

Hexham Wind Farm

Flora and Fauna Assessment

Prepared for
Hexham Wind Farm Pty Ltd

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Executive summary

Hexham Wind Farm Pty Ltd ('the proponent') engaged Nature Advisory Pty Ltd ('Nature Advisory') to conduct a flora and fauna assessment of a 16,104-hectare 'study area' comprising the proposed site for the Hexham Wind Farm ('the project'). The study area is in the Western Victorian localities of Hexham, Caramut, Ellerslie, Minjah and Woolsthorpe.

This investigation was commissioned to provide information on the extent and condition of native vegetation in the project study area as well as any potential impacts on flora, fauna and ecological communities ('biodiversity') listed under the state *Flora and Fauna Guarantee Act 1988* ('FFG Act') and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* ('EPBC Act'). This assessment includes two potential overland wind blade transport routes to Hexham from Geelong and from Portland. An assessment of each route is provided in this report, in addition to a scenario where approval is sought for both options (termed the combined Transport Route).

A temporary on-site quarry has been investigated for the purposes of providing aggregate materials for access tracks and hardstand areas, and to minimise traffic movements on local roads during construction. Potential impacts arising from the quarry have been considered in this report.

A Bat and Avifauna Management Plan (BAMP) has been prepared as part of the EES submission (Report 18088.23 (1.7)).

This report provides information on biodiversity within the study area, outlines any implications under relevant national, state and local legislation and planning policies and will accompany the Environment Effects Statement. Separate reports have been provided on potential impacts from this proposed wind farm on bats (Nature Advisory 2025a) and the state-threatened Brolga (Nature Advisory 2025b).

Hexham Wind Farm proposes to install up to 106 wind turbines with a maximum blade tip height of 260 metres, a minimum blade tip height of 40 metres and a rotor diameter of up to 190 metres.

The following biodiversity investigations have been undertaken:

- Vegetation and flora surveys (Section 5)
- Groundwater Dependent Ecosystems (Section 6)
- Fauna overview assessment (Section 7)
- Bird utilisation survey (Section 8)
- Migratory bird assessment (Section 9)
- Wedge-tailed Eagle nest survey (Section 10)
- Growling Grass Frog assessment (Section 11)
- Fauna Residual Impacts (Section 12)
- Cumulative Impacts (Section 13)
- Matters of National Environmental Significance (Section 14)

For this assessment, the following definitions have been used:

- Project Site: The properties on which the Hexham Wind Farm is proposed.
- Project Study Area: This represents the area in which detailed native vegetation surveys have been undertaken.
- Transport Route Study Areas: This represents the area of investigation around each swept path location along the transport routes which require upgrades to enable transport of wind farm infrastructure. This is further broken down into:

- Geelong Transport Route: swept path locations along the route from Geelong to Hexham Wind Farm.
- Portland Transport Route: swept path locations along the route from Portland to Hexham Wind Farm.
- Local road upgrades: locations along local roads which require upgrades such as road widening to facilitate infrastructure transport.

DEECA released the 'Handbook for the development of renewable energy in Victoria' in May 2025 (DEECA 2025c). Under the transitional arrangements the Handbook does not apply if, prior to the commencement of the Handbook, the project has been referred to the Minister or Planning for assessment under the EE Act or an assessment under the EE Act has commenced for the project. Both of these transitional arrangements apply to Hexham Wind Farm and as such, the project will not be assessed under the new guidelines.

Vegetation and Flora Surveys

Existing conditions

Vegetation within the project study area was assessed in accordance with the Victorian *Guidelines for the removal, destruction and lopping of native vegetation*.

This assessment found 87.3 ha of native vegetation in patches consisting of 244 habitat zones from nine Ecological Vegetation Classes within the Project study area, Transport route study areas and Local road upgrades.

During the targeted flora surveys, two listed threatened flora species were recorded; Purple Blown-grass (FFG Act: Endangered), and Spiny Rice Flower (EPBC Act and FFG Act: Critically Endangered).

Additionally, the October 2025 surveys identified a single *Dianella* individual, though this could not be identified to species level due to a lack of suitable floristic characteristics (lack of flowering material). However, it was considered to potentially be Matted Flax-lily (EPBC: Endangered; FFG: Critically Endangered) or Glaucous Flax-lily (FFG: Critically Endangered). This individual was re-examined during surveys in December 2025; however, a lack of flowering material prevented accurate identification. Regardless of its identification, this individual will not be impacted by the proposed footprint.

No other flora species listed as threatened under the EPBC Act or FFG Act were recorded within the survey area.

Two EPBC Act-listed threatened ecological communities were recorded during vegetation surveys:

- Grassy Eucalypt Woodland of the Victorian Volcanic Plain; and
- Natural Temperate Grassland of the Victorian Volcanic Plains.

Two FFG Act-listed communities were recorded during vegetation surveys:

- Western (Basalt) Plains Grasslands Community; and
- Western Basalt Plains (River Red Gum) Grassy Woodland.

Impacts based on the proposed project

The proposed development (development footprint, road widening and swept paths combined) will have the following impacts:

- The loss of 7.895 hectares of native vegetation from patches and four large trees in patches (Geelong route), 8.080 hectares of native vegetation from patches and nine large trees in

patches (Portland route) or 8.190 hectares of native vegetation from patches and nine large trees in patches (combined routes); and

- The loss of four large and two small scattered trees (all routes).

The proposed development footprint will result in the following losses:

- 0.586 hectares (Geelong), 0.595 hectares (Portland) or 0.605 hectares (combined) of *Natural Temperate Grassland of the Victorian Volcanic Plain* (NTGVVP) (EPBC Act: Critically Endangered).
- 0.247 hectares of *Grassy Eucalypt Woodland of the Victorian Volcanic Plain* (GEWVVP) (EPBC Act: Critically Endangered).
- 0.743 hectares (Geelong), 0.806 hectares (Portland) or 0.818 hectares (Combined) of *Western (Basalt) Plains Grasslands Community* (WPGC) (FFG Act: Listed).
- 0.007 hectares (Portland or combined) of *Western Basalt Plains (River Red Gum) Grassy Woodland* (FFG Act: Listed).

Impacts to NTGVVP and GEWVVP would constitute a significant impact under the EPBC Act and will be offset under the EPBC Act Environmental Offsets Policy.

Geelong route: Offsets required to compensate for the proposed removal of native vegetation from the development footprint, Geelong transport route and local road upgrades are provided below.

- 2.8860 *general habitat units* and must include the following offset attribute requirements:
 - Minimum strategic biodiversity value (SBV) of 0.3494
 - Occur within the Glenelg Hopkins CMA boundary or the Moyne Shire municipal district.
 - Include protection of at least 8 large trees.

Portland route: Offsets required to compensate for the proposed removal of native vegetation from the development footprint, Portland transport route and local road upgrades are provided below.

Moyne Shire LGA

- 2.8830 *general habitat units* and must include the following offset attribute requirements:
 - Minimum strategic biodiversity value (SBV) of 0.3470
 - Occur within the Glenelg Hopkins CMA boundary, the Moyne Shire municipal district or Southern Grampians Shire municipal district.
 - Include protection of at least 8 large trees.

Southern Grampians Shire LGA

- 0.1000 *general habitat units* and must include the following offset attribute requirements:
 - Minimum strategic biodiversity value (SBV) of 0.4170
 - Occur within the Glenelg Hopkins CMA boundary, the Moyne Shire municipal district or Southern Grampians Shire municipal district.
 - Include protection of at least 5 large trees.

Combined routes: Offsets required to compensate for the proposed removal of native vegetation from the development footprint, combined transport route and local road upgrades are provided below.

Moyne Shire LGA

- 2.911 *general habitat units* and must include the following offset attribute requirements:

- Minimum strategic biodiversity value (SBV) of 0.349
- Occur within the Glenelg Hopkins CMA boundary, the Moyne Shire municipal district or Southern Grampians Shire municipal district.
- Include protection of at least 8 large trees.

Southern Grampians Shire LGA

- 0.100 *general habitat units* and must include the following offset attribute requirements:
 - Minimum strategic biodiversity value (SBV) of 0.417
 - Occur within the Glenelg Hopkins CMA boundary, the Moyne Shire municipal district or Southern Grampians Shire municipal district.
 - Include protection of at least 5 large trees.

Removal of 0.181 hectares of native vegetation and 5 large trees associated with the Portland transport route occurs within the Southern Grampians Shire local government area. If this route is chosen or the combined transport route option is pursued, a separate application will be made to Southern Grampians Shire council for this portion of the proposed native vegetation removal.

The following FFG Act-protected flora taxa are susceptible to impacts from the proposed development on public land at the entrance point to the wind farm and from public road reserves:

- Common Onion-orchid (protected under the FFG Act)
- Sun Orchid (member of a genus protected under the FFG Act).
- Purple Blown-grass (protected under the FFG Act)

A Protected Flora Permit would be required from the Department of Environment, Energy & Climate Change (DEECA) to remove the above-mentioned plant taxa and *Western (Basalt) Plains Grasslands Community* (WPGC) from public land.

Groundwater Dependent Ecosystems

An assessment of impact to Groundwater Dependent Ecosystems (GDE) was carried out by Water Technology (2025). All three types of groundwater dependant ecosystems identified in the GDE toolbox (SKM 2011) have the potential to occur within the HWF, including aquifer and cave ecosystems (Type 1), ecosystems dependent on the surface expression of groundwater (Type 2), and ecosystems dependent on subsurface presence of groundwater (Type 3). The Surface Water and Groundwater Impact Assessment determined that the likely effects to GDEs arising from the project is low, with a range of management measures recommended (Water Technology 2025). It is unlikely that the project would detrimentally impact any GDEs within the project site.

Fauna species and habitat

Project Site

Initial fauna assessments were undertaken by Ecology and Heritage Partners (EHP) between 2011 and 2012, with additional native vegetation assessments and targeted surveys for flora and fauna undertaken by Nature Advisory between 2018 and 2025, focusing on species likely or with potential to occur based on desktop review of recent information.

The study site is highly modified and dominated by grazing and cropping land. EHP described seven fauna habitats across the study area, including modified grassland, woodland and scattered trees, planted vegetation, rivers, creeks and drainage lines, swamps and marshes and artificial waterbodies. These were all found to be low, low-moderate, or moderate in habitat quality as confirmed during subsequent field surveys undertaken by Nature Advisory.

Thirteen fauna species listed under the EPBC Act, and 11 species listed under the FFG Act are known to occur, likely to occur or have the potential to occur at the Project Site. One bird species listed as species of interest by Lumsden et al (2019) was also recorded on site.

Targeted surveys have been undertaken to determine the occurrence and extent of habitat for these listed species, including bird utilisation surveys, migratory bird surveys, bat surveys, targeted Grey-headed Flying-fox surveys, White-throated Needletail surveys, fish surveys, Golden Sun Moth surveys and Growling Grass Frog habitat assessments.

