts associated with new development.
- New development to have regard to any places or structures of Aboriginal cultural heritage significance and / or European heritage significance.

4.1.2 Local Planning Policy Framework

- Clause 21.02-3 Environment
- Clause 21.06 Environment

Of particular relevance to the proposal, these Clauses encourage:

- New development to have regard to the environmental features that contribute towards the character within the City of Knox, including various forms of vegetation, such as grasslands and canopy trees, along with water bodies, including the Carribean Lake and Corhanwarrabul Creek, both of which are within proximity to the subject site.
- New development to recognise the importance in minimising additional impacts on the environmental features that contribute towards the character within the City of Knox. This includes: minimising the removal of significant vegetation and stormwater runoff into nearby water catchments; and protecting and preserving heritage places of cultural significance.
- Developments to incorporate new infrastructure, where required, to ensure the infrastructure network has the required capacity to absorb the demands placed upon it by urban development.
4.2 Zone and Overlay Controls

The following zone and overlay controls apply to the two sites:

4.2.1 970 Stud Road, Rowville (land owned by Council)

Public Park and Recreation Zone

That land is zoned Public Park and Recreation Zone, the purpose of which is:

- To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- To recognise areas for public recreation and open space.
- To protect and conserve areas of significance where appropriate.
- To provide for commercial uses where appropriate.

Development Plan Overlay – Schedule 6

This overlay applies to the Scoresby-Rowville Employment Precinct.

Environmental Significance Overlay – Schedule 2

This overlay applies to sites of biological significance identified in ‘Sites of Biological Significance in Knox – 2nd Edition, 2010.

4.2.2 980 Stud Road, Rowville

General Residential Zone – Schedule 1

The land at 980 Stud Road (which is land owned by Stockland) is zoned General Residential Zone – Schedule 1, the purpose of which is:

- To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- To encourage development that respects the neighbourhood character of the area.
- To implement neighbourhood character policy and adopted neighbourhood character guidelines.
- To provide a diversity of housing types and moderate housing growth in locations offering good access to services and transport.
- To allow educational, recreational, religious, community and a limited range of other nonresidential uses to serve local community needs in appropriate locations.

The provisions of the General Residential Zone do not stipulate that a permit is required for the proposed works.

Heritage Overlay – Schedule HO24

This Overlay applies to Stamford Park, Stud Road, Rowville. Stamford Park House and Elms (Ulmus procera), Incense Cedar (Calocedrus decurrens), Moreton Bay Fig (Ficus macrophylla).

In accordance with HO24:

- External paint controls apply;
- Tree controls apply; and
- Prohibited uses may be permitted.
In accordance with Clause 43.01-1, a permit is required for any buildings and works, including the removal of trees, within the area that is covered by the Heritage Overlay.

Land Subject to Inundation Overlay

As the subject site is flood prone, pursuant to Clause 44.04-1, a permit is required for buildings and works.

The Planning Application for building and works will be referred to the relevant Floodplain Management Authority (Melbourne Water in this case) for consideration.

In accordance with Section 2 of the Schedule to the Overlay, an application to construct a building or construct or carry out works must be accompanied by four sets of plans drawn to scale which show:

- The boundaries and dimensions of the site.
- Relevant ground levels, to Australian Height Datum, taken by a licensed surveyor.
- The layout of existing and proposed buildings and works.
- Floor levels of any existing and proposed buildings, to Australian Height Datum, taken by a licensed surveyor.

Vegetation Protection Overlay – Schedule 1

In accordance with Section 3 of Schedule 1 of the Overlay, a permit is required to remove, destroy or lop any vegetation.

Development Plan Overlay – Schedule 9

Development Plan Overlay – Schedule 9 (Stamford Park) applies to that part of the subject land that Stockland owns.

In accordance with Clause 43.04-1, a permit must not be granted to use or subdivide land, construct a building or construct or carry out works until a development plan has been prepared to the satisfaction of the responsible authority.

This does not apply if a schedule to this overlay specifically states that a permit may be granted before a development plan has been prepared to the satisfaction of the responsible authority.

A permit granted must:

- Be generally in accordance with the development plan.
- Include any conditions or requirements specified in a schedule to this overlay.

4.3 Particular Provisions

- Clause 52.17 Native Vegetation

In accordance with this Clause, a planning permit is required to remove, destroy or lop native vegetation, including dead native vegetation.

In accordance with Clause 52.17-2, an application to remove, destroy or lop native vegetation must be classified as one of the following risk-based pathways: low, moderate or high, as defined in the Permitted clearing of native vegetation – Biodiversity assessment guidelines (Department of Environment and Primary Industries, September 2013). The application requirements and decision guidelines included in this clause must be applied in accordance with the classified pathway.

The Flora and Fauna Assessment, prepared by Brett Lane and Associates, states that:

The entire study area is mapped as being within Location Risk A and the extent of native vegetation removal has been identified as 0.975 hectares. It is understood that no native vegetation has been approved for removal within the last five years.

Based on the criteria outlined in Section 4.1.2 the Guidelines stipulate that the proposal to remove less than one hectare of native vegetation from the study area would be assessed under the low risk assessment pathway. An application to remove more than 0.5 hectares...
of native vegetation triggers a referral to DELWP.

It is noted that of the 0.975 hectares of native vegetation proposed to be removed:

- 0.459 hectares are proposed to be removed at 970 Stud Road; and
- 0.516 hectares are proposed to be removed at 980 Stud Road.

### 4.4 General Provisions

- Clause 62 Uses, Buildings, Works, Subdivisions and Demolition Not Requiring a Permit

In accordance with the requirements of Clause 62.02-1 (Buildings and works not requiring a permit) of the Knox Planning Scheme, buildings and works with an estimated cost of $1 million or less carried out by or on behalf of the Council is exempt from planning approval. This exemption does not apply to the removal of vegetation.

As such, the various elements of the proposal on the land at 970 and 980 Stud road that trigger planning approval can be summarised as follows:

**970 Stud Road**
- Removal of one non-native tree (referred to as Tree 28 in the Arboricultural Assessment, prepared by Tree Logic); and
- Removal of pockets of swampy woodland (tussock grasses), as determined within the Flora and Fauna Assessment, prepared by Brett Lane and Associates.

**980 Stud Road**
- Removal of two native trees (referred to as Trees 29 and 30 in the Arboricultural Assessment, prepared by Tree Logic);
- Removal of ten non-native trees (referred to as Trees 18 and 27 in the Arboricultural Assessment, prepared by Tree Logic);
- Removal of pockets of swampy woodland (tussock grasses), as determined within the Flora and Fauna Assessment, prepared by Brett Lane and Associates; and
- Undertaking earthworks, consisting of utilising existing soil stockpiles located within 970 Stud Road for the purpose of fill at 980 Stud Road. This increase in ground level will elevate it above the 1 in 100 year flood level, as determined by Melbourne Water.
Part Five_ Planning Considerations

The proposal reflects previous background work that has been overseen by Council and Melbourne Water in respect to the land at 970 and 980 Stud Road, Rowville. Given the flood prone conditions of the site and surrounds, Melbourne Water requires the ground level at 980 Stud Road to be raised above the 1 in 100 year flood level to ensure any future residential development at 980 Stud Road is not affected by flooding.

Given the presence of existing soil stockpiles within Council’s land at 970 Stud Road, the proposal seeks to make use of this soil when elevating the ground level at 980 Stud Road. As has been identified by Melbourne Water and Council in the previous work undertaken, it is important that any fill at 980 Stud Road maintains the flood storage capacity within the floodplain. Similarly, any battering around the perimeter of the site’s proposed ground level which encroaches into 970 Stud Road must ensure the floodplain’s flood storage is preserved.

Stockland, the owner of the land at 980 Stud Road, will undertake works on Council’s behalf within the Council land at 970 Stud Road. These works are to contribute to the amenity of the broader Stamford Park parkland through the creation of a recreation lake, wetlands and a sediment basin. Furthermore, a pad site is to be created within the south-western corner of Council’s land to enable Council to establish a Men’s Shed in the future.

In addition to undertaking earthworks, existing native and non-native vegetation is proposed to be removed, including trees and grasses. The removal of the vegetation is proposed to occur concurrently with the proposed earthworks to enable the site to be ‘development ready’ prior to the commencement of future works associated with the residential development at 980 Stud Road.

Having regard to the features of the proposal, the following issues are considered to be relevant to the assessment of the application:

- Compliance with Planning Policy Framework;
- Appropriateness of the Vegetation Removal;
- Preservation of the Subject Site’s Heritage Significance;
- Design and Siting of Works within 970 Stud Road; and
- Potential Impacts on Adjoining Properties.

The following sections of this report will address these issues in further detail:

5.1 Compliance with Planning Policy Framework

The proposal demonstrates a high level of consistency with the applicable planning policy framework within the Knox Planning Scheme for the following reasons:

- The proposal is based upon a solid foundation of background work commenced by Council and Melbourne Water, which has recently been complemented by work undertaken by Stockland and its consultant team. The background work has identified the importance of raising the ground level at 980 Stud Road to enable it to be developed for residential purposes while protecting the environmental values and amenity within the surrounding area, as the natural landscape plays an important role in the character of the municipality. For this reason, the extent of works has been minimised to limit the extent of vegetation proposed to be removed and to ensure the flood storage capacity of the surrounding area is preserved. This is an important outcome as the waterbodies and waterways are a significant features of the ecosystem within the City of Knox, with localised flooding part of the natural water cycle.
- Thorough investigations have been undertaken regarding the vegetation within the properties at 970 and 980 Stud Road and the Aboriginal and European history of the site and surrounds. The findings of these investigations have informed the proposal.
- The proposed recreation lake, wetland, sediment basin are examples of infrastructure works that will be created to ensure the development of land at 980 Stud Road meets best practice environmental management targets for accommodating stormwater, thereby preserving the health of Corhanwarrabul Creek.
5.2 Appropriateness of the Vegetation Removal

Tree Logic has prepared an Arboricultural Assessment for the proposal. Some key observations from the Assessment can be summarised as follows:

- Thirty-nine (39) tree features comprising thirty-five individual trees and four ‘tree groups’ were assessed in relation to the property, including:
  - Trees 1 – 27 along with an additional group nominated as Tree 28 consisting of English Elm (Ulmus procera) and as such making this tree species the most prevalent species.
  - Trees 29 and 30, which were two individual Swamp Gums (Eucalyptus ovata). Tree 29 was semi-mature in age but relatively small and is likely to be the progeny of Tree 30, an over-mature tree in poor structural condition.
  - Tree Group 31 and 32 comprise rows of Manna Gums and are located within the site at 1070 Stud Road and are in proximity to the southern boundaries of 970 and 980 Stud Road.
  - Trees 33 – 39 are located within the residential properties located south of 970 Stud Road.

- Of the English Elm trees, those closest to the eastern entrance (Trees 1 – 17) generally showed only relatively minor health deficiencies such as a slight reduction in size of foliage along with the presence of some deadwood. It appeared that these trees had been treated for Elm Leaf Beetle, a common pest of the species and treatment plugs noted in the trunk confirmed this. In terms of structure, most of these trees also contained minor defects such as typical deadwood and some over-extended branches which could be addressed with appropriate pruning.

- The Elms further to the west (Trees 18 – 28) were in relatively poor condition with widespread damage from Elm Leaf Beetle, sparse foliage, past branch failures and dieback.

- As the site is also greater than 4,000 square metres, Clause 52.17 (Native Vegetation) of the planning scheme also applies to the site.

- In regard to controls and permit requirements as they apply to the trees at 970 and 980 Stud Road:
  - Clause 52.17 applies to the whole site and requires a permit is obtained before removal, lopping or destruction of Victorian Native vegetation occurs. Of the trees assessed, the two Swamp Gums (Trees 29 and 30) would be covered by this permit requirement. They are not considered of sufficient merit to warrant re-design.
  - Schedule 1 to the Vegetation Protection Overlay (VPO1) applies to native vegetation and there were no native trees observed within the section of the site covered by the VPO1.
  - Assessed Trees 1 – 27 are located within the area of the site covered by Schedule 24 of the Heritage Overlay. A permit is triggered if these trees are proposed to be removed. In this regard, trees 18 – 27 are proposed to be removed.

- The proposed alignment of Emmeline Row intrudes into no more than 10% of the Tree Protection Zones (TPZs) associated with the Elm trees located on the northern side of Emmeline Row and within 980 Stud Road and 2 Emmeline Row, towards the eastern entrance of Emmeline Row. This species is a widely planted and relatively tolerant urban tree and as such the level of encroachment into the TPZs is unlikely to have an adverse impact on the condition of the trees, provided appropriate protection measures are in place to prevent additional impacts during the works.

- The southern side of proposed Emmeline Row will also intrude into the estimated TPZs of the seven Manna Gums located on the adjoining site to the south at 1070 Stud Road (referred to as Tree group 31 in the Assessment). As these trees are offset approximately 2 metres to the south from the northern boundary of 1070 Stud Road and with the southern edge of Emmeline Row set back an additional 2.3 metres from the common boundary, the encroachment into these trees’ TPZs would also fall below the 10% threshold considered minor under AS 4970.
The provision of multiple services between the southern edge of Emmeline Row and the common boundaries between 970, 980 and 1070 Stud Road may need to be bored below the tree root zones rather than installed within open trenching.

In respect to the trees located further west into the site, Emmeline Row and some services are expected to intrude into the TPZs of Tree's 21, 22 and 23, however, these trees along with others numbered from 18 through to 28 are all poor specimens and removal and replacement of them with new plantings is recommended in conjunction with the future development of the site for residential purposes.

The proposed swale drain, which extends parallel to the residential properties to the south of 970 Stud Road, should be set back a minimum of 4.5 metres (as measured from the southern edge of the drain) from the centre of the trunk of Tree 37 to ensure the tree is protected during excavation works associated with the drain.

Having regard to the above observations regarding the Arboricultural Assessment, it is considered the proposed tree removal is appropriate as:

- The non-native trees that are proposed to be removed (Trees 18-28) are in relatively poor condition with widespread damage from Elm Leaf Beetle, sparse foliage, past branch failures and dieback. Of these trees, Trees 18-27 are located within H024. These 10 trees are located some distance away from the Stamford Park Homestead at 2 Emmeline Row and are not considered to be significant. In this regard, the John Patrick Vegetation Assessment [2001] identified the locations of the significant trees within 2 Emmeline Row, all of which are located within the eastern part of the Stamford Park precinct and not consisting of Trees 18-28.

- Only two Swamp Gums (Trees 29 and 30), which are native trees, are identified and as such require a permit for removal. Following an assessment by the arborist, it has been concluded these trees are not considered to be of sufficient merit to warrant re-design.

5.3 Preservation of the Subject Site's Heritage Significance

Ochre Imprints has prepared a Cultural Heritage Management Plan (CHMP) for the proposal. A draft copy of the CHMP forms part of the Planning Application and is the version of the CHMP which has been referred to the Aboriginal stakeholders for comment. Upon receiving feedback from these stakeholders, Ochre Imprints will issue a finalised CHMP for Council's consideration. Some key observations from the draft CHMP can be summarised as follows:

- This mandatory CHMP was prepared in accordance with the requirements of the Aboriginal Heritage Act 2006. As no RAP has been appointed for the activity area, the CHMP will be evaluated by the Secretary of the Department of Premier and Cabinet (DPC).

- The aims of the CHMP were to:
  - Identify the location, nature and significance of Aboriginal places within the activity area;
  - Assess whether harm to Aboriginal places can be avoided by the proposed activity; and
  - Develop a framework for managing Aboriginal places, prior to, during and subsequent to the activity taking place.

