NATIONAL INTERMODAL

Report:
Beveridge Intermodal Precinct Preliminary Documentation (EPBC 2023/09693)

12 December 2024

Document Control Record

Document Details					
Project Title	Beveridge Intermodal Precinct Stage 1 A				
Document Title	Beveridge Intermodal Precinct Preliminary Documentation (EPBC 2023/09693)				
Document Number	39673				
Revision	Date	Details	Author	Reviewer	Approver
1	18/11/2024		[redacted]	[redacted]	
2	12/12/2024		[redacted]	[redacted]	
Current Revision	2				

Approval		
Author Signature	[redacted]	**Approver Signature**
Name	[redacted]	**Name**
Title	[redacted]	**Title**

Declaration of Accuracy

In making this declaration, I am aware that section 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the Environment Protection and Biodiversity Conservation Regulations 2000 (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

[redacted]

Signed _____

[redacted]

Full name (please print) _____

[redacted]

Organisation (please print) _____

[redacted]

Date _____/_____/_____

Contents

1 Document Control Record 2
2 Executive Summary 5
3 Introduction 9
4 Description of the Action 10
4.1. Proposed Action Area, avoidance footprint and disturbance footprint 10
4.2. Location and description of Study Area 10
4.3. Scope of works 13
4.4. Timing and duration of the project 13
4.4.1. Construction phase 13
4.4.2. Operational phase 14
4.5. Assessments informing this report 14
5 Matters of National Environmental Significance (MNES) 16
5.1. Victorian Grassland Earless Dragon (*Tympanocryptis pinguicolla*) 16
5.2. Whole of the Environment 17
5.2.1. Environment of Herne Swamp 17
5.2.2. Direct Impacts 26
5.2.3. Indirect Impacts 26
6 Avoidance, mitigation and management 30
6.1. Avoidance 30
6.2. Mitigation 30
6.3. Management 32
6.4. Monitoring 34
7 Residual impacts (*and proposed offsets*) 35
7.1. Residual impacts to MNES 35
7.1.1. Victorian Grassland Earless Dragon 35
7.1.2. Herne Swamp 36
7.2. Offset requirements 38
7.3. Proposed Conditions 38
8 Ecologically sustainable development 39
8.1. Economic outcomes 40
8.2. Environmental outcomes 40
8.3. Social and Equitable outcomes 41
8.4. Environmental damage and scientific uncertainty 42
9 Social and economic 43

9.1. Public consultation 43
9.1.1. Engagement principles 43
9.1.2. Stakeholders 43
9.1.3. Engagement snapshot 44
9.1.4. Key feedback 44
9.1.5. How feedback shaped Stage 1A 44
9.2. Engagement with Indigenous Stakeholders 47
9.3. Cost and benefits 48
9.3.1. Economic 48
9.3.2. Social and Environmental 48
10 Conclusion 50
11 References 51
12 Appendices 52

Appendix A VGED Habitat Assessment 53
Appendix B Surface Water Modelling and Assessment 54
Appendix C Action Management Plan 55
Appendix D PD RFI 56
Appendix E Flora and Fauna Assessment 57

Figure 1 Location of the Proposed Action 12
Figure 2 Ecological Values 18
Figure 3 Herne Swamp Area and Catchments 24

Table 1 Preliminary Documentation requirements 5
Table 2 Flow and Water levels of Herne Swamp catchments 27
Table 3 Overview of Management Measures 32
Table 4 Assessment of VGED in relation to Significant Impact Criteria for critically endangered species. 35
Table 5 Impacts of the Proposed Action on Environmental Factors 37
Table 6 Summary of engagement responses 45

2 Executive Summary

The Proposed Action for Beveridge Intermodal Precinct Stage 1A Project (Stage 1A), is a fully functional intermodal freight terminal on approximately 67 hectares of land that has been designed to allow integration with future planning and delivery of a broader intermodal freight precinct (subject to further assessment and approvals). The 1,100 hectare site was purchased in 2023 by Beveridge Terminals Pty Ltd, a subsidiary of National Intermodal Corporation Ltd (The Proponent). This Preliminary Documentation has been prepared by National Intermodal for the proposed Stage 1A Project (EPBC 2023/09693).

On the 4th June 2024, the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) advised that Stage 1A is a Controlled Action and that works require approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as the action is likely to have significant impacts on:

- Listed threatened species and communities (sections 18 and 18A of the Act) and
- The environment as a Commonwealth action (section 28 of the Act).

The Department advised that the Proposed Action will be assessed by Preliminary Documentation.

DCCEEW determined that based on the information in the referral that the Proposed Action is likely to have a significant impact on matters of national environmental significance, including but not limited to:

- Victorian Grassland Earless Dragon (*Tympanocryptis pinguicolla*) (VGED)
- Hernes Swamp wetland and the associated waterways, species and community habitat and the environment.

On the 9th June 2024, DCCEEW issued a request for additional information outlining the requirements of the Preliminary Documentation, Table 1 sets out the requirements of the Preliminary Documentation and where they are addressed in the following document.

Table 1 Preliminary Documentation requirements

Requirement	Report Section
1. HABITAT ASSESSMENT Based on the information provided in your referral, and other available information, the department considers that the listed species identified below may be significantly impacted by the Proposed Action and did not have sufficient information provided in the original referral. • Victorian Grassland Earless Dragon – *Tympanocryptis pinguicolla* – Critically Endangered	Section 5 Appendix A
1.1 Species specific information required 1) Assessment of all the habitat specific features available in the Proposed Action Area as per the habitat description in the *Approved Conservation Advice for* Tympanocryptis pinguicolla *(Victorian Grassland Earless Dragon)*. 2) Provide the scientific reasoning for how the extent of known and unknown potential habitat for the Victorian Grassland Earless Dragon were derived. Consideration should be given to the *Draft National Recovery Plan for Four Grassland Earless Dragons (*Tympanocryptis spp.*) of Southeast Australia* and definitions contained in Appendix B. 3) If the assessment of habitat specific features concludes that there is potential for detection of VGED on site, please provide results from targeted surveys and historical desktop records to confirm the status and extent of Victorian Grassland Earless Dragon within the Proposed	Section 5 Appendix A

Requirement	Report Section
Action Area and Study Area, undertaken in accordance with the relevant survey guidelines.	
2. IMPACT ASSESSMENT The Proposed Action is considered likely to have impacts to threatened species and communities (section 18 and section 18a) and the environment as a Commonwealth action (section 28). An assessment of direct, indirect, and consequential impacts as a result of the Proposed Action must be provided in accordance with relevant departmental policies and guidelines. Consideration of impacts should include the consideration of the nature, likelihood, and severity of the impacts. The department considers the Proposed Action may result in, but is not limited to, the following impacts: • Direct and indirect impacts to the environment of the Hernes Swamp wetland, including: o Decrease in habitat quality or quantity for species o Altered hydrology and/or water quality	Section 5 Appendix E (FFA) Appendix B (Surface Water Modelling and Assessment)
2.1 Information required 1) Impact assessment of Victorian Grassland Earless Dragon – *Tympanocryptis pinguicolla*, if assessment *1.1 Species specific information required* (above) indicates potential occurrence on site. 2) An assessment of the likely direct and indirect impacts to the environment of Hernes Swamp wetland and the associated waterways, and species habitat that are associated with the action components such as, construction, operational and maintenance components of the project. That includes: a. an assessment of the likely duration of impacts to Hernes Swamp wetland and the associated waterways, species and community habitat and the environment as a result of the Proposed Action (consideration should be given to definitions in Appendix B). b. a discussion of whether the impacts are likely to be repeated, for example as part of maintenance. c. a discussion of whether any impacts are likely to be unknown, unpredictable or irreversible.	Section 5 Appendix E (FFA) Appendix B (Surface Water Modelling and Assessment)
3. AVOIDANCE, MITIGATION AND MANAGEMENT MEASURES Avoidance and mitigation measures are the primary methods of eliminating and reducing significant impacts on MNES. If impacts cannot be avoided, then they should be minimised or mitigated as much as possible. The department notes the referral includes a description of the proposed mitigation and management measures to be implemented by the proponent during the construction, operation and maintenance stages of the Proposed Action.	Section 6
3.1 Information required 1) The details on the mitigation measures that will be applied to the Study Area to ensure that there are no significant direct or indirect impacts to the Hernes Swamp wetland and the associated waterways, species habitat and the environment through the Proposed Action. a. including the on-going management plans that has:	Section 5 Appendix C (AMP)

Requirement	Report Section
i. a statement of the objectives, ongoing management and monitoring, and locations and timing ii. the party responsible iii. the policy basis. Draft action management plans (AMP) must be prepared by a suitably qualified ecologist and in accordance with the department's Environmental Management Plan Guidelines (2024), available at: www.environment.gov.au/epbc/publications/environmental-management-plan-guidelines.	
4. OTHER INFORMATION REQUIRED **4.1 Ecologically sustainable development (ESD)** Principles of ESD, as defined in section 3A of the EPBC Act. 1) A statement outlining how the Proposed Action follows the principles of ecologically sustainable development: a. decision making processes should effectively integrate both long term and short term economic, environmental, social and equitable considerations. b. if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. c. the principle of inter-generational equity—that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. d. the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision making. e. improved valuation, pricing and incentive mechanisms should be promoted.	Section 8
4.2 Economic and social matters Consideration of economic and social matters (section 136(1)(b)). 1) A summary outlining how the Proposed Action has considered economic and social matters, including: a. details of any public consultation activities undertaken and their outcomes. b. projected economic costs and benefits of the project, including the basis for their estimate through cost/benefit analysis or similar studies. c. employment opportunities expected to be generated by the project (including construction and operational phases). Although a Cultural Heritage Management Plan (CHMP) may not be mandatory, the department recommends that you engage with the Victorian State Government, First Peoples State Relations section to ensure that all cultural heritage issues are managed appropriately. 2) A statement overviewing the any consultation with Indigenous stakeholders and the Victorian State Government, First Peoples State Relations section to ensure that all cultural heritage issues are managed appropriately.	Section 9
5. OFFSETS Environmental offsets are measures that compensate for the residual significant impacts of an action on the environment. Offsets provide environmental benefits to counterbalance the impacts that remain after consideration of avoidance and mitigation measures. It is important to	Section 7.2

Requirement	Report Section
consider environmental offsets early in the assessment process. Correspondence with the department regarding offsetting is highly encouraged. The Department's *EPBC Act Environmental Offsets Policy* (2012) (Offsets Policy) is available at: www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy. If, residual impacts are likely to be significant, please provide a summary of the proposed environmental offset and key commitments to achieve a conservation gain for each protected matter with residual significant impacts. Where offset area/s have been nominated, include a draft Offset Area Management Plan (OAMP). The draft OAMP must meet the information requirements set out by the Department and must be prepared by a suitably qualified ecologist and in accordance with the department's Environmental Management Plan Guidelines (2024), available at: www.environment.gov.au/epbc/publications/environmental-management-plan-guidelines.	

3 Introduction

On the 4th June 2024, the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) advised that the Proposed Action (Stage 1A) is a Controlled Action and that works require approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as the action is likely to have significant impacts on listed threatened species and communities (sections 18 and 18A of the Act). For the purposes of the EPBC Act, the Proposed Action is deemed a Commonwealth Action (section 28 of the Act). The Department advised that the Proposed Action will be assessed by Preliminary Documentation.

DCCEEW determined that based on the information in the referral that the Proposed Action is likely to have a significant impact on matters of national environmental significance, including but not limited to:

- Victorian Grassland Earless Dragon (*Tympanocryptis pinguicolla*) (VGED)
- Hernes Swamp wetland and the associated waterways, species and community habitat and the environment.

On the 9th June 2024, DCCEEW issued a request for additional information outlining the requirements of the Preliminary Documentation.

The following report seeks to address this request for additional information and encompasses the following specific components:

1. Relevant Assessments to determine potential to impact Matters of National Environmental Significance (MNES), including:
   (a) Victorian Grassland Earless Dragon
   (b) Hernes Swamp wetland and the associated waterways, species and community habitat and the environment
2. Avoidance, mitigation and management measures
3. Residual impacts (and offsets)
4. Ecologically sustainable development
5. Social and economic matters.

Future planning and delivery of the broader precinct does not form part of this action. These works are to be undertaken wholly within the area approved under the Melbourne Strategic and as such have been previously assessed for potential impacts to:

- World heritage properties (sections 12 and 15A),
- National heritage places (sections 15B and 15C),
- Wetlands of international importance (sections 16 and 17B,
- Listed threatened species and communities (sections 18 and 18A),
- Listed migratory species (sections 20 and 20A).

As the works are likely to be undertaken by a Commonwealth Agency (for the purposes of the EPBC Act), a separate self-assessment will be undertaken under *Significant Impact Guidelines 1.2* for future works to determine future referral or approval requirements under Section 28 of the EPBC Act.

4 Description of the Action

4.1. Proposed Action Area, avoidance footprint and disturbance footprint

The majority of the Proposed Action will be contained within a 1,100-hectare site in Beveridge, Victoria purchased in 2023 by the Proponent, for planning and delivery of the proposed Beveridge Intermodal Precinct.

The Study Area assessed for the Proposed Action was an approximately 915-hectare area within the part of the land acquired by National Intermodal located to the North of Beveridge Road and adjacent rail and road reserves (Study Area).

The total Proposed Action Area comprises approximately 70.7 hectares (67 hectares contained in the Beveridge Intermodal Precinct Site, plus an additional 3.7 hectares in the adjacent road and rail reserves) contained within the Study Area (Proposed Action Area).

The majority of the Proposed Action Area is located within the Melbourne Strategic Assessment (MSA) Area previously approved for specified protected matters under Part 10 of the *Environment Protection and Biodiversity Conservation Act 1999*. The MSA approval explicitly excluded "…development in the Northern growth corridor within the boundary of Hearnes Swamp" (also known as Herne Swamp).

The area of the Proposed Action to be undertaken within the MSA approval area has been previously assessed for potential impacts to:

- World heritage properties (sections 12 and 15A),
- National heritage places (sections 15B and 15C),
- Wetlands of international importance (sections 16 and 17B,
- Listed threatened species and communities (sections 18 and 18A),
- Listed migratory species (sections 20 and 20A).