Listed avifauna species

Surveys conducted at and around the HWF have recorded 125 bird species to date. Flight-height data indicate that most bird activity occurs below the Rotor Swept Area (RSA; <40 m) within the project site, with 94.4% of observations below RSA height during the 2018–19 BUS and 87.5% during the 2024–25 BUS.

During Migratory Shorebird Surveys, most wetlands within the project study area were considered unsuitable for most migratory shorebirds due to dense vegetation growth, particularly the sections that are expansions of the Mustons Creek. These species require more open shorelines and shallow open water or mud in which to forage. None of the listed migratory shorebird species recorded were in numbers that would be above the threshold levels for an important population.

A total of 10 Wedge-tailed Eagle nests and three potential eagle nests were recorded, with three of these being outside of the study area. The number of nests within the study area suggest that more than one pair utilises the area for breeding. Turbine exclusion zones were applied, and no turbines are located within 500m of any known nests.

Listed threatened avifauna (species known to occur, likely to occur, or with potential to occur), or avifauna species of interest considered susceptible to residual impacts at the Project Site include:

- Australasian Shoveler (FFG Act: Vulnerable)
- Australian Gull-billed Tern (FFG Act: Endangered)
- Black Falcon (FFG Act: Critically Endangered)
- Blue-billed Duck (FFG Act: Vulnerable)
- Blue-winged Parrot (EPBC Act: Vulnerable)
- Eastern Great Egret (FFG Act: Vulnerable)
- Freckled Duck (FFG Act: Endangered)
- Little Eagle (FFG Act: Vulnerable)
- Musk Duck (FFG Act: Vulnerable)
- Spotted Harrier (Species of interest in Lumsden et al. (2019))
- Migratory birds: White-throated Needletail (EPBC Act: Vulnerable, Migratory) and Fork-tailed Swift (EPBC Act: Migratory)
- Migratory shorebirds: Common Greenshank (EPBC Act: Migratory), Common Sandpiper (EPBC Act: Migratory), Curlew Sandpiper (EPBC Act: Critically Endangered, Migratory), Double-banded Plover (EPBC Act: Migratory), Latham's Snipe (EPBC Act: Migratory), Marsh Sandpiper (EPBC Act: Migratory), Red-necked Stint (EPBC Act: Migratory), Sharp-tailed Sandpiper (EPBC Act: Migratory).

The proposed wind farm is considered unlikely to result in a significant impact to any of these species.

For Brolga refer to the *Hexham Wind Farm Brolga Assessment Report 2025* (Nature Advisory 2025b).

Listed avifauna communities:

- Victorian Temperate Woodland Bird Community (FFG Act listed) – The study area and surrounds were assessed against the published description and benchmarks of the community. The study area was found to support very limited remnant woodlands along roadsides and creeklines. Though some of the representative species may occur sporadically, it is considered unlikely that the site supports this community.

Listed mammal species:

- Bats: Grey-headed Flying-fox (EPBC Act: Vulnerable, FFG Act: Vulnerable), Southern Bent-wing Bat (EPBC Act: Critically Endangered; FFG Act: Critically Endangered), Yellow-bellied Sheathtail Bat (FFG Act: Vulnerable)

For bats, refer to the Hexham Wind Farm Bat Assessment Report 2025 (Nature Advisory 2025a).

- Fat-tailed Dunnart (FFG Act: Vulnerable)

This species has potential to occur and it is considered that any impacts to this species would mainly be due to direct loss of habitat, and would be low – moderate dependant on extent of occurrence.

Listed reptiles:

- Striped Legless Lizard (EPBC Act: Vulnerable, FFG Act: Endangered); and Tussock Skink (FFG Act: Endangered).

These species have potential to occur in grassland habitats, predominantly along road reserves. Impacts to grassland habitats suitable for these species largely occur along roadside upgrade areas. Given the extent of habitat removal, there is potential for a significant impact to occur to Striped Legless Lizard.

Listed amphibians:

- Growling Grass Frog (EPBC Act: Vulnerable)

Surveys to map suitable Growling Grass Frog habitat were undertaken in November 2011 and November 2018 across the Project study area. This habitat mapping informed the layout of the wind farm to ensure suitable habitats were avoided wherever possible.

Growling Grass Frog were confirmed in Mustons Creek, which connects to the Hopkins River to the east of the study area and forms a large, contiguous network of habitat. Several smaller tributaries of Mustons Creek within the study area may also provide habitat during the wet season and contribute to wetland habitat network. In addition, a large, vegetated dam (wetland 29405) and associated dams may contribute habitat within the study area, but most dams lack suitable habitat, are impacted by livestock trampling and are of low value for this species.

Provided the known Growling Grass Frog sites are avoided, minimal habitat is altered at creek crossing points, and construction at creek crossing points is undertaken between April and August when activity is low, no significant impact is anticipated to this species.

Listed invertebrates:

- Golden Sun Moth (EPBC Act: Vulnerable, FFG Act: Vulnerable)

Targeted Golden Sun Moth surveys by EHP in 2011 and 2012 did not record the species and determined a low likelihood of occurrence (EHP, 2014). Given the time elapsed since the surveys and using a precautionary approach it is considered that the species has potential to occur in any patches of native vegetation with a native grassy understorey (Plains Grassland and Plains Grassy Woodland). It is considered susceptible to a low level of impact during the construction stage.

- Hairy Burrowing Crayfish (FFG Act: Vulnerable).

This species is known to occur in some areas within the site, associated with watercourses and floodplains. Suitable habitats are largely avoided, however some ephemeral floodplains have been impacted by the development footprint. Impacts are considered low.

Listed fish:

- Yarra Pygmy Perch (EPBC Act: Vulnerable, FFG Act: Endangered)
- Little Galaxias (FFG Act: Endangered)

Targeted surveys for these species were undertaken by EHP between 21 and 24 November 2011 (EHP 2014). None of these species were recorded. Despite the age of these surveys, no impacts to waterways or these species are anticipated.

Transport Route

A desktop assessment of fauna species likely to occur at each of the transport route locations was undertaken. This analysis indicated that six fauna species with potential to occur may be susceptible to residual impacts on the transport route:

- Gang Gang Cockatoo (EPBC Act: Endangered);
- Fat-tailed Dunnart (FFG Act: Vulnerable);
- Growling Grass Frog (EPBC Act: Vulnerable);
- Striped Legless Lizard (EPBC Act: Vulnerable, FFG Act: Endangered);
- Tussock Skink (FFG Act: Endangered);
- Golden Sun Moth (EPBC Act: Vulnerable, FFG Act: Vulnerable).

Impacts to these species may occur due to removal of small areas of habitat at a number of swept path locations along the transport routes, and larger areas of habitat removal in association with road upgrade areas.

A significant impact is not expected for most of these species due to the transport route, however, there is potential for a significant impact to Striped Legless Lizard due to direct habitat removal predominantly along road upgrade areas.

[Matters of National Environmental Significance](#)

EPBC Act-listed species and ecological communities considered likely to occur or recorded in the study area were assessed against general or species-specific criteria for significant impacts.

Listed flora and fauna species

It is considered that for the majority of EPBC Act listed flora and fauna species recorded or likely to occur on the wind farm site, there is unlikely to be a significant impact due to the development, given the current development footprint and proposed design and mitigation measures.

One EPBC species listed fauna species, Striped Legless Lizard has potential to be significantly impacted by the development.

Listed ecological communities

Impacts to two EPBC Act listed ecological communities; NTGVVP and GEWVVP would constitute a significant impact under the EPBC Act and will be offset under the EPBC Act Environmental Offsets Policy.

Summary of impacts and conclusions

The Project has been situated in a region which has been extensively modified for farming. Wind Prospect have worked closely with Nature Advisory to reduce the area of native vegetation impacted

within the Project area. A total extent of 7.895 hectares of native vegetation from patches and four large trees in patches (Geelong Transport Route option), 8.080 hectares of native vegetation from patches and four large trees in patches (Portland Transport Route option), 8.190 hectares of native vegetation and nine large trees in patches (Combined Transport Route option) and four large and two small scattered trees (all routes) is proposed to be removed across the entire footprint. The offsets required to compensate for this removal are provided in this report.

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Acronyms/abbreviations

AusWEA	Australian Wind Energy Association
BAM Plan	Bat and Avifauna Management Plan
BoM	Bureau of Meteorology
BUS	Bird Utilisation Survey
C'wth	Commonwealth
CaLP Act	<i>Catchment and Land Protection Act 1994 (Vic)</i>
CAMBA	China-Australia Migratory Bird Agreement
CEMP	Construction Environmental Management Plan
cm	Centimetre/s
CMA	Catchment Management Authority
CR	Critically Endangered
DBH	Diameter at Breast Height
DCCEEW	Department of Climate Change, Energy, the Environment and Water (C'wth)
DEECA	Department of Energy, Environment and Climate Action (Vic)
DELWP	(former) Department of Environment, Land, Water and Planning (Vic)
DEPI	(former) Department of Environment and Primary Industries (Vic)
DEWHA	(former) Department of the Environment, Water, Heritage and the Arts (C'wth)
DNRE	Department of Natural Resources and Environment
DoE	(former) Department of Environment
DoEE	(former) Department of the Environment and Energy (C'wth)
DSE	(former) Department of Sustainability and Environment (Vic)
DSEWPaC	(former) Department of Sustainability, Environment, Water, Population and Communities (C'wth)
EES	Environment Effects Statement under the <i>Environment Effects Act 1978</i>
EHP	Ecology and Heritage Partners
EN	Endangered
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (C'wth)</i>
EPBC-M	Migratory status under the EPBC Act
EPBC-T	Threatened species under the EPBC Act
EVC	Ecological Vegetation Class
EX	Presumed extinct in the wild
FFG Act	<i>Flora and Fauna Guarantee Act 1988 (Vic)</i>
FZ	Farming Zone
GDE	Groundwater Dependent Ecosystems

GEWVP	Grassy Eucalypt Woodland of the Victorian Volcanic Plain
GGF	Growling Grass Frog
GHCMA	Glenelg Hopkins Catchment Management Authority
GIS	Geographic Information Systems
GPS	Global Positioning System
ha	Hectare/s
HWF	Hexham Wind Farm
JAMBA	Japan-Australia Migratory Bird Agreement
km	Kilometre/s
LPP	Local Planning Policy
m	Metre/s
min	Minute/s
MNES	Matters of National Environmental Significance
NTGVP	Natural Temperate Grasslands of the Victorian Volcanic Plain
NVCR	Native Vegetation Credit Register
NVIM	Native Vegetation Information Management system
PMST	EPBC Act-associated Protected Matters Search Tool
ROKAMBA	Republic of Korea-Australia Migratory Bird Agreement
RSA	Rotor Swept Area
SAC	Scientific Advisory Committee
SBV	Strategic Biodiversity Value
SHWLP	Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains
TRZ2	Transport Zone Schedule 2
TSSC	Threatened Species Scientific Committee
VBA	Victorian Biodiversity Atlas
Vic	Victoria
VU	Vulnerable
VVP	Victorian Volcanic Plain bioregion
WBPGW	Western Basalt Plains (River Red Gum) Grassy Woodland
WPGC	Western (Basalt) Plains Grasslands Community

1. Introduction

1.1. Background and scope

Hexham Wind Farm Pty Ltd engaged Nature Advisory to conduct a flora and fauna assessment of a 16,104-hectare study area of land in the Western Victorian localities of Hexham, Caramut, Ellerslie, Minjah and Woolsthorpe for the proposed project. The project site is bound by the Hamilton Highway to the north, Woolsthorpe-Hexham and Hexham-Ballangeich roads to the east, Gordons Lane to the south and Warrnambool-Caramut Road to the west.