- The proposed activity area comprises 16.6 hectares of vacant land located on the floodplain of Corhanwarrabul Creek in the suburb of Rowville.

- A check of the Victorian Aboriginal Heritage Register (VAHR) undertaken during the Desktop Assessment (see Section 2.5) revealed that no previously registered places are located within the activity area, and no places are registered within 200 metres of the activity area.

- No RAP had been appointed for the activity area at the time this CHMP was prepared. Four Aboriginal stakeholders that have interests in the activity area were involved in the preparation of this CHMP. These are:
  - Wurundjeri Tribe Land Compensation and Cultural Heritage Council (WTLCHC);
  - Bunurong Land Council Aboriginal Corporation (BLCAC);
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Bunurong Land and Sea Association (BLSEA); and
Boon Wurrung Foundation Ltd (BWF).

- Historical research demonstrates that the activity area has been a focus of European activity from at least the 1840s – and possibly as early as 1838 which is very early history of European occupation of the region. Both within and adjacent to the activity area the land use includes:
  - European farming practices;
  - European settlement;
  - Colonial hunting practices;
  - The development of a variety of industries, including horse racing and tobacco; and
  - The dumping of fill and as a set down area for adjacent construction works.

These impacts to the land, spanning over 150 years of modifications, building and impacts to the ground surface would most certainly have impacted on any Aboriginal archaeological remains that may have been located within the study area.

- No registered Aboriginal places, Historic Reference Places or Preliminary Reports are located within 200 metres of the activity area.

- No Aboriginal cultural heritage was located in the activity area during the preparation of this CHMP. The activity area was rated as having low archaeological sensitivity due to:
  - The swampy nature of the floodplain in the activity area, which was likely not suitable for Aboriginal occupation, although undoubtedly it was a source of resources utilised by Aboriginal people;
  - The lower slopes in the south east corner of the activity area would have been more suitable for Aboriginal occupation, however this area has been subject to extensive disturbance, which may have disturbed or removed cultural heritage that is, or was, present.

Based upon the preparation of the CHMP, Ochre Imprints have concluded that there was no Aboriginal cultural heritage located within the activity area that warranted preservation.

5.4 Design and Siting of Works within 970 Stud Road

The proposed recreation lake, wetland and sediment basin within 970 Stud Road has been designed and sited having regard to Council’s aspirations for the implementation of best practice water management principles and Melbourne Water’s requirements regarding the retention of the site’s flood storage capabilities. Furthermore, the establishment of a pad site in the south-western corner of the site from the use of fill has been influenced by Melbourne Water’s observations in respect to the overland flow path that encroaches into the site from the existing residential area to the south.

As part of the Planning Application, Alluvium has prepared a covering letter and an associated Integrated Water Management Strategy. In this regard, it is noted the Integrated Water Management Strategy also provides details relating to the future residential development at 980 Stud Road. This contextual information can assist in understanding why the recreation lake, wetland and sediment basin are being proposed. In summary:

Wetland and Sediment Basin

- They have been designed to ensure that the future residential development at 980 Stud Road meets best practice environmental management targets for stormwater quality;
- The dimensions have been defined through MUSIC modelling to determine the required surface area. Best practice guidelines were used to establish the minimum width to length ratios to ensure operational efficiency; and
- Excavation works are required and will contribute to flood storage volumes and to earthworks available for fill
requirements at 980 Stud Road.

Recreation Lake

- In addition to being a recreation asset for the community, the lake will also perform a stormwater harvesting role;
- The location of the recreation lake has been determined by a number of surrounding constraints:
  - The requirement for the normal water level to be a minimum of 30 metres from future residential lots within 980 Stud Road;
  - To avoid the existing Melbourne Water wetland bypass channel and to provide access;
  - To minimise the removal of existing native vegetation; and
  - To be clear of the proposed oval space to the east, which Council identifies as a future recreation area.

Pad Site in South-Western Corner

The design and siting of the pad site is in response to correspondence from Melbourne Water that has highlighted the need for an overland flow path within the south-western corner of the site. Based upon Melbourne Water’s modeling, a 16 metre wide flow path is required to convey any flow of water associated with a 1 in 100 year flood.

5.5 Potential Impacts on Adjoining Properties

As there are a number of properties that abut the sites at 970 and 980 Stud Road, it is important that the earthworks and removal of native and non-native vegetation does not unreasonably impact nearby properties. It is considered the key issues to limit off-site impacts are:

- Traffic Management

It is proposed that large vehicles will access the sites at 970 and 980 Stud Road via Enterprise Drive. Directly north of the industrial property at 31 Enterprise Drive is a concrete access track that extends in a westerly direction and provides access to the land at 970 Stud Road. The access track is proposed to be extended to the south towards the land at 980 Stud Road and west to the existing soil stockpile at 970 Stud Road (located to the west of the property at 37 Enterprise Drive). There are two concrete crossings that extend across a drainage reserve and provide access from the proposed access track and the soil stockpile. It is anticipated that where the access track is not already concreted, crushed rock will be used to ensure safe and effective movement of large vehicles within 970 and 980 Stud Road.

- Dust Control

Given the proposal involves excavation works at 970 Stud Road and the filling of the land at 980 Stud Road, appropriate measures should be implemented to minimise dust impacts on nearby properties, particularly the residential properties to the south of 970 Stud Road.

- Noise Control

As the proposal will involve the use of large vehicles and earth moving machinery, along with a large number of works, it is important that work associated with the proposal occurs during appropriate hours, thereby not unreasonably impacting the amenity of nearby properties, particularly the residential properties to the south of 970 Stud Road.

- Protection of Native Vegetation

As per the documentation that forms part of the Planning Application, existing native vegetation is proposed to be preserved. As such, the erection of tree protection zones / fencing around the applicable areas should occur prior to works commencing.

- Protection of Waterbodies

Given the nature of the proposal and the location of existing waterbodies in proximity to the land at 970 and 980 Stud Road, it is important that appropriate measures are implemented to limit the transportation of sediment off-site and into the waterbodies.
Site Sheds, Site Maintenance and Waste Management

As part of any construction site, there is typically the need for site sheds, the storing of vehicles and materials and waste collection areas. The locations for these elements play an important role in the general appearance and efficiency of construction sites. As the land at 970 and 980 Stud Road is located within proximity to residential properties, the Stamford Park Homestead and existing waterbodies, it is important the site sheds, the storing of vehicles and materials and waste collection areas are sited to preserve the amenity of these existing features.

In order to manage the above issues, and others considered relevant by Council to the proposal, a condition of the planning permit can include the preparation of Environmental Management Plan, Construction Management Plan and other documents, as required, to the satisfaction of the responsible authority. The contractor appointed by Stockland to undertake the earthworks and vegetation removal can prepare the specific documentation to Council’s satisfaction.
Part Six: Conclusion

In conclusion, the proposal is appropriate for the following reasons:

- The proposal has a high level of consistency with the applicable planning policies and provisions within the Knox Planning Scheme.

- The proposal seeks to satisfy various Melbourne Water requirements to ensure any future residential development at 980 Stud Road is not affected by flooding and that the storage of flood water within 970 Stud Road is maintained.

- The proposed creation of a recreation lake, wetland and sediment basin at 970 Stud Road is part of the proposed implementation of best practice water management principles associated with the future residential development at 980 Stud Road. In this regard, the Development Plan Overlay – Schedule 9 planning control in the Knox Planning Scheme, which influences the future residential development at 980 Stud Road, requires an integrated water strategy to be implemented.

- The extent of native and non-native vegetation to be removed has been minimised and is the result of meeting Melbourne Water’s and Council requirements. Furthermore, the Arboricultural Assessment has concluded that the trees proposed to be removed are in relatively poor health.

- The significant trees identified within the historic vegetation assessment of the Stamford Park Homestead at 2 Emmeline Row are not affected by the proposal.

- The preparation of a CHMP has found that there was no Aboriginal cultural heritage located within the activity area that warranted preservation.

For the above reasons and those outlined throughout this report, Council is encouraged to support the planning application through the granting of a planning permit.
STAMFORD PARK, ROWVILLE

FLORA AND FAUNA ASSESSMENT

Knox City Council
RECEIVED
16 AUG 2016
PLANNING DEPARTMENT

Stockland Pty Ltd

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1. EXECUTIVE SUMMARY

Stockland Pty Ltd engaged Brett Lane & Associates Pty. Ltd. to conduct a biodiversity assessment of an approximately 17.3 hectare area of land on Stud Road at Stamford Park, Rowville (the 'study area'). The study area comprises 6.3 hectares of land owned by Stockland and proposed for residential subdivision at 980 Stud Road, as well as approximately 11 hectares of land owned by Knox City Council, south of the Kelletts Road Drain Wetland on land at 970 Stud Road, Rowville.

This investigation was commissioned to provide information on the extent and condition of native vegetation in the study area according to Victoria's Biodiversity assessment guidelines (DEPI 2013), as well as any potential impacts on flora and fauna matters listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and/or the Flora and Fauna Guarantee Act 1988 (FFG Act). This report outlines any implications under relevant national, state and local legislation and policy frameworks.

The study area supported 1.751 hectares of remnant native vegetation in the form of modified Swampy Woodland (EVC 937), and 2 scattered trees (Swamp Gums). It is modelled as being within location 'risk category' A in the Native Vegetation Information Management system administered by the Department of Environment, Land, Water and Planning.

It is understood that the entire private land parcel will require fill prior to development. Additional assets are also proposed for the Council-owned land in the balance of the study area which will require removal of native vegetation - these are: a recreational lake; wetland and sediment basin; and a pad site for a Men's Shed.

This proposal would result in the loss of a total extent of 0.975 hectares of native vegetation: 0.516 hectares on 980 Stud Road and 0.459 hectares on Council-owned land at 980 Stud Road.

A planning permit under Clause 52.17 of the Knox Planning Scheme is required for any removal of native vegetation, and the removal of more than 0.5 hectares of native vegetation would trigger a referral of this application to DELWP.

Offsets required to compensate for the proposed removal of 0.975 hectares of native vegetation have been identified as 0.151 general biodiversity equivalence units with a minimum strategic biodiversity score of 0.371. These offsets can be sourced through a broker and must be located within the Port Phillip and Westernport Catchment Management Authority area or the Knox local government area. Under the Guidelines all offsets must be secured prior to the removal of native vegetation.

The study area may be occasional habitat for the following species, listed as Migratory under the EPBC Act:

- Eastern Great Egret; and
- Latham’s Snipe.

As habitat in the study area is limited in extent for these EPBC Act listed species, it is considered unlikely that the proposed development and associated assets in the balance of the study area would have a significant impact on these species. Furthermore, adjacent wetlands and waterway habitat that may support them will be protected from detrimental impacts through the adoption of water sensitive urban design measures required under a Development Plan Overlay covering the site.
Three common flora species listed as protected under the FFG Act were recorded on public (Council-owned) land during the field surveys, for which a permit under the FFG Act would be required for removal.
2. INTRODUCTION

Brett Lane & Associates Pty. Ltd. (BL&A) undertook a biodiversity assessment of an approximately 17.3 hectare area of land on Stud Road at Stamford Park, Rowville (the 'study area'). The study area comprises 6.3 hectares of land owned by Stockland and proposed for residential subdivision at 980 Stud Road, as well as approximately 11 hectares of Council-owned land south of the Kelletts Road Drain Wetland on land at 970 Stud Road, Rowville.

This investigation was commissioned to provide information on the extent and condition of native vegetation in the study area according to Victoria’s Biodiversity assessment guidelines (DEPI 2013), as well as any potential impacts on flora and fauna matters listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999. This report outlines any implications under relevant national, state and local legislation and policy frameworks.

Specifically, the scope of the investigation included:

- Review of existing information on the flora, fauna and native vegetation of the study area and surrounds will be reviewed, including:
  - Victorian Biodiversity Atlas administered by the Department of Environment, Land, Water and Planning (DELWP);
  - The Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Protected Matters Search Tool; and
  - DELWP Native Vegetation Information Management system (NVIM).

- Site surveys involving:
  - Characterisation and mapping of remnant native vegetation on the site;
  - Assessment of native vegetation in accordance with Victoria’s Biodiversity assessment guidelines (the ‘Guidelines’) including habitat hectare assessment and/or scattered tree assessment;
  - Compilation of flora species lists for the site;
  - Assessment of the nature and quality of native fauna habitat; and

This report is divided into the following sections:

Section 3 describes the sources of information, including the methods used for the field survey.

Section 4 provides the legislative background including details of all relevant Commonwealth, State and local legislation and policies.

Section 5 presents the assessment results, including details of the native vegetation, flora and fauna of the study area.

Section 6 discusses the proposed impacts of the project and details the implications of the findings under the relevant legislation and policy.

This investigation was undertaken by a team from BL&A, comprising Elinor Ebsworth (Senior Ecologist) and Mal Wright (Senior Ecologist & Project Manager).
3. SOURCES OF INFORMATION

3.1. Existing information

Existing information used for this investigation is described below. The study area for this investigation (Figure 1) is located in the southern section of Stamford Park, Rowville, approximately 25 kilometres south-east of Melbourne.

3.1.1. Existing reporting and documentation

The reports, planning scheme and/or development plans below, relating to the study area were reviewed.

- Stamford Park: Flora and Fauna Due Diligence Assessment (BL&A 2015a)
- Stamford Park: River Swamp Wallaby-Grass Targeted Survey (BL&A 2015b)
- Knox City Council Planning Scheme (DELWP 2016c)
- Sites of Biological Significance in Knox – Volume 2 (Lorimer 2004)
- Assessment of Vegetation Adjoining Stamford Park Homestead, Rowville (Lorimer 2015)

3.1.2. Location and extent risk

The likely risk-based pathway for assessment of any proposed vegetation removal relies on the 'location risk' and 'extent risk' determined with the assistance of the online Native Vegetation Information Management system (NVIM) administered by the Department of Environment, Land Water and Planning (DELWP 2015c).

NVIM online mapping was viewed to determine the mapped location risk of the study area and to gain a preliminary indication of the extent risk, described in Section 4.1.2.

3.1.3. Native vegetation

Pre-1750 (pre-European settlement) vegetation mapping administered by DELWP was reviewed to determine the type of native vegetation likely to occur in the study area and surrounds. Information on Ecological Vegetation Classes was obtained from published EVC benchmarks. These sources included:

- Relevant EVC benchmarks for the Gippsland Plain bioregion¹ (DELWP 2015d); and
- Biodiversity Interactive Maps (DELWP 2016a).

3.1.4. Listed matters

Existing flora and fauna species records and information about the potential occurrence of listed matters was obtained from an area termed the ‘search region’, defined here as an area with a radius of ten kilometres from the approximate centre point of the study area (coordinates: latitude 37° 54' 55" S and longitude 145° 13' 47" E).

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¹ A bioregion is defined as “a geographic region that captures the patterns of ecological characteristics in the landscape, providing a natural framework for recognising and responding to biodiversity values”. In general bioregions reflect underlying environmental features of the landscape (DNRE 1997).
A list of the flora and fauna species recorded in the search region was obtained from the Victorian Biodiversity Atlas (VBA), a database administered by DELWP (2016b).

The list of communities on the FFG Act Threatened List (DELWP 2015b) was reviewed to ascertain whether any Victorian listed ecological communities were likely to occur in the study area.

The online *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool (DotE 2015a) was consulted to determine whether nationally listed species or communities potentially occurred in the search region based on habitat modelling.

### 3.2. Field methods

The field assessments undertaken for this investigation include the following:

- Flora and Fauna due diligence assessment on 2nd July 2015;
- Habitat Hectare assessment within the land owned by Stockland on 10th November 2015;
- Targeted surveys for River Swamp Wallaby-grass on 10th November 2015;
- Confirmation of the extent of vegetation on the 16th March 2016; and
- Mapping and Habitat Hectare assessment of native vegetation on Council-owned land within the study area on 6th April 2016.