However, as the Proposed Acton is being undertaken by a Commonwealth Agency (for the purposes of the EPBC Act), impacts under Section 28 of the EPBC Act will be assessed for the entire Proposed Action Area.

Assessment of impacts under sections 18 and 18A are limited to the area excluded from the MSA.

Figure 3 shows the location of the Proposed Action within the above context and the area to which this report applies.

4.2. Location and description of Study Area

The Study Area occurs within a largely cleared and relatively flat, rural landscape approximately 40 kilometres north of Melbourne CBD. The Merri Creek runs through the Study Area from the northern to the southern boundary, the creek corridor is zoned Rural Conservation Zone 1 and provides connectivity between the Study Area and the surrounding landscape. The ARTC rail corridor runs along the western boundary of the Study Area.

Land to the north, south and west of the Study Area is currently used for agricultural purposes, however, it is within the Melbourne Urban Growth Boundary and is intended for future urban development. Land to the east of the Study Area is predominantly being utilised for agricultural purposes and is zoned Green Wedge and Farming Zone.

Private properties and roadsides to the east of the Study Area support a significant amount of remnant vegetation that connects (with minimal disruptions) to Kinglake National Park. However, there is no longer any direct connectivity between the Study Area and Kinglake National Park due to historical clearance of native vegetation.

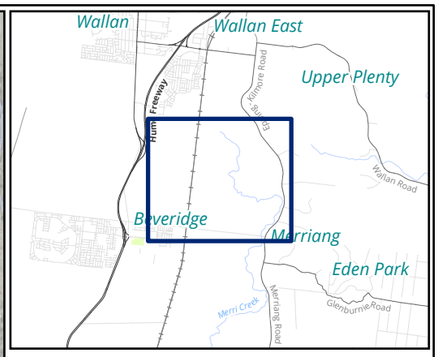
The Study Area comprises undulating pasture and rocky outcrops which has been highly modified due to livestock grazing. A range of ecological features occur within the Study Area including native patch vegetation, Herne Swamp (including areas of the EPBC Act listed threatened community Seasonal Herbaceous Wetland (Freshwater) of the Temperate Lowland Plains (SHWTLP)) and small and large scattered trees.

The Study Area is situated in the Upper Merri Creek catchment. The overall topography can be described as relatively well graded slopes surrounded by the Upper Merri Creek floodplain to the north and east. The Study Area is divided by a high point, forming two separate catchments in the southwest, and northeast. In the north of the Study Area, the topography of Herne Swamp is generally flat.

The Study Area contains 14 small farm dams, three of which are located with the Proposed Action Area and utilised for stock watering. A tributary of Merri Creek runs diagonally from northwest to southeast across the Study Area. A man-made drainage line, with a grade of less than 0.05%, runs from Herne Swamp to Merri Creek in an east-west direction within the northwestern portion of the Study Area.

The M31 Hume Freeway is the closest national inter-city arterial route to the Proposed Action and carries the vast majority of north-south bound road freight passing Beveridge.

The proposed primary heavy vehicle access route between the intermodal terminal and the Hume Freeway follows the alignment of the Old Hume Highway, Minton Street and Beveridge Road and is the shortest and most appropriate route. This defined and relatively short route also allows for a greater control of operational vehicles for the Proposed Action.



Legend

- Study area
- Proposed Action Area
- Area excluded from MSA approval
- Current wetland (DEECA)

Figure 1 Study area

0 100 200 300 400 500

Metres

Scale: 1:14,000 @ A3

Coordinate System: GDA2020 MGA Zone 55

N

Matter: 39763,
Date: 20 November 2024 ,
Prepared for: [redacted] Prepared by: [redacted] Last edited by: [redacted]
Layout: 39673_PD_F1_Study_area
Project: P:\39600s\39673\Mapping\
39673_EPBC_Ref_1A.aprx

Acknowledgements: VicMap BaseMap©State of Victoria

4.3. Scope of works

The Stage 1A Project involves the construction and operation of a permanent rail connection to the existing Australian Rail Track Corporation (ARTC) rail freight corridor, together with sidings, a basic intermodal terminal and associated infrastructure for the initial stage of the Beveridge Intermodal Precinct. The Stage 1A terminal will have the ability to operate 24 hours a day, 7 days a week, with up to two (2) 1,800-metre-long trains being processed per day in each 24-hour period (train shunting movements will be one 1,800 metre train at a time).

The operation of the Stage 1A Project will be predominately rail to rail. For the rail to road proportion, truck movements will be capped (through the use of a vehicle booking system) to four (4) truck movements per hour averaged over each 24-hour period, with a maximum of eight (8) truck movements in any one hour (unless otherwise agreed and approved).

The Stage 1A Project has been designed to provide rail infrastructure which will be utilised by future development of the broader Beveridge Intermodal Precinct, without pre-empting the further assessment and approval of the precinct planning and development. It comprises the following key components:

- Rail connection – rail connection (southern and northern lines) from the existing ARTC rail corridor to the terminal.
- Rail infrastructure – turnouts and sidings (adjacent to the terminal hardstand) to accommodate interstate trains up to 1,800 metres long.
- Intermodal terminal – container handling and storage area (hardstand) for loading and unloading of trains. Manual handling only with reach stackers.
- Site access and internal roads – Beveridge Road intersection and internal access road for heavy and light vehicle movement within the site.
- Drainage infrastructure – drainage and stormwater quality treatment works and stormwater infrastructure to manage and control the stormwater runoff appropriately.
- Ancillary development – demountable administration facility (office, toilet, lunch room) and packaged equipment (inc. but not limited to refuelling, water storage and drainage, lighting, fencing, weighbridge, solar generation and power storage, signage).
- External roads – local road improvement works between the Hume Hwy and the subject site as agreed by the relevant parties.
- Utilities – connection and site lead in for electricity, telecommunications, sewer and potable water.
- Vegetation removal – removal of native vegetation within the Study Area boundary to the minimum extent required to facilitate the use and development.

4.4. Timing and duration of the project

4.4.1. Construction phase

The Stage 1A Project is to be constructed over a 12-18 month period commencing in early 2025.

The Stage 1A Project will be constructed in one stage however may include several overlapping phases which include:

- Site preparation – clearing vegetation, enabling works, site access and construction compound establishment.
- Earthworks, drainage and utilities – bulk earthworks, drainage and utilities installation, fill importation.

- Rail enabling – rail formation (embankments) and ARTC rail line connection (inc. installation of signalling).
- Terminal – pavement construction, temporary construction road, installation of administration area.
- Other works – miscellaneous structural construction, utilities connection, finishing works, commissioning, decommissioning/demobilisation of compound and construction activities, fencing of Merri Creek.

The indicative timing and duration of the above phases is outlined below. This timing is subject to change based on several factors, including but not limited to project approvals, weather and workforce availability.

- 1. Site preparation – Q2 2025
- 2. Earthworks, drainage and utilities – Q2 2025
- 3. Rail enabling and ARTC rail line connection – Q4 2025
- 4. Terminal – Q1 2026
- 5. Other works (finishing works, demobilisation etc.) – Q2-Q3 2026

Approximately 150 construction personnel will be required during the peak construction period.

Construction will generally be undertaken within standard construction hours, including:

- 7am to 6pm Mondays to Fridays
- 7am to 1pm Saturdays

These hours may change during periods of rail occupations when access is needed at times to minimise impacts to the operating rail network.

Site access will be from the south (Beveridge Road) via a temporary access road.

4.4.2. Operational phase

The operational phase of the Proposed Action is anticipated to commence once construction is complete. The operational phase will entail 24 hours a day, 7 days a week operation of the constructed rail connection and terminal.

Approximately 15 (full-time) operational personnel will be required.

The operations will generally include:

- Trains will arrive to site via the ARTC rail line and travel south towards the proposed terminal. Trains may be broken up and shunted onto the various sidings prior to reaching the terminal.
- Following arrival at the terminal, containers will be unloaded from the train wagons by reach stackers (maximum 3 operating at one time) and forklifts (maximum 3 operating at one time). Containers will be placed in the container handling (hardstand) area for temporary storage.
- Heavy vehicles will travel to site and park within the container handling area then be loaded with containers for transport off-site (rail to road movement).
- In some instances, wagons will be broken up and transported off-site via rail to another rail facility without being unloaded (rail to rail movement). This is the predominate use of Stage 1A.
- Containers may also be transported to the Stage 1A site by heavy vehicle and loaded onto trains for transport off-site (road to rail movement)

The terminal will receive up to two 1.8km trains per day during Stage 1A operations, subject to scheduling.

4.5. Assessments informing this report

The following reports were undertaken in preparing the Referral for the Proposed Action:

- Beveridge Intermodal Precinct Stage 1A Flora and Fauna Assessment (Biosis 2023),including:
  - Review of several previous biodiversity assessments completed for the Study Area:
    - Arcadis 2022. Beveridge Intermodal Freight Terminal: Ecology survey and mapping, Report prepared for National Intermodal Corporation.
    - Ecology & Heritage Partners 2020. Biodiversity Assessment for the Proposed Beveridge Intermodal Freight Terminal., Report prepared for Beveridge Property Management Services Pty Ltd.
    - Ecology & Heritage Partners 2022. Environment report for the proposed Beveridge Intermodal Freight Terminal: Beveridge Road, Beveridge, Victoria. Report prepared for Beveridge Property Management Services Pty Ltd.
  - Desktop database review
  - Flora and Terrestrial Fauna site assessment completed on 4 May and 21 September 2023
  - Targeted flora surveys for Swamp Fireweed, Swamp Everlasting and River Swamp Wallaby-grass on 6 December 2023.
  - Aquatic fauna assessment of Merri Creek and the drainage line in the north-west of the Study Area, in accordance with the EPBC Act survey guidelines for Australia's threatened fish species across multiple days in September 2023.
- Beveridge Intermodal Facility – Herne Swamp Hydrology Background Review – Memorandum (Rain Consulting 2023).

In preparing the Preliminary Documentation additional assessments were undertaken and are summarised below, and the subsequent reports are included in the appendices.

- Aurecon Surface Water Modelling and Assessment (Aurecon 2024) (Appendix B)
  - To assess the likely direct and indirect impacts to the environment of Herne Swamp wetland and the associated waterways during the construction, operational and maintenance components of the Proposed Action.
  - The surface water assessment included a background review, conceptual site model, hydrological and water quality modelling, hydraulic modelling, assessment of impacts and proposed management and mitigation measures.
  - Results are discussed further in Section 5.2 and full report is included in Appendix B.
- Biosis VGED habitat assessment (Appendix A)
  - To assess and document the habitat within the Study Area in relation to the key VGED habitat values, a site-based qualitative habitat assessment was undertaken on 14 June 2024 by a Senior Zoologist and Senior Botanist.
  - Results are discussed further in Section 5.1 and full report is included in Appendix A.
- Beveridge Intermodal Precinct Stage 1A Flora and Fauna Assessment was also updated in October 2024 (Biosis, 2024) to reflect:
  - Outcomes of VGED habitat assessment
  - Site assessment results for updated Proposed Action Area (drainage rehabilitation works)

  The updated FFA is included in Appendix E.

5 Matters of National Environmental Significance (MNES)

Based on the results of the above assessments, the Proposed Action has potential to have a significant impact on the following MNES:

- Victorian Grassland Earless Dragon (*Tympanocryptis pinguicolla*) (VGED)
- The environment as a Commonwealth action. Potential impacts to the environment are limited to the Hernes Swamp wetland and the associated waterways, species and community habitat (Hernes Swamp).

Potential impacts to these MNES are discussed below.

The Proposed Action is unlikely to result in a significant impact to any other MNES.

5.1. Victorian Grassland Earless Dragon (*Tympanocryptis pinguicolla*)

The Study Area occurs at the edge of the modelled distribution of 'species or species habitat known or likely to occur' for VGED (DCCEEW, 2024), with no confirmed records of the species within the broader area.

Biosis undertook a habitat site assessment of the area excluded from the MSA (Appendix A) and of the wider Study Area (Biosis, 2024) the results of the VGED Habitat Assessments confirmed the Proposed Action Area and the surrounding environment are unlikely to support VGED.

The Conservation Advice (DCCEEW 2023a) and Draft National Recovery Plan (DCCEEW 2023b) outline that grasslands with the greatest likelihood of containing a remnant VGED population are likely to have:

- Native vegetation cover with open patches of bare earth and/or naturally short open swards due to low-level disturbance (e.g. managed fire, grazing);
- Presence of suitable refugia, particularly invertebrate burrows, surface rock cover and/or soil cracks;
- A functioning invertebrate community to provide appropriate prey, as well as invertebrates that engineer burrows for refuge, particularly araneae (spiders), coleoptera (beetles) and orthoptera (grasshoppers and crickets) order fauna;
- Minimal weed cover;
- Not been de-rocked, ploughed or fertilized to improve pasture quality.

The habitat assessment considered documented habitat requirements, site context and history and found that the Proposed Action Area and Study Area have a negligible to low likelihood of occurrence for VGED.

The lower elevation areas associated with Herne Swamp and the high biomass areas within the existing rail corridor are considered to have no capacity to support the species. While it is noted that areas of historic records across the Keilor Plains may have been similarly waterlogged in winter, whilst dry and cracked in summer (DCCEEW 2023a), Biosis staff have visited the Study Area several times over both summer and winter and whilst the area is dry in summer it is subject to heavy pugging from cattle grazing, resulting in soil compaction and a consequent lack of suitable refugia for VGED.

Higher elevation grassy areas are considered to have a low likelihood of supporting the species due to dominance of weedy pasture grasses, soil disturbance from cattle grazing and lack of soil cracks and invertebrate burrows.

Small, isolated stony rises have a low likelihood of supporting the species due to site context and the absence of key habitat features such as soil cracks and/or invertebrate burrows.

The full Habitat Site Assessment is included in Appendix A of this report.

Based on the site assessment of negligible to low likelihood of occurrence, targeted surveys were not recommended.

No direct or indirect impacts to VGED are considered likely to occur as a result of the Proposed Action.

However, given the sensitivity surrounding the recent rediscovery of this species, the proponent has incorporated management measures, including pre-clearance survey protocol, for VGED into the AMP, further detail is outlined in Section 6 and Appendix C.