This Flora and Fauna assessment addresses the scoping requirements for the project that are relevant to biodiversity and habitat impacts as part of an Environment Effects Statement (EES), as required under the *Environment Effects Act 1978*. The report also supports the planning permit application for the project, as required under the *Planning and Environment Act 1987*.

This investigation provides information on the extent and condition of native vegetation in the project study area according to Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017), herein referred to as 'the Guidelines', as well as any potential impacts on flora, fauna and ecological communities (biodiversity) listed under the state *Flora and Fauna Guarantee Act 1988* (FFG Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The preliminary findings of the initial investigation identified that a referral was required under the Victorian *Environment Effects Act 1978*. This report details the biodiversity scoping requirements and provides information on the biodiversity of study area as part of the EES submission. Separate reports have been provided on potential impacts on bats (Nature Advisory 2025a) and the Brolga (Nature Advisory 2025b).

This investigation was undertaken by a team from Nature Advisory, comprising Elinor Ebsworth (Senior Botanist), Verity Fyfe (Botanist), Dean Karopoulos (Botanist), Arend Kwak (Botanist), Tessa Doherty (Senior Botanist), Cody Hajnal (Botanist), Ezra Janetzki (Botanist), Kate Thirkle (Botanist), Neassa Fritchley (Botanist), Khalid Al-Dabbagh (Zoologist), Jackson Clerke (Zoologist), Curtis Doughty (Senior Zoologist), Peter Lansley (Zoologist), Emma Wagner (GIS Analyst), Maya Zaeim (GIS Analyst), Inga Kulik (Project Director), Kylie Patrick (Senior Ecologist & Project Manager), Andrew Lewis (Senior Ecologist and Project Manager) and Brett Lane (Principal Consultant).

1.2. Proposed development

The proposed project will comprise up to 106 wind turbines. Each wind turbine will comprise a tower, nacelle and blades with a maximum blade tip height of 260 metres and minimum blade tip height of 40 metres. The maximum and minimum parameters above have been adopted, allowing a 'worst case' assessment of environmental and social impacts. The towers will be mounted onto a concrete foundation and there will be an adjacent hardstand area of up to approximately 50 metres x 60 metres. Turbines will be positioned with a high regard for landscape amenity, existing land use, ecological constraints and cultural heritage values, and in accordance with relevant planning policies and legislation.

Two overland wind blade transport routes from Geelong and Portland to Hexham Wind Farm were also assessed, referred to as the 'Geelong transport route' and the 'Portland transport route'.

For this assessment, the following definitions have been used:

- Project Site: The properties on which the Hexham Wind Farm is proposed.
- Project Study Area: This represents the area in which detailed native vegetation surveys have been undertaken.

- Transport Route Study Areas: This represents the area of investigation around each location along the transport routes which require upgrades to enable transport of wind farm infrastructure. This is further broken down into:
 - Geelong transport Route: locations along the route from Geelong to Hexham Wind Farm.
 - Portland transport Route: locations along the route from Portland to Hexham Wind Farm.
- Local road upgrades: locations along local roads which require upgrades such as road widening.

outlines the planned project infrastructure and associated current design on which this investigation has been based.

Table 1: Project summary

Infrastructure	Current design (approximate dimensions)
Turbine dimensions	<p>The turbine envelope proposed includes:</p> <ul style="list-style-type: none"> ▪ Overall maximum tip height of up to 260 m ▪ Rotor diameter is up to 190 m ▪ Minimum tip height 40 m
On-site quarry	A 52.3 ha temporary works area located in the west of the wind farm site.
Onsite access tracks	Approximately 131 kilometres of new internal access track and upgrades to approximately 16.5 kilometres of existing access track (i.e., a total of around 147.5 kilometres of access tracks). The final access tracks would be 9 metres wide (inclusive of drainage, where required) and a maximum 120 metre turning radius. The construction footprint of access tracks would be around 20 metres wide.
Turbine footings and crane hardstand and assembly areas	Turbine footings will have a maximum tower base width of between 5 and 6 metres. Each wind turbine would have an adjacent hardstand area of around 6,500 square metres, which equates to 70 hectares for all project wind turbines.
Temporary construction facilities	<ul style="list-style-type: none"> ▪ Seven noise compliant concrete batching plants (around 50m x 100m each) ▪ Main temporary construction compound (8ha) ▪ Four additional temporary construction compounds (200m x 200m)
Staging areas and passing lanes	<ul style="list-style-type: none"> ▪ 24 staging areas up to 300 metres x 15 metres in length. ▪ Several passing lanes of 25 metres in length.
Internal transmission line	A 10 m wide disturbance footprint has been applied. No external transmission line will be required.
Terminal station	Electricity generated by the project would be distributed by underground and overhead cables to the proposed new onsite terminal station located adjacent to the existing Moorabool to Heywood 500 kilovolt transmission line. On-site terminal station with a footprint of approximately 7.3 ha in size.
Operations and maintenance facility	An operations and maintenance facility would be located adjacent to the on-site terminal station and BESS providing office, storage, and maintenance facilities. Nominally 90 m x 200 m.

Battery Energy Storage System (BESS)	An on-site battery energy storage facility is proposed to be located adjacent to the on-site terminal station. The BESS would consist of a series of containerised batteries with transformers, high voltage AC (HVAC) coolers and other electrical plant. The BESS would be sited on a hardstand area of up to 3 hectares (nominally 413 m x 67 m).
On-site cabling	Approximately 85 km of trenches about one metre below the ground. The work area width for the excavator to operate and for stockpiling of soil would be about 8 m wide for all trenches, assuming up to four cables are housed in each trench.
Wind monitoring masts	Up to 5 wind monitoring masts, each up to 170 m high A single-lane access track roughly 4 m wide would be constructed to provide access.
Site access	10 site access points are proposed from two arterial and five local council roads: <ul style="list-style-type: none"> ▪ One access points from Hamilton Highway ▪ One access point from Warrnambool-Caramut Road and Hamilton lane ▪ Four access points from Woolsthorpe-Hexham Road ▪ One access gate from Immigrants lane ▪ One access point from Keillors Road • Two access points from Hexham-Ballangeich Road
Local road upgrades	<ul style="list-style-type: none"> ▪ Hamiltons Lane, Caramut ▪ Hexham-Ballangeich Road, Hexham & Ellerslie ▪ Keillors Road, Minjah ▪ Woolsthorpe-Hexham Road, Hexham & Woolsthorpe

Agriculture is the predominant land use in the study area consisting mostly of grazing, along with some cropping. These uses will continue after construction. The proposed development footprint consists of approximately 588 hectares, which is 3.65% of the site. Construction of the wind farm is expected to take approximately two years to complete, followed by an operational life of at least 25 years.

1.3. Scope of work and timeline of ecological surveys

The specific area investigated, referred to herein as the 'project study area', comprised the current and previous proposed infrastructure layout plus the following buffers:

- 25 metres each side of the centreline provided by the proponent for vehicle tracks;
- 15 metres each side of the centreline provided by the proponent for cables; and
- 100 metres from the centre point provided by the proponent for turbines.

These buffers were applied to properly assess the potential impacts of the project, including indirect impacts, and to allow for implementation of the avoid and minimise principles. The project study area totalled 2,166 hectares. Table 2 outlines surveys completed to inform this assessment of impacts of the proposed wind farm. Note that Brolga and bat investigations are described in separate reports.

Table 2: Surveys completed (to June 2025)

Survey – field assessment	Date
Flora and vegetation assessments	
Targeted flora surveys and Net Gain Assessment (EHP)	<ul style="list-style-type: none"> ▪ 2011: 7-10 Jun; 2-4 Nov; 7-9 Nov; 5-9 Dec
Updated native vegetation assessments under the Guidelines	<ul style="list-style-type: none"> ▪ 2018: 13-28 Nov ▪ 2021: 8-11 Nov
Targeted surveys for threatened ecological communities and listed flora species	<ul style="list-style-type: none"> ▪ 2018: 28-30 Nov ▪ 2019: 10-11 Jan ▪ 2021: 22-25 Nov
Update native vegetation and threatened ecological community survey within project layout v183.7	<ul style="list-style-type: none"> ▪ 2025: 10-13 June
Native vegetation surveys along transport route	<ul style="list-style-type: none"> ▪ 2025: 4-6 June
Native vegetation surveys along road upgrade areas	<ul style="list-style-type: none"> ▪ 2025: 17-18 June
Targeted flora surveys	<ul style="list-style-type: none"> ▪ 2025: 8 – 10 July (Spiny Rice Flower) ▪ 2025: 27 – 29 October ▪ 2025: 1-5 December
Bird studies	
Bird utilisation surveys	<ul style="list-style-type: none"> ▪ Summer 2011: 28 Nov–2 Dec ▪ Summer 2012: 20–22 Feb ▪ Spring 2018: 29 Oct–2 Nov ▪ Late Summer/early Autumn 2019: 4–8 Mar ▪ Winter 2024: 18-25 August ▪ Spring 2024: 25-29 November ▪ Summer 2025: 24-27 February ▪ Autumn 2025: 7-10 April ▪ Winter 2025: 4-7 August ▪ Spring 2025: 16-19 September
Migratory water bird habitat assessment and targeted surveys	<ul style="list-style-type: none"> ▪ 2018: 18–20 Dec ▪ 2019: 9–11 Jan; 30–31 Jan; 26–28 Feb; 27–29 Feb
White-throated Needletail Survey	<ul style="list-style-type: none"> ▪ 2022: 5–9 Dec ▪ 2023: 6–10 Feb; 22–25 Mar
Reptile and mammal studies	
Striped Legless Lizard and Fat-tailed Dunnart habitat assessment	<ul style="list-style-type: none"> ▪ 2011: 28 Nov–2 Dec ▪ 2012: 20–22 Feb
Desk-based habitat assessment along Portland and Geelong Transport Route locations	<ul style="list-style-type: none"> ▪ 2025: June
Aquatic fauna studies	
Growling Grass Frog habitat assessment	<ul style="list-style-type: none"> ▪ 2011: 21-24 Nov ▪ 2018: 13-28 Nov
Aquatic surveys (fish)	<ul style="list-style-type: none"> ▪ 21-24 Nov 2011
Invertebrate studies	
Golden Sun Moth Surveys	<ul style="list-style-type: none"> ▪ 2011: Dec 16 and 19 Dec ▪ 2012: 6 Jan

2. EES scoping requirements

The *Environment Effects Act 1978* provides for assessment of proposed projects (works) that can have a significant effect on the environment. One or a combination of several criteria may trigger a requirement for a Referral to the Victorian Minister for Planning, who will determine if an EES is required according to the *Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act 1978* (DSE 2006). An EES describes a project and its potential environmental effects, enabling stakeholders and decision-makers to understand how the project is proposed to be implemented and the likely environmental effects of doing so.