During all assessments, the study area was surveyed on foot.

Sites in the study area found to support native vegetation or the potential to support listed matters were mapped. Mapping was undertaken through a combination of aerial photograph interpretation and ground-truthing using a hand held GPS (accurate to approximately five metres).

### 3.2.1. Native vegetation

Native vegetation is defined in the Victoria Planning Provisions as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'. The *Biodiversity assessment guidelines* (DEPI 2013) define native vegetation as belonging to two categories:

- Remnant patch; or
- Scattered trees.

The definitions of these categories are provided below, along with the prescribed DELWP methods to assess them.

**Remnant patch**

A remnant patch of native vegetation is either:

- An area of native vegetation where at least 25 per cent of the total perennial understorey plant cover is native; and/or
Any area with three or more native canopy trees\(^2\) where the canopy foliage cover\(^3\) is at least 20 per cent of the area.

Remnant patch condition is assessed using the habitat hectare method (Parkes et al. 2003; DSE 2004) whereby components of native vegetation (e.g. tree canopy, understorey and ground cover) are assessed against an EVC benchmark. The score effectively measures the percentage resemblance of the vegetation to its original condition.

The NVIM system (DELWP 2015c) provides modelled condition scores for native vegetation to be used in certain circumstances (Section 4.1.2). All wetlands mapped on DELWP’s native vegetation layer are treated as a remnant patch.

The condition score assists in defining the biodiversity equivalence score (described in Section 4.1.2) of the native vegetation and the offset targets if removal of native vegetation is approved.

**Scattered trees**

The *Biodiversity assessment guidelines* define scattered trees as a native canopy tree\(^2\) that does not form part of a remnant patch of native vegetation.

Scattered trees are counted, the species identified and their DBH (diameter at breast height or 1.3 metres above ground) measured or estimated.

### 3.2.2. Flora species and habitats

Records of flora species were made in conjunction with sampling methods used to undertake habitat hectare assessments of native vegetation, described above. Specimens requiring identification using laboratory techniques were collected.

The potential for habitats to support listed flora species was assessed based on the criteria outlined below:

- The presence of suitable habitat for flora species such as soil type, floristic associations and landscape context; and
- The level of disturbance of suitable habitats by anthropogenic disturbances and invasions by pest plants and animals.

### 3.2.3. Fauna species and habitats

The quality of fauna habitats and their potential to support listed species was assessed according to the criteria detailed below. These are based on habitat components that include old-growth trees, fallen timber, leaf litter, surface rocks and inundation regimes. Three quality categories were used, as described below:

- **High:** The majority of fauna habitat components are present and habitat linkages to other remnant ecosystems in the landscape are intact.
- **Moderate:** The majority of fauna habitat components are present but habitat linkages to other remnant ecosystems in the landscape are absent; or

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\(^2\) A canopy tree is a reproductively mature tree that is greater than 3 metres in height and is normally found in the upper layer of the relevant vegetation type.

\(^3\) Foliage cover is the proportion of the ground that is shaded by vegetation foliage when lit from directly above.
The majority of habitat components are absent but habitat linkages to other remnant ecosystems in the landscape are intact.

- **Low:** The majority of fauna habitat components are absent and habitat linkages to other remnant ecosystems in the landscape are absent.

### 3.2.4. Threatened ecological communities

The study area was assessed against identification criteria and condition thresholds for relevant listed ecological communities found to potentially occur in the study area.

### 3.3. Limitations of field assessment

Whilst this assessment was not designed to provide an exhaustive inventory of flora and fauna species in the study area, all efforts were made to schedule the site assessment at a time of year when the majority of native vegetation life forms and habitat niches are likely to be present. Nevertheless, site assessments may fail to record all life-forms because of the seasonal absence of some species and sampling nature of surveys.

The site assessments have been carried out in a variety of seasons, including winter, spring and autumn, however some annual and/or seasonally-emergent plant species may have been absent or in the senescent or pre-flowering stage of their life-cycle during the field surveys. The timing of the survey and condition of vegetation was considered suitable to ascertain the extent and condition of native vegetation and fauna habitats.

Wherever appropriate, a precautionary approach was adopted in the discussion of implications for matters listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and Victorian *Flora and Fauna Guarantee Act 1988*. That is, where insufficient evidence was available on the potential occurrence of a listed species, it is assumed that it could be in an area of suitable habitat. The implications under legislation and policy are considered accordingly.
4. LEGISLATIVE BACKGROUND

4.1. Planning and Environment Act 1987

Victoria’s planning schemes are constituted under the Planning and Environment Act 1987. This section discusses planning provisions in the local planning scheme applicable to flora and fauna.

4.1.1. Local provisions

Local Planning Policy Frameworks

Local Planning Policy Framework (LPPF) 21.06 in the Knox Planning Scheme relates to ‘the environment’. The objectives of LPPF 21.06 include:

- Ensure ongoing conservation of all existing native flora and fauna species;
- Control and manage pest plants and animals;
- Protect the landscape and environmental significance of the Dandenong Foothills;
- Protect and improve the Dandenong Creek Valley as a natural landscape and open space area;
- Protect and enhance creeks and waterways as key public, landscape and environmental assets;
- Reduce the impact of urban stormwater run-off on creeks, rivers, bays and other receiving waters and their surrounds, both within and outside the city; and
- Ensure that development responds to drainage and flood constraints.

Numerous strategies have been developed to meet these objectives, those pertinent to this investigation being:

- Ensure the retention and management of indigenous vegetation for its habitat, ecological and intrinsic values, particularly along creek valleys and linear reserves; in the vicinity of the Dandenong Ranges National Park and other parks and reserves; and in recognised sites of biological significance;
- Ensure that indigenous vegetation remains as one of the most significant environmental and visual characteristics of Knox and continue to provide natural habitats for local flora and fauna; and
- Maximise the geographical link between unavoidable losses of native vegetation with offsets located as close as practicable to the local catchment and plant/animal population area impacted.

Overlays

The study area is subject to a Development Plan Overlay Schedule 9 (DPO9) in the Knox City Planning Scheme. The purpose of this Schedule is to ensure the development of the residential precinct within Stamford Park occurs in the manner envisaged in the Stamford Park Masterplan Report (July 2014) (Tract 2014); and require the resolution of detailed design and planning issues prior to commencement of development. The objectives of the Development Plan are:
To ensure that residential development and the associated subdivision supports a high quality water sensitive urban design (WSUD) system;

- To incorporate innovative sustainability measures through ecologically sustainable design;

- To ensure seamless integration between the residential precinct and the adjoining public open space; and between the residential precinct and the nearby Stamford Park Homestead;

- To incorporate a hierarchy of public open spaces that includes a focal point for community gatherings;

- To ensure a diverse mix of lot sizes, housing types and dwelling sizes;

- To provide affordable housing options;

- To ensure the fill required to raise the residential precinct above the 1:100 year flood level does not significantly reduce or impact the capacity of the floodplain; and

- To provide for a possible future pedestrian and local vehicular link between Stamford Parkland and land to the west.

The Development Plan must demonstrate how these objectives will be achieved by including a plan or plans that address a range of outcomes specified in the overlay provisions. None of the requirements of this overlay relate explicitly to the flora and fauna in the study area. However, the water sensitive urban design and sustainability requirements of the overlay aim to protect the ecological functions of the wider landscape surrounding landscape, and in particular those of adjacent waterways.

Of some relevance is the Vegetation Protection Overlay (VP01). However, as Dr Graeme Lorimer’s review identifies (Lorimer 2015), the VPO is located inappropriately and changes in the nature and extent of native vegetation make it no longer relevant. Lorimer (2015) describes the historical reasons why the overlay still remains in place. He is of the view that Clause 52.17 (see below) provides an adequate mechanism for dealing with the limited area of actual native vegetation (lying within artificial drains) covered by the overlay. This view is considered appropriate to the current conditions on the site.

An Environmental Significance Overlay (ES02) covers part of the Council-owned land within the study area. This overlay aims to protect sites listed in the document ‘Sites of Biological Significance in Knox – 2nd Edition’. Aerial imagery dated 2009 (Planning Maps Online) appears to show that the boundary of this overlay within the study area follows a pre-existing drainage line which has now been replaced by the Kelletts Road Drain Wetland.

A small section in the east of the study area is subject to a Heritage Overlay (HO) in the Knox City Planning Scheme, the purpose of which is to conserve and enhance heritage places of natural or cultural significance. A permit is required to remove destroy or lop any tree within the area covered by this overlay.

4.1.2. State provisions

Destruction, lopping or removal of native vegetation on land which, together with all contiguous land in one ownership, has an area of 0.4 hectares or more requires a planning permit under Clause 52.17 of all Victorian Planning Schemes. This includes the removal of dead trees with a DBH (diameter at breast height or 1.3 metres) of 40 centimetres or more and any individual scattered native plants.
Before issuing a planning permit, Responsible Authorities are obliged to refer to Clause 12.01 (Biodiversity) in the Planning Scheme. This refers in turn to the incorporated document *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (DEPI 2013).

**Guidelines objective**

As set out in *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (the Guidelines) the objective for permitted clearing of native vegetation in Victoria is ‘No net loss in the contribution made by native vegetation to Victoria’s biodiversity’. The key strategies for ensuring this outcome when considering an application to remove native vegetation are:

- Avoiding the removal of native vegetation that makes a significant contribution to Victoria’s biodiversity;
- Minimising impacts on Victoria’s biodiversity from the removal of native vegetation; and
- Where native vegetation is permitted to be removed, ensuring it is offset in a manner that makes an equivalent contribution to Victoria’s biodiversity made by the native vegetation to be removed.

If native vegetation does not meet the definition of either a remnant patch or scattered trees, the requirements of the Guidelines do not apply.

**Risk-based assessment pathways**

The first step in determining the type of assessment required for any site in Victoria is to determine the risk to biodiversity associated with the proposed native vegetation removal and therefore the risk-based assessment pathway for the proposed native vegetation removal. There are three risk-based pathways for assessing an application to remove native vegetation, below.

- Low risk
- Moderate risk
- High risk

This risk-based assessment pathway is determined by two factors, outlined below.

**Extent risk** – the area in hectares proposed to be removed or the number of scattered trees. Note: extent risk also includes any native vegetation clearing for which permission has been granted in the last five years.

**Location risk** – the likelihood that removing native vegetation in a location will have an impact on the persistence of a rare or threatened species classified into three categories: Location A, Location B and Location C.
The risk-based pathway for assessing an application to remove native vegetation is determined by the following matrices for remnant patches and scattered trees:

<table>
<thead>
<tr>
<th>Extent (remnant patches)</th>
<th>Location A</th>
<th>Location B</th>
<th>Location C</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 0.5 hectares</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>≥ 0.5 hectares and &lt; 1 hectare</td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>≥ 1 hectare</td>
<td>Moderate</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Extent (scattered trees)</th>
<th>Location A</th>
<th>Location B</th>
<th>Location C</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 15 scattered trees</td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>≥ 15 scattered trees</td>
<td>Moderate</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

All native vegetation within any subdivision plot of less than 0.4 hectares is deemed to be lost; for applications with combined removal of both remnant patch and scattered trees, the extent of the scattered trees is converted to an area by assigning a standard area of 0.071 hectares per tree – the total extent is then used to determine the risk-based pathway.

The presence of any Location B or Location C risk categories within an area of proposed native vegetation removal means this whole area of removal is considered to belong to that category for the purpose of determining the risk-based assessment pathway.

The assessment process, decision guidelines and offset requirements for approved native vegetation removal are summarised in Appendix 1.

**DELWP referral criteria**

Clause 66.02 of the planning scheme determines the role of DELWP in the assessment of native vegetation removal permit applications. If an application is referred, DELWP may make certain recommendations to the responsible authority in relation to the permit application. An application to remove native vegetation must be referred to DELWP in the following circumstances:

- Applications where the native vegetation to be removed is 0.5 hectares or more (this does not apply to removal of scattered trees only);
- All applications in the high risk-based pathway;
- Applications where a property vegetation plan applies to the site; and
- Applications on Crown land which is occupied or managed by the responsible authority.

**Summary of the assessment process**

The assessment process, decision guidelines and offset requirements for approved native vegetation removal are outlined in Appendix 1.

4.2. **EPBC Act**

The *Environment Protection and Biodiversity Conservation Act 1999* protects a number of threatened species and ecological communities that are considered to be of national conservation significance. Any significant impacts on these species require the approval of the Australian Minister for the Environment.
If there is a possibility of a significant impact on nationally threatened species or communities or listed migratory species, a Referral under the EPBC Act should be considered. The Minister will decide after 20 business days whether the project will be a ‘controlled action’ under the EPBC Act, in which case it cannot be undertaken without the approval of the Minister. This approval depends on a further assessment and approval process (lasting between three and nine months, depending on the level of assessment).

4.3. FFG Act

The Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act) lists threatened and protected species and ecological communities (DELWP 2015a, DELWP 2015b). Any removal of threatened flora species or communities (or protected flora) listed under the FFG Act from public land requires a Protected Flora Permit under the Act, obtained from DELWP.

The FFG Act only applies to private land in relation to the commercial collection of grasstrees, tree-ferns and sphagnum moss.

4.4. EE Act

The “Ministerial Guidelines for Assessment of Environmental Effects under the *Environment Effects Act 1978*” (DSE 2006), identifies the following criteria related to flora and fauna which assist in determining whether a Referral to the State Minister for Planning is required:

- Potential clearing of ten hectares or more of native vegetation from an area that is of an EVC identified as endangered by the Department of Environment, Land, Water and Planning (DELWP 2015d);
- Potential long-term loss of a significant proportion (1 to 5% depending upon conservation status of species concerned) of known remaining habitat or population of a threatened species in Victoria;
- Potential long-term change to a wetland’s ecological character, where that wetland is Ramsar listed, or listed in ‘A Directory of Important Wetlands in Australia’;
- Potential major effects upon the biodiversity of aquatic ecosystems over the long term;
- Potential significant effects on matters listed under the *Flora and Fauna Guarantee Act 1988*.

One or a combination of these criteria may trigger a requirement for a Referral to the Victorian Minister for Planning who will determine if an EES is required.
5. ASSESSMENT RESULTS

5.1. Site assessment

5.1.1. Site description

The study area for this investigation (Figure 1) was approximately 17.3 hectares of land located within the southern section of Stamford Park, approximately 25 kilometres south-east of Melbourne. 6.3 hectares of private land at 680 Stud Road owned by Stockland sits within this study area. The study area is surrounded by open space and wetlands characteristic of Stamford Park to the north and east. A residential development occurs adjacent to the south of the study area, immediately opposite Stamford Park. A golf course abuts Stamford Park to the west, adjacent to the study area.

Stamford Park is a 52 hectare area of public open space, comprising modified native vegetation and a series of wetlands. The study area sits within the southern portion of Stamford Park, north of and adjacent to an extensive residential development. A man-made wetland is located to the north of the study area and the Corhanwarrabul Creek runs north-east to south-west along the boundary of Stamford Park. A golf course is located immediately west of Stamford Park.

The Corhanwarrabul Creek runs in a north-east to south-west direction, north of the study area, merging with the Dandenong Creek approximately three kilometres to the south. A large man made wetland (Caribbean Lake) exists approximately 70 metres north of the study area, connected to the creek at its western edge via another permanent wetland.

The study area supported dark clay soils on a flat plain deemed to be less than nine metres above flood level, according to Biodiversity Interactive Mapping (DELWP 2016a). The Dandenong Ranges lie approximately 10 kilometres to the east, and Lysterfield Park approximately five kilometres to the south-east of the study area.