5.2. Whole of the Environment

The majority of the Study Area is highly modified, supporting predominantly introduced vegetation and subject to heavy livestock grazing. Outside of the Herne Swamp area, ecological values are limited to scattered native patch vegetation, a patch of the threatened ecological community of Natural Temperate Grassland of the Victorian Volcanic Plains, areas of Department of Environment, Land, Water and Planning (DELWP) (now Department of Energy, Environment and Climate Action (DEECA)) mapped wetland, Merri Creek and small and large scattered trees.

Impacts to ecological values outside of the Herne Swamp area are limited to:

- 5.7 hectares of DEECA mapped wetland
- 2 scattered trees
- 0.034 hectares of Plains Grassy Woodland
- 0.267 hectares Tall Marsh

Based on the above environmental context and the potential impacts outlined in the Significant Impact Assessment undertaken against the Commonwealth Land or Agencies Significant Impact Criteria 1.2 (See referral 2023/09693, Section 4.1.10 and 4.1.12), impacts to the whole of the environment (Section 28 of the Act) are limited to the Hernes Swamp wetland and the associated waterways, species and community habitat (Hernes Swamp).

5.2.1. Environment of Herne Swamp

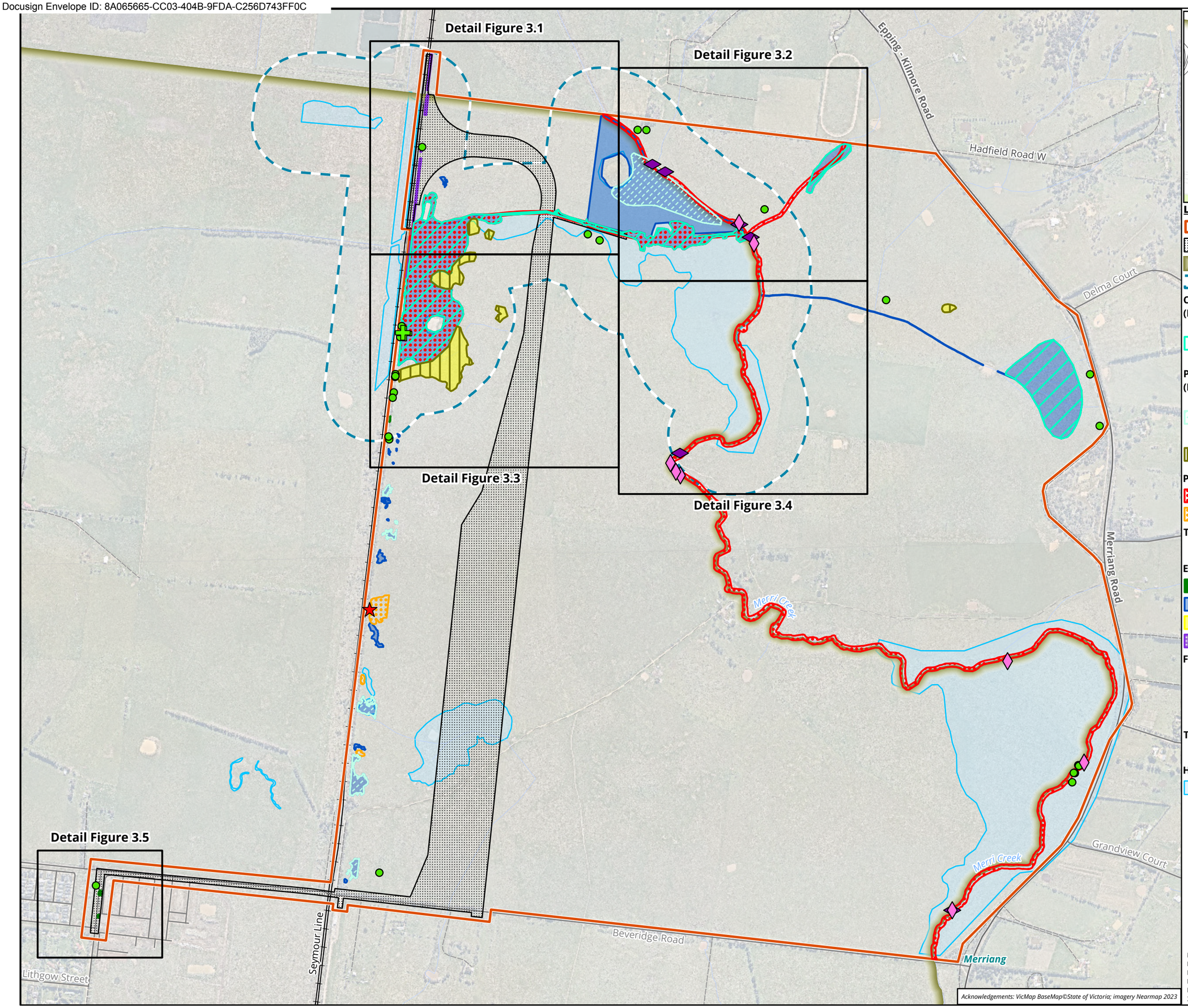
The northern extent of the Study Area contains a portion of Herne Swamp. Herne Swamp is a DEECA mapped wetland. The mapped wetland occurs to the west of Merri Creek and forms part of the Merri Creek Catchment.

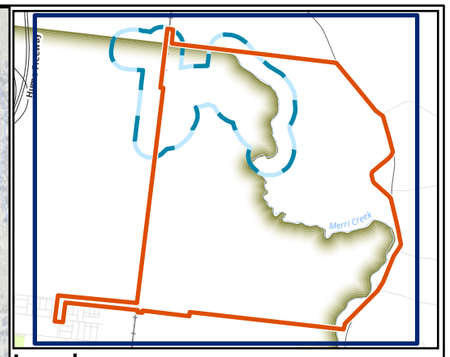
Herne Swamp is currently estimated to have an area of around 62.1 ha in total, with approximately 34.8 ha located within the Study Area (Rain Consulting 2023). The former extent of Herne Swamp has been substantially reduced as a result of historical drainage modifications in the wider area. Within the Study Area, drainage modifications are in the form of a drainage channel running east to west across the Study Area and several farm dams. Current land uses within Herne Swamp include livestock grazing and rural conservation.

Within the Study Area, Herne Swamp is irregular in shape with two connected main sections as outlined in the DEECA mapped wetland. The main areas are located against the railway tracks on the western boundary and a larger section towards the north-west bounded by the Merri Creek (Aurecon, 2024), an artificial drainage line runs from the portion on the western boundary to Merri Creek at the east of the Study Area.

Within the Study Area, Herne Swamp contains areas of the Critically Endangered EPBC Act listed Seasonal Herbaceous Wetland (Freshwater) of the Temperate Lowland Plains (SHWTLP) threatened ecological community (TEC). Herne Swamp is also mapped from DEECA's current wetlands dataset as Freshwater Marshes/Meadow (temporary) and within the Study Area, Herne Swamp contains potential suitable habitat for several common and threatened flora and fauna species.

The extent of the mapped Herne Swamp, SHWTLP and potential species habitat within the Study Area is shown on Figure 2. Further detail of the hydrological and ecological values associated with Herne Swamp are outlined below.





Legend

- Biosis study area
- Proposed Action Area
- MSA approval extent
- Area excluded from MSA approval zone

Confirmed threatened ecological communities (EPBC)

- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains

Potential threatened ecological communities (EPBC)

- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains
- Natural Temperate Grassland of the Victorian Volcanic Plain

Potential threatened fauna habitat

- Growling Grass Frog
- Tussock Skink

Threatened flora records

- Swamp Fireweed (*Senecio psilocarpus*)

Ecological vegetation classes (EVCs)

- VVP_0055_61 Plains Grassy Woodland
- VVP_0125 Plains Grassy Wetland
- VVP_0132 Plains Grassland
- VVP_0821 Tall Marsh

Fauna records

- Common Freshwater Shrimp
- Common Yabby
- Bougainvilles Skink

Trees

- Scattered tree

Hydrography

- Current wetland (DEECA)

Figure 2.0 Ecological values of the study area: overview

0 100 200 300 400 500

Metres

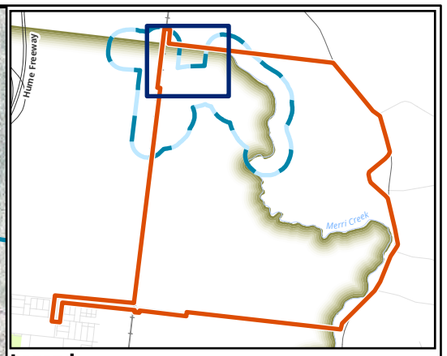
Scale: 1:14,000 @ A3

Coordinate System: GDA2020 MGA Zone 55

N

biosis

Matter: 39673,
Date: 20 November 2024,
Prepared for: [redacted] Prepared by: [redacted] Last edited by: [redacted]
Layout: 39673_PD_F2_Eco_values
Project: P:\39600s\39673\Mapping\39673_EPBC_Ref_1A.aprx



Legend

- Biosis study area
- Proposed Action Area
- MSA approval extent
- Area excluded from MSA approval zone

Confirmed threatened ecological communities (EPBC)

- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains

Potential threatened ecological communities (EPBC)

- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains
- Natural Temperate Grassland of the Victorian Volcanic Plain

Potential threatened fauna habitat

- Growling Grass Frog

Ecological vegetation classes (EVCs)

- VVP_0125 Plains Grassy Wetland
- VVP_0132 Plains Grassland
- VVP_0821 Tall Marsh

Trees

- Scattered tree

Hydrography

- Current wetland (DEECA)

Figure 2.1 Ecological values of the study area: detail

0 20 40 60 80 100

Metres

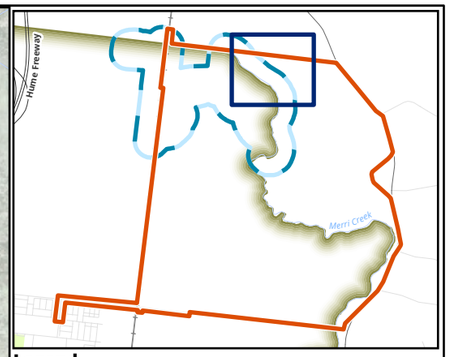
Scale: 1:3,000 @ A3

Coordinate System: GDA2020 MGA Zone 55

N

biosis®

Matter: 39673,
Date: 20 November 2024,
Prepared for [redacted] Prepared by [redacted] Last edited by: [redacted]
Layout: 39673_PD_F2_Eco_values
Project: P:\39600s\39673\Mapping\39673_EPBC_Ref_1A.aprx



Legend

- Biosis study area
- Proposed Action Area
- MSA approval extent
- Area excluded from MSA approval zone

Confirmed threatened ecological communities (EPBC)

- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains

Potential threatened ecological communities (EPBC)

- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains

Potential threatened fauna habitat

- Growling Grass Frog

Ecological vegetation classes (EVCs)

- VVP_0125 Plains Grassy Wetland

Fauna records

- Common Freshwater Shrimp
- Common Yabby

Hydrography

- Current wetland (DEECA)

Acknowledgements: VicMap BaseMap©State of Victoria; imagery Nearmap 2023

Figure 2.2 Ecological values of the study area: detail

0 20 40 60 80 100

Metres

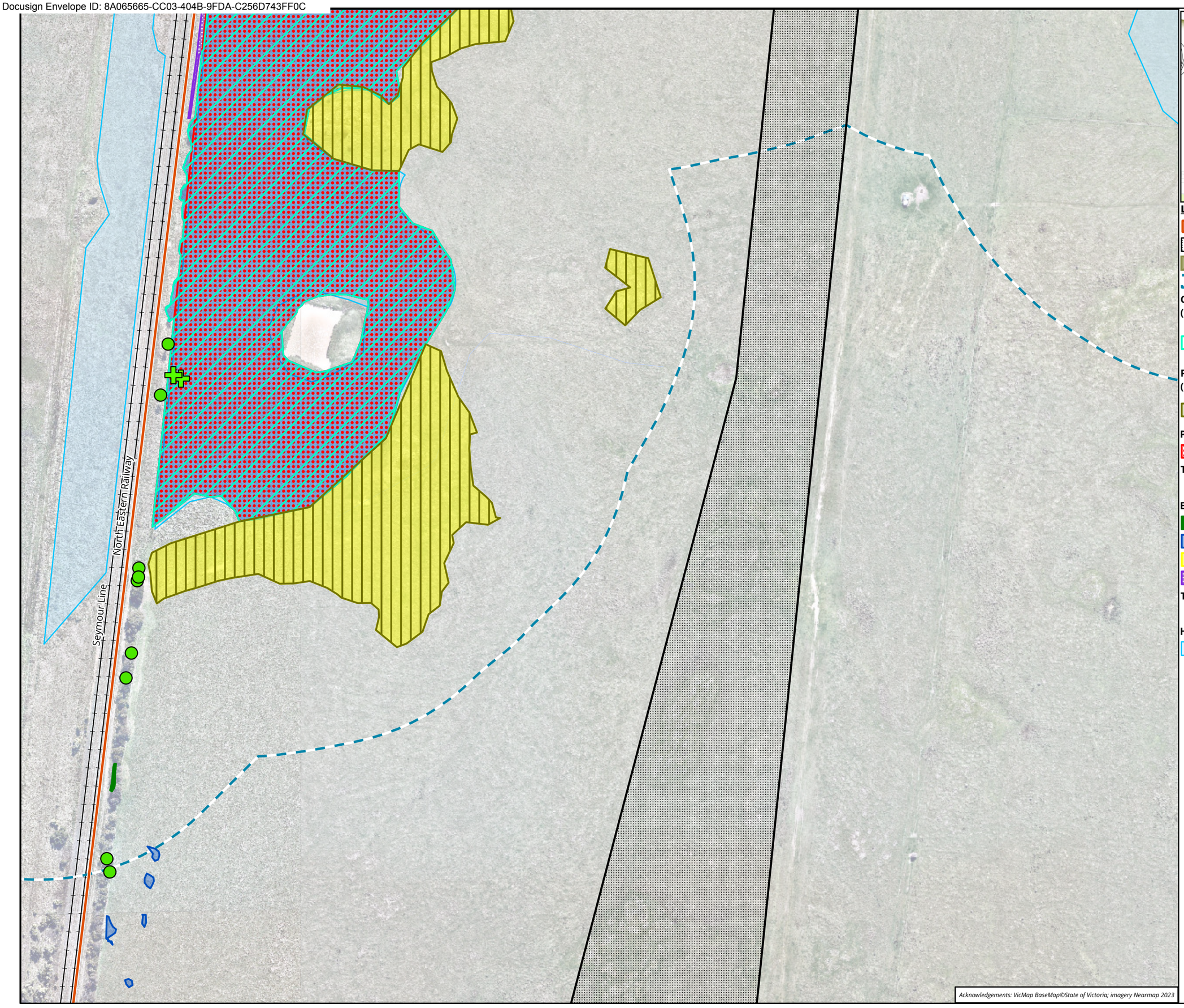
Scale: 1:3,000 @ A3

Coordinate System: GDA2020 MGA Zone 55

N

biosis®

Matter: 39673,
Date: 20 November 2024,
Prepared for: [redacted] Prepared by: [redacted] Last edited by: [redacted]
Layout: 39673_PD_F2_Eco_values
Project: P:\39600s\39673\Mapping\39673_EPBC_Ref_1A.aprx