The proposed project was Referred to the Victorian Minister for Planning on 15 March 2022. On the 19 April 2022, the Minister for Planning decided that an EES was required for the project. The procedures and requirements for the EES assessment process are set out in the Minister's Statement of Decision, the Ministerial Guidelines, and are further detailed in the scoping requirements.

This report addresses Section 4.1 (Biodiversity and habitat) and part of Section 4.2 (Catchment values and hydrology) of the EES scoping requirements, the evaluation objectives and key issues for which are provided below.

The following evaluation objectives are relevant to the flora and fauna assessment:

Section 4.1 (Biodiversity and habitat)

Evaluation objective:

To avoid, and where avoidance is not possible, minimise potential adverse effects on biodiversity values within and near the site including native vegetation, listed threatened species and ecological communities, and habitat for these species. Where relevant, offset requirements are to be addressed consistent with state and Commonwealth policies.

Section 4.2 (Catchment values and hydrology)

Evaluation objective:

To maintain the functions and values of aquatic environments, surface water and groundwater quality and stream flows and avoid adverse effects on protected beneficial uses.

The aspects from the scoping requirements relevant to flora and fauna evaluation objectives are shown in Table 3: EES scoping requirements, as well as the location where these items have been addressed in this report.

Table 3: EES scoping requirements

Category	Requirements relevant to flora and fauna	Report reference
4.1 Biodiversity and habitat		
Key issues	Direct loss or degradation of native vegetation and associated listed ecological communities, including those listed as threatened under the EPBC Act and/or the FFG Act.	Section 5.4
	Direct loss or degradation of habitat for migratory or threatened flora and fauna listed under the EPBC Act and/or the FFG Act.	Section 5.3.3 (listed flora species), 5.3.4 (listed ecological communities) and 7.4.2 (listed fauna).

Category	Requirements relevant to flora and fauna	Report reference
	Disturbance and/or degradation of adjacent or nearby habitat that may support listed threatened or migratory species or other protected flora, fauna or ecological communities.	Section 5.5, 12
	Disturbance and increased mortality risk to flora and fauna species listed under the EPBC Act and/or FFG Act.	Section 5.5, 12
	Indirect habitat loss or degradation resulting from other effects, such as edge effects, surface hydrological changes, groundwater drawdown, noise, vibration, light or the introduction of weeds/ pathogens.	Section 5.5, 12
	Disruption to the movement of fauna between areas of habitat across the broader landscape, including between roosting, breeding and potential foraging sites for the Southern Bent-wing Bat and Grey-headed Flying-fox.	Refer to the Bat Assessment Report
	The availability of suitable offsets for the loss of native vegetation and habitat for listed threatened species under the EPBC Act and/or FFG Act.	Section 5.6.1 and 14.4
	Potential collision risk for protected bird and bat species with project infrastructure, including with wind turbine blades.	Section 12 (birds) and refer to the Bat Assessment Report
	Potential impacts on groundwater dependent ecosystems.	Section 6.5
	Potential cumulative effects on relevant listed threatened and migratory species and communities of flora and/or fauna, in particular, but not limited to, Brolga, Southern Bent-wing Bat, Grey-headed Flying-fox, White-throated Needletail and Black Falcon from the project in combination with the construction and operations of other energy facilities.	See Section 13
Existing environment	Characterise the type, distribution and condition of biodiversity values that could be impacted by the project, including native vegetation, terrestrial and aquatic habitat and habitat corridors or linkages. This should include identifying and characterising any ephemeral wetlands/ habitat for threatened species, groundwater dependent ecosystems and communities listed under the EPBC Act and/or FFG Act. This should also include characterising the use of the site by birds and bats.	Section 5.3 (native vegetation, flora species and listed ecological communities), 4.4 (fauna habitat), 7 (fauna overview) and 6.4 (Groundwater Dependant Ecosystems (GDE)).
	Identify the potential for and presence of roosting, breeding and foraging sites for the Southern Bent-wing Bat and Grey-headed Flying-fox within movement distances from the project site.	Refer to the Bat Assessment Report
	Identify Brolga breeding and flocking sites within movement distances from the project site.	Refer to the Brolga Assessment Report

Category	Requirements relevant to flora and fauna	Report reference
	Identify the presence or likely presence of any species or communities listed under the EPBC Act and/or FFG Act that could be impacted by the project, as well as any declared weeds, pathogens or pest animals.	Section 5.3.3 (listed flora species), 5.3.4 (listed ecological communities), 5.6.5 (declared weeds), 7.4.2 (listed fauna species) and 14 (Matters of National Environmental Significance (MNES)).
	Identify the presence or likely presence of any important populations of threatened species listed under the EPBC Act and/or FFG Act, as described in relevant conservation advice and national recovery plans, and how any important populations may be impacted by the project.	Section 5.3, 12.2, 14.
	Characterisation of the existing environment is to be informed by relevant databases, literature (and published data) and appropriate targeted and/or seasonal surveys and modelling of the potential and actual presence of threatened species and communities consistent with Commonwealth and State survey guidelines, conservation advice and threatened species recovery plans. Where surveys do not identify a listed species or community, but past records and/or habitat analysis suggest that it may occur, a precautionary approach to the further investigation and assessment of its occurrence should be applied.	Details of the databases used are included in Section 5.2.1 (vegetation, flora and ecological communities) and 7.2. (fauna). Details of the surveys undertaken are included in Section 5.2.2 (vegetation, flora and ecological communities) and 7.3 (fauna). The precautionary approach adopted is described in these sections.
	Characterise existing threatening processes, including those listed under the FFG Act and/or EPBC Act, that are likely to be present and could potentially be exacerbated by the project.	Sections 5.4.1, 6.5.1 and 7.5.1
Likely effects	Assess the direct and indirect effects of the project and feasible alternatives on native vegetation, listed ecological communities, and listed threatened, migratory and other protected flora species.	Section 5.4
	Assess the direct and indirect effects of the project and feasible alternatives, on listed threatened, migratory and other protected fauna species under the EPBC Act and/or FFG Act, including, but not limited to, Brolga, Grey-headed Flying-fox, White-throated Needletail, Black Falcon and Southern Bent-wing Bat through collisions with turbines and/or overhead powerlines.	Section 0, 12 and Bat and Brolga Assessment Reports

Category	Requirements relevant to flora and fauna	Report reference
	<p>Assess the direct and indirect effects of the project, including access roads and transmission lines, on biodiversity values, including:</p> <ul style="list-style-type: none"> • direct removal of individuals or destruction of habitat; • disturbance or alteration of habitat conditions (e.g., habitat fragmentation, severance of wildlife corridors or habitat linkages, changes to water quantity or quality, changes to wetland function, fire hazards etc.); • on the ability of wetlands to support listed species and communities; • on the health and viability of groundwater dependent ecosystems; • threats to mortality of listed threatened fauna; and • the presence and potential spread of any declared weeds, pathogens and pest animals within and in the vicinity of the project area. 	Sections 5.4, 5.5, 6.5, 0, and 12 .
	<p>Assess the potential cumulative effects on listed species of fauna, in particular, but not limited to, Brolga, Grey-headed Flying-fox, White-throated Needletail, Black Falcon and Southern Bent-wing Bat from the project in combination with other nearby approved or operating wind energy facilities. Planned projects are also to be considered where possible.</p>	See Section 13
Design and mitigation	<p>Identify, describe and compare potential alternatives and proposed design options and mitigation measures, which could avoid and/or minimise significant effects on any flora, fauna and/or ecological communities listed on the EPBC Act and/or FFG Act, and provide a clear justification for which avoidance and/or mitigation measures will be committed to.</p>	<p>The proposed HWF layout has been designed through an iterative process in which biodiversity information has been incorporated to minimise impacts. Specific examples are provided in Section 5.4.2. Mitigation measures are documented in Sections 5.4.2 (flora and native vegetation), 6.5.2 (GDEs), 12 (fauna) and bats (refer to the Bat Assessment Report).</p>
	<p>Justify and describe the assumptions and level of uncertainty associated with the proposed measures achieving their desired outcomes.</p>	Section 7.5.2 and Bat Assessment Report
	<p>Identify staging or timing options for works that could help to avoid or minimise adverse effects on seasonal values (e.g., migratory species, breeding behaviour).</p>	Section 7.5.2 and Bat Assessment Report
	<p>Describe the application of the three-step approach to avoiding the removal of native vegetation, minimising impacts from removal of native vegetation that cannot be avoided and providing offsets to compensate for the biodiversity impact from the removal of native vegetation.</p>	Section 5.4.2

Category	Requirements relevant to flora and fauna	Report reference
Performance	Describe and evaluate proposed commitments to manage residual effects of the project on biodiversity values, including an offset strategy and outline of an offset management plan that sets out how state and Commonwealth offset policies and requirements will be satisfied, including demonstrating how appropriate offset(s) will be secured.	Sections 5.6.1 and 14.4
	Describe the approach to monitor impacts on biodiversity and habitat values with specific, measurable, attainable, relevant, time-based indicators for monitoring and thresholds for action.	CEMP & BAMP
	Describe contingency measures to be implemented in the event unforeseen adverse residual effects on flora and fauna values are identified requiring further management.	CEMP & BAMP
	Identify any further commitments proposed to monitor and manage risks and effects on biodiversity values and native vegetation.	CEMP
4.2 Catchment values and Hydrology (relevant to this assessment)		
Key issues	Potential for the project to have significant impact on wetland systems, including, but not limited to, Seasonal Herbaceous Wetlands (EPBC Act listed community), and the ability for wetland systems to support habitat for flora species listed under the FFG Act and EPBC Act.	Sections 5.5.3 and 5.5.4
Existing environment	Characterise the wetland systems in and around the project site and the type, distribution and condition of wetlands that could be impacted by the project, having regard to terrestrial and aquatic habitat and habitat corridors or linkages.	Sections 6.4.3, 7.4, 9 and 11.4
Likely effects	Assess the potential effects of the project on surface water and groundwater environments and associated environmental values and use, including on permanent and ephemeral wetland systems (both on-site and adjacent to the proposal), and surface water and groundwater flow and quality. This needs to include consideration of effects associated with establishment of project roads and transmission lines.	Primarily covered in the surface water and groundwater report (Water Technology 2025), referenced in Section 6 of this report (GDEs) and where relevant for Flora and native vegetation in Section 5 and Fauna in Section 7 of this report.
Design and mitigation	Identify proposed measures to mitigate any potential effects, including any relevant design features or preventative techniques to be employed during construction.	Sections 5.4.2, 6.5.2 and 12.1
Performance	Describe proposed measures to manage and monitor effects on catchment values and identify likely residual effects and identify if further management is required.	See surface water and groundwater report (Water Technology 2025).