The study area essentially comprised several ephemeral, disconnected wetlands surrounded by open space, drainage channels supporting indigenous wetland plants, and a small remnant patch of Swamp Scrub in the south-eastern corner of the study area. The wetlands and drainage channel were identified as highly modified patches of native remnant vegetation, while the surrounding open space was more representative of an exotic pasture. Two scattered trees (Swamp Gums) were present within the study area.

The study area lies within the Gippsland Plain bioregion and within the Port Phillip and Westernport Catchment Management area. The study area is subject to Development Plan Overlay – Schedule 9 (DPO9) and a small portion in the east is subject to a Vegetation Protection Overlay – Schedule 1 (VPO1) and a Heritage Overlay (H024) in the Knox Planning Scheme.

5.1.2. Remnant patches

Pre-European EVC mapping (DELWP 2016a) indicated that the study area and surrounds would have supported Swampy Woodland (EVC 937) and Valley Heathy Forest (EVC 127) prior to European settlement based on modelled factors including rainfall, aspect, soils and remaining vegetation.

Evidence on site, including floristic composition, soil characteristics and topography, suggested that the patches of remnant native vegetation were representative of modified...
Swampy Woodland (EVC 937), devoid for the most-part (with the exception of Habitat Zone 18) of its canopy component.

**Swampy Woodland (EVC 937)** is described in the published benchmark as “open eucalypt woodland to 15 metres tall with ground-layer dominated by tussock grasses and/or sedges and often rich in herbs. [It] occurs on poorly drained, seasonally waterlogged heavy soils, primarily on swamp deposits but extending to suitable substrates within some landscapes of sedimentary origin” (Appendix 6).

Twenty-three remnant patches (referred to herein as habitat zones) comprising the abovementioned EVC were identified in the study area (Table 1), with a total area of 1.751 hectares.

**Table 1: Description of habitat zones in the study area**

<table>
<thead>
<tr>
<th>Habitat Zone</th>
<th>EVC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat Zone 1</td>
<td>Swampy Woodland (EVC 937)</td>
<td>Approximately 50% of the overall cover of vegetation was represented by indigenous species and at least 75% of the indigenous vegetation was dominated by rushes (Juncus spp.). The only other frequent indigenous species present were Swamp Dock (Rumex brownii) and Geranium (Geranium sp.), which together comprised &lt;10% cover. The zone also supported a few individuals of Water Plantain (Alisma plantago-aquatica). The remaining 50% of vegetation cover was dominated by exotic grasses, namely Browntop Bent (Agrostis capillaris), Kikuyu (Pennisetum clandestinum), Phalaris (Phalaris aquatica) and Water Couch (Paspalum distichum), in conjunction with patchily occurring broad leaf weeds Creeping Buttercup (Ranunculus repens), Drain Sedge (Cyperus congestus) and Curled Dock (Rumex conglomeratus), as well as some scattered Bristly Ox-tongue (Helminthotheca echinodes).</td>
</tr>
<tr>
<td>Habitat Zone 2</td>
<td>Swampy Woodland (EVC 937)</td>
<td>The overall cover of vegetation was dominated by indigenous species, approximately 80%, and this consisted almost entirely of Juncus spp. Other indigenous species that were present, though not common, were Common Reed (Phragmites australis) and Swamp Dock. The remaining 20% of vegetation cover occurred as Phalaris and Brown Top Bent, particularly toward the perimeter of the zone, as well as Curled Dock and Bristly Ox-tongue.</td>
</tr>
<tr>
<td>Habitat Zone 3</td>
<td>Swampy Woodland (EVC 937)</td>
<td>The overall cover of vegetation was dominated by Juncus spp, &gt;75%. Other indigenous species present in small numbers were Geranium, Willow-herb (Epilobium sp.), Swamp Dock and Cotton Fireweed (Senecio quadridentatus). The remaining vegetation consisted of Phalaris and Brown Top Bent, as well as some Creeping Buttercup and Bristly Ox-tongue.</td>
</tr>
<tr>
<td>Habitat Zone 4</td>
<td>Swampy Woodland (EVC 937)</td>
<td>Experienced Ecologist Dr Graeme Lorimer surveyed the zone in February 2015, describing it as consisting of a planted wind break of Elm Trees (Ulmus procera) with a dense cover of indigenous wetland plants. Slender Knotweed (Persicaria decipiens) was the dominant of these, while other indigenous species included Broom Rush (Juncus sarophorus), Water Plantain (Alisma plantago-aquatica), Australian Sweet-grass (Glyceria australis), Common Reed and Common Spike-rush (Eleocharis acuta). Some patches of Water Couch were also recorded within the zone.</td>
</tr>
<tr>
<td>Habitat Zone</td>
<td>EVC</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Habitat Zone 5a and 5b</td>
<td>Swampy Woodland (EVC 937)</td>
<td>The vegetation was restricted along an ephemeral drainage line, and was dominated (20% cover) by native graminoids including Common Reed (<em>Phragmites australis</em>), rushes (<em>Juncus</em> spp.) and Common Spike-rush (<em>Eleocharis acuta</em>), with 10% cover of native herbs and scattered shrubs. Weed cover was 30%, including the high-threat woody weeds Gorse (<em>Ulex europaeus</em>) and Blackberry (<em>Rubus fruticosus</em> spp. agg.).</td>
</tr>
<tr>
<td>Habitat Zone 6</td>
<td>Swampy Woodland (EVC 937)</td>
<td>Dominated by Common Reed (<em>Phragmites australis</em>) and exotic pasture grass including Kikuyu (<em>Pennisetum clandestinum</em>), Water Couch (<em>Paspalum distichum</em>) and Cockspur (<em>Dactylis glomerata</em>) with high log and litter cover.</td>
</tr>
<tr>
<td>Habitat Zone 5, 7, 8, 10, 11, 12 and 15</td>
<td>Swampy Woodland (EVC 937)</td>
<td>Occurring as small, species depauperate patches dominated by Common Reed (<em>Phragmites australis</em>) and exotic pasture grass including Water Couch (<em>Paspalum distichum</em>) and Prairie Grass (<em>Bromus catharticus</em>) with the high-threat woody weed Blackberry (<em>Rubus fruticosus</em> spp. agg.).</td>
</tr>
<tr>
<td>Habitat Zone 9</td>
<td>Swampy Woodland (EVC 937)</td>
<td>Large area of modified Swampy Woodland, lacking a shrub or canopy layer and dominated (45%) by native graminoids including Knobby Club-sedge (<em>Ficinia nodosa</em>), rushes (<em>Juncus</em> spp.) and Common Spike-rush (<em>Eleocharis acuta</em>) with 10% indigenous herb cover including Slender Knotweed (<em>Persicaria decipiens</em>), Spotted Knotweed (<em>Persicaria praetermissana</em>) and Cotton Fireweed (<em>Senecio quadridentatus</em>). Weed cover was 40%, including the high-threat woody weed Blackberry (<em>Rubus fruticosus</em> spp. agg.).</td>
</tr>
<tr>
<td>Habitat Zone 13, 14, 17, 20, 21 and 22</td>
<td>Swampy Woodland (EVC 937)</td>
<td>Occurring as small, species depauperate patches dominated by Common Reed (<em>Phragmites australis</em>), Knobby Club-sedge (<em>Ficinia nodosa</em>) and Broom Rush (<em>Juncus sarophorus</em>) with exotic pasture grass. Weed cover was 40% and litter cover was high (80%).</td>
</tr>
<tr>
<td>Habitat Zone 16 and 23</td>
<td>Swampy Woodland (EVC 937)</td>
<td>Occurring as small, species depauperate patches dominated by Knobby Club-sedge (<em>Ficinia nodosa</em>) and Broom Rush (<em>Juncus sarophorus</em>) with exotic pasture grass and exotic forbs. Weed cover was 45% and litter cover was high (75%).</td>
</tr>
<tr>
<td>Habitat Zone 18</td>
<td>Swampy Woodland (EVC 937)</td>
<td>Occurred along a watercourse at the edge of the study area, and included a canopy of Swamp Gums (<em>Eucalyptus ovata</em>) over a dense tree and understorey layer of Swamp Paperbark (<em>Melaleuca ericifolia</em>). The ground layer was sparse, with scattered Broom Rush (<em>Juncus sarophorus</em>) and Epilobium (<em>Epilobium</em> spp.). Weed cover was low (10%), but included the high-threat woody weeds Blackberry (<em>Rubus fruticosus</em> spp. agg.) and Sweet Pittosporum (<em>Pittosporum undulatum</em>).</td>
</tr>
<tr>
<td>Habitat Zone 19</td>
<td>Swampy Woodland (EVC 937)</td>
<td>Occurred along a densely vegetated drainage channel, and was dominated by Broom Rush (<em>Juncus sarophorus</em>), Common Spike-rush (<em>Eleocharis acuta</em>) and Slender Knotweed (<em>Persicaria decipiens</em>).</td>
</tr>
</tbody>
</table>

The habitat hectare assessment results for these habitat zones are provided in Table 2. More detailed habitat scoring results are presented in Appendix 2.
<table>
<thead>
<tr>
<th>Habitat Zone</th>
<th>EVC</th>
<th>Area (ha)</th>
<th>Condition score (out of 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.190</td>
<td>17</td>
</tr>
<tr>
<td>2</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.048</td>
<td>17</td>
</tr>
<tr>
<td>3</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.124</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.013</td>
<td>18</td>
</tr>
<tr>
<td>5</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.006</td>
<td>34</td>
</tr>
<tr>
<td>6</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.010</td>
<td>24</td>
</tr>
<tr>
<td>7</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.004</td>
<td>16</td>
</tr>
<tr>
<td>8</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.006</td>
<td>17</td>
</tr>
<tr>
<td>9</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.823</td>
<td>23</td>
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<tr>
<td>10</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.068</td>
<td>19</td>
</tr>
<tr>
<td>11</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.018</td>
<td>20</td>
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<tr>
<td>12</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.004</td>
<td>21</td>
</tr>
<tr>
<td>13</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.027</td>
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<tr>
<td>14</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.010</td>
<td>25</td>
</tr>
<tr>
<td>15</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.020</td>
<td>24</td>
</tr>
<tr>
<td>16</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.013</td>
<td>27</td>
</tr>
<tr>
<td>17</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.254</td>
<td>28</td>
</tr>
<tr>
<td>18</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.007</td>
<td>45</td>
</tr>
<tr>
<td>19</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.002</td>
<td>34</td>
</tr>
<tr>
<td>20</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.001</td>
<td>32</td>
</tr>
<tr>
<td>21</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.032</td>
<td>33</td>
</tr>
<tr>
<td>22</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.060</td>
<td>34</td>
</tr>
<tr>
<td>23</td>
<td>Swampy Woodland (EVC 937)</td>
<td>0.011</td>
<td>35</td>
</tr>
</tbody>
</table>
Figure 1: Study area and native vegetation

- **Development area**
- **Study area**
- **Native vegetation**
  - Swampy Woodland (EVC 937)
  - Scattered trees (ST)

**Legend**

Client: Stockland Pty Ltd

Project: Stamford Park, Rowville

Date: 11/5/2016

0 25 50 100 150 200 250 Metres
5.1.3. Scattered trees

Scattered trees recorded in the study area would have once comprised the canopy component of Swampy Woodland (EVC 937). Two scattered trees occurred in the study area (Figure 1), with DBH (diameter at breast height) of 17 and 85 centimetres.

One scattered tree was above 70 centimetres DBH, the benchmark minimum DBH for large trees in the pre-existing Swampy Woodland (EVC 937). This tree contained hollows.

5.1.4. Flora species

During the habitat hectare assessment 60 plant species were recorded. Of these, 21 (35%) were indigenous and 39 (65%) were introduced or non-indigenous native in origin (Appendix 3).

VBA records (DELWP 2016b) and the EPBC Protected Matters Search Tool (DotE 2015a) indicated that within the search region there were records of, or there occurred potential suitable habitat for, 12 species listed under the Commonwealth EPBC Act and 11 species listed under the FFG Act, including nine listed under both. No flora species listed as threatened under the EPBC Act or FFG Act were recorded during the field surveys.

An analysis of the likelihood of occurrence in the study area of species listed as threatened under the EPBC Act and FFG Act following an initial site assessment was undertaken (Table 3). Species considered ‘likely to occur’ are those that have a very high chance of being in the study area based on numerous records in the search region and suitable habitat in the study area. Species considered to have the ‘potential to occur’ are those where suitable habitat exists, but recent records are scarce.

This analysis indicated that one flora species listed as threatened under either act had the potential to occur in the study area River Swamp Wallaby-grass – listed as vulnerable under the EPBC Act.

A targeted survey within for this species was conducted within the study area on the 10th November 2015. The survey period coincided with the flowering period for River Swamp Wallaby-grass and was therefore considered to be optimal.

During the survey, remnant patches of native vegetation in the study area initially considered to provide suitable habitat for the River Swamp Wallaby-grass were inspected in detail on foot using a visual inspection along transects spaced no more than five metres apart. The results of the targeted survey were negative – River Swamp Wallaby-grass was not detected.

Furthermore, a re-evaluation of the suitability of habitat for River Swamp Wallaby-grass in the entire study area now considers it unlikely that River Swamp Wallaby-grass would occur within the study area.

Three flora species listed as protected under the FFG Act were recorded on public land during the field surveys. These are:

- Common Cassinia;
- Cudweed; and
- Cotton Fireweed.