Legend

- Biosis study area
- Proposed Action Area
- MSA approval extent
- Area excluded from MSA approval zone

Confirmed threatened ecological communities (EPBC)

- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains

Potential threatened ecological communities (EPBC)

- Natural Temperate Grassland of the Victorian Volcanic Plain

Potential threatened fauna habitat

- Growling Grass Frog

Threatened flora records

- Swamp Fireweed (*Senecio psilocarpus*)

Ecological vegetation classes (EVCs)

- VVP_0055_61 Plains Grassy Woodland
- VVP_0125 Plains Grassy Wetland
- VVP_0132 Plains Grassland
- VVP_0821 Tall Marsh

Trees

- Scattered tree

Hydrography

- Current wetland (DEECA)

Figure 2.3 Ecological values of the study area: detail

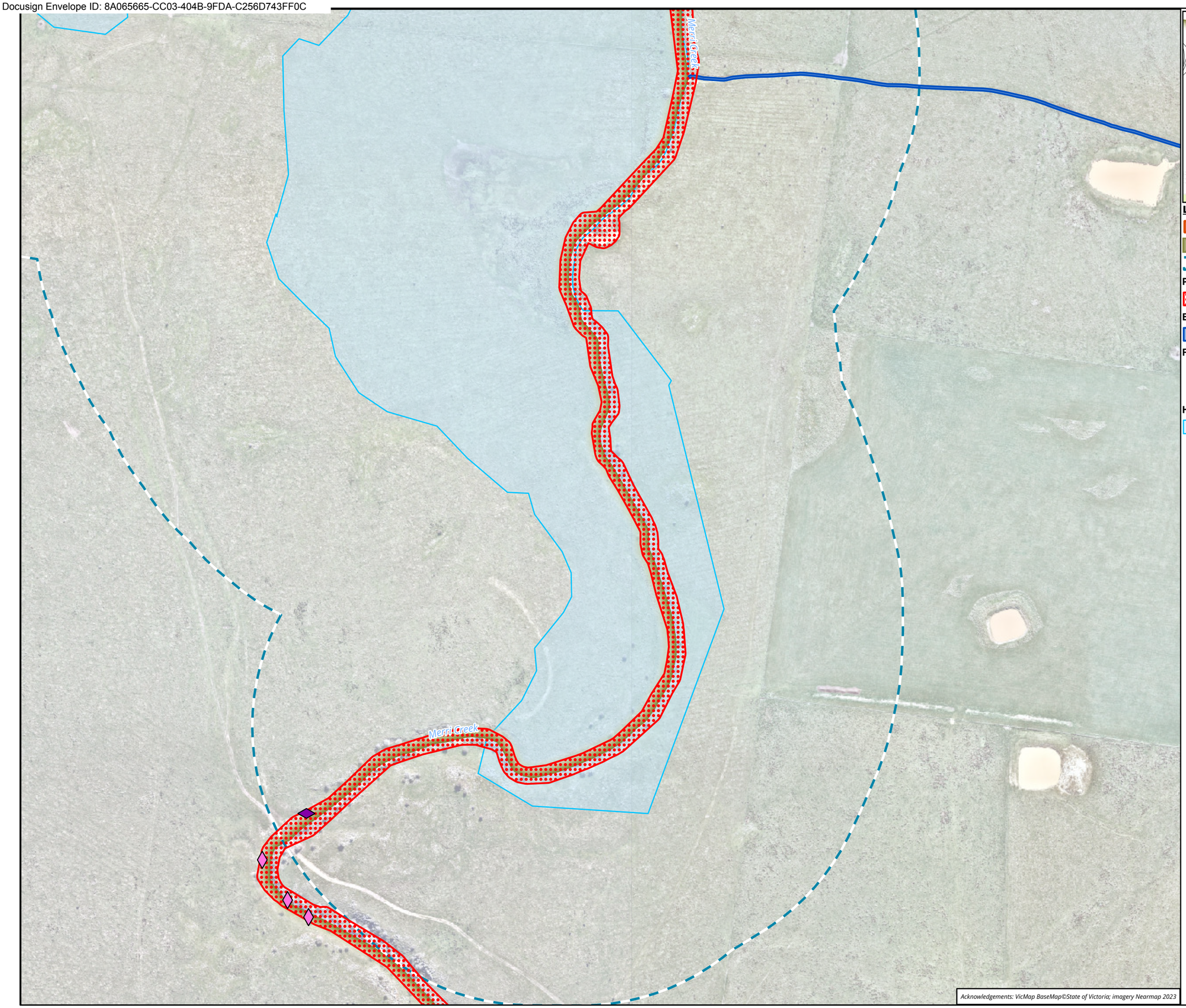
0 20 40 60 80 100

Metres

Scale: 1:3,000 @ A3

Coordinate System: GDA2020 MGA Zone 55

Matter: 39673,
Date: 20 November 2024,
Prepared for: [redacted]. Prepared by: [redacted]. Last edited by: [redacted]
Layout: 39673_PD_F2_Eco_values
Project: P:\39600s\39673\Mapping\39673_EPBC_Ref_1A.aprx



Legend

- Biosis study area
- MSA approval extent
- Area excluded from MSA approval zone

Potential threatened fauna habitat

- Growling Grass Frog

Ecological vegetation classes (EVCs)

- VVP_0125 Plains Grassy Wetland

Fauna records

- Common Freshwater Shrimp
- Common Yabby

Hydrography

- Current wetland (DEECA)

Acknowledgements: VicMap BaseMap©State of Victoria; imagery Nearmap 2023

Figure 2.4 Ecological values of the study area: detail

0 20 40 60 80 100

Metres

Scale: 1:3,000 @ A3

Coordinate System: GDA2020 MGA Zone 55

N

biosis®

Matter: 39673,
Date: 20 November 2024,
Prepared for: [redacted] Prepared by [redacted], Last edited by: [redacted]
Layout: 39673_PD_F2_Eco_values
Project: P:\39600s\39673\Mapping\
39673_EPBC_Ref_1A.aprx

Figure 2.5 Ecological values of the study area: detail

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA2020 MGA Zone 55

N

biosis

Matter: 39673,
Date: 20 November 2024,
Prepared for: [redacted] Prepared by: [redacted] Last edited by: [redacted]
Layout: 39673_PD_F2_Eco_values
Project: P:\39600s\39673\Mapping\
39673_EPBC_Ref_1A.aprx

Hydrology

Herne Swamp is located in the upper Merri Creek catchment which drains an area of 396 square kilometres southwards through Melbourne's northern suburbs to the Yarra River. The Merri Creek catchment is predominantly rural, changing along the course of the creek from pastoral to industrial and then urban to residential. The rural reaches have retained some natural stream form and feature despite a history of land clearing and agricultural development.

The Herne Swamp drainage regime has been impacted by the presence of agricultural drains however some localised depressions and isolated drainage lines remain. The current extent of Herne Swamp has an irregular shape with two connected main sections which are located against the railway tracks on the western boundary of the Study Area and a larger section towards the north-west bounded by Merri Creek.

Aerial photos indicate the historical inundation patterns in the swamp showing green vegetation up until November, drying out in December, very dry conditions in the summer months from January to March, and wet conditions in winter. During heavy rainfall events, the extent of the swamp is discernible from aerial imagery and flows concentrate on the west side of the swamp against the existing rail line.

The Aurecon Surface Water Modelling and Assessment Report included completion of a pre-development Conceptual Site Model (CSM) to understand key hydrological features. The model divided the Herne Swamp into several catchments as shown on Figure 3 below.

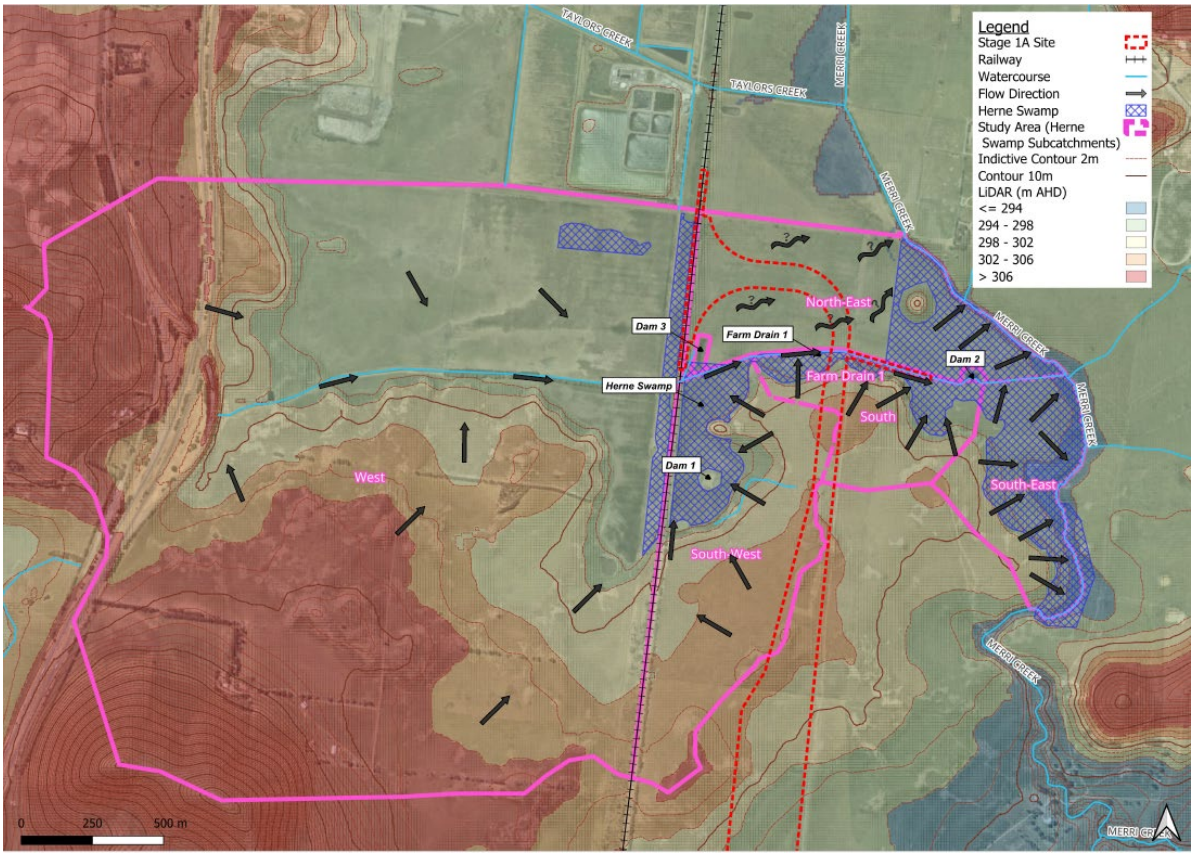


Figure 3 Herne Swamp Area and Catchments

The key findings of the pre-development CSM were:

- The West catchment (outside of the Beveridge Intermodal Precinct Area) drains to Farm Drain 1 through culverts under the existing railway. This catchment is hydrologically connected to Dam 3 on the western boundary of the Study Area via a diversion weir that has been constructed across Farm Drain 1 diverting lower, frequent flows to the north.
- The South West catchment includes a significant portion of the current Herne Swamp extent and an area of hillslope that grades towards the swamp. The area of Herne Swamp occurs within a natural depression that stores direct rainfall and runoff from the adjacent hill slope. Rainfall and runoff from within this section of the swamp is the dominant source of water that sustains the wetting and drying processes within the mapped SHWTLP in the Study Area. Review of available LiDAR survey shows this South-West catchment is slightly perched above Farm Drain 1, overtopping into the drain once the water level in the natural depression exceeds 295 m AHD.
- The South catchment has no storage component, rainfall drains north into Farm Drain 1.
- Depression storage within Farm Drain 1 and Dam 2 is relatively small. Farm Drain 1 has a very shallow grade of less than 0.05% that promotes the ponding of water.
- The North East section of Herne Swamp sits between Merri Creek and a mapped straight western boundary. A significant area of the current Herne Swamp extent is located along the fringes of Merri Creek. The North-East catchment is very flat with average grades less than 0.05%. Detailed site survey and LiDAR indicates this western boundary of Herne Swamp to be either a low levee bank or access track which runs north-south and prevents shallow overland flow entering the swamp from the North-East catchment. The hydrology of this section of swamp would be dominated by direct rainfall and very occasional inundation by floodwater from Merri Creek and the North East catchment which may overtop the western boundary levee/track into Herne Swamp in more significant events. During minor events rainfall in the portion of North East catchment to the west of the Herne Swamp would likely infiltrate.
- The South East catchment drains east to Merri Creek and is not affected by the Beveridge Intermodal Precinct Stage 1A Project.
- At times, floodwaters from Merri Creek may enter the swamp from the east, but this is not expected to be frequently enough to contribute to the wetting and drying regime that sustains the swamp.
- Groundwater is at a depth that does not interact with the swamp and no references indicate the role of groundwater on the swamp.

A detailed description of the hydrological regime of Herne Swamp is included in Appendix B.