3. Regulatory context

This section of the report summarises the applicable legislation and planning provisions that apply to this project. Commonwealth, state and local controls are considered.

3.1. Federal legislation and policy

3.1.1. *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*

The EPBC Act protects a range of matters of national environmental significance (MNES) and matters protected by international treaties. These matters include a list of threatened species, ecological communities and migratory species that are considered to be of national conservation significance. Any impact on such species or ecological communities that is considered significant requires the approval of the Federal Minister for the Environment.

The proposed project was referred to the Commonwealth Minister for the Environment (Ref EBPC 2022/09287). On 31 August 2022, the Minister determined that the project would be a Controlled Action that required assessment and approval under the EPBC Act before it can proceed. The relevant controlling provisions are listed threatened species and communities (Section 18 and 18A) and migratory species (Section 20 and 20A). Of particular concern were:

- Southern Bent-wing Bat;
- Grey-headed Flying-fox; and
- White-throated Needletail.

The Minister also decided that the EES will be the accredited process for assessment of the proposed project (the Controlled Action) under the EPBC Act.

Several specific EPBC Act guidelines have been consulted and directions from these applied during surveys and in formulating the investigations of flora and fauna impacts described in this report. These include:

- Matters of National Environmental Significance - Significant Impact Guidelines 1.1 (DoE 2013);
- National Recovery Plan for the Southern Bent-wing Bat *Miniopterus orianae bassani* (DELWP 2020);
- National Recovery Plan for the Grey-headed Flying-fox *Pteropus poliocephalus* (DAWE 2021a);
- EPBC Act Policy Statement 3.21 - Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species (DoEE 2017); and
- Onshore Wind Farm Guidance – Best practice approaches when seeking approval under Australia's national environment law – Draft (DCCEEW 2024).
- Significant impact guidelines for the critically endangered spiny rice-flower (*Pimelea spinescens* subsp. *spinescens*) (DEWHA 2009b)
- Significant impact guidelines for the vulnerable growling grass frog (*Litoria raniformis*) (DEWHA, 2009)
- Referral guidelines for the vulnerable striped legless lizard, *Delma impar* (DSEWPaC, 2011)
- Referral guideline for management actions in Grey-headed and Spectacled flying-fox camps (DoE, 2015)

3.2. State legislation and policy

3.2.1. Planning and Environment Act 1987

State planning provisions are established under the Victorian *Planning and Environment Act 1987*.

Clause 52.17 of all Victorian Planning Schemes states that:

A permit is required to remove, destroy or lop native vegetation, including dead native vegetation.

A permit is not required:

- if an exemption in Table 52.17-7 specifically states that a permit is not required;
- if a native vegetation precinct plan corresponding to the land is incorporated into the planning scheme and listed in the schedule to Clause 52.16; or
- if the native vegetation is specified in a schedule to Clause 52.17.

Exemptions

Exemptions listed in Table 52.17-7 relevant to the project study area include:

- *Planted vegetation:* Native vegetation that is to be removed, destroyed or lopped that was either planted or grown as a result of direct seeding. This exemption does not apply to native vegetation planted or managed with public funding for the purpose of land protection or enhancing biodiversity.

Application requirements

Any application to remove, destroy or lop native vegetation must comply with the application requirements specified in the Guidelines (DELWP 2017).

When assessing an application, Responsible Authorities are also obligated to refer to Clause 12.01-2 (Native vegetation management) in the Planning Scheme which in addition to the Guidelines, refers to the following:

- Assessor's handbook – applications to remove, destroy or lop native vegetation (DELWP 2018).
- Statewide biodiversity information maintained by DEECA.

Referral to DEECA

Clause 66.02-2 of the planning scheme determines the role of DEECA in the assessment of native vegetation removal permit applications. If an application is referred, DEECA may make certain recommendations to the responsible authority in relation to the permit application.

Any application to remove, destroy or lop native vegetation must be referred to DEECA if:

- The impact to native vegetation is in the Detailed Assessment Pathway;
- A property vegetation plan applies to the site; or
- The native vegetation is on Crown land which is occupied or managed by the responsible authority.

The Secretary to DEECA is a recommending referral authority under section 55 of the *Planning and Environment Act 1987*.

3.2.2. Flora and Fauna Guarantee Act 1988 (FFG Act)

The FFG Act includes:

- a Threatened List (DEECA 2024b)
- a Declared Protected Flora List (DEECA 2024a)

The FFG Act applies to all land in Victoria, with public authorities legally required to consider the impacts on threatened species and communities on all land tenures as part of their decision-making. A permit from DEECA is only required if there are to be impacts on FFG Act-listed values on public land.

Threatened List

The *Flora and Fauna Guarantee Act 1988 Threatened List* represents Victoria's single operational list of threatened flora, fauna and communities. Each species is assigned a threatened status which aligns with the listing categories and criteria for the International Union for the Conservation of Nature (IUCN) Red List.

These values should be avoided wherever possible, in recognition of their threatened status at a state level.

Any application for a planning permit may also be assessed by the responsible or referral authority for potential impacts to FFG Act-listed threatened values as part of broader considerations of impacts to biodiversity regardless of land tenure. Under the FFG Act, the removal of FFG Act-listed threatened flora and communities from public land requires a Protected Flora Permit. Impacts to these species should be avoided wherever possible, in recognition of the species' threatened status at the state level.

Declared Protected Flora List

The *Declared Protected Flora List* includes plants from three sources:

- Plant taxa (species, subspecies or varieties) listed as threatened under the FFG Act
- Plant taxa belonging to communities listed as threatened under the FFG Act
- Plant taxa which are not threatened but require protection for other reasons. For example, some species which are attractive or highly sought after, such as orchids, and grass trees, are protected so that the removal of these species from the wild can be controlled (DEECA 2024a).

Under the FFG Act, the removal of protected flora from public land requires a Protected Flora Permit. The FFG Act provides two different categories for protected flora species - 'restricted use protected flora', and all other protected flora (referred to as 'generally protected flora'). Removal of 'restricted use protected flora' species only requires a permit when it is impacted by take for commercial or personal use, and as such this list is not relevant to this investigation.

However, a Protected Flora Permit must be obtained from a regional DEECA office for impacts to any 'generally protected flora' on public land for any reason other than commercial or personal use, including impacts arising from this proposal. This permit can only be obtained after the removal of this flora is approved as part of a planning permit.

3.2.3. Environment Effects Act 1978 (EE Act)

A Referral to the Victorian Minister for Planning has been submitted and it was decided that an EES is required according to the *Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act 1978* (DSE 2006).

The procedures and requirements for the EES assessment process are set out in the Minister's Statement of Decision, the Ministerial Guidelines and are further detailed in the scoping requirements (see Section 2).

3.2.4. Catchment and Land Protection Act 1994 (CaLP Act)

The *Catchment and Land Protection Act 1994* (CaLP Act) requires that landowners (or a third party to whom responsibilities have been legally transferred) must take all reasonable steps on their land to:

- Avoid causing or contributing to land degradation which causes or may cause damage to land of another landowner;
- Conserve soil;
- Protect water resources;
- Eradicate regionally prohibited weeds;
- Prevent the growth and spread of regionally controlled weeds;
- Prevent the spread of, and as far as possible eradicate, established pest animals; and
- Prevent the spread of regionally controlled weeds and established pest animals on a roadside that adjoins the landowner's land.

3.3. Local laws and regulations

The study area is located within the Moyne Shire local government area. It is currently zoned Farm Zone (FZ) in the Moyne Planning Scheme, with Transport Zone Schedule 2 (TRZ2) along the Hamilton Highway and the Warrnambool-Caramut Road.

The transport route study area locations occur within the Moyne Shire and Southern Grampians Shire local government areas. These areas are zoned either Farm Zone (FZ) in the Moyne Planning Scheme, Transport Zone Schedule 2 (TRZ2) in both the Moyne and Southern Grampians Planning Scheme and/or Transport Zone Schedule 1 (TRZ1) in the Southern Grampians Planning Scheme.

Local planning provisions apply under the Victorian *Planning and Environment Act 1987*.

3.3.1. Planning policy framework

Clause 12.01 - Biodiversity

Clause 12.01 of all Victorian Planning Schemes provides an overarching framework to protect and enhance Victoria's biodiversity. The responsible authority is obligated to refer to Clause 12.01-1S – *Protection of biodiversity* and Cl. 12.01-2S – *Native vegetation management*. The objectives and strategies relating to the current proposal for each of these relevant Clauses are outlined below.

Clause 12.01-1S – Protection of biodiversity

The objective of this Clause is to protect and enhance Victoria's biodiversity through the following strategies:

- Use biodiversity information to identify important areas of biodiversity, including key habitat for rare or threatened species and communities, and strategically valuable biodiversity sites.
- Strategically plan for the protection and conservation of Victoria's important areas of biodiversity.
- Ensure that decision making takes into account the impacts of land use and development on Victoria's biodiversity, including consideration of:
 - Cumulative impacts.
 - Fragmentation of habitat.
 - The spread of pest plants, animals and pathogens into natural ecosystems.

- Avoid impacts of land use and development on important areas of biodiversity.
- Consider impacts of any change in land use or development that may affect the biodiversity value of national parks and conservation reserves or nationally and internationally significant sites; including wetlands and wetland wildlife habitat designated under the Convention on Wetlands of International Importance (the Ramsar Convention) and sites utilised by species listed under the Japan-Australia Migratory Birds Agreement (JAMBA), the China-Australia Migratory Birds Agreement (CAMBA), or the Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).
- Assist in the identification, protection and management of important areas of biodiversity.
- Assist in the establishment, protection and re-establishment of links between important areas of biodiversity, including through a network of green spaces and large-scale native vegetation corridor projects.
- Support land use and development that contributes to protecting and enhancing habitat for indigenous plants and animals in urban areas.

Clause 12.01-2S – Native vegetation management

The objective of this Clause is to ensure there is no net loss to biodiversity as a result of removal, destruction or lopping of native vegetation through the following strategies:

- Ensure decisions that involve, or will lead to, the removal, destruction or lopping of native vegetation, apply the three-step approach in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017; ‘the Guidelines’):
 - Avoid the removal, destruction or lopping of native vegetation.
 - Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
 - Provide an offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation.

A response of how this application addresses the relevant Clauses is provided in Section 5.6.2.

Clause 12.03 – Water bodies and wetlands

Clause 12.03 of all Victorian planning schemes provides an overarching framework to protect and enhance waterway systems. The responsible authority is obligated to refer to Clause 12.03-1S - *River and riparian corridors, waterways, lakes, wetlands and billabongs*. The objectives and strategies relating to the current proposal for the relevant Clause is outlined below.