A permit under the FFG Act would be required for their removal from public land.
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific name</th>
<th>EPBC</th>
<th>FG</th>
<th>Habitat</th>
<th>Number of records</th>
<th>Date of last record</th>
<th>Likelihood of occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austral Toad-flax</td>
<td>Thesium australis</td>
<td>VU</td>
<td>L</td>
<td>Occurs on grasslands, grassy woodlands or sub-alpine grassy heathlands. Usually associated with Kangaroo Grass and Pea spp. However it will grow with other hosts, at least in the glasshouse (Everett et al 2003).</td>
<td>1</td>
<td>1/09/1913</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Clover Glycine</td>
<td>Glycine australiana</td>
<td>VU</td>
<td>L</td>
<td>Occurs mainly in grasslands and grassy woodlands on basalt soils dominated by kangaroo Grass. Ground cover comprises Rytidosperma spp. (weedy grasses) and various forbs. Other former sites in this area occurred in Grassy Dry Forest with Red Box (Carter &amp; Sutter 2010; O'Donnell pers. obs.).</td>
<td>1</td>
<td>1/10/1980</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Frankston Spider-orchid</td>
<td>Caladenia nobilis</td>
<td>EN</td>
<td>L</td>
<td>Only one remaining population near Rosebud. Grows in Tall heathland dominated by (Leptospermum laevisatum and Acacia solanifera on low (grey) sand ridges (Entwisle 1994).</td>
<td>1</td>
<td>1/08/1911</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Grey Billy-buttons</td>
<td>Cacopsia cercina</td>
<td>L</td>
<td></td>
<td>Lowland grasses, often on swamp fringes. Current records occur between Cranbourne and Trawallan (Everett 1999).</td>
<td>2</td>
<td>11/11/1991</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Leafy Greenhood</td>
<td>Phorystyla curviflora</td>
<td>VU</td>
<td>L</td>
<td>Tree free scrub on tall sand and cankerous dunes, in moist, open or even deep shaded locations (Jones 1994).</td>
<td>None</td>
<td>N/A</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Lilac Leek-orchid</td>
<td>Prasophyllum cokeliae</td>
<td>VU</td>
<td></td>
<td>Known from one collection (1992) from Grassy Woodland near Bayswater, probably now extinct (Entwisle 1994).</td>
<td>None</td>
<td>N/A</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Marnieni rex-orchid</td>
<td>Prasophyllum flexichilii</td>
<td>EN</td>
<td>L</td>
<td>Favours heathland and Grassland on black clays (Late 1994).</td>
<td>3</td>
<td>01/11/1889</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Matted Nessiety</td>
<td>Dianella anceps</td>
<td>EN</td>
<td>L</td>
<td>Lowland grassland and grassy woodlands on well drained to seasonally waterlogged fertile sandy dams to heavy cracking soils derived from sedimentary or volcanic geology. It is widely distributed from eastern to south-western Victoria (Gerton 2010).</td>
<td>1</td>
<td>26/06/2000</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Metallic Sun-orchid</td>
<td>Thebestria ophiopoeidoides</td>
<td>EN</td>
<td>L</td>
<td>Primarily in mesic coastal heathlands, grasslands and woodlands, but also in drier inland heathlands, open forests and woodlands. (Baldhouse &amp; Jarves 1993 in CSWRC 2003).</td>
<td>1</td>
<td>01/11/1980</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>River Swamp Wallaby-grass</td>
<td>Amphitrichum fluitans</td>
<td>VU</td>
<td></td>
<td>Inhabits both natural and man-made water bodies, including swamps, lagoons, billabongs and dams, and in roadside ditches, predominantly in the north-central area along the Murray River between Wodonga and Echuca (Walsh 1994).</td>
<td>3</td>
<td>1/10/1994</td>
<td>Habitat initially considered suitable, however not recorded during targeted surveys and new considered unlikely to occur</td>
</tr>
<tr>
<td>Round-leaf Pomaderius</td>
<td>Pomaderius vaccinifolia</td>
<td>CR</td>
<td>L</td>
<td>Moist forest and scrub in the upper catchments of the Yarra, Yenda and Yea Rivers (Walsh 1999).</td>
<td>None</td>
<td>N/A</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Swamp Everlasting</td>
<td>Knochovia pallidae</td>
<td>VU</td>
<td></td>
<td>Sedgmoor shrubs and wetlands, usually on black cracking clay soils (Walsh and Entwisle 1999). Scattered occurrences in Victoria range from the South Australian border in the west to the Cobberas, near Benarangara, in the East (RSE 2008).</td>
<td>None</td>
<td>N/A</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Swamp Fireweed</td>
<td>Secoycia paucicarpus</td>
<td>VU</td>
<td></td>
<td>Habrich walter wet swamps on volcanic clays or peaty soils (Walsh 1999). Known from approximately 10 sites between Wangan, about 45 km north of Melbourne, and Hononis Swamp in south-eastern South Australia (DSWPC 2008).</td>
<td>1</td>
<td>18/11/1982</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>White Star-bush</td>
<td>Asterostalis asterostephora subsp. altiforme</td>
<td>L</td>
<td></td>
<td>Stabilized in dry woodlands, shrublands and most to wet healthy open forests in the eastern half of the State, usually in foothill to montane districts (Evans 1999).</td>
<td>1</td>
<td>23/09/1965</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
</tbody>
</table>

Notes: CR = Critically Endangered, EN = Endangered, VU = Vulnerable, L = Listed as threatened under EPBC Act (applies to public land only) Species shaded in grey are those considered likely or potentially occur due to the presence of suitable habitat and nearby records.
5.1.5. *Fauna habitats*

The study area supported three fauna habitat types:

- Seasonally inundated grassy areas;
- A small dense patch of Swamp Paperbark with a canopy of Swamp Gums; and
- Scattered trees, including large exotic trees and two indigenous trees, one of which was hollow-bearing.

**Seasonally inundated grassy areas:** The majority of the study area supported seasonally inundated grassy areas, most of which were dominated by exotic grasses such as Paspalum, and a small portion of which constituted native vegetation. This vegetation type was contiguous with ephemeral and permanent wetlands adjacent to the study area.

Given the ephemeral nature and dominance of exotic species, this vegetation is considered to provide moderate quality habitat based on the criteria outlined in Section 3.2.3.

**Swamp Paperbark:** A small dense patch of Swamp Paperbark with a canopy of Swamp Gums occurs on the eastern boundary of the study area, along a drainage line that had water in it at the time of survey. This habitat type was isolated from other treed areas by grassy areas, roads and built environments.

Given the small size and isolation of this patch, this vegetation is considered to provide moderate quality habitat based on the criteria outlined in Section 3.2.3.

**Scattered Trees:** Two indigenous Swamp Gums were recorded within the study area; one of which was hollow-bearing. These two scattered trees are isolated remnants of swampy woodland, with poor connectivity to other areas of woodland vegetation, the nearest of which occur as small fragments within the adjacent gold course and around nearby wetlands.

Given the lack of many habitat components, and the isolation of these trees, this vegetation is considered to provide low quality habitat based on the criteria outlined in Section 3.2.3.

5.1.6. *Fauna species*

The review of existing information indicated that 36 fauna species listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and 45 fauna species listed under the FFG Act, including 18 listed under both, have previously been recorded within the search region or for which potential habitat occurs according to the EPBC Act Protected Matters Search Tool. The likelihood of occurrence of these species in the study area was assessed and the results are presented in Table 4.

Species considered ‘likely to occur’ are those that have a very high chance of being in the study area given the existence of numerous records in the search region and suitable habitat in the study area. Using the precautionary approach, species considered to have the ‘potential to occur’ are those where suitable habitat exists, but recent records are scarce.

This assessment of potential occurrence of listed fauna species excludes:

- Marine mammals given the study area is inland from the coast; and
- Migratory oceanic bird species (such as albatrosses and petrels).

This analysis indicates that the following fauna species listed in Table 3 have the potential to occur in the study area:

- Eastern Great Egret; and
- Latham's Snipe.
### Table 4: Listed fauna species from the search region and likelihood of occurrence in the study area

<table>
<thead>
<tr>
<th>Birds</th>
<th>Scientific name</th>
<th>EPIC</th>
<th>EPIC-M</th>
<th>FFG</th>
<th>Habitats</th>
<th>Number of records</th>
<th>Date of last record</th>
<th>Likelihood of occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Bittern</td>
<td>Botaurus parcipectus</td>
<td>EN</td>
<td>L</td>
<td></td>
<td>Terrestrial wetlands, including a range of wetland types but prefers permanent water bodies with tall dense vegetation, particularly those dominated by sedges, rush, reeds or cutting grass (Merchant and Higgins 1990).</td>
<td>6</td>
<td>22/10/2001</td>
<td>No preferred suitable habitat in study area – unlikely to occur</td>
</tr>
<tr>
<td>Australian Painted Snipe</td>
<td>Rallinae australis</td>
<td>EN</td>
<td>M (CABA)</td>
<td></td>
<td>Lowlands on shallow freshwater swamps with emergent vegetation and need of saltmarshes (Merchant and Higgins 1993).</td>
<td>3</td>
<td>24/01/2007</td>
<td>No suitable habitat in study area – unlikely to occur</td>
</tr>
<tr>
<td>Batters Drake</td>
<td>Paradoxus guttatus</td>
<td></td>
<td></td>
<td></td>
<td>Occurs in a range of epiremnral and permanent wetlands such as swamps, creeks and ditches, with dense vegetation and abundant floating plants, but also in open waters with clamped vegetation (Merchant and Higgins 1993).</td>
<td>9</td>
<td>15/09/1995</td>
<td>No suitable habitat in study area – unlikely to occur</td>
</tr>
<tr>
<td>Barking Owl</td>
<td>Ninox cincta</td>
<td></td>
<td></td>
<td></td>
<td>Eucalyptus dominated forests and woodlands, commonly near water-ntices, such as streams and rivers and requires hollow trees for nesting and trees with dense foliage for roosting (Higgins 1999).</td>
<td>5</td>
<td>27/01/2005</td>
<td>No suitable habitat in study area – unlikely to occur</td>
</tr>
<tr>
<td>Black-footed Monarch</td>
<td>Monarcha melanopsia</td>
<td>M (BON)</td>
<td></td>
<td></td>
<td>Bushlands, eucalypt woodlands, coastal scree and dune grasses (Higgins et al. 2006)</td>
<td>2</td>
<td>7/12/2006</td>
<td>No suitable habitat in study area – unlikely to occur</td>
</tr>
<tr>
<td>Blue-tailed Duck</td>
<td>Oxyura australis</td>
<td>L</td>
<td></td>
<td></td>
<td>Terrestrial wetlands and prefers deep permanent, well vegetated water bodies (Merchant and Higgins 1992).</td>
<td>75</td>
<td>13/05/2004</td>
<td>No suitable habitat in study area – unlikely to occur</td>
</tr>
<tr>
<td>Caspian Tern</td>
<td>Hydroprogne caspia</td>
<td>M (JAMBA, CAMBA)</td>
<td>L</td>
<td></td>
<td>Sheltered coastal embayment, including harbours, lagoons, inlets, estuaries and river mouths, usually with sandy or muddy margins (Higgins and Davies 1996).</td>
<td>8</td>
<td>9/09/1998</td>
<td>No suitable habitat in study area – unlikely to occur</td>
</tr>
<tr>
<td>Chestnut-rumped Heathwren</td>
<td>Calamandus gymnaphus</td>
<td>L</td>
<td></td>
<td></td>
<td>Dense heathland and dense understorey or ground-layer in sclerophyll forests and woodlands: also in box-ironbark forests (Higgins and Peter 2002; Taras 2005).</td>
<td>2</td>
<td>8/10/1978</td>
<td>No suitable habitat in study area – unlikely to occur</td>
</tr>
<tr>
<td>Common Greenshank</td>
<td>Tringa nebularia</td>
<td>M (JAMBA, CAMBA, ROKAMBA, BON)</td>
<td></td>
<td></td>
<td>Inhabits wide range of coastal or inland wetlands with varying levels of salinity, mainly muddy margins or rocky shores of wetlands (Higgins and Davies 1996).</td>
<td>None</td>
<td>N/A</td>
<td>No suitable habitat in study area – unlikely to occur</td>
</tr>
<tr>
<td>Common Sandpiper</td>
<td>Acisits hypoleucus</td>
<td>M (JAMBA, CAMBA, ROKAMBA, BON)</td>
<td></td>
<td></td>
<td>Inhabits a wide range of coastal or inland wetlands with varying levels of salinity, mainly muddy margins or rocky shores of wetlands (Higgins and Davies 1996).</td>
<td>8</td>
<td>1/03/1979</td>
<td>No suitable habitat in study area – unlikely to occur</td>
</tr>
<tr>
<td>Common Tern</td>
<td>Stereolo Avundo</td>
<td>M (JAMBA, CAMBA, ROKAMBA)</td>
<td></td>
<td></td>
<td>Inhabits shallow fresh to saline wetlands, usually coastal to near-coastal, but occasionally farther inland. Wetlands often have open fringe mudflats and low emergent or floating vegetation (Higgins and Davies 1996).</td>
<td>3</td>
<td>1/01/1994</td>
<td>No suitable habitat in study area – unlikely to occur</td>
</tr>
<tr>
<td>Curlew Sandpiper</td>
<td>Calidris ferruginea</td>
<td>OR</td>
<td></td>
<td></td>
<td>Inhabits wide range of coastal or inland wetlands with varying levels of salinity, mainly muddy margins or rocky shores of wetlands (Higgins and Davies 1996).</td>
<td>4</td>
<td>1/01/1994</td>
<td>No suitable habitat in study area – unlikely to occur</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific name</td>
<td>Location</td>
<td>Habitat Description</td>
<td>Number of records</td>
<td>Date of last record</td>
<td>Likelihood of occurrence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------</td>
<td>-------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------------------</td>
<td>--------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diamond Firetail</td>
<td>Stagonopleura guttata</td>
<td>L</td>
<td>Commonly found in box-ironbark forests and woodlands and also occurs along watercourses and in farmland areas (Emison et al. 1987; Traves 2005).</td>
<td>1</td>
<td>1/01/1994</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern Great Egret</td>
<td>Ardea modesta</td>
<td>M (JAMBA, CAMBA)</td>
<td>Occurs in a variety of wetlands including permanent water bodies on flood plains; shallow deep permanent lakes, either open or vegetated with shrubs or trees; semi-permanent swamps with tall emergent vegetation (e.g. bulrush) and herb dominated seasonal swamps with abundant aquatic flora (Marchant and Higgins 1990).</td>
<td>266</td>
<td>17/07/2006</td>
<td>Wetland habitat present in study area and numerous records in the region - likely to occur, however the native wetland patches are very small for supporting this species</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fork-tailed Swift</td>
<td>Apus pacificus</td>
<td>M (JAMBA, CAMBA, ROKAMBA)</td>
<td>Aerial, over inland plains, sometimes above foothills or in coastal areas, over cliffs and urban areas (Higgins 1999).</td>
<td>33</td>
<td>14/03/2008</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freckled Duck</td>
<td>Stictocineta naevosa</td>
<td>L</td>
<td>Terrestrial wetlands; prefers fresh, densely vegetated waters, particularly floodwater swamps and creeks vegetated with lignum or cane grass (Marchant and Higgins 1990).</td>
<td>1</td>
<td>1/01/1994</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grey Falcon</td>
<td>Falco hypoleucos</td>
<td>L</td>
<td>Inhabits well and semi-ard zones; mainly on sandy and stony plains of inland drainage systems, lightly timbered with aspen. Hunt for into open areas, over spinifex tussock grasslands and low shrublands (Marchant and Higgins 1993).</td>
<td>6</td>
<td>01/01/1841</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grey Goshawk</td>
<td>Accipiter novaehollandiae</td>
<td>L</td>
<td>Inhabits dry woodlands and forests with a shrub layer and a groundcover of leaf litter and fallen timber. In Victoria it is found in woodlands and forests with box-ironbark eucalypt associations and River Red Gums, including narrow remnants along roadides and streams (Higgins and Peter 2002; Traves 2005).</td>
<td>8</td>
<td>26/08/1995</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grey-crowned Babbler</td>
<td>Pomatostomus temporalis</td>
<td>L</td>
<td>Occurs mostly in open Grey Box, White Box, Yellow Box, Yellow Gum and Ironbark woodlands with pockets of saplings or taller shrubs, an open shrubby understory, sparse grasses and patches of bare ground and leaf litter, with scattered fallen timber (Higgins and Peter 2002; Traves 2005).</td>
<td>5</td>
<td>24/09/1897</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hooded Robin</td>
<td>Melanodryas currulata</td>
<td>L</td>
<td>It mainly inhabits terrestrial wetlands; only occasionally visit coastal wetlands and forages amongst aquatic vegetation in shallow water and requires trees for roosting and nesting. It often occur in wetlands that contain vegetation, including bulrush (Marchant and Higgins 1990).</td>
<td>1</td>
<td>16/06/1997</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermediate Egret</td>
<td>Ardea intermedia</td>
<td>L</td>
<td>It inhabits dense swampy low-lying heath with grass or low treeless heath with moist depressions. Breed, roost and feed on ground (Marchant and Higgins 1993).</td>
<td>1</td>
<td>15/12/181</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>King Quail</td>
<td>Columba cheniensis</td>
<td>L</td>
<td>Inhabits dense swampy low-lying heath with grass or low treeless heath with moisture depressions. Breed, roost and feed on ground (Marchant and Higgins 1993).</td>
<td>4</td>
<td>6/11/2008</td>
<td>Habitat present in study area but limited regional records - potential to occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latham's Pipit</td>
<td>Gallinago hardwicki</td>
<td>M (JAMBA, CAMBA, ROKAMBA, Borni)</td>
<td>Occurs in wide variety of permanent and ephemeral wetlands; it prefers open freshwater wetlands with dense cover nearby, such as the edges of rivers and creeks, bogs, swamps, waterholes (Hawking 1983; Higgins and Davies 1998).</td>
<td>484</td>
<td>9/12/1982</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewin's Rail</td>
<td>Lewiniopectoralis pectoralis</td>
<td>L</td>
<td>Occurs in a variety of densely vegetated wetland habitats, fresh or saline and seafar with areas of standing water; requires shallow water areas to forage (Marchant and Higgins 1993).</td>
<td>4</td>
<td>9/12/1982</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific name</td>
<td>EPBC I</td>
<td>EPBC M</td>
<td>IUCN</td>
<td>Number of records</td>
<td>Date of last record</td>
<td>Likelihood of occurrence</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>-------------------</td>
<td>---------------------</td>
<td>--------------------------</td>
<td></td>
</tr>
<tr>
<td>Little Bittern</td>
<td>Ixobrychus minutus dudus</td>
<td>L</td>
<td>L</td>
<td>LII</td>
<td>2</td>
<td>29/15/1994</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Black-capped Kingfisher</td>
<td>Alcedo atthis</td>
<td></td>
<td></td>
<td>LII</td>
<td>8</td>
<td>25/06/2005</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Magpie Goose</td>
<td>Anseranas semipalmata</td>
<td>L</td>
<td></td>
<td>LII</td>
<td>1</td>
<td>14/04/1994</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Major Mitchell's Cockatoo</td>
<td>Lophochroa leadbeateri</td>
<td>L</td>
<td></td>
<td></td>
<td>3</td>
<td>4/04/2006</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Osprey</td>
<td>Pandion haliaetus</td>
<td>M (Born)</td>
<td>VU</td>
<td></td>
<td>None</td>
<td>N/A</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Painted Honeyeater</td>
<td>Graevia picta</td>
<td></td>
<td></td>
<td></td>
<td>None</td>
<td>N/A</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Powerful Owl</td>
<td>Ninox strenua</td>
<td>L</td>
<td></td>
<td>LII</td>
<td>117</td>
<td>28/02/2013</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Rainbow Bee-eater</td>
<td>Merops ornatus</td>
<td>M (JAMBA)</td>
<td>L</td>
<td></td>
<td>6</td>
<td>02/11/1897</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Red-necked Stint</td>
<td>Calcarius ruficollis</td>
<td>M (JAMBA, CAMBA, ROKARMA, Born)</td>
<td></td>
<td></td>
<td>4</td>
<td>1/1/1994</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Regent Honeyeater</td>
<td>Anthochaera prionia</td>
<td>DR (M JAMBA)</td>
<td>L</td>
<td></td>
<td>20</td>
<td>1/10/2001</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Rufous Fantail</td>
<td>Rhipidura rufifrons</td>
<td>M (Born)</td>
<td></td>
<td></td>
<td>53</td>
<td>30/02/2013</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Satin Flycatcher</td>
<td>Myiagra cyanoleuca</td>
<td>M (Born)</td>
<td></td>
<td></td>
<td>46</td>
<td>30/02/2013</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Sharp-tailed Enderby</td>
<td>Calidris alpina</td>
<td>M (JAMBA, CAMBA, ROKARMA, Born)</td>
<td>L</td>
<td></td>
<td>4</td>
<td>1/1/1994</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Scooty Owl</td>
<td>Tyto scapulosa melanoleuca</td>
<td></td>
<td></td>
<td></td>
<td>12</td>
<td>22/02/2008</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific name</td>
<td>EPBC T</td>
<td>EPBC M</td>
<td>FIG</td>
<td>Habitat</td>
<td>Number of records</td>
<td>Date of last record</td>
<td>Likelihood of occurrence</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>-----</td>
<td>--------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>---------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Speckled Warbler</td>
<td>Chitonotus sagittatus</td>
<td>L</td>
<td></td>
<td></td>
<td>Inhabits dry eucalypt forests and woodlands, especially those with low-inland eucalypt associations. It is also found in River Red Gum woodlands (Higgs and Peter 2002; Turner 2003).</td>
<td>26</td>
<td>30/07/1898</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Square-tailed Kite</td>
<td>Lophstomus flave</td>
<td>L</td>
<td></td>
<td></td>
<td>It occurs mainly in open forests and woodlands, and in scrub and eucalypt associations with low-inland eucalypt associations (Marchant and Higgins 1983).</td>
<td>1</td>
<td>14/02/1987</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Superb Parrot</td>
<td>Polytelis swainsonii</td>
<td>VU</td>
<td></td>
<td></td>
<td>It occurs in riparian River Red Gum forests and adjacent areas of box-eucalypt vegetation from the Murrumbidgee and Murray Rivers northwards to the Hume Valley (Higgins 1999).</td>
<td>1</td>
<td>31/08/2000</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Swift Parrot</td>
<td>Lathamus discolor</td>
<td>EN</td>
<td></td>
<td></td>
<td>Prefers a narrow range of eucalypt vegetation in Victoria, including White Box, Red Ironbark and Yellow Gum as well as River Red Gum when this species supports abundant lerp (Emison et al. 1987; Higgins 1999; Kennedy and Tzaros 2005).</td>
<td>20</td>
<td>8/08/2008</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>White-bellied Sea Eagle</td>
<td>Haliaeetus leucocephalus</td>
<td>L</td>
<td></td>
<td></td>
<td>Maritime habitats, terrestrial large wetlands and coastal lands of tropical and temperate Australia and offshore islands, ranging far inland only over large rivers and wetlands (Marchant and Higgins 1983).</td>
<td>5</td>
<td>14/06/1996</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>White-throated Needletail</td>
<td>Myiornis caudatus</td>
<td>M (JAMBA, CAMBA, ROYANBA)</td>
<td>Aerial, over all habitats, but probably more over wooded areas, including open forest and rainforest, often over headland and less often above treeless areas such as grassland and swamps or sandplain (Higgins 1999).</td>
<td>156</td>
<td>19/02/2013</td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow Wagtail</td>
<td>Motacilla flava</td>
<td>M (JAMBA, CAMBA, ROYANBA)</td>
<td>Extremely uncommon migrant. Few sightings in Victoria. Mostly occurs in well-watered open grasslands on the fringes of wetlands. Rivers in mangroves and other dense vegetation (Dee 2012).</td>
<td>None</td>
<td></td>
<td>No suitable habitat in study area - unlikely to occur</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Fish