Ecology

Ecological Communities

Portions of Hernes Swamp were recorded as Plains Grassy Wetland (EVC 125) corresponding to the EPBC Act listed community SHWTLP.

Plains Grassy Wetland EVC 125 is classified as “Treeless vegetation characterised by a ground cover of grasses, small sedges and herbs. Dominant species include Common Tussock-grass, Poong’ort, Brown-back Wallaby-grass and Swamp Starwort *Stellaria angustifolia*. Weed cover is relatively low (5-25%) and includes Lesser Hawkbit *Leontodon saxatilis subsp. saxatilis*, Toowoomba Canary-grass *Phalaris aquatica* and Yorkshire Fog *Holcus lanatus*.”

SHWTLP are described as temporary freshwater wetlands, located on isolated drainage lines or depressions that are seasonally inundated, typically filling after winter-spring rains, and then drying out (DSEWPC 2012). Their main water source is rainfall, and they are not dependant on overbank flooding from riverine systems. The flood plain was inundated at the time of survey and dominated by a high cover and diversity of SHWTLP characteristic species including Common Tussock-grass, Poong’ort, Common Spike-rush, Joint-leaf Rush *Juncus holoschoenus*, Brown-back Wallaby-grass, White Purslane *Montia australasica,* Willow-herb *Epilobium* sp., River Buttercup *Ranunculus inundatus* and Milky Beauty-heads *Calocephalus lacteus*.

The mapped SHWTLP occurs in a landscape where introduced vegetation cover is significant and intensive land clearing has taken place over the past 150 years. Land use impacts from drainage works, clearing, cropping and grazing have reduced the community integrity and functionality (e.g. loss of hydrological functioning, reduced flora species richness, reduced genetic exchange across the community due to fragmentation, etc,).

Flora Species

The Study Area provides suitable habitat for EPBC Act listed species Swamp Fireweed, Swamp Everlasting and River Swamp Wallaby-grass and FFG Act listed species Curly Sedge, Pale Swamp Everlasting and Plains Yam-daisy. Swamp Fireweed was recorded within Herne Swamp, immediately adjacent to the rail corridor in 2022 (Arcadis) and Pale Swamp Everlasting was recorded in 2020 (EHP).

Targeted survey of the Proposed Action Area for these species in December 2023 did not record any individuals.

Fauna Species

Herne Swamp provides suitable habitat for EPBC Act listed Growling Grass Frog and FFG Act listed Brown Toadlet, Eastern Great Egret, Australasian Shoveler, Common Sandpiper, Musk Duck, Hardhead, and Blue-billed Duck, however none of these species were recorded during site assessments.

Common fauna species including Common Froglet and Spotted Marsh Frog were heard calling throughout the swamp area and surrounding grassy vegetation, and birds such as Swamp Harrier *Circus approximans* and White-necked Heron *Ardea pacifica* were observed foraging around the swamp.

Herne Swamp provides suitable habitat for EPBC Act listed migratory species Common Sandpiper and Latham's Snipe. The most recent species records for both species are from 2018.

Targeted surveys for fish species yielded no fish throughout the section of Merri Creek which runs adjacent to the Study Area and the north-western drainage line. No evidence of burrowing crayfish *Engaeus* spp. was apparent along the north-western drainage line, likely because this area is heavily trampled by livestock.

Heritage

It is recognised that Herne Swamp also holds heritage value for the Wurundjeri Woi-wurrung people, as such engagement has been ongoing and is summarised in Section 9.2. These values are being assessed through the CHMP process under the Victorian Aboriginal Heritage Act 2006 which includes engagement with the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation, further discussed at Section 9.2.

5.2.2. Direct Impacts

Direct impacts to Herne Swamp are limited to 0.79 hectares of DEECA mapped wetland, of which 0.30 hectares corresponds to low-quality SHWTLP (corresponding to Plains Grassy Wetland EVC 125), associated with the drainage line. While this area has potential to offer habitat for flora and fauna, no threatened species were recorded, and the area has been previously disturbed by existing agricultural uses.

No further direct impacts are associated with the Proposed Action and direct loss of habitat for the associated species and communities detailed above has been minimised through project design.

5.2.3. Indirect Impacts

Indirect impacts to the flora, fauna and ecological communities associated with Herne Swamp have been addressed through the design process for the Proposed Action. These are outlined below.

Fragmentation

The potential for impacts associated with fragmentation have been addressed through the project design process. By avoiding the majority of the Herne Swamp any fragmentation is minimised.

The small impact within the drainage corridor is in an area previously disturbed by agricultural use of the land. The potential for fragmentation from this impact is minimal and is mitigated through the inclusion of a culvert/bridge design that allows for the continued movement of fauna throughout the mapped wetland and surrounding areas within the Study Area and avoid ongoing impacts during operation.

Further details of avoidance and mitigation measures are outlined in Section 6 below.

Changes in hydrological regimes

Baseline hydrological and water quality modelling (MUSIC software) was undertaken by Aurecon to determine whether the Proposed Action is likely to cause changes to the wetting, drying and water quality processes of Herne Swamp.

Modelling of the West and South East catchments demonstrated that there was no significant changes between the pre and post development case as a result of the Proposed Action.

The results for the remaining catchments are outlined below.

Flow and Water Levels

Table 2 Flow and Water levels of Herne Swamp catchments

Catchment	Modelled result
South West Catchment	There is negligible change in water level in South-West Catchment throughout the year as a result of the Stage 1A Project. This is shown in the water level and water level duration curves for the model. These results were produced with a low infiltration rate (1mm /day) applied across the inundated surface of the swamp to estimate the volume lost to infiltration. A higher rate of infiltration (5mm/day) sensitivity was also tested to assess the sensitivity of water level to this uncalibrated value. The sensitivity testing shows that the impacts of Stage 1A will be insignificant whether the soil infiltration rate is low or high. As a result of the Stage 1A Project, there is: • A 0.3% to 1.6% reduction in mean annual runoff volume (MARV) for the South-West catchment. • A negligible reduction in number of annual spills from the swamp modelled storage. • No change in “dry” conditions (defined as less than 1 m^3 volume within swamp). Full results are shown in Section 5.3.1 of Appendix B.
North-East Catchment	An area of the North East catchment (39%) will be redirected to Farm Drain 1 by proposed drainage swales. This will add a small area of catchment to Farm Drain 1 associated with infrequent, high intensity rain events but reduce

Catchment	Modelled result
	the catchment area that discharges to Merri Creek to the north east. The modelling predicts that the total annual flow from the North East catchment will reduce by 39%, instead being directed to Farm Drain 1. However, the impact to Herne Swamp will be less significant than the modelling predicts due to the presence of the levee / access track at the edge of Herne Swamp noting: • During frequent low intensity rainfall, there will be no change in the volume of direct rainfall and no change in the volume of runoff entering the North Eastern section of Herne Swamp due to the levee / access track at the edge of Herne Swamp. • During intense storm events, runoff from this area will discharge to Merri Creek either via Farm Drain 1 or via overland flow through Herne Swamp when the small levee or access track along the boundary of Herne Swamp is overtopped. During these events, water levels within depressions across Herne Swamp will be full as a result of direct rainfall anyway. Full results are shown in Section 5.3.2 of Appendix B.
South Catchment	The contributing catchment to Farm Drain 1 from the South catchment is reduced by 1.4% in the post-development case as runoff from the development is partially re-directed through swales. However, as part of the North-East catchment is re-directed into Farm Drain 1, the overall catchment increases by 74%. This results in an increase in flow. Farm Drain 1 itself will be directly disturbed by the flood management works which may change the wetting and drying regime in Farm Drain 1. Full results are shown in Section 5.3.3 of Appendix B. Mitigation measures are discussed in Section 6.

The overall change in mean annual runoff volume (MARV) at the Merri Creek outlet of Herne Swamp is due to increased hardstand area associated with Stage 1A. Depending on the rainfall year modelled, there are increases between 2.3% (wet rainfall year) and 25.7% (dry rainfall year) in MARV at this confluence.

The changes in flow regimes in the north-east and south catchments are expected to remain constant throughout the operation of the Proposed Action. Impacts are not expected to change over time. Management and maintenance operations within the Project Action Area will not cause alter or introduce additional impacts.

Potential impacts to the wetting and drying regime within Farm Drain 1 in Herne Swamp associated with the flood management works will be managed through appropriate design and rehabilitation, as outlined in Section 6.

Water Quality

Modelling was completed to show the changes between pre and post development downstream of the confluence of the Herne Swamp and Merri Creek catchments; this demonstrates the overall impact on Merri Creek as a result of the Stage 1A Project. The total Herne Swamp catchment area is only 9% of the total combined Herne Swamp and Merri Creek area. The are no changes between pre and post development for Total Suspended Solids, Total Phosphorus or Gross Pollutants/Litter. There are minor changes between pre and post development for Total Nitrogen and Water Volumes, however, overall changes at Merri Creek are likely to be insignificant.

Pollutant loads resulting from the Stage 1A Project have the potential to increase sediment, litter, metals and nutrients in stormwater within the Farm Drain 1. Swales will manage runoff from the Stage 1A hardstand area and improve water quality discharges from Stage 1A to the Farm Drain 1.

Full results are shown in Appendix B.

Mitigation measures are discussed in Section 6.

Construction Impacts

If not managed correctly, additional impacts to the surface water and groundwater environment could result from the following construction activities:

- Construction across waterways such as Farm Drain 1 flowing into farm dams and Merri Creek
- Vegetation removal and earthworks across the extent of the Project Action Area
- Leaks and spills within construction areas
- Construction and operation of ancillary facilities
- Stockpiles
- Transportation of materials.

Mitigation measures to address these risks are discussed in Section 6 and a summary of the potential impacts is provided in Table 6-2 of Appendix B.

The assessment undertaken for this report was completed using best available data and uncalibrated desktop modelling. Monitoring will be put in place, so that if modelling does underestimate the actual impacts on the local hydrology of the swamp, adaptive management and mitigation measures can offer options to further alter and improve the way surface water flows enter different areas of Herne Swamp.

6 Avoidance, mitigation and management

The following avoidance and mitigation sections outline the measures that have been undertaken to date during the Beveridge Intermodal Precinct Stage 1A planning phase and summarises outcomes as they relate to both project feasibility and avoidance of direct and indirect impacts to MNES in undertaking the Proposed Action.

The management section summarises further management measures that will be undertaken during construction and operational phases to address residual risk of potential impacts to the Herne Swamp environment and VGED. Management actions have been developed in the project Action Management Plan (AMP) which has been prepared in accordance with the Department's Environmental Management Plan Guidelines (2024) and has been included in Appendix C of this report.

6.1. Avoidance

At the time of acquisition by National Intermodal the Beveridge Intermodal Precinct Site had been subject to significant preparatory planning on behalf of the previous owner Qube. Qube's proposed design would have resulted in direct impacts to 2.25 hectares on Seasonal Herbaceous Wetlands of the Temperate Lowland Plains (associated with Herne Swamp) and 0.126 hectares of Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP) and the potential flora and fauna habitat associated with these communities.

Since their acquisition of the Beveridge Intermodal Precinct Site, National Intermodal have reviewed a number of design iterations, resulting in the current footprint.

The majority of design changes have focused on the northern portion of the Project Action Area where the rail connection joins the ARTC rail corridor, due to the presence of ecological and culturally significant values.

The Proposed Action provides a functional rail connection that accommodates train access while minimising noise impacts and impacts to the environmental values in the Study Area.

The footprint avoids direct impacts to all NTGVVP and the majority of the mapped SHWTLP associated with Herne Swamp. Remaining impacts amount to 0.30 hectares of lower quality SHWTLP across the drainage channel which connects to Merri Creek.

Initial consideration was given to moving the rail connection south of the Herne Swamp buffer, however this option was deemed not viable as the rail connection length required to safely move interstate trains off the ARTC rail corridor requires a minimum 1.8 kilometres of rail lead-in to the terminal, this is not achievable within the National Intermodal landholding and has potential implications for future ARTC rail development and noise.

Based on the findings of the VGED habitat assessment and implementation of pre-clearance survey the Proposed Action will avoid any direct or indirect impacts to VGED.

The investigations to date indicates that all practicable avoidance measures have been taken and no further updates can be undertaken without undermining the integrity or viability of the Proposed Action.

6.2. Mitigation

In addition to the above avoidance, design development has resulted in several changes to minimise indirect impacts that might result from the Proposed Action. Mitigation measures introduced to the Proposed Action to date include:

- In response to recommendations of the FFA, stormwater design has been developed to minimise impacts to overall water levels and quality to Merri Creek and Herne Swamp (and associated threatened species and ecological communities).
- A crossing was added to the design to be constructed over the drainage channel leading to Merri Creek to ensure that water flows and habitat connectivity between Herne Swamp, Merri Creek

and the surrounding areas is maintained. The crossing design is currently being further developed in consultation with Melbourne Water to ensure best results for hydrological flows and habitat connectivity.

- An additional culvert has been incorporated in the northern section of the proposed rail to minimise effects on the movement of fauna throughout areas of potential habitat.
- Design has been updated for the terminal to avoid indirect impacts of lighting design on wildlife in line with the DCCEEW National Light Pollution Guidelines for Wildlife (DCCEEW 2023).
- As part of the Proposed Action cattle grazing is being removed from the Herne Swamp and Merri Creek corridor to minimise disturbance of the ecological community and reduce impacts to water quality.