Clause 12.03-1S – River and riparian corridors, waterways, lakes, wetlands and billabongs

The objective of this clause is to protect and enhance waterway systems including river and riparian corridors, waterways, lakes, wetlands and billabongs through the following strategies relevant to this investigation:

- Protect the environmental, cultural, landscape values of all waterway systems as significant economic, environmental and cultural assets.
- Conserve waterway systems and the landscapes and environmental values surrounding them by protecting ecological values, indigenous vegetation, terrestrial and aquatic habitats and encouraging biodiversity.
- Sensitively design and site development to maintain and enhance the waterway system and the surrounding landscape setting, environmental assets, and ecological and hydrological systems.

- Protect geomorphology, bank stability and flood management capacity to strengthen the environmental value and health of waterway systems by:
 - Retaining, enhancing and re-establishing indigenous riparian vegetation along waterway systems, ensuring it responds to the bushfire risk of a location.
 - Enhancing and re-establishing both terrestrial and aquatic habitats and their linkages along and surrounding waterway systems.
 - Limiting earthworks in proximity to waterway systems to minimise alterations to geomorphology, natural drainage, natural flows and water quality.
 - Facilitating the restoration of waterway systems through the removal of weeds, invasive species and pests.

A response of how this application addresses the relevant clauses is provided in Section 5.6.2.

3.3.2. Overlays

No overlays relevant to this investigation cover the project study area.

Along the Portland transport route, the intersection of Mt Baimbridge Rd and Portland Rd, Hamilton is covered by the Environmental Significance Overlay – Schedule 1 (ES01) [Southern Grampians].

The intersection of the Hamilton Highway and Penshurst-Dunkeld Road, Penshurst is covered by the Heritage Overlay (HO452) [Southern Grampians], which includes protection of surviving trees and road reserves. No native vegetation is anticipated to be impacted here, but any removal of non-native trees and roadside vegetation may need to be considered, which is beyond the scope of this assessment.

Any permit requirements, relevant application requirements, decision guidelines and implications under these overlays are addressed in Section 5.6.2.

3.4. Other guidelines

In addition to the foregoing policy and legislative instruments, several wind farm-specific guidelines have been consulted and key directions from these applied in formulating the investigations of flora and fauna impacts described in this report. These include:

- Wind Farms and Birds: Interim Standards for Risk Assessment (AusWEA 2005);
- Planning Guidelines for Development of Wind Energy Facilities (DTP 2023);
- Best Practice Guidelines for Implementation of Wind Energy Projects in Australia (CEC 2018); and
- Onshore Wind Farm Guidance – Best practice approaches when seeking approval under Australia's national environment law – Draft (DCCEEW 2024).

DEECA released the 'Handbook for the development of renewable energy in Victoria' in May 2025 (DEECA 2025). Under the transitional arrangements the Handbook does not apply if, prior to the commencement of the Handbook, the project has been referred to the Minister or Planning for assessment under the EE Act or an assessment under the EE Act has commenced for the project. Both of these transitional arrangements apply to Hexham Wind Farm and as such, the project will not be assessed under the new guidelines.

4. Site description

4.1. Location

The proposed HWF comprises 16,104 hectares of land in the Western Victorian localities of Hexham, Caramut, Ellerslie, Minjah and Woolsthorpe, approximately 20 kilometres west of Mortlake and 200 kilometres west of Melbourne's CBD. The wind farm site is bound by Hamilton Highway to the north, Woolsthorpe-Hexham and Hexham-Ballangeich roads to the east, Gordons Lane to the south and Warrnambool-Caramut Road to the west. The proposed HWF site is referred to herein as the 'study area'.

Two overland wind blade transport routes from Geelong and Portland to HWF were also assessed (Figure 2), which comprised locations that require road widening and/or trimming of vegetation to accommodate turbine blade swept paths.

4.2. Geology and hydrology

The study area supported basaltic soils derived from newer volcanic flows, with alluvium associated with watercourses. The landscape was gently undulating with several permanent watercourses, the most major of which is Mustons Creek in the northern portion of the site, which flows into the Hopkins River to the east of the study area, and Drysdale Creek in the south, which continues to the coast near Warrnambool. Numerous tributaries (many unnamed) of Mustons and Drysdale creeks occur within the study area.

4.3. Vegetation

The study area and surrounding land supports agriculture, including dryland cropping and sheep and cattle grazing, with a relatively low density of associated residences. Widespread historical clearing of the study area and surrounds for agriculture has resulted in remnant native vegetation being largely restricted to roadside reserves and watercourses.

Vegetation in the project study area consisted primarily of exotic pasture or dryland crops, with several planted windbreaks on the edge of paddocks, some of which included native species. Within private property native vegetation comprised small patches of species depauperate grassland, wetland and woodland along the edges of farm tracks, in lower-lying areas in pasture and along watercourses. Most (if not all) woody vegetation had been removed in these patches. Patches of native vegetation along roadsides included grassland and woodland, which lacked canopy species but did support some woody species (primarily wattles, including Black Wattle and Blackwood). The highest quality native vegetation was found along the wide road reserve of the Hexham-Ballangeich Road.

4.4. Fauna habitat

Most of the study area has been highly modified by past and ongoing agricultural practices. Most private properties have been cleared of original native vegetation to facilitate grazing and cropping planted windbreaks occurred on the margins of many paddocks.

Native vegetation was primarily restricted to roadsides, waterways and wetland areas. Many of these are also highly modified and some contained a high abundance of invasive species.

The habitat assessment below is based on Nature Advisory field visits described in this report and extrapolated from Ecology and Heritage Partners (EHP 2014).

The project study area supported seven general fauna habitat types described below.

Modified native grasslands

Native grasslands occurred in various forms throughout the study area, such as grasslands of moderate to high quality in patches along roadsides and farming tracks, in remnant patches within grazing lands, in some native woodland windbreak areas where agricultural practices are limited and disturbance does not occur as frequently, and in wetland areas of riparian vegetation or swamps/marshes.

These grasslands varied greatly in habitat quality and structure between sites, depending on the ecosystems they existed in and the level of disturbance and modification they experience. These grasslands may provide habitat to some grassland specialists and foraging opportunities to other fauna.

Modified woodland and scattered trees

Modified woodland patches are scattered throughout the study area and generally support highly modified understoreys for agricultural purposes. They consist typically of open woodlands with trees approximately 20 metres tall. These areas occur along roadsides, riparian zones and in patches within agricultural areas. They have limited connectivity but provide an important source of habitat in an otherwise highly modified landscape.

Scattered River Red-gum (*Eucalyptus camaldulensis*) also occur throughout the study area providing limited habitat and foraging opportunities. Many of these however provide hollows, an essential habitat component for many fauna species.

Planted vegetation

Linear shelter belts, or windbreaks, have been planted throughout the study area, typically bordering paddocks used for agricultural purposes. These consist of a mix of native species, some endemic to the area and others not, and non-native species. Though these typically lack the ecological structure required for high quality habitat such as understorey and mid-storey or hollows, they provide some shelter and foraging opportunities for Grey-headed Flying Fox, bird and microbat species.

Rivers, creek and drainage lines

Waterways occurred throughout the study area. Major waterways include Hopkins River to the east of the project site, Mustons Creek and Salt Creek while minor waterways occurred throughout private property consisting of small highly modified drainage lines serving to drain water from naturally occurring wetlands and depressions.

Some of these areas would hold water year-round while others are ephemeral. They support limited and modified wetland and riparian vegetation but could provide essential habitat for some fauna species, such as water birds, microbats and aquatic species.

Swamps and marshes

These habitats are of moderate value to fauna where they still exist, particularly as much of the original comparable habitat has been modified or drained. Typically lacking floristic diversity, but the hydrology of the habitat still supports many fauna species. Characterised by the growth of sedges and rushes, and the low-lying areas are typically inundated during the wetter months. These areas are mostly grazed when possible.

Artificial waterbodies

Many dams occur throughout private property across the study area, supplying water for stock and agricultural purposes. As such many of these lack vegetation, are highly impacted by frequent stock use and therefore provide low-quality habitat for native fauna. Some provide limited fringing and

emergent vegetation and may still be used by bird life and microbat species occasionally. These are typically surrounded by agricultural land and lack connectivity with other habitats.

Exotic pasture and crops

Of low value for fauna, this habitat is largely grazed for farming purposes and provides little habitat or shelter for fauna. This habitat covers much of the study area and consists mostly of pasture and cereal crops.

4.5. Groundwater dependent ecosystems

Groundwater dependent ecosystems (GDEs) are defined as *ecosystems that require access to groundwater to meet all or some of their water requirements to maintain the communities of plants and animals, ecological processes they support, and ecosystem services they provide* (SKM 2011).

GDEs can be further divided into three types (SKM 2011):

- **Aquifer and cave ecosystems (Type 1)** including karst aquifer systems, fractured rock, saturated sedimentary environments and the hyporheic zones of rivers, floodplains and coastal environments.
- **Ecosystems dependent on the surface expression of groundwater (Type 2)** include wetlands, lakes, seeps, springs, river baseflow, coastal areas and estuaries that constitute brackish water and marine ecosystems. In these cases, the groundwater extends above the earth surface, as a visible expression.
- **Ecosystems dependent on subsurface presence of groundwater (Type 3)** (via the capillary fringe) include terrestrial vegetation that depends on groundwater fully or on a seasonal or episodic basis to prevent water stress and generally avoid adverse impacts to their condition.

All three types of GDEs have the potential to occur within the project area.

The Surface Water and Groundwater impact assessment for the project (Water Technology 2025) recognises the presence of aquifers within the project area. Sampling of one of these aquifers indicated the presence of Stygofauna (Bold et al. 2020), suggesting that Type 1 GDEs are likely to be present within the project area; however, their extent is not known.

The relatively high rainfall at the site, ephemeral nature of wetlands and smaller watercourses, and fluctuation of waterbodies with rainfall weighs against the presence of Type 2 and Type 3 GDEs. It is, however, recognised that wetland and terrestrial vegetation types may benefit from access to groundwater over summer and during drought if it is available at that time. The *Groundwater Dependent Ecosystems Atlas* (BoM 2023) indicates that potential aquatic GDEs are focussed along Mustons, Tea-tree and Drysdale Creeks, Black Swamp in the west, and several unnamed wetlands.

Terrestrial GDEs in the GDE atlas within and near the project site include ten terrestrial vegetation wetland and woodland communities typically in isolated fragments or along major watercourses. These areas have been based on broad-scale EVC modelling. Field investigations of native vegetation present within and near the project site (see Section 5) have been used to accurately describe the presence of potential terrestrial GDEs.

4.6. Land-use history

Most of the study area has been used for sheep and cattle farming for over 150 years. The site has been subject to extensive removal of native vegetation in the past. Fertiliser has been extensively applied for many years on the site and, in places, the site has been cultivated for pasture improvement and cropping.