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific name</th>
<th>EPBC T</th>
<th>EPBC M</th>
<th>FIG</th>
<th>Habitat</th>
<th>Number of records</th>
<th>Date of last record</th>
<th>Likelihood of occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Gudgeon</td>
<td>Protogobius maculatus</td>
<td>VU</td>
<td></td>
<td></td>
<td>Large and small coastal streams and rivers with cool, clear waters with a gravel substrate and alternating pools and riffles (Cowell and Backhouse 1983).</td>
<td>None</td>
<td></td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Bluntnose Cod (Trout Cod)</td>
<td>Macquaria macquariformis</td>
<td>EN</td>
<td></td>
<td></td>
<td>Rapidly flowing streams over noisy or gravel bottoms (Allen et al. 2002).</td>
<td>1</td>
<td>01/01/1890</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Dwarf Gudgeon</td>
<td>Gobiosoma puntius</td>
<td>VU</td>
<td></td>
<td></td>
<td>Barwon River to Wimmera River, Vegetated margins of still water, backwaters and lower reaches of creeks, both ephemeral and permanent (Allen et al. 2002).</td>
<td>26</td>
<td>4/08/2009</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Macquarie Perch</td>
<td>Macquaria australasianus</td>
<td>EN</td>
<td></td>
<td></td>
<td>Cool, clear water of rivers and lakes, Favour stony river beds (Allen et al. 2002).</td>
<td>2</td>
<td>01/01/1890</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Murray Cod</td>
<td>Macquaria praelatissima</td>
<td>VU</td>
<td></td>
<td></td>
<td>Slow-flowing turbid water of rivers and streams of low elevation, often fast flowing clear upland streams (Allen et al. 2002).</td>
<td>1</td>
<td>01/01/1890</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Yarra Pygmy Perch</td>
<td>Nanogobius obscurus</td>
<td>VU</td>
<td></td>
<td></td>
<td>Streams and small lakes, prefers flowing water with abundant aquatic vegetation (Allen et al. 2002).</td>
<td>None</td>
<td></td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
</tbody>
</table>

### Invertebrates

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific name</th>
<th>EPBC T</th>
<th>EPBC M</th>
<th>FIG</th>
<th>Habitat</th>
<th>Number of records</th>
<th>Date of last record</th>
<th>Likelihood of occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Golden Sun Moth</td>
<td>Synemos plana</td>
<td>CR</td>
<td></td>
<td></td>
<td>Areas that are, or have been native grasslands or grassy woodlands. It is known to inhabit degraded grasslands with introduced grasses being dominant, with a preference for the native wallaby grass being present (Dee et al. 2002).</td>
<td>None</td>
<td></td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific name</td>
<td>EPBC</td>
<td>EPBCAM</td>
<td>FG</td>
<td>Habitat</td>
<td>Number at risk</td>
<td>Date of last record</td>
<td>Likelihood of occurrence</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------</td>
<td>-------</td>
<td>--------</td>
<td>----</td>
<td>-------------------------------------------------------------------------</td>
<td>----------------</td>
<td>---------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Small Ant Milan</td>
<td>Anododnus nymphetopha</td>
<td>L</td>
<td></td>
<td></td>
<td>Poppy known and patchy distribution - new thought to be extinct from these areas. In the larvae stage, this species is closely associated with the Coconut Ant (Hypborhynchus littoralis), upon which it depends for survival. The Coconut Ant forms nests underground as well as in stumps, dead trees and decaying wood, including old fence posts and is believed to be dependent on Acacia species for ant larvae food.</td>
<td>1</td>
<td>13/1/192</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Mammals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broad-nosed Rat</td>
<td>Mastomys furosus</td>
<td>L</td>
<td></td>
<td></td>
<td>Alpine sedges and heaths, wet sedge and grass patches in forest in eastern highlands, south-gippsland highlands and oways (Menikhorst 1993).</td>
<td>6</td>
<td>1/1/1994</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Grey-headed Flying-</td>
<td>Pteropus poliocephalus</td>
<td>VU</td>
<td></td>
<td></td>
<td>Roof in ocean habitat in Melbourne and farplays widely in flowering eucalypts and fruit trees (Menikhorst 1995).</td>
<td>9</td>
<td>28/6/2004</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Mouse</td>
<td>Pseudomys fumeus</td>
<td>EN</td>
<td></td>
<td></td>
<td>Coastal heath, heathy woodland, sub-alpine heath, dry forest and gables in wet forest (Menikhorst 1995).</td>
<td>None</td>
<td>N/A</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Southern Brown</td>
<td>Notodon obtusus</td>
<td>EN</td>
<td></td>
<td></td>
<td>Heathy forest, woodland, coastal scrub and heathland (Menikhorst 1995).</td>
<td>18</td>
<td>15/11/1990</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Bandicoot</td>
<td>Notodon maculatus</td>
<td>EN</td>
<td></td>
<td></td>
<td>Rainforested, wet and dry forest, coastal heath and scrub and River Red gum woodlands along sand flats (Menikhorst 1995).</td>
<td>1</td>
<td>2/1/1990</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Amphibians</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growing Grass Frog</td>
<td>Lithorana semivixxii</td>
<td>VU</td>
<td></td>
<td></td>
<td>Permanent, still or slow flowing water with fringing and emergent vegetation in streams, swamps, lagoons and artificial wetlands such as farm dams and abandoned quarries (Cromann and Galespie 2004).</td>
<td>7</td>
<td>4/1/1999</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
<tr>
<td>Reptiles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swamp Skink</td>
<td>Liolepis coventryi</td>
<td>L</td>
<td></td>
<td></td>
<td>Wetlands including swamp margins, lagoons, rivers, creeks and even tidal salt marshes, often associated with tea-tree thickets (Wilson and Scan 2003).</td>
<td>1</td>
<td>2/9/1971</td>
<td>No suitable habitat in study area - unlikely to occur</td>
</tr>
</tbody>
</table>

Notes: EN = Endangered; VU = Vulnerable; L = Listed as threatened under EPBC Act (applies to public land only); M = Listed migratory species; (JAMBA) = Japan-Australia Migratory Bird Agreement; (CAMBA) = China-Australia Migratory Bird Agreement; (RKOMBA) = Republic of Korea-Australia Migratory Bird Agreement; (Bonn) = Bonn Convention; species shaded in grey are those considered likely or to potentially occur due to the presence of suitable habitat and nearby records.
Migratory Birds

Two listed migratory bird species (excluding oceanic species) have the potential to occur in the study area based on the availability of suitable habitat.

Potential impacts to migratory species that may occur in the study area are discussed below.

Eastern Great Egret (listed as Migratory under the EPBC Act)

As habitat in the study area is limited in extent for Eastern Great Egret, it is highly unlikely that development of the study area would have a significant impact on this species. Furthermore, adjacent wetlands and waterway habitat that may support them would be protected from detrimental impacts through the adoption of the water sensitive urban design measures mandated in the DP09.

Latham’s Snipe (listed as Migratory under the EPBC Act)

As habitat in the study area is limited in extent for Latham’s Snipe, it is highly unlikely that development of the study area would have a significant impact on this species. Furthermore, adjacent wetlands and waterway habitat that may support them would be protected from detrimental impacts through the adoption of the water sensitive urban design measures mandated in the DP09.

5.1.7. Listed ecological communities

The following ecological communities listed under the EPBC Act were considered to potentially occur in the study area:

- Natural Damp Grassland of the Victorian Coastal Plains (Critically Endangered);
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Critically Endangered); and
- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (Critically Endangered).

Based on the assessment of native vegetation in the study area against the published description and condition thresholds for these communities, none of the above communities were identified within the study area.

The presence of Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains was ruled out on the basis of the wetland patches being dominated by Common Reed and Juncus spp. rushes.
6. IMPACTS AND REGULATORY IMPLICATIONS

6.1. Proposed development
The proposed development will involve subdivision and residential development within the private land parcel at 980 Stud Road. Additional assets are proposed for adjacent Council-owned land comprising part of 970 Stud Road; these are: a recreational lake; wetland and sediment basin; and a pad site for a Men's Shed.

6.2. Impacts of proposed development
Full utilisation of the private land parcel would require the removal of 0.516 hectares of native vegetation and the creation of assets in Council-owned land would require the removal of 0.459 hectares of native vegetation, with a total area of removal of 0.975 hectares (Figure 2). As determined in a Biodiversity Impact and Offset Requirement (BIOR) report provided by DELWP based on BL&A mapping files (Appendix 7), this includes the proposed removal of:
- 0.835 hectares from habitat zones; and
- 2 scattered trees.

Native vegetation to be retained will be protected during development by way of native vegetation protection fencing (Figure 2).

6.3. Implications for the proposed development

6.3.1. Local Provisions
Planning Policy Frameworks
Local Planning Policy Framework (LPPF) 21.06 in the Knox Planning Scheme, which relates to the 'environment', would need to be considered during the planning application process for any development proposal in the study area. The proponent would be expected to demonstrate how a development proposal would not impact on the ecological integrity of the land surrounding the study area within Stamford Park, particularly in relation to aquatic habitats.

Of primary concern would be the potential impacts of stormwater runoff from the development into the adjacent wetland system or into Corhanwarrabul Creek, as this could potentially alter the hydrology and in turn the overall health of these aquatic ecosystems.

To address this, the DPO9 overlay provisions require development on the site to employ best practice water treatment runoff infrastructure (outlined below).