Additional mitigation measures being developed through detailed design, include:

- In accordance with AMP Table 5-4 (SW1) the proposed action must comply with Urban Stormwater Best Practice Environmental Management Guidelines (CSIRO, 1999), including meeting the following stormwater pollutant reductions:
  - 80% Total Suspended Solids based on mean annual load
  - 45% Total Phosphorus based on mean annual load
  - 45% Total Nitrogen based on mean annual load
  - 70% Gross Pollutants or Litter based on mean annual load
- In accordance with AMP Table 5-4 (SW2) water quality, storm water flows, and flood protection measure development will be undertaken to meet the following requirement, or as otherwise agreed, in consultation with Melbourne Water (and Local Councils as required) prior to construction commencing:
  - Provide drainage capacity equivalent to 10% AEP for minor drainage system in industrial areas for Council drainage systems and 18% AEP (5-year ARI) for Melbourne Water managed drainage systems - To offset the loss of flood storage, compensatory storage is to be provided.
  - New developments to be protected from major flooding equivalent to the 1% AEP event. All new lots are to be above the minimum freeboard requirements above the 1% AEP flood level.
  - The existing culverts under the existing rail line are to be extended to the full width of the new rail line embankment within the Project Area to prevent blockage of flood flow.
- In accordance with AMP Table 5-4 (FF1) (Appendix C) all bridges/culverts will be designed to meet Growling Grass Frog Crossing Design Standards (DELWP 2017).
- In accordance with AMP Table 5-4 (SW5) (Appendix C) a vegetated drainage swale is integrated in the Proposed Action which will run north south along the terminal hardstand area to naturally filter surface water prior to discharge and improve stormwater quality. Urban Stormwater Best Practice Environmental Management Guidelines (CSIRO, 1999) water quality target for nitrogen removal are followed for the swale design, including:
  - Appropriate revegetation and low-nutrient landscaping on the outer batters of all works and within the swales.
  - Native grasses 150mm long are required in the swale.
  - Allowance for additional areas of biofiltration to be included within the swale footprints if required to meet targets.
- In accordance with AMP Table 5-4 (SW6) (Appendix C) detailed design plans for the railway infrastructure and associated embankment, culvert or bridge structures and any earthworks that permanently obstruct natural flow paths or drainage lines on land located within the Urban Floodway Zone, must be provided to and approved by the relevant floodplain management authority.

- Rehabilitation design is being investigated to re-create the wetting and drying regime to pre-development conditions in the disturbed farm drain to promote the re-establishment of SHWTLP in this area and provide opportunities for increased SHWTLP habitat value/extent.

Integration and implementation of all the above measures will be finalised prior to commencement of the Proposed Action.

6.3. Management

To address indirect impacts from the project an Action Management Plan (AMP) for the Proposed Action has been developed. The AMP has been prepared in accordance with the Department's Environmental Management Plan Guidelines (2024), to incorporate all management and monitoring requirements to address residual risk of potential impacts to the Herne Swamp environment and VGED.

The full AMP is included in Appendix C and addresses the below:

- Environmental management roles and responsibilities
- Potential environmental impacts and risks
- Environmental management measures
- Audit and review measures
- Victorian Grassland Earless Dragon Pre-clearance survey methodology.

A summary of the management measures during the construction and operational phase is outlined in Table 3 below. Full details are included in the relevant sections of the AMP.

Table 3 Overview of Management Measures

Phase of Proposed Action	Management measure	Objective	Relevant section of AMP
Construction	Preparation of a Construction Environmental Management Plan (CEMP) (including Site Environmental Implementation Plans (SEIPs)) prior to all works commencing. The CEMP will adopt best-practice measures to prevent risk of harm to human health or the environment and minimise environmental risks as far as reasonably practicable. It will specifically include measures to minimise risk associated with: • Management of soils, contaminated land and water • Storage and Handling of Fuels, Chemicals and Hazardous Substance Management • Sodic Soil Management • Protection of vegetation, waterways and ecological values • Erosion and Sediment Control • Groundwater Management	To maintain environmental values of surface water and groundwater. To avoid and mitigate impacts to ecological values and seek to improve ecological values that will be retained. Prevention of pollution and contaminated land and groundwater to mitigate any impacts to human health and the environment. Eliminate or reduce the risk of harm to human health and the environment through good environmental practice.	Table 4-1 (EM2 & 3) Table 4-2 (CLM2 & 3) Table 4-3 (FF1 & 3) Table 4-4 (SW3 & 4)

Phase of Proposed Action	Management measure	Objective	Relevant section of AMP
	Preparation of a Flora and Fauna Management Plan (FFMP), prior to all works commencing, that addresses: • Growling Grass Frog mitigation measures • Fauna management measures • Habitat removal and fauna salvage • Weed and pest control measures	To avoid and mitigate impacts to ecological values and seek to improve ecological values that will be retained.	Table 4-3 (FF4)
	VGED management including pre-clearance survey prior to works commencing.	To avoid and mitigate impacts to VGED and seek to improve ecological values that will be retained.	Table 4-3 (FF8) Appendix B
Operation	An Operational Environmental Management Plan (OEMP) must be prepared and approved prior to operational phase commencing, and include management and monitoring measures to address the following environmental aspects • Noise management • Stormwater management • Traffic management • Waste management • Weed and pest management • Vegetation management • Fauna and biodiversity management	Eliminate or reduce the risk of harm to human health and the environment through good environmental practice.	Table 4-1 (EM5)
	Conservation Management Plan (CMP) to be prepared prior to commencement of operations to address: • Ecological Assessment and Monitoring • Habitat Restoration and Enhancement • Water Management • Community Engagement and Education • Invasive Species Management • Climate Change Adaptation • Funding and Resource Management.	To avoid and mitigate impacts to ecological values and seek to improve ecological values that will be retained.	Table 4-1 (FF7)

6.4. Monitoring

Performance monitoring and reporting processes that will be implemented during construction and operational phases of the Proposed Action are outlined in Section 5 of the AMP (Appendix C).

National Intermodal (or an appointed contractor or operator) will monitor all activities that have the potential to impact on the environment. They will develop and implement an environmental monitoring program that outlines the performance evaluation measures to assess compliance and promote continual improvement.

The CEMP and OEMP will include relevant monitoring processes and requirements through all phases of the Proposed Action.

At a minimum monitoring processes will be developed to demonstrate compliance with the AMP and the relevant environmental obligations. Including:

- Integration of an environmental monitoring program to the CEMP (and SEIPs) during the construction phase, through daily walkovers, weekly inspections and monthly audits including:
  - Ongoing visual air quality monitoring
  - Pre-construction and ongoing water quality monitoring
  - Targeted weed monitoring
  - Noise and vibration monitoring
  - Daily pre-works fauna inspections
- Monitoring through the operational phase will be developed and integrated in the OEMP and CMP

Results of all monitoring will be subject to audit and reporting to satisfy all permit and approval requirements.

7 Residual impacts (*and proposed offsets*)

7.1. Residual impacts to MNES

7.1.1. Victorian Grassland Earless Dragon

A significant impact assessment against Critically Endangered Species Significant Impact Criteria (DSEWPC 2013) has been completed for VGED based on the results of the habitat assessment and the management measures included in Sections 5, 6 and Appendix C. Results are included in Table 4 below.

Table 4 Assessment of VGED in relation to Significant Impact Criteria for critically endangered species.

Significant impact criteria	Likelihood of Significant Impact	Notes
An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:		
Lead to a long-term decrease in the size of a population	Unlikely	No suitable habitat or known population is recorded within the Study Area. In recognition of the cryptic nature of the species and relative infancy of species knowledge following rediscovery, a pre-clearance survey, with suitable stop works protocols, has been implemented to eliminate any residual risk.
Reduce the area of occupancy of the species	Unlikely	No suitable habitat or known population is recorded within the Study Area. In recognition of the cryptic nature of the species and relative infancy of species knowledge following rediscovery, a pre-clearance survey, with suitable stop works protocols, has been implemented to eliminate any residual risk.
Fragment an existing population into two or more populations	Unlikely	No suitable habitat or known population is recorded within the Study Area. In recognition of the cryptic nature of the species and relative infancy of species knowledge following rediscovery, a pre-clearance survey, with suitable stop works protocols, has been implemented to eliminate any residual risk.
Adversely affect habitat critical to the survival of a species	Unlikely	No suitable habitat or known population is recorded within the Study Area. In recognition of the cryptic nature of the species and relative infancy of species knowledge following rediscovery, a pre-clearance survey, with suitable stop works protocols, has been implemented to eliminate any residual risk.
Disrupt the breeding cycle of a population	Unlikely	No suitable habitat or known population is recorded within the Study Area. In recognition of the cryptic nature of the species and relative infancy of species knowledge following rediscovery, a pre-clearance survey, with suitable stop works protocols, has been implemented to eliminate any residual risk.

Significant impact criteria	Likelihood of Significant Impact	Notes
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely	No suitable habitat or known population is recorded within the Study Area. In recognition of the cryptic nature of the species and relative infancy of species knowledge following rediscovery, a pre-clearance survey, with suitable stop works protocols, has been implemented to eliminate any residual risk.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	Unlikely	No suitable habitat or known population is recorded within the Study Area. In recognition of the cryptic nature of the species and relative infancy of species knowledge following rediscovery, a pre-clearance survey, with suitable stop works protocols, has been implemented to eliminate any residual risk.
Introduce disease that may cause the species to decline, or	Unlikely	No suitable habitat or known population is recorded within the Study Area. In recognition of the cryptic nature of the species and relative infancy of species knowledge following rediscovery, a pre-clearance survey, with suitable stop works protocols, has been implemented to eliminate any residual risk.
Interfere with the recovery of the species.	Unlikely	No suitable habitat or known population is recorded within the Study Area. In recognition of the cryptic nature of the species and relative infancy of species knowledge following rediscovery, a pre-clearance survey, with suitable stop works protocols, has been implemented to eliminate any residual risk.

7.1.2. Herne Swamp

In line with the Significant Impact Guidelines 1.2 (DEWHA 2013) impacts to the whole of the environment, which are limited to Herne Swamp and the associated waterways, species and community habitat, by the Proposed Action, are determined by:

- Scale – large scale vs. localised scale
- Intensity – strength and concentration of impacts
- Timing/frequency
- Duration

These factors are combined to confirm if an impact is likely to be severe, moderate or minor, characteristics of each of these impacts are outlined below:

- Severe: Severe impacts generally have two or more of the following characteristics: permanent/ irreversible; medium-large scale; moderate-high intensity.
- Moderate: Moderate impacts generally have two or more of the following characteristics: medium-long term; small-medium scale; moderate intensity.
- Minor: Minor impacts generally have two or more of the following characteristics: short term/ reversible; small-scale/localised; low intensity.

While the impacts to Herne Swamp from the Proposed Action are long-term and permanent, they are of a small scale and low intensity (limited to railway infrastructure associated with the bridge/crossing of the drainage line). As such the limited impacts to Herne Swamp associated with the Proposed Action is likely to result in a minor impact to the whole of environment.

In addition, consideration is required for the environmental context. Impacts to Herne Swamp may have an impact upon the following environmental factors:

- Water resources
- Plants
- Animals

Commitment to significant avoidance and mitigation measures have resulted in minimal impacts to any of the above factors. Where this is not possible, management measures are in place. The Proposed Action is considered against each of the above environmental factors in Table 5 below.

Table 5 Impacts of the Proposed Action on Environmental Factors

Environmental Factor	Assessment of Proposed Action
Impacts on water resources Is there a real chance or possibility that the action will: • measurably reduce the quantity, quality or availability of surface or ground water • channelise, divert or impound rivers or creeks or substantially alter drainage patterns, or • measurably alter water table levels?	Stormwater design has been developed to minimise impacts to overall water levels and quality to Merri Creek and Herne Swamp (and associated threatened species and ecological communities). No channelisation or diversion of naturally occurring water bodies will occur as a result of the Proposed Action. No measurable alteration of the water table is likely as a result of the Proposed Action. This will be monitored and managed through the construction and operation phases.
Impacts on plants Is there a real chance or possibility that the action will: • involve medium or large-scale native vegetation clearance • involve any clearance of any vegetation containing a listed threatened species which is likely to result in a long-term decline in a population or which threatens the viability of the species • introduce potentially invasive species • involve the use of chemicals which substantially stunt the growth of native vegetation, or • involve large-scale controlled burning or any controlled burning in sensitive areas, including areas which contain listed threatened species?	Direct impacts to native vegetation, is limited to: • 0.30 hectares Plains Grassy Wetland (corresponding to SHWTLP) • 0.267 hectares Tall Marsh • 0.034 hectares Plains Grassy Woodland • 5.7 hectares additional DEECA mapped wetland. • Two scattered trees. No significant impact to a threatened species or community is likely as a result of the Proposed Action. Based on implementation of all management measures the risk of the introduction of a potentially invasive species or harmful chemicals is unlikely. No burning is involved in completion of the Proposed Action.
Impacts on animals Is there a real chance or possibility that the action will: • cause a long-term decrease in, or threaten the viability of, a native animal population or	Risk to the long term decrease, displacement, dispersal, or fragmentation of a threatened species or the introduction of an exotic species is considered unlikely based on the design updates integrated and the implementation of all management measures.

Environmental Factor	Assessment of Proposed Action
populations, through death, injury or other harm to individuals • displace or substantially limit the movement or dispersal of native animal populations • substantially reduce or fragment available habitat for native species; • reduce or fragment available habitat for listed threatened species which is likely to displace a population, result in a long-term decline in a population, or threaten the viability of the species • introduce exotic species which will substantially reduce habitat or resources for native species, or • undertake large-scale controlled burning or any controlled burning in areas containing listed threatened species?	No burning is involved in completion of the Proposed Action.

7.2. Offset requirements

The Project will result in residual impacts to 0.30 hectares of SHWTLP, which equates to 1.37% of the confirmed community in Herne Swamp.

Biosis undertook an updated Significant Impact Assessment (Biosis, 2024) for this impact and concluded that the impact proposed to SHWTLP is not considered significant. As such no offsets are required for this community.

Based on implementation of the avoidance, mitigation and management measures outlined in this Preliminary Documentation there are no direct or indirect impacts to other MNES by the Proposed Action. Offsets are not considered to be required for the Proposed Action.

7.3. Proposed Conditions

Following the implementation of all avoidance and mitigation measures, it is considered that the Proposed Action can be delivered in a suitable way as to not result in a significant impact to any MNES. To ensure the ongoing construction and operation of the Proposed Action does not result in any additional impacts, the following conditions are proposed to be applied to the approval:

- The approval holder must not remove more than 0.30 ha of Seasonal Herbaceous Wetland (Freshwater) of the Temperate Lowland Plains within the Study Area.
- A Victorian Grassland Earless Dragon pre-clearance survey will be undertaken by a suitably experienced ecologist as detailed in the AMP (Appendix C), pre-clearance survey will take place prior to the commencement of any ground works in areas identified for pre-clearance survey.
- The action must be undertaken in accordance with the Action Management Plan (Appendix C).