5. Vegetation and Flora Surveys

EY FINDINGS

1. The assessment found 244 habitat zones from nine Ecological Vegetation Classes (EVCs), totalling 87.3 hectares of native vegetation in patches.
2. One threatened flora species listed under both the EPBC Act and FFG Act – Spiny Rice-flower *Pimelea spinescens* subsp. *spinescens* – was recorded during native vegetation surveys in June 2025.
3. One threatened flora species listed under the FFG Act – Purple Blown-grass *Lachnagrostis semibarbata* var. *filifolia* – was recorded during targeted surveys in November 2021.

Two EPBC Act-listed ecological communities – *Grassy Eucalypt Woodland of the Victorian Volcanic Plain* (GEWVVP) and *Natural Temperate Grassland of the Victorian Volcanic Plains* (NTGVVP) were recorded within the project study area.

4. No other threatened ecological communities listed under the EPBC Act or FFG Act are considered to have the potential to occur within the proposed development footprint.
5. The proposed HWF development footprint will have the following impacts:
 - The loss of 7.895 hectares of native vegetation from patches and four large trees in patches (Geelong Transport Route option), 8.080 hectares of native vegetation from patches and nine large trees in patches (Portland Transport Route option) or 8.190 hectares of native vegetation from patches and nine large trees in patches (combined Transport Route option); and
 - The loss of four large and two small scattered trees (all route options).
 - 0.586 hectares (Geelong), 0.595 hectares (Portland) or 0.605 hectares (combined) of *Natural Temperate Grassland of the Victorian Volcanic Plain* (NTGVVP) (EPBC Act: Critically Endangered).
 - 0.247 hectares of *Grassy Eucalypt Woodland of the Victorian Volcanic Plain* (GEWVVP) (EPBC Act: Critically Endangered).
 - 0.743 hectares (Geelong), 0.806 hectares (Portland) or 0.818 hectares (combined) of *Western (Basalt) Plains Grasslands Community* (WPGC) (FFG Act: Listed).
6. Impacts to NTGVVP and GEWVVP would constitute a significant impact under the EPBC Act and will be offset under the EPBC Act Environmental Offsets Policy.

5.1. Introduction

The vegetation surveys aimed to identify native vegetation and ascertain whether EPBC Act and FFG Act-listed threatened flora species and ecological communities have the potential to be present in the HWF development footprint. The information from these surveys has been used to inform the proposed wind farm layout by applying the ‘avoid’ and ‘minimise’ principles in accordance with the guidelines.

The vegetation surveys covered a 1,586-hectare project study area that was larger than and contained the proposed development footprint. This also informed the occurrence of habitats for threatened flora species on and near the development footprint.

Targeted flora surveys were undertaken during the appropriate seasons in areas of the previous (2019) development footprint identified as suitable habitat for threatened flora species. These provide greater certainty on the presence or otherwise of these species. Targeted surveys for spring-flowering threatened species were undertaken in areas of suitable habitat as defined for each species in Table 5 during October 2018 (to coincide with the flowering time for these species). Targeted surveys for Trailing Hop-bush were undertaken in areas of suitable habitat during January

2019 (to coincide with the flowering time for this species). Areas of proposed impacts to suitable habitat falling outside the 2019 development footprint, as well as within the Roadside Upgrades and Transport Route footprints, were also surveyed during the appropriate season, as documented in Table 5.

Spiny Rice-flower was recorded incidentally during the native vegetation surveys in June 2025. Following this, suitably timed targeted surveys for this species (i.e., April to August; DEWHA 2009b) were undertaken from 8 to 10 July 2025 in areas of suitable habitat along roadsides and within swept path impact areas. This species was deemed unlikely to occur within impact areas on private land due to a lack of suitable habitat, as much of the ground layer was highly modified and dominated by introduced pasture grasses. Spiny Rice-flower was recorded within Habitat Zone 1N along the Hamilton Highway. This population consisted of approximately 158 individuals.

This section of the report presents the results of the vegetation and flora surveys. The methods used and sources of information are considered first. The native vegetation that lies within the project study area is then described. The impacts on vegetation and potential impacts to threatened species are considered next, followed by mitigation measures for reducing the impacts of the project. Implications of the project under applicable legislation and planning policies are also summarised.

To assess the impacts of the project on vegetation and threatened flora species, the layout described in Section 1.2 was used.

Table 4 summarises the compliance of the information in this report with the application requirements of the Guidelines (DELWP 2017).

Table 4: Application requirements under the guidelines

Application requirement	Response
1. Information about the native vegetation to be removed	See Section 5.5.1
2. Topographic and land information relating to the native vegetation to be removed	See Section 4.2
3. Recent, dated photographs of the native vegetation to be removed	See Appendix 4
4. Details of any other native vegetation approved to be removed, or that was removed without the required approvals, on the same property or on contiguous land in the same ownership as the applicant, in the five-year period before the application for a permit is lodged	It is understood that no native vegetation has been removed in relation to the current project within the last five years
5. An avoid and minimise statement	Please see Section 5.4.2
6. A copy of any Property Vegetation Plan contained within an agreement made pursuant to section 69 of the <i>Conservation, Forests and Lands Act 1987</i> that applies to the native vegetation to be removed	It is understood that no Property Vegetation Plan applies to any of the native vegetation proposed for removal
7. Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This statement is not required when the creation of defendable space is in conjunction with an application under the Bushfire Management Overlay.	The removal of native vegetation is not to create defendable space

Application requirement	Response
8. If the application is under Clause 52.16 of the Planning Scheme (in accordance with the <i>Planning and Environment Act 1987</i>), a statement that explains how the proposal responds to the Native Vegetation Precinct Plan considerations (at decision guideline 8).	The application is not being made under Clause 52.16
9. An offset statement providing evidence that an offset that meets the offset requirements for the native vegetation to be removed has been identified and can be secured in accordance with the Guidelines.	See Appendix 7
Additional requirements for applications in the Detailed Assessment Pathway	
10. A site assessment report of the native vegetation to be removed, including: <ul style="list-style-type: none"> ▪ A habitat hectare assessment of any patches of native vegetation, including the condition, extent (in hectares), Ecological Vegetation Class and bioregional conservation status. ▪ The location, number, circumference (in centimetres measured at 1.3 m above ground level) and species of any large trees within patches. ▪ The location, number, circumference (in centimetres measured at 1.3 m above ground level) and species of any scattered trees, and whether each tree is small or large. 	See Section 5.5.1, Appendix 1 and Appendix 2
11. Information about impacts on rare or threatened species habitat, including: <ul style="list-style-type: none"> ▪ The relevant section of the Habitat importance map for each rare or threatened species requiring a species offset. ▪ For each rare or threatened species that the native vegetation to be removed is habitat for, according to the habitat importance maps: <ul style="list-style-type: none"> ▫ the species' conservation status ▫ the proportional impact of the removal of native vegetation on the total habitat for that species ▫ whether their habitats are highly localised habitats, dispersed habitats, or important areas of habitat within a dispersed species habitat. 	See Appendix 6 and Section 5.6.1

5.2. Methods

This section describes the methods used for the vegetation surveys and determination of the presence of habitat for listed flora species, including sources of information reviewed to ensure a comprehensive consideration of native vegetation and flora species was undertaken.

5.2.1. Existing information

Existing information used for this investigation is described below.

Existing reporting and documentation

The existing documentation below was reviewed.

- Moyne Planning Scheme

- Southern Grampians Planning Scheme
- Hexham Wind Farm – Detailed Flora and Fauna Investigations (EHP 2014).

Native vegetation

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

- Relevant EVC benchmarks for the Victorian Volcanic Plains and Dundas Tablelands bioregions¹ (DSE 2004a)
- NatureKit (DEECA 2025a).

Listed matters

Existing flora species records and information regarding the potential occurrence of listed matters were obtained for the ‘search region’, defined here as the area within 10 km of the project study area boundary and the boundaries of the swept path intersections.

A list of the flora species recorded in the search region was obtained from the *Victorian Biodiversity Atlas* (DEECA 2025b).

The online EPBC Act-associated *Protected Matters Search Tool* (PMST; DCCEEW 2025) was consulted to determine whether nationally listed species or communities may potentially occur in the search region. This is based on a habitat modelling process.

5.2.2. Field methods

Native vegetation assessment 2018-2021

Native vegetation assessments were conducted from 13 to 28 November 2018 and 8 to 11 November 2021. During these assessments, the project study area was surveyed initially by vehicle and areas supporting native vegetation were inspected in more detail on foot.

Sites in the project study area found to support native vegetation or with potential to support listed matters were mapped through a combination of aerial photograph interpretation and ground-truthing using a hand-held GPS (accurate to approximately 5 metres). Species and ecological communities listed as threatened under the EPBC Act or FFG Act (where they occurred on public land) were also mapped using the same method.

Native vegetation assessment 2025

In accordance with the Assessor’s handbook (DELWP 2018), site assessments must have been completed within the last three years for grassy ecosystems, including grasslands and grassy woodlands, such as are found within the project study area. Therefore, updated native vegetation assessments were conducted from 4 – 18 June 2025 within the project study area (Figure 1).

Native vegetation assessments were undertaken from 4 – 6 June 2025 at the locations along the Portland and Geelong transport routes (Figure 1).

Native vegetation assessments for four roadsides proposed to be upgraded as part of the project were undertaken from 4 – 18 June 2025 (Figure 1). These included the roadsides of:

- Hamiltons Lane, Caramut

¹ A bioregion is defined as “a geographic region that captures the patterns of ecological characteristics in the landscape, providing a natural framework for recognising and responding to biodiversity values”. In general bioregions reflect underlying environmental features of the landscape (DNRE 1997).

- Hexham-Ballangeich Road, Hexham & Ellerslie
- Keillors Road, Minjah
- Woolsthorpe-Hexham Road, Hexham & Woolsthorpe

Sites in the project study area, roadside upgrade study area and transport route study areas found to support native vegetation or with potential to support listed matters were mapped using a combination of aerial-photograph interpretation and ground-truthing. Records were made using ArcGIS Field Maps® (Esri) on a hand-held device.

Determination of EVCs in the field was based on DEECA's pre-European modelled native vegetation (DEECA 2025a) within or nearby the study area and the methodology outlined in the habitat hectare method (DSE 2004b).

Native vegetation

Native vegetation is currently defined in Clause 73.01 of all Victorian Planning Schemes as '*plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses*'. The Guidelines (DELWP 2017) further classify two categories of native vegetation: patches and scattered trees.

The definitions of these categories are provided below, along with the prescribed DEECA methods of assessment.

Patch

A *patch* of native vegetation belongs to an *Ecological Vegetation Class* (EVC) characterised in a DEECA-published benchmark, and defined as one of the following:

- An area of vegetation where at least 25% of the total perennial understorey plant cover is native
- Any area with three or more native canopy trees² where the drip line³ of each tree touches the drip line of at least one other tree, forming a continuous canopy
- Any mapped wetland included in the *Current Wetlands Map*, available at *MapShareVic* (DEECA 2025a)

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

The *Native Vegetation Regulation Map* (NVR Map) system (DEECA 2025b) provides modelled condition scores for native vegetation to be used in certain circumstances.