Overlays
The DPO9 overlay provisions have no specific requirements with regards to flora and fauna, but require development on the site to employ best practice water treatment runoff infrastructure, including retarding basins and a water pre-treatment facility. This would secure the hydrological integrity of the aquatic ecosystems while minimising the addition of any of pollutants. A sediment basin and wetland will be created in the southwest of the study area to address these issues.
Legend

- Study area
- 980 Stud Rd
- Vegetation protection zone
- Native vegetation
- Swampy Woodland (EVC 937)
- Scattered trees

Native vegetation to be removed

Scattered trees to be removed

Figure 2: Native vegetation to be removed

Client: Stockland Pty Ltd

Project: Stamford Park, Rowville

Project No.: 15874

Date: 5/08/2016

Created by: A. May / E. Stewart
The Environmental Significance Overlay (ES02) covering appears to show the boundary of this overlay within the study area following a pre-existing drainage line which has now been replaced by the Kelletts Road Drain Wetland. No impacts on this wetland are anticipated.

6.3.2. State provisions

A planning permit under Clause 52.17 of the Knox Planning Scheme is required for the removal of native vegetation.

Risk-based assessment pathway

The entire study area is mapped as being within Location Risk A and the extent of native vegetation removal has been identified as 0.975 hectares. It is understood that no native vegetation has been approved for removal within the last five years.

Based on the criteria outlined in Section 4.1.2 the Guidelines stipulate that the proposal to remove less than one hectare of native vegetation from the study area would be assessed under the low risk assessment pathway. An application to remove more than 0.5 hectares of native vegetation triggers a referral to DELWP.

Offset requirements

The offset requirement for the residential development and assets in Council-owned land has been determined using site-based habitat hectare scores and additional modelled data provided in a BIOR report provided by DELWP (Appendix 7). This offset requirement is:

- 0.151 general biodiversity equivalence units with a minimum strategic biodiversity score of 0.371.

Offsets can be sourced through a native vegetation broker and must be located within the Port Phillip and Westernport Catchment Management Authority area or the Knox local government area. Under the Guidelines all offsets must be secured prior to the removal of native vegetation.

6.3.3. EPBC Act

Based on the relevant guidelines, the proposed development is unlikely to result in a significant impact on EPBC Act listed values presented below.

- Eastern Great Egret; and
- Latham's Snipe.

Therefore, there are no implications under the EPBC Act and a referral is not required.

6.3.4. FFG Act

No FFG Act values listed as threatened are susceptible to impacts from the proposed development on public land.

Three flora species listed as protected under the FFG Act were recorded on public land during the field surveys. These are:

- Common Cassinia;
- Cudweed; and
- Cotton Fireweed.
A permit under the FFG Act would be required for their removal from public land.

6.3.5. EE Act
A Referral to the state Minister for Planning is not required under the EE Act for the aspects covered by the current investigation.

6.4. Recommendations for mitigation
Best-practice development and construction recommendations are provided in Appendix 5. These should be considered to ensure impacts are minimised to flora and/or fauna, and native vegetation.

Native vegetation to be retained will be protected during development by way of native vegetation protection fencing (Appendix 8).
7. REFERENCES


Brett Lane & Associates (BL&A) 2015a, *Stamford Park: Flora and Fauna Due Diligence Assessment*, Report 15074 (1.2), prepared for Stockland Pty Ltd.


Department of Natural Resources and Environment (DNRE) 1997, *Victoria’s Biodiversity – Our Living Wealth*, Department of Natural Resources and Environment, now Department of Environment, Land, Water and Planning, East Melbourne, Victoria.


Department of the Environment (DotE) 2015b, *Referral guideline for 14 birds listed as migratory species under the EPBC Act*, Commonwealth of Australia, Canberra.


Lorimer, G 2015, Assessment of Vegetation Adjoining Stamford Park Homestead, Rowville, prepared for Knox City Council, Wantirna South, Victoria.


## Appendix 1: Summary of the assessment process under the Guidelines

<table>
<thead>
<tr>
<th>Risk based pathway</th>
<th>Assessment quantum inputs</th>
<th>Decision guidelines</th>
<th>Offset requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>- Habitat hectares* (NVIM)</td>
<td>An application for removal cannot be refused on biodiversity grounds (unless it is not in accordance with any property vegetation plan that applies to the site). Note: this guideline also applies to native vegetation that does not meet the definition of either a remnant patch or scattered trees.</td>
<td>General offset applies:</td>
</tr>
<tr>
<td></td>
<td>- Strategic biodiversity score (NVIM)</td>
<td></td>
<td>- General offset = general biodiversity equivalence score (clearing size) x 1.5</td>
</tr>
<tr>
<td></td>
<td>- General biodiversity equivalence score</td>
<td></td>
<td>- Offset must be located in the same CMA* or Local Government Area as the removal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Offset must have a strategic biodiversity score at least 80% of the native vegetation removed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Offset must be secured before the removal of native vegetation</td>
</tr>
<tr>
<td>Moderate</td>
<td>- Habitat hectares* (site assessment)</td>
<td>The responsible authority will consider:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Strategic biodiversity score (NVIM)</td>
<td>- The strategic biodiversity score and habitat importance score of the native vegetation proposed to be removed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Habitat importance scores for each Victorian rare and threatened species</td>
<td>- Any property vegetation plan that applies to the site</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Specific biodiversity equivalence scores for each rare and threatened species</td>
<td>- Whether reasonable steps have been taken to ensure that impacts of the proposed removal of native vegetation on biodiversity have been minimised with regard to the contribution to biodiversity made by the native vegetation to be removed and the native vegetation to be retained</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- General biodiversity equivalence score if no habitat importance scores apply</td>
<td>- Whether an offset has been identified that meets the requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The need to remove native vegetation to create defendable space to reduce the risk of bushfire</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If the specific biodiversity equivalence scores for any rare and threatened species fail the specific-general offset test, then a general offset applies (as above)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Otherwise, a specific offset applies for each rare and threatened species:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Specific offset = specific biodiversity equivalence score (clearing size) x 2</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td></td>
<td>Offset must be located in the same species habitat anywhere in Victoria as determined by CELWIP habitat importance mapping</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>When a specific offset is required for multiple species, the offset site must satisfy the specific offset requirements for all of these species or multiple offset sites may be used</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Offset must be secured before the removal of native vegetation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Offset sites maybe used</td>
</tr>
</tbody>
</table>

* Habitat hectares = condition score (out of 15) x extent (hectares)

** Catchment Management Authority

Note: All applications must provide information about the vegetation to be removed such as location and address of the property, description of the vegetation, maps and recent dated photographs.
Appendix 2: Detailed habitat hectare assessment results

<table>
<thead>
<tr>
<th>Site Condition</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat Zone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bioregion</td>
<td>GoP</td>
<td>GoP</td>
<td>GoP</td>
<td>GoP</td>
<td>GoP</td>
<td>GoP</td>
<td>GoP</td>
<td>GoP</td>
<td>GoP</td>
<td>GoP</td>
<td>GoP</td>
<td>GoP</td>
</tr>
<tr>
<td>Total area of Habitat Zone (ha)</td>
<td>0.190</td>
<td>0.048</td>
<td>0.124</td>
<td>0.013</td>
<td>0.006</td>
<td>0.010</td>
<td>0.004</td>
<td>0.006</td>
<td>0.823</td>
<td>0.068</td>
<td>0.018</td>
<td>0.004</td>
</tr>
</tbody>
</table>

**Site Condition**

- **Large Old Trees**: 0 0 0 0 0 0 0 0 0 0 0 0
- **Tree Canopy Cover**: 0 0 0 0 0 0 0 0 0 0 0 0
- **Lack of Weeds**: 0 0 0 0 0 0 0 0 0 0 0 0
- **Understorey**: 5 5 5 5 5 5 5 5 5 5 5 5
- **Reruitment**: 0 0 0 0 0 0 0 0 0 0 0 0
- **Landscape context (DEPI modelled)**: /25 4 4 4 25 4 6 7 8 9 10 11 12 21
- **Total Condition Score**: /100 17 17 17 17 18 24 16 17 23 19 20 21

**Modified approach to habitat scoring - refer to Table 14 of DELWP’s Vegetation Quality Assessment Manual (DSE, 2004)**
## Appendix 3: Flora species recorded in the study area

<table>
<thead>
<tr>
<th>Origin</th>
<th>Common name</th>
<th>Scientific name</th>
<th>FFG</th>
<th>CaLP</th>
<th>Act</th>
<th>Recorded</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>Sheep Sorrel</td>
<td>Acetosella vulgaris</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>Brown-top Bent</td>
<td>Agrostis capillaris</td>
<td></td>
<td></td>
<td>X</td>
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</tr>
<tr>
<td></td>
<td>Water Plantain</td>
<td>Alisma plantago-aquatica</td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>*</td>
<td>Aster-weed</td>
<td>Aster subulatus</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>Cabbage</td>
<td>Brassica oleracea</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>Prairie Grass</td>
<td>Bromus catharticus</td>
<td></td>
<td></td>
<td>X</td>
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</tr>
<tr>
<td></td>
<td>Common Cassinia</td>
<td>Cassinia aculeata subsp. aculeata</td>
<td>p</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>Kikuyu</td>
<td>Cenchrus clandestinus</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>*</td>
<td>Spear Thistle</td>
<td>Cirsium vulgare</td>
<td></td>
<td></td>
<td>C</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Couch</td>
<td>Cynodon dactylon</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>Dense Flat-sedge</td>
<td>Cyperus congestus</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>Cocksfoot</td>
<td>Dactylis glomerata</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>Carrot</td>
<td>Daucus carota</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Common Spike-sedge</td>
<td>Eleocharis acuta</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Willow Herb</td>
<td>Epilobium spp.</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swamp Gum</td>
<td>Eucalyptus ovata</td>
<td></td>
<td></td>
<td>X</td>
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</tr>
<tr>
<td></td>
<td>Cudweed</td>
<td>Euchiton spp.</td>
<td>p</td>
<td></td>
<td>X</td>
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<tr>
<td></td>
<td>Knobby Club-sedge</td>
<td>Ficinia nodosa</td>
<td></td>
<td></td>
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<tr>
<td>*</td>
<td>Fennel</td>
<td>Foeniculum vulgare</td>
<td></td>
<td></td>
<td>R</td>
<td>X</td>
</tr>
<tr>
<td>*</td>
<td>Bastard's Fumitory</td>
<td>Fumaria bastardii</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>Cleavers</td>
<td>Galium aparine</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crane's Bill</td>
<td>Geranium spp.</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Australian Sweet-grass</td>
<td>Glyceria australis</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>Ox-tongue</td>
<td>Helminthotheca echioides</td>
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<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>Yorkshire Fog</td>
<td>Holcus lanatus</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Pennywort</td>
<td>Hydrocotyle spp.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Small St John's Wort</td>
<td>Hypericum gramineum spp. agg.</td>
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<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>St Peter's Wort</td>
<td>Hypericum tetrapertum var. tetrapertum</td>
<td>C</td>
<td></td>
<td>X</td>
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<tr>
<td>*</td>
<td>Flatweed</td>
<td>Hypochaeris radicata</td>
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<tr>
<td></td>
<td>Broom Rush</td>
<td>Juncus sarophorus</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Rush</td>
<td>Juncus spp.</td>
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<td>Rye Grass</td>
<td>Lolium spp.</td>
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<tr>
<td></td>
<td>Trefoil</td>
<td>Lotus spp.</td>
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<td>Swamp Paperbark</td>
<td>Melaleuca ericifolia</td>
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<tr>
<td>*</td>
<td>Paspalum</td>
<td>Paspalum dilatatum</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>Water Couch</td>
<td>Paspalum distichum</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Origin</td>
<td>Common name</td>
<td>Scientific name</td>
<td>FFG</td>
<td>CaLP Act</td>
<td>Recorded</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>----------------------</td>
<td>--------------------------</td>
<td>-----</td>
<td>----------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slender Knotweed</td>
<td>Persicaria decipiens</td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td></td>
<td>Spotted Knotweed</td>
<td>Persicaria praetemissia</td>
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<td></td>
<td>X</td>
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<tr>
<td>*</td>
<td>Toowoomba Canary-grass</td>
<td>Phalaris aquatica</td>
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<tr>
<td>#</td>
<td>Common Reed</td>
<td>Phragmites australis</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>*</td>
<td>Sweet Pittosporum</td>
<td>Pittosporum undulatum</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>*</td>
<td>Buck's-horn Plantain</td>
<td>Plantago coronopus</td>
<td></td>
<td></td>
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<tr>
<td>*</td>
<td>Ribwort</td>
<td>Plantago lanceolata</td>
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</tr>
<tr>
<td>*</td>
<td>Self-heal</td>
<td>Prunella vulgaris</td>
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<tr>
<td>*</td>
<td>Creeping Buttercup</td>
<td>Ranunculus repens</td>
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<tr>
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<td>Wild Radish</td>
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<tr>
<td>*</td>
<td>Blackberry</td>
<td>Rubus fruticosus spp. agg.</td>
<td></td>
<td>C</td>
<td>X</td>
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</tr>
<tr>
<td></td>
<td>Slender Dock</td>
<td>Rumex brownii</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>Clustered Dock</td>
<td>Rumex conglomeratus</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>River Club-sedge</td>
<td>Schoenoplectus tabernaemontani</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Cotton Fireweed</td>
<td>Senecio quadridentatus</td>
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<td>p</td>
<td>X</td>
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<tr>
<td>*</td>
<td>Variegated Thistle</td>
<td>Silybum marianum</td>
<td></td>
<td>C</td>
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</tr>
<tr>
<td>*</td>
<td>Black Nightshade</td>
<td>Solanum nigrum s.l.</td>
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</tr>
<tr>
<td>*</td>
<td>Common Sow-thistle</td>
<td>Sonchus oleraceus</td>
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<td></td>
<td>X</td>
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</tr>
<tr>
<td>*</td>
<td>Dandelion</td>
<td>Taraxacum spp.</td>
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<tr>
<td>*</td>
<td>White Clover</td>
<td>Trifolium repens var. repens</td>
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<td></td>
<td>X</td>
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</tr>
<tr>
<td></td>
<td>Broad-leaf Cumbungi</td>
<td>Typha orientalis</td>
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<td></td>
<td>X</td>
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<tr>
<td>*</td>
<td>Gorse</td>
<td>Ulex europaeus</td>
<td></td>
<td>C</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>English Elm</td>
<td>Ulmus procera</td>
<td></td>
<td></td>
<td>X</td>
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</tr>
</tbody>
</table>

* introduced species

FFG-P: Protected status under the FFG Act: p = protected on public land under the FFG Act
CaLP Act: Declared noxious weed status under the CaLP Act: S = State Prohibited Weeds; P = Regionally Prohibited Weeds; C = Regionally Controlled Weeds; R = Restricted Weeds.
Appendix 4: Photographs of native vegetation proposed for removal

Scattered Tree 1

Scattered Tree 2

Habitat Zone 1
Appendix 5: General development recommendations

Consideration should be given to including the measures described below in a construction and operational environmental management plan for the project.

- In accordance with the *Catchment and Land Protection Act 1994*, the noxious weed species listed below, which were recorded in the study area, must be controlled using precision methods that minimise off-target kills (e.g. spot spraying). This method of control will be implemented throughout the project.
  
  o Blackberry
  o Fennel
  o Gorse
  o Spear Thistle
  o St Peter's Wort
  o Variegated Thistle

- Construction contractors should be inducted into an environmental management program for construction works.

- All environmental controls should be checked for compliance on a regular basis.

**Construction phase:**

- Environmentally sensitive areas including retained native vegetation should be securely fenced at two metres from the perimeter and appropriately signed. All machinery and earthworks are to be excluded from these areas.