National Intermodal are open to discussing and refining the above proposed conditions further during the assessment process.

8 Ecologically sustainable development

Section 3 of the EPBC Act outlines the objectives of the Act which includes “to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources”.

Section 3A of the EPBC Act goes on to outline the following ESD principles:

- Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations (the ‘integration principle’).
- If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the ‘precautionary principle’).
- The principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (the ‘intergenerational principle’).
- The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making (the ‘biodiversity principle’).
- Improved valuation, pricing and incentive mechanisms should be promoted (the ‘valuation principle’).

National Intermodal has an ambition to be a role model and leader in the freight industry and have a positive impact on Australia’s economic, social and environmental wellbeing. National Intermodal has six strategic sustainability objectives for the project to have a positive impact on Australia’s economy, community and employees, and meet government requirements to lower emissions. These objectives are:

1. Low Emission Freight
2. Climate Resilient Infrastructure
3. Sustainable Design and Procurement
4. Healthy Biodiversity
5. Circular Use of Resources
6. Vibrant Social Inclusion

Shifting more freight to rail has many sustainability benefits including lower carbon emissions, safety benefits from reduced road accidents and health benefits from reduced air pollution. The Beveridge Intermodal Precinct project in particular has an ambition to strive for the implementation of innovative sustainability initiatives and identify a pathway to Net Zero.

The Proposed Action secures supply chain and works towards the Beveridge Intermodal Precinct and its larger network improving distribution of goods in the region including reduction in truck movements through transition to rail which produces significantly less carbon pollution than road transport.

Many key decisions for the Stage 1A project have been made and implemented to advance the sustainability outcomes of the project.

The project will have benefits for the local community and economy by providing the opportunity for local temporary (during construction) and permanent (during operations) jobs and injecting activity into the local economy.

8.1. Economic outcomes

The growth anticipated within Melbourne's north will generate a significant increase in consumption, particularly in the construction and household goods sector. Currently, the majority of construction supplies for residential developments are imported through containerised form, with the movement of commodities heavily reliant on the use of trucks.

The State and Federal Governments have committed to investing in improved transport infrastructure and freight networks that enable a greater share of freight to be transported by rail rather than road.

The Victorian Freight Strategy identifies the need for two new cornerstone intermodal facilities – at Beveridge and Truganina (Western Interstate Freight Terminal) - to underpin the transition of freight movement from road to rail, which will be essential for managing the projected three-fold growth in freight demand in the coming decades. The delivery of the WIFT is expected sometime after 2030 as a result of infrastructure and land acquisition complexities.

The Proposed Action will have a strategically important role in delivering key aims of the Victorian Freight Strategy and unlocking new connectivity in the network at the earliest opportunity.

The Proposed Action will deliver economic benefits nationally and to the communities of Melbourne's north through the following:

- Cater to the increase in construction and household goods in the region by improving transport efficiencies and lowering costs.
- The current state of affordable land prices, rapid population growth, increased manufacturing capabilities, and connectivity to key transport infrastructure presents significant opportunity for the Beveridge Intermodal Precinct to act as a catalyst for further investment in Melbourne's north by fulfilling freight demand and reducing downstream logistic costs.
- Reduced costs achieved through increased operational efficiencies providing incentives for modal shifts from road to rail transport utilising the rail terminal. National Intermodal estimates that as much as 30% of transport costs could be removed when moving freight from Melbourne to Brisbane via the Beveridge Intermodal Precinct. These cost savings should result in downward pressure on the cost-of-goods to customers, as well as incentivise modal shift.
- Opportunities for further mechanisms relating to local employment, local supply, First Nations engagement and sustainability outcomes are available in later stages of the project.

8.2. Environmental outcomes

For Stage 1A in particular, many key decisions have already been made and implemented to advance the sustainability outcomes of the project, including but not limited to:

- Minimising impact to the ecologically sensitive Herne Swamp.
- Maximising rail transport and limiting truck numbers in initial stages to better align with local infrastructure improvements.
- Maintenance of existing surface water flows to ensure ongoing viability of the surrounding waterways.
- Movement of the marshalling yard and Stage 1A terminal layout from previously alongside the rail corridor to adjacent to the APA gas line.
- Aiming to reuse onsite materials and reduce where possible the importation of fill.
- Construction waste to be minimised through the procurement of prefabricated (offsite) buildings.

Reduced congestion and environment benefits for the metropolitan area will occur with the diversion of interstate domestic freight traffic that currently passes through the metropolitan area. This is likely to have additional overall environmental and sustainability benefits, including improved air quality and reduced noise impacts and could provide improved wellbeing and quality of life benefits to multiple communities.

The Beveridge Intermodal Precinct project in particular has an ambition to strive for the implementation of innovative sustainability initiatives and to identify a pathway to a precinct where all electricity consumed on-site is 100% renewable.

In a more localised context, the revegetation and active, ongoing maintenance of Herne Swamp and Merri Creek environs will preserve the ecological diversity of the area for future generations.

8.3. Social and Equitable outcomes

Large transport infrastructure projects have been demonstrated to yield substantial benefits for economic welfare as well as serving as a driving force for additional development and growth. The north of Melbourne is set to accommodate significant growth, and it is essential that as the population grows, investment in local job creation occurs at a commensurate pace. The Beveridge Intermodal Precinct has capacity to generate approximately 20,000 jobs across construction and operation and has the potential to develop as a super logistics and employment node for the region.

While the direct employment generated by the Proposed Action is more modest (estimated at 15 FTE across multiple daily shifts), in the operational phase it will play a critically important role in supporting new market entrants and competition, building market momentum and investment support for the delivery of the future stages of the Beveridge Intermodal Precinct.

Social:

- With a rapidly expanding urban footprint, the key challenge for Melbourne's liveability will be in securing equitable access to jobs and services particularly for those populations located on the city's fringes.
- Jobs and economic activity in Melbourne's north will aid in reducing the city's spatial barriers – particularly the increasing gap between the locations of population and employment.
- Regional areas of Victoria will also benefit from the Proposed Action and broader Beveridge Intermodal Precinct, with greater access afforded to ports and city markets. It is anticipated that new business will be generated in regional areas, particularly where current transportation options are limited and costly.
- The Project will improve the amenity of nearby communities through the reliable movement of goods as well as reducing the number of trucks on the roads. Mobilising and prioritising freight networks state-wide and nationally will reduce dependency on road transport and thus result in fewer incidents and potential injuries or fatalities.
- The delivery of the Proposed Action, concurrent with the completion of the Beveridge to Parkes stage of the Inland Rail project (anticipated for completion by 2027) will deliver wide ranging state and national benefits once operational. This coordinated delivery will enhance the efficiency and downstream logistics of Australia's east-coast freight network, increasing international trade competitiveness in the country.
- National Intermodal is exploring potential partnerships and co-investment opportunities, including with Kangan Tafe, to ensure skills and training is best suited to the future jobs in Melbourne's north.

Equitable:

- The Beveridge Intermodal Precinct will operate under an open access regime, allowing competitive access to all market users on fair and equal terms.
- The strategic positioning of the Beveridge Intermodal Precinct will have an immediate and positive effect on traffic in Melbourne's north and surrounding suburbs, which will lead to increased productivity for workers commuting to the CBD and associated businesses.
- As a catalyst for further growth, the project is anticipated to have significant widespread impacts on economic welfare, reducing inequality.
- The Beveridge Intermodal Precinct will facilitate opportunities for the manufacturing, construction, and transport industries to benefit significantly from increased freight connectivity via proximate assets.

8.4. Environmental damage and scientific uncertainty

Ecological assessments have been undertaken over a number of years to confirm conditions of all MNES present in the Study Area. These assessments were undertaken by suitably qualified ecology and hydrology consultants to inform the EPBC referral and this Preliminary Documentation.

The outcomes of these assessments have informed several mitigation and management measures developed in conjunction with project ecologists and hydrologists and proposed to be implemented to avoid indirect impacts to Herne Swamp and its associated waterways and species.

The outcome of the implementation of mitigation measures is to avoid any indirect impacts during construction and operation phases of the project. It is however noted that the Study Area is located in a historically disturbed environment and may be subject to threats from factors unrelated to the Proposed Action, including, but not limited to continued urbanisation of the surrounding area, climate change factors, and development or change in use of neighbouring sites.

While there is a high level of confidence that mitigation and management measures will be adequate in avoiding indirect impacts to Herne Swamp from the Proposed Action, monitoring protocols have been integrated in the AMP to be carried out to monitor for impacts and allow for adaptive management if required.

VGED had been presumed extinct in Victoria, with the last confirmed sighting in 1969, prior to the species being rediscovered west of Melbourne in early 2023. Since the rediscovery of the species, it has been listed as Critically Endangered under the EPBC Act and the Commonwealth and Victorian Governments have been working with species experts to confirm the best approach to the ongoing conservation of the species. It is recognised that any guidance regarding the assessment requirements for potential habitat and significant impacts to VGED are still in their infancy.

As such, despite the lack of suitable habitat or recorded individuals within the Proposed Action or surrounding areas, management measures have been developed to ensure that a conservative approach is taken and to eliminate any residual risk of impacts to the species.

9 Social and economic

9.1. Public consultation

Stakeholder and community engagement has played an important role in design development of the Proposed Action. This section provides an overview of the engagement National Intermodal has undertaken to date, and how stakeholder and community feedback has influenced the proposed design (National Intermodal Corporation 2024).

9.1.1. Engagement principles

National Intermodal is committed to two-way open communication that involves listening to participants, keeping them informed and being clear about how their contributions are being considered (National Intermodal Corporation 2024). All engagement activities embody the principles of authentic consultation, including:

- *Openness* – listening to genuinely understand the drivers behind different viewpoints
- *Inclusiveness* – making it easy for multiple interests and stakeholders to engage
- *Respect* – engaging without judgement or bias either in language, tone or gestures
- *Honesty* – doing something that is considered fair and truthful
- *Reliability* – doing something that is expected or has been promised
- *Clarity* – communicating in such a way as to maximise understanding

9.1.2. Stakeholders

Given the Project Action Area is wholly owned by National Intermodal (excluding road and rail reserves), there are no directly impacted landowners from a property acquisition perspective. Through planning and design to date, National Intermodal has engaged with:

- Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation
- Members of the local community
- Local councils (City of Whittlesea, Mitchell Shire Council, Hume City Council)
- Federal Department of Climate Change, Energy, the Environment and Water
- Federal Department of Infrastructure, Transport, Regional Development and Communications
- Victorian Department of Transport and Planning (DTP)
- Victorian Department of Energy, Environment and Climate Action (DEECA)
- Environment Protection Authority (EPA) Victoria
- Heritage Victoria
- Victorian Planning Authority
- Water authorities (Melbourne Water, Yarra Valley Water)
- Merri Creek Management Committee
- Surrounding landowners including Stockland and individual landowners

A range of other stakeholders have been briefed on the Beveridge Intermodal Precinct, with no substantive feedback relative to Stage 1A planning approvals. These include, but are not limited to: ARTC, V/Line, and APA (National Intermodal Corporation 2024).

9.1.3. Engagement snapshot

National Intermodal commenced stakeholder and community engagement for the Proposed Action immediately after acquiring the landholding in mid-2023. A snapshot of engagement activities up to June 2024 is below (National Intermodal Corporation 2024).

- 23 stakeholder meetings
- 7,605 total Beveridge web page hits to June 2024
- 2 shopping centre pop-ups with 67 conversations
- 1 letterbox drop to 450 dwellings in 16 streets around the project location
- 1 Facebook advertisement that reached 15,049 users
- 1 drop-in session attended by 54 members of the community

9.1.4. Key feedback

Feedback themes

Feedback on the Proposed Action is categorised by the following five themes:

- **General project** – Interest in project location, timing, staging and benefits (including jobs).
- **Roads and traffic** – Interest in access to the Beveridge Intermodal Precinct, intermodal truck movements, Camerons Lane and impacts to Minton Street. Condition of existing local roads.
- **Amenity** – Interest in noise emissions during operations, terminal lighting, potential glare from warehouse roofs, building materials and design.
- **Environment and heritage** – Questions regarding reuse of water from warehouse roofs, possibility of early planting of new vegetation, and opportunities to protect local river red gums and cultural heritage. Concern around loss of green space, lighting and stormwater drainage impacts.
- **Approvals pathway** – Interest in the approvals required for the project and the timeline.

9.1.5. How feedback shaped Stage 1A

Table 6 below lists the feedback received and National Intermodal's response (National Intermodal Corporation 2024).

Table 6 Summary of engagement responses

Theme	Feedback	National Intermodal Response
General project	**Project information:** requests that detailed project information be made available, including project siting, naming and benefits to the local community, including but not limited to job creation.	It is predicted that Stage 1A would initially generate up to 15 FTE jobs across multiple daily shifts. Early analysis suggests that the completed project will generate up to 8,000 direct jobs and 20,000 indirect jobs across the region.
	Project engagement: suggestion to host future shopping centre pop-ups at Epping Plaza or other smaller local shopping centres and to advertise on the Mandalay Estate Facebook group.	Community feedback will be considered in future engagement planning and will influence additional venue and advertising choices for future community sessions.
Roads and traffic	**Access to Beveridge Intermodal Precinct:** questions about where road traffic will be entering the intermodal site from, with preference for no additional trucks on Merriang Road.	Existing Traffic Impact Assessments do not anticipate significant heavy vehicle distribution on Merriang Road given a preference to access the Hume Freeway by the shortest route. National Intermodal has committed to funding contributions for interim local road upgrades and is undertaking further assessments with State and Local Government and transport engineers on roads infrastructure over the short, medium and longer term.
	Intermodal truck movements: request for intermodal truck movements (during operations) to be scheduled outside of peak hours.	National Intermodal has been working with traffic consultants to assess the potential transport impacts associated with Stage 1A. This includes developing a construction traffic management plan outlining the ways traffic will be kept moving, including limiting wherever possible construction traffic and project vehicles on major roads during peak travel times. Typically, intermodal freight movements do not clash with commuter peak traffic.
	Camerons Lane: support for Major Road Projects Victoria (MRPV) progressing the designs and funding requests for Camerons Lane freeway connection. Desire to understand likely timeline for delivery and preference for this infrastructure to proceed.	Camerons Lane Interchange is being scoped by MRPV with Australian Government funding and is in the planning phase. The final timeline for delivery is yet to be confirmed. The Australian Government has recently committed additional funding towards the project, now totalling $900 million.
	Existing conditions: concern for the current condition of the local road network (potholes and limited capacity). Desire for local road improvements (especially on eastern side) by local councils and state	National Intermodal is liaising with councils and DTP about funding contributions to interim local (council maintained) road improvements. This would outline monetary contributions and completion of select road upgrades in the surrounding area.

Theme	Feedback	National Intermodal Response
	authorities to support housing developments and the Beveridge Intermodal Precinct.	
	Construction access: preference for Minton Street to remain open during construction so that access can be maintained to local area including post office, freeway, and pub.	Construction traffic is expected to mainly use Beveridge Road to Minton Street and the existing Hume Highway Interchange via Lithgow Street. We are working with traffic consultants to assess the potential transport impacts associated with Stage 1A and will prepare a construction traffic management plan that considers community feedback regarding Minton Street.
Amenity	**Noise during operations**: questions relating to container movements, and the extent to which these will be audible during construction.	National Intermodal is conducting a range of studies to assess existing environmental conditions and will prepare a noise assessment report in consultation with the EPA and a Construction Noise and Vibration Management Plan. We will work with our appointed contractors to monitor and manage noise and vibration. Construction work will adhere to all relevant statutory approvals, including the project's Environmental Management Framework and EPA Victoria guidelines.
	Terminal lighting: questions about the amount of lighting of the overpass and facilities. Concern about the potential for light spill.	We will work with the community to understand relevant perspectives and work to reduce impacts from lighting on people and wildlife wherever possible.
	Glare: Concern about potential glare from warehouse roofs and whether options to reduce glare could be considered during design work.	Out of scope for Stage 1A but will be addressed as the project progresses through future stages. (no warehousing is planned for Stage 1A)
	Building materials and design: desire to be involved during the design phase of buildings to input to colour selection and materials. Preference for the buildings to be sympathetic to the local environment and blend in as much as possible.	Out of scope for Stage 1A but will be considered as the project progresses through future stages. (no warehousing is planned for Stage 1A)
Environment and heritage	**Existing trees:** questions about the future of the existing river red gums along Merri Creek and opportunities for protection.	National Intermodal has engaged ecology consultants to undertake surveys to identify native vegetation in the Study Area. Their technical advice has already led to the adoption of several design changes and is helping us

Theme	Feedback	National Intermodal Response
		protect and preserve as much vegetation in the area as possible.
	Planting: questions about whether new trees and vegetation could be planted early so that they have time to grow and screen the intermodal site footprint.	As well as working with our contractors to manage impacts to vegetation, we will consult key stakeholders such as the Wurundjeri, environmental groups and the local community regarding landscaping plans for the project.
	Reuse of water: questions regarding water runoff from warehouse roofs and whether this will be collected and reused.	National Intermodal is working with our contractors to design for an appropriately manage our impacts to hydrology and stormwater and will consult stakeholders and the community regarding potential collection, treatment and reuse of water on site.
	Lighting: requests to consider potential impacts of lighting on wildlife and install wildlife friendly lighting.	National Intermodal has integrated potential impacts of lighting on wildlife in precinct lighting design.
	Heritage: questions around planning process to ensure heritage impacts are considered and managed. Request that a Cultural Values Assessment be undertaken for the activity area.	National Intermodal is continuing to engage closely with the Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation to prepare a Cultural Heritage Management Plan.
Approvals pathway 	**Approval pathway:** questions about what approvals will be required for the project and the timelines involved.	National Intermodal is seeking a range of Victorian and Commonwealth land planning and environmental approvals prior to commencing any development, including approval under the Planning and Environment Act 1987 (Victoria) and the EPBC Act. A previous decision of the Victorian Planning Minister in 2020 determined that no Environment Effects Statement (EES) was required for the Proposed Action, subject to specific conditions being satisfied.

National Intermodal is a Government Business Enterprise (GBE) wholly owned by the Australian Government and is committed to ongoing and meaningful engagement with partners, stakeholders and local communities. We will continue working with these groups as the project progresses.

9.2. Engagement with Indigenous Stakeholders

National Intermodal is currently undertaking a Cultural Heritage Management Plan in consultation with the Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation (WWCHAC), as the Registered Aboriginal Party for the Study Area. As part of this process there is ongoing communication and meetings with Wurundjeri.

In preparation for the planning and development of the Proposed Action, National Intermodal began engagement with the Registered Aboriginal Party (RAP) WWCHAC in June 2023.

An initial meeting was held between National Intermodal, WWCHAC and the City of Whittlesea in August 2023. National Intermodal presented the plans for the development and the background on

the project to these stakeholders and invited the WWCHAC Elders for a site visit. At this meeting, WWCHAC discussed the potential intangible values and some of the known values of the landscape.

In line with WWCHAC's request to consider the whole landscape of Stage 1A and Stage 1B of the Beveridge Intermodal Precinct, a survey for Aboriginal Cultural Heritage across the entire landholding was undertaken in accordance with Section 34A of the *Aboriginal Heritage Act 2006*. This survey report provided an understanding of where cultural heritage is and may be present across the entire landholding, including significant parts of the Study Area that are ultimately not proposed for development.

WWCHAC endorsed the commencement of Complex Assessment to investigate the tangible values within the Study Area. Complex Assessment was carried out in 2024. Ongoing meetings and site visits with National Intermodal, Biosis, and WWCHAC have been undertaken to discuss the results of Complex Assessment, the impacts proposed, and the potential for harm avoidance or minimisation across the Study Area.

National Intermodal will continue to consult with WWCHAC through the life of the CHMP and beyond to ensure that, where possible, the project avoids, minimises or appropriately establishes measures for any proposed impacts to cultural heritage.

9.3. Cost and benefits

9.3.1. Economic

Development of the Beveridge Intermodal Precinct is key to the effective operation of the Inland Rail Project, this project will provide freight costs savings of up to 30 percent per container from Melbourne to Brisbane. The Proposed Action will provide a critical first step in supporting new market entrants and competition, building market momentum and investment support for the delivery of the future stages of the Beveridge Intermodal Precinct

Specific cost/benefit analysis of the Proposed Action is not in the public domain. This information is not owned by National Intermodal to release, and any further detail required can be requested from DITRDCA and Department of Finance.

9.3.2. Social and Environmental

Throughout the planning of the Proposed Action, National Intermodal has explored multiple alternatives for the design of the Beveridge Intermodal Precinct. Most design changes have been focused on the Stage 1A connection to the ARTC rail corridor, balancing the social and economic benefits of this infrastructure with the impacts to ecological and culturally significant values associated with the Herne Swamp.

The option to not proceed with the Proposed Action has several implications:

- The Beveridge Intermodal Precinct Site would continue to be used as farmland. This use has resulted in degradation of native vegetation and habitat as well as negative impacts to the Merri Creek and Herne Swamp environs.
- The Beveridge Intermodal Precinct Site is designated for development as the Northern Freight Precinct – under single ownership by National Intermodal a coordinated whole of Site approach allows the flexibility to adjust design to minimise environmental impacts whilst providing valuable infrastructure. This provides a unique opportunity that may not be replicable under possible future multiple ownership.
- The provision of an intermodal precinct provides an opportunity to take truck movements off roads and significantly reduce congestion and associated environment harming carbon emissions.
- The Beveridge Intermodal Precinct Site is specifically identified in Plan Melbourne 2017-2050 as "an ideal location for the facility, based on its location alongside the Melbourne–Sydney–Brisbane rail line, Hume Freeway and proposed Outer Metropolitan Ring Road" (DELWP 2015).

- The timing of the Proposed Action is critical to align with delivery the Inland Rail project and secure the potential for Victoria to maximise participation and benefit of interstate rail. The delivery of the Proposed Action at the same time as the Inland Rail project will deliver wide ranging state and national benefits once operational. Coordinating the delivery of the Proposed Action on schedule with the Inland Rail project presents an opportunity to enhance the efficiency and downstream logistics of Australia's east-coast freight network, which will increase international trade competitiveness in the country. Lack of timely delivery may result in more constrained and reactive decision making to achieve these benefits.
- The intermodal terminal provides an unmatched opportunity to improve distribution of goods within Victoria and Australia, especially given its location adjacent to the existing ARTC rail corridor.

While National Intermodal cannot provide detailed economic information on the project the economic benefit and associated social and environmental outcomes have been investigated and benefits have been maximised through the planning process.

10 Conclusion

The preceding Preliminary Documentation has been prepared by National Intermodal to assess the proposed construction and operation of the Beveridge Intermodal Precinct Stage 1A Project, a fully functional intermodal freight terminal on approximately 67 hectares of land that has been designed to allow integration with future planning and delivery of a broader intermodal freight precinct (subject to further assessment and approvals), to meet the requirements under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC 2023/09693).

On the 4th June 2024, the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) advised that Stage 1A is a Controlled Action, and required approval to address likely significant impacts on listed threatened species and communities (sections 18 and 18A of the Act) and the environment as a Commonwealth action (section 28 of the Act), including but not limited to:

- Victorian Grassland Earless Dragon (*Tympanocryptis pinguicolla*) (VGED)
- Hernes Swamp wetland and the associated waterways, species and community habitat and the environment.

On the 9th June 2024, DCCEEW issued a request for additional information outlining the requirements of the preliminary documentation.

Following receipt of the above decision and RFI the following additional assessments were undertaken:

- Surface Water Modelling and Assessment (Appendix B) to assess the likely direct and indirect impacts to the environment of Herne Swamp wetland and the associated waterways during the construction, operational and maintenance components of the Proposed Action.
- VGED habitat assessment (Appendix A) to assess and document the habitat within the Study Area in relation to the key VGED habitat values.

The results of these assessments were used in conjunction with the Flora and Fauna Assessment (Biosis, 2024) to determine that the Proposed Action is unlikely to result in a significant impact to MNES or the whole of the environment in accordance with:

- Significant Impact Guidelines 1.1 - Matters of National Environmental Significance; and
- Significant impact guidelines 1.2 - Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies.

The above conclusion is based on several avoidance and mitigation measures undertaken during planning and design to:

- Minimise direct impacts to 0.30 hectares of the threatened ecological community Seasonal Herbaceous Wetland of the Temperate Lowland Plains.
- Avoid indirect impacts to Herne Swamp and the associated waterways species and communities through minimisation of impacts on water quality and flows.

Recommendations included in these assessments have been incorporated to strengthen mitigation and management measures and inform the Action Management Plan which has been prepared for the Proposed Action in accordance with the Department's Environmental Management Plan Guidelines (2024) and has been included in Appendix C of this report.

Proposed conditions to ensure the ongoing construction and operation of the Proposed Action does not result in any additional impacts are recommended in Section 7.3.

11 References

Aurecon 2024. *Beveridge Intermodal Precinct Stage 1A Surface Water Modelling and Assessment*, Prepared for National Intermodal Corporation. Thielemans. S, Kiran. S, Prior. M, Aurecon Australasia Pty Ltd, Sydney, NSW. Project no. P526554.

Biosis 2023. *39671 Beveridge Intermodal Precinct Stage 1A Flora and fauna assessment*, Report for National Intermodal Corporation. Hilliar. S. Botha. J, Eastick. D. Biosis Pty Ltd., Melbourne, Vic. Project no. 39078.(Revised 2024)

DCCEEW 2023. *National Light Pollution Guidelines for Wildlife*, https://www.dcceew.gov.au/sites/default/files/documents/national-light-pollution-guidelines-wildlife.pdf.

DCCEEW 2023a. Conservation Advice for *Tympanocryptis pinguicolla* (Victorian grassland earless dragon). Department of Climate Change, Energy, Environment and Water, Canberra, ACT. https://www.environment.gov.au/biodiversity/threatened/species/pubs/66727-conservation-advice-01062023.pdf

DCCEEW 2023b. Draft National Recovery Plan for Four Grassland Earless Dragons (*Tympanocryptis* spp.) of Southeast Australia. Australian Government Department of Climate Change, Energy, the Environment and Water, Canberra.

DCCEEW 2024. *Species of National Environmental Significance 1km Grids February 2024*. Department of Climate Change, Energy, the Environment and Water, Canberra. Copyright: Commonwealth of Australia.

DELWP 2015. Metropolitan Planning Strategy: Plan Melbourne 2017-2050, accessed 22 July 2021, Department of Environment, Land, Water and Planning, Melbourne, VIC. https://www.planmelbourne.vic.gov.au/__data/assets/pdf_file/0007/377206/Plan_Melbourne_2017-2050_Strategy_.pdf.

DEWHA 2013. *Matters of National Environmental Significance Significant impact guidelines 1.1 - Environment Protection and Biodiversity Conservation Act 1999*, Department of the Environment, Canberra, ACT, accessed 14 February 2024, https://www.dcceew.gov.au/environment/epbc/publications/significant-impact-guidelines-11-matters-national-environmental-significance.

DSEWPC 2012. Approved Conservation Advice for the Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains, Department of Sustainability, Environment, Water Population and Communities, Canberra, ACT. https://www.environment.gov.au/cgi-bin/sprat/public/publicshowcommunity.pl?id=97.

DSEWPC 2013. Significant impact guidelines 1.2: Actions on, or impacting upon, Commonwealth land and actions by Commonwealth agencies, https://www.dcceew.gov.au/environment/epbc/publications/significant-impact-guidelines-12-actions-or-impacting-upon-commonwealth-land-and-actions.

National Intermodal Corporation 2024. *Beveridge Intermodal Precinct Engagement Addendum Report – Stage 1A*,.

Rain Consulting 2023. *Beveridge Intermodal Facility – Herne Swamp Hydrology Background Review – Memorandum*, Report prepared for National Intermodal Corporation. Author: Cunningham. L, Tyler-Hare. D, Rain Consulting Pty Ltd, VIC. Project no. 330_01_MO1VO5.

12 Appendices

Appendix A VGED Habitat Assessment

Appendix B Surface Water Modelling and Assessment

Appendix C Action Management Plan

Appendix D PD RFI

Appendix E Flora and Fauna Assessment