Scattered trees

A scattered tree may be defined as a native canopy tree that does not form part of a patch. A scattered tree can be classified as *large* or *small* according to its *diameter at breast height* (DBH, measured 1.3 m above ground level) in the relevant EVC benchmark. A scattered tree with a DBH less than the large tree DBH is a *small* scattered tree. A *large* tree is defined as a native canopy

² A native canopy tree is a mature (i.e., able to flower) tree taller than 3 m and normally found in the upper layer of the relevant vegetation type.

³ The drip line is the outermost boundary of a tree canopy (leaves and/or branches) where the water drips onto the ground.

tree with a DBH greater than or equal to the large tree benchmark for the local EVC. A large tree can be a large scattered tree or a large tree within a patch of native vegetation.

Incidental native vegetation

Incidental native vegetation includes native species that do not qualify as a patch or scattered tree as per the definitions in the Guidelines.

Australian native

Vegetation that is native to Australia, but not necessarily native to Victoria. Several Australian native plants may be declared a noxious weed when growing outside of their natural range.

Locally indigenous

Plants that are native to the region of this study and growing within their natural range.

Victorian native

Vegetation that is native to Victoria but is not locally indigenous to the region of this study. Several Victorian native plants may be declared a noxious weed when growing outside of their natural range.

Planted

Planted vegetation refers to vegetation that has been planted or has grown as a result of direct seeding.

Exotic

Exotic vegetation refers to vegetation that is not native to Australia.

Flora species and habitats

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

Species protected under the FFG Act were determined by crosschecking against the FFG Act Threatened List (DEECA 2024b) and Protected Flora List (DEECA 2024a).

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

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

Wherever appropriate, a precautionary approach was adopted in determining the likelihood of occurrence of flora listed under the EPBC Act and/or FFG Act. That is, where insufficient evidence was available on the potential occurrence of a listed species, it is assumed that it could be in an area of suitable habitat.

Threatened ecological communities

EPBC Act-listed threatened communities

The likelihood of EPBC Act-listed threatened ecological communities occurring in the study area was determined by the following process:

- Review of the communities modelled to potentially occur in the study area by the EPBC Act Protected Matters Search Tool (PMST; DCCEEW 2025a)

- Checking field observations of mapped native vegetation against published descriptions of these communities and assessment against the identification criteria and condition thresholds from the relevant listing advice

Potential SHWTLF occurrences were assessed in December 2025, following a period of sufficient rainfall (spring [September – November] rainfall at Mortlake racecourse was 173mm, above the mean of 162mm; BoM 2025). This enabled assessment under the typical pattern of seasonal wetting and drying, required by wetland flora typical of this community (TSSC 2012). It was determined that the relevant habitat zones (XAH and 3AH) failed to fulfill key condition thresholds in accordance with the listing advice (TSSC 2012), as detailed in Section 5.3.4.

FFG Act-listed threatened communities

The likelihood of FFG Act-listed threatened ecological communities occurring in the study area was determined by the following process:

- Review of the communities modelled to potentially occur within 5 km of the study area (DELWP 2018)
- Review of any communities without modelled distribution habitat mapping
- Checking field observations against published descriptions of the identified communities (SAC 2015) project study area.

Targeted flora surveys

Based on the results of the vegetation assessments, it was determined that 27 flora species listed under the EPBC Act or FFG Act had the potential to occur within areas of suitable habitat in the project study area. These species are listed in Table 5.

Table 5: Listed flora species with potential to occur

Common Name	Scientific name	EPBC	FFG	Suitable habitat	Detection period	Project component
Casterton Wattle	<i>Acacia exudans</i>		Endangered	EVC 55_61	Sep-Oct; identifiable at other times of year	Swept path: Dunkeld-Cavendish Road, Cavendish
Half-bearded Spear-grass	<i>Austrostipa hemipogon</i>		Vulnerable	EVC 55_61	Oct-Dec	Swept path: Dunkeld-Cavendish Road, Cavendish
Cut-leaf Burr-daisy	<i>Calotis anthemoides</i>		Critically Endangered	EVCs 132_61 and 55	Sep-Dec	All
Curly Sedge	<i>Carex tasmanica</i>		Endangered	Along drainage lines in EVCs 125, 641 and 821.	Sep-Nov; identifiable at other times of year	All
Small Milkwort	<i>Comesperma polygaloides</i>		Critically Endangered	EVCs 132_61 and 55.	Nov-Feb	All
Pale Swamp Everlasting	<i>Coronidium gunnianum</i>		Critically Endangered	EVCs 55, 125, 132_61 and 654.	Nov-Apr	All

Common Name	Scientific name	EPBC	FFG	Suitable habitat	Detection period	Project component
Matted Flax-lily	<i>Dianella amoena</i>	Endangered	Critically Endangered	EVCs 55 and 132_61.	Dec-Feb	All
Swamp Flax-lily	<i>Dianella callicarpa</i>		Endangered	EVC 55_61	Oct-Feb	All
Glaucous Flax-lily	<i>Dianella longifolia</i> var. <i>grandis</i>		Critically Endangered	EVCs 55 and 132_61.	Nov-Dec	All
Golden Cowslips	<i>Diuris behrii</i>		Endangered	EVCs 55 and 132_61.	Sep-Oct	All
Western Purple Diuris	<i>Diuris daltonii</i>		Critically Endangered	EVC 55_61	Oct-Dec	Swept path: Dunkeld-Cavendish Road, Cavendish
Clumping Golden Moths	<i>Diuris gregaria</i>		Critically Endangered	Suitable habitat in several patches of EVC 132_61, particularly in roadside patches which are more commonly dominated by Kangaroo Grass.	Sep-Oct	All
Trailing Hop-bush	<i>Dodonaea procumbens</i>	Vulnerable		EVCs 132_61 and 55.	Oct-Dec	All
Austral Crane's-bill	<i>Geranium solanderi</i> var. <i>solanderi</i> s.s.		Endangered	EVC 55_61	Oct-Jan	Swept path: Dunkeld-Cavendish Road, Cavendish
Pale-flower Crane's-bill	<i>Geranium</i> sp. 3		Endangered	EVC 55.	Sep-Jan	All
Clover Glycine	<i>Glycine latrobeana</i>	Vulnerable	Vulnerable	EVCs 132_61 and 55.	Sep-Dec	All
Adamson's Blown-grass	<i>Lachnagrostis adamsonii</i>	Endangered	Endangered	Suitable habitat along drainage lines. Potential to occur in EVCs 125, 641 and 821.	Nov-Feb	All

Common Name	Scientific name	EPBC	FFG	Suitable habitat	Detection period	Project component
Purple Blown-grass	<i>Lachnagrostis semibarbata</i> var. <i>filifolia</i>		Endangered	Suitable habitat along drainage lines. Potential to occur in EVCs 125, 641 and 821. Recorded during targeted surveys in previous layout; does occur.	Oct-Feb	All
White Sunray	<i>Leucochrysum albicans</i> subsp. <i>tricolor</i>	Endangered	Endangered	EVCs 132_61 and 55.	Nov-Dec	All
Plains Yam-daisy	<i>Microseris scapigera</i> s.s.		Critically Endangered	EVCs 132_61 and 55.	Spring-Summer	All
Spiny Rice-flower	<i>Pimelea spinescens</i> subsp. <i>spinescens</i>	Critically Endangered	Critically Endangered	EVC 132_61. Recorded during targeted surveys in habitat zone 1N; does occur.	Apr-Aug	All
Western Gaping Leek-orchid	<i>Prasophyllum</i> sp. aff. <i>correctum</i> (Mortlake)		Critically Endangered	EVC 132_61.	Oct-Nov	All
Clumping Leek-orchid	<i>Prasophyllum</i> sp. aff. <i>occidentale</i> E		Critically Endangered	EVC 132_61.	Oct-Nov	All
Fragrant Leek-orchid	<i>Prasophyllum suaveolens</i>	Endangered	Critically Endangered	EVC 132_61, particularly in roadside remnants dominated by Kangaroo Grass.	Oct-Nov	All
Hairy Tails	<i>Ptilotus erubescens</i>		Critically Endangered	EVCs 132_61 and 55.	Oct-Feb	All
Brackish Plains Buttercup	<i>Ranunculus diminutus</i>		Endangered	Suitable habitat occurs along	Sep-Feb	Project study area.

Common Name	Scientific name	EPBC	FFG	Suitable habitat	Detection period	Project component
				Mustons Creek and Drysdale Creek, and in EVCs 125, 641 and 654.		
Basalt Sun-orchid	<i>Thelymitra gregaria</i>		Critically Endangered	EVC 132_61.	Sep-Nov (requires sunny weather)	All

Targeted surveys for most of these flora species were undertaken across six separate surveys (November 2018, January 2019, November 2021, July 2025, October 2025 and December 2025) to coincide with the published flowering times for the target species. Targeted surveys for threatened flora were undertaken only in parts of the layout where native vegetation supporting suitable habitat for those species is proposed to be removed (i.e. where native vegetation supporting suitable habitat intersected with the works area). Habitat suitability for each species was determined in Table 5 based on the EVCs these species have the potential to occur in. As such, most areas included in the targeted surveys were small, linear, narrow bands of habitat, allowing thorough visual searching of these areas to be undertaken.

This method, combined with the timing of the surveys (within the published flowering times for species) was considered appropriate to determine whether the targeted species were present or absent in the impact areas.

Appendix 6 of this report outlines the areas considered to be suitable habitat for each listed flora species.

Targeted surveys for threatened flora were conducted as described below.

- November targeted flora surveys: 28 to 30 November 2018 and 22 to 25 November 2021. During these assessments, the following areas were surveyed:
 - All areas of proposed removal of Plains Grassy Wetland (EVC 125) within the 2019 layout;
 - All areas of proposed removal of Plains Grassy Woodland (EVC 55_61 and 55_63) that supported a native ground layer within the 2019 layout; and
 - All areas of proposed removal of *Heavier-soils* Plains Grassland (EVC 132_61) within the 2019 layout.
- January targeted flora survey: 10 and 11 January 2019. During this assessment, the following areas were surveyed:
 - Areas of proposed removal of Plains Grassy Woodland (EVC 55_61 and EVC 55_63) that supported a native ground layer under 2019 layout; and
 - Areas of proposed removal of *Heavier-soils* Plains Grassland (EVC 132_61) with sufficient species and structural diversity to support Trailing Hop-bush and/or Matted Flax-lily within the 2019 layout.
- Spiny Rice-flower targeted survey: 8 to 10 July 2025. During this assessment, the following areas were surveyed:

- Areas of proposed removal of *Heavier-soils* Plains Grassland (EVC 132_61) with sufficient species and structural diversity to support Spiny Rice-flower within the HWF layout (v183.7), swept path areas and local road upgrades impact areas (v002).
- October 2025 targeted surveys for spring-flowering orchid species. During this assessment, the following areas were surveyed:
 - Areas of proposed removal of Plains Grassy Woodland (EVC 55_61 and EVC 55_63) that support