- Tree Retention Zones (TRZs) are to be established and maintained around all retained trees for the duration of construction activities. Construction and construction-related activities are to be excluded from the TRZ. Encroachment into the TRZ (including earthworks such as trenching for pipelines or cabling, etc. that disturb the root zone) must not affect more than 10% of the total area of the TRZ. Directional drilling must not be undertaken within TRZs, unless:
  
  o The directional drilling bore is at least 600 millimetres deep; AND
  o A qualified arborist has confirmed in writing that the radius of the bore will not significantly damage the tree causing it to be lost in the future; AND
  o A qualified arborist has confirmed in writing that the use of directional drilling is appropriate for the specific project/works.

- Any tree pruning should be undertaken by an experienced arborist to prevent disease or unnecessary damage to the tree or disturbance to understorey vegetation during tree trimming.

- Any stockpiling should occur outside of environmentally sensitive areas.

- All machinery should enter and exit works sites along defined routes that do not impact on native vegetation or cause soil disturbance and weed spread.

- All machinery brought on site should be weed and pathogen free. This is important for environmental and agricultural protection. Soil borne pathogens such as Cinnamon Fungus and livestock diseases can be easily transported by machinery.
- All machinery wash down, lay down and personnel rest areas should be defined (fenced) and located in disturbed areas.

- All works must be undertaken in a manner that will minimise soil erosion and adhere to Construction Techniques for Sediment Pollution Control (EPAV 1991).

**Post-construction phase:**

- Weed control is to be carried out by an experienced bush regenerator along disturbed areas after construction to control any weed outbreaks in bushland or wetland areas.

- A thirty metre buffer area along rivers, creeks and significant drainage lines should be revegetated with appropriate indigenous plants of local genetic provenance. This measure is aimed at minimising any potential long-term adverse impacts that the proposed development may have on the health and functionality of these watercourses.

- The use of local indigenous plant species should be considered in the landscaping of any development on the site. Locally indigenous species generally have low water-use requirements, high survival rates and provide habitat to local fauna species.
Appendix 6: EVC benchmarks
Swampy Woodland (EVC 937) – Gippsland Plain
EVC/Bioregion Benchmark for Vegetation Quality Assessment

Gippsland Plain bioregion

EVC 937: Swampy Woodland

Description:
Open eucalypt woodland to 15 m tall with ground-layer dominated by tussock grasses and/or sedges and often rich in herbs. Occurs on poorly drained, seasonally waterlogged heavy soils, primarily on swamp deposits but extending to suitable substrates within some landscapes of sedimentary origin.

Large trees:

<table>
<thead>
<tr>
<th>Species</th>
<th>DBH(cm)</th>
<th>#/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eucalyptus spp.</td>
<td>70 cm</td>
<td>15 / ha</td>
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Tree Canopy Cover:

<table>
<thead>
<tr>
<th>%cover</th>
<th>Character Species</th>
<th>Common Name</th>
</tr>
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<tbody>
<tr>
<td>15%</td>
<td>Eucalyptus ovata</td>
<td>Swamp Gum</td>
</tr>
<tr>
<td></td>
<td>Eucalyptus cephalocarpa s.s.</td>
<td>Mealy Stringybark</td>
</tr>
<tr>
<td></td>
<td>Eucalyptus radiata s.l.</td>
<td>Narrow-leaf Peppermint</td>
</tr>
<tr>
<td></td>
<td>Eucalyptus obliqua</td>
<td>Mesmate Stringybark</td>
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</table>

Understorey:

<table>
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<th>#Spp</th>
<th>%Cover</th>
<th>LF code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immature Canopy Tree</td>
<td>5%</td>
<td>IT</td>
<td></td>
</tr>
<tr>
<td>Understorey Tree or Large Shrub</td>
<td>5%</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Medium Shrub</td>
<td>20%</td>
<td>MS</td>
<td></td>
</tr>
<tr>
<td>Medium Herb</td>
<td>10%</td>
<td>MH</td>
<td></td>
</tr>
<tr>
<td>Small or Prostrate Herb</td>
<td>10%</td>
<td>SH</td>
<td></td>
</tr>
<tr>
<td>Large Tufted Graminoid</td>
<td>30%</td>
<td>LTG</td>
<td></td>
</tr>
<tr>
<td>Large Non-tufted Graminoid</td>
<td>10%</td>
<td>LNG</td>
<td></td>
</tr>
<tr>
<td>Medium to Small Tufted Graminoid</td>
<td>10%</td>
<td>MTG</td>
<td></td>
</tr>
<tr>
<td>Bryophytes/Lichens</td>
<td>20%</td>
<td>BL</td>
<td></td>
</tr>
</tbody>
</table>

LF Code | Species typical of at least part of EVC range | Common Name                        |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>Melaleuca ericifolia</td>
<td>Swamp Paperbark</td>
</tr>
<tr>
<td>MS</td>
<td>Leptospermum continentale</td>
<td>Prickly Tea-tree</td>
</tr>
<tr>
<td>MH</td>
<td>Acena novae-zelandiae</td>
<td>Bidgee-widgee</td>
</tr>
<tr>
<td>MH</td>
<td>Centella cordifolia</td>
<td>Austral Brooklime</td>
</tr>
<tr>
<td>MH</td>
<td>Gratiola peruviana</td>
<td>Swamp Mazus</td>
</tr>
<tr>
<td>SH</td>
<td>Mazus pumilio</td>
<td>Red-fruit Saw-sedge</td>
</tr>
<tr>
<td>LTG</td>
<td>Gahnia sieberiana</td>
<td>Common Tussock-grass</td>
</tr>
<tr>
<td>LTG</td>
<td>Poa labillardieri</td>
<td>Tall Sedge</td>
</tr>
<tr>
<td>LTG</td>
<td>Carex appressa</td>
<td>Thatch Saw-sedge</td>
</tr>
<tr>
<td>LNG</td>
<td>Gahnia radula</td>
<td>Common Reed</td>
</tr>
<tr>
<td>LNG</td>
<td>Phragmites australis</td>
<td>Common Bog-sedge</td>
</tr>
<tr>
<td>MTG</td>
<td>Schoenus apogon</td>
<td>Variable Sword-sedge</td>
</tr>
<tr>
<td>MTG</td>
<td>Leptosperma laterale</td>
<td>Slender Tussock-grass</td>
</tr>
<tr>
<td>MNG</td>
<td>Poa tenera</td>
<td>Joint-leaf Rush</td>
</tr>
<tr>
<td>MNG</td>
<td>Juncus holoschoenus</td>
<td></td>
</tr>
</tbody>
</table>

Recruitment: Continuous

Organic Litter: 20 % cover

Logs: 15 m/0.1 ha.

Ecological Vegetation Class bioregion benchmark
<table>
<thead>
<tr>
<th>LF Code</th>
<th>Typical Weed Species</th>
<th>Common Name</th>
<th>Invasive</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS</td>
<td>Rubus sp. aff. armeniacus</td>
<td>Blackberry</td>
<td>high</td>
<td>high</td>
</tr>
<tr>
<td>MH</td>
<td>Hypochoeris radicata</td>
<td>Cat's Ear</td>
<td>high</td>
<td>low</td>
</tr>
<tr>
<td>LNG</td>
<td>Heliotis lanatus</td>
<td>Yorkshire Fog</td>
<td>high</td>
<td>high</td>
</tr>
<tr>
<td>MTG</td>
<td>Anthoxanthum odoratum</td>
<td>Sweet Vernal-grass</td>
<td>high</td>
<td>high</td>
</tr>
</tbody>
</table>
Appendix 7: BIOR report (DELWP)
This report does not represent an assessment by DELWP of the proposed native vegetation removal. It provides biodiversity information for low risk-based pathway applications for permits to remove native vegetation under clause 52.16 or 52.17 of the planning schemes in Victoria.

Date of issue: 09/08/2016
Time of issue: 10:00 am
DELWP ref: BLA_0366

Project ID
BLA_15074_Stamford_Park_Rowville_v3

Summary of marked native vegetation

<table>
<thead>
<tr>
<th>Risk-based pathway</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total extent</td>
<td>0.975 ha</td>
</tr>
<tr>
<td>Remnant patches</td>
<td>0.835 ha</td>
</tr>
<tr>
<td>Scattered trees</td>
<td>2 trees</td>
</tr>
<tr>
<td>Location risk</td>
<td>A</td>
</tr>
<tr>
<td>Strategic biodiversity score of all marked native vegetation</td>
<td>0.464</td>
</tr>
</tbody>
</table>

Offset requirements if a permit is granted

If a permit is granted to remove the marked native vegetation, a requirement to obtain a native vegetation offset will be included in the permit conditions. The offset must meet the following requirements:

<table>
<thead>
<tr>
<th>Offset type</th>
<th>General offset</th>
</tr>
</thead>
<tbody>
<tr>
<td>General offset amount (general biodiversity equivalence units)</td>
<td>0.151 general units</td>
</tr>
<tr>
<td>General offset attributes</td>
<td></td>
</tr>
<tr>
<td>Vicinity</td>
<td>Port Phillip and Westernport Catchment Management Authority (CMA) or Knox City Council</td>
</tr>
<tr>
<td>Minimum strategic biodiversity score</td>
<td>0.371¹</td>
</tr>
</tbody>
</table>

See Appendices 1 and 2 for details in how offset requirements were determined.

NB: values presented in tables throughout this document may not add to totals due to rounding

¹ Minimum strategic biodiversity score is 80 per cent of the weighted average score across habitat zones where a general offset is required
Next steps

This proposal to remove native vegetation must meet the application requirements of the low risk-based pathway and it will be assessed under the low risk-based pathway.

If you wish to remove the marked native vegetation you are required to apply for a permit from your local council. Council will then refer your application to DELWP for assessment, as required. **This report is not a referral assessment by DELWP.**

The biodiversity assessment report from NVIM and this biodiversity impact and offset report should be submitted with your application for a permit to remove native vegetation you plan to remove, lop or destroy.

This report provides the following information to meet application requirements for a permit to remove native vegetation:
- Confirmation of the risk-based pathway of the application for a permit to remove native vegetation
- The area of the patch of native vegetation and/or the number of any scattered trees to be removed
- The strategic biodiversity score of the native vegetation to be removed
- The offset requirements should a permit be granted to remove native vegetation.

Refer to the **Permitted clearing of native vegetation – Biodiversity assessment guidelines** and for a full list and details of application requirements.
### Habitat hectares

Habitat hectares are calculated for each habitat zone within your proposal using the extent and condition scores in the GIS data you provided.

<table>
<thead>
<tr>
<th>Habitat zone</th>
<th>Site assessed condition score</th>
<th>Extent (ha)</th>
<th>Habitat hectares</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1-21</td>
<td>0.330</td>
<td>0.032</td>
<td>0.011</td>
</tr>
<tr>
<td>2-1-22</td>
<td>0.340</td>
<td>0.060</td>
<td>0.020</td>
</tr>
<tr>
<td>3-1-23</td>
<td>0.350</td>
<td>0.011</td>
<td>0.004</td>
</tr>
<tr>
<td>4-1-20</td>
<td>0.320</td>
<td>0.001</td>
<td>0.000</td>
</tr>
<tr>
<td>5-1-19</td>
<td>0.340</td>
<td>0.002</td>
<td>0.001</td>
</tr>
<tr>
<td>6-1-17</td>
<td>0.280</td>
<td>0.112</td>
<td>0.031</td>
</tr>
<tr>
<td>7-1-9</td>
<td>0.230</td>
<td>0.242</td>
<td>0.056</td>
</tr>
<tr>
<td>8-1-2</td>
<td>0.170</td>
<td>0.048</td>
<td>0.008</td>
</tr>
<tr>
<td>9-1-3</td>
<td>0.170</td>
<td>0.124</td>
<td>0.021</td>
</tr>
<tr>
<td>10-1-4</td>
<td>0.180</td>
<td>0.013</td>
<td>0.002</td>
</tr>
<tr>
<td>11-1-1</td>
<td>0.170</td>
<td>0.190</td>
<td>0.032</td>
</tr>
<tr>
<td>12-1-ST1</td>
<td>0.200</td>
<td>0.070</td>
<td>0.014</td>
</tr>
<tr>
<td>13-1-ST2</td>
<td>0.200</td>
<td>0.070</td>
<td>0.014</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>0.215</strong></td>
</tr>
</tbody>
</table>
Biodiversity impact and offset requirements report

Clearing site biodiversity equivalence score(s)

The general biodiversity equivalence score for the habitat zone(s) is calculated by multiplying the habitat hectares by the strategic biodiversity score.

<table>
<thead>
<tr>
<th>Habitat zone</th>
<th>Habitat hectares</th>
<th>Strategic biodiversity score</th>
<th>General biodiversity equivalence score (GBES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1-21</td>
<td>0.011</td>
<td>0.511</td>
<td>0.005</td>
</tr>
<tr>
<td>2-1-22</td>
<td>0.020</td>
<td>0.516</td>
<td>0.011</td>
</tr>
<tr>
<td>3-1-23</td>
<td>0.004</td>
<td>0.541</td>
<td>0.002</td>
</tr>
<tr>
<td>4-1-20</td>
<td>0.000</td>
<td>0.558</td>
<td>0.000</td>
</tr>
<tr>
<td>5-1-19</td>
<td>0.001</td>
<td>0.387</td>
<td>0.000</td>
</tr>
<tr>
<td>6-1-17</td>
<td>0.031</td>
<td>0.452</td>
<td>0.014</td>
</tr>
<tr>
<td>7-1-9</td>
<td>0.056</td>
<td>0.516</td>
<td>0.029</td>
</tr>
<tr>
<td>8-1-2</td>
<td>0.008</td>
<td>0.460</td>
<td>0.004</td>
</tr>
<tr>
<td>9-1-3</td>
<td>0.021</td>
<td>0.449</td>
<td>0.009</td>
</tr>
<tr>
<td>10-1-4</td>
<td>0.002</td>
<td>0.552</td>
<td>0.001</td>
</tr>
<tr>
<td>11-1-1</td>
<td>0.032</td>
<td>0.437</td>
<td>0.014</td>
</tr>
<tr>
<td>12-1-ST1</td>
<td>0.014</td>
<td>0.350</td>
<td>0.005</td>
</tr>
<tr>
<td>13-1-ST2</td>
<td>0.014</td>
<td>0.423</td>
<td>0.006</td>
</tr>
</tbody>
</table>
Appendix 2 – Offset requirements detail

If a permit is granted to remove the marked native vegetation the permit condition will include the requirement to obtain a native vegetation offset.

To calculate the required offset amount required the biodiversity equivalence scores are aggregated to the proposal level and multiplied by the relevant risk multiplier.

Offsets also have required attributes:
- General offsets must be located in the same Catchment Management Authority (CMA) boundary or Local Municipal District (local council) as the clearing and must have a minimum strategic biodiversity score of 80 per cent of the clearing.2

The offset requirements for your proposal are as follows:

<table>
<thead>
<tr>
<th>Offset type</th>
<th>Clearing site biodiversity equivalence score</th>
<th>Risk multiplier</th>
<th>Offset requirements</th>
<th>Offset attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>0.101 GBES</td>
<td>1.5</td>
<td>0.151 general units</td>
<td>Offset must be within Port Phillip And Westernport CMA or Knox City Council Offset must have a minimum strategic biodiversity score of 0.371</td>
</tr>
</tbody>
</table>

---

2 Strategic biodiversity score is a weighted average across habitat zones where a general offset is required
Biodiversity impact and offset requirements report

Appendix 3 – Images of marked native vegetation

1. Native vegetation location risk map

2. Strategic biodiversity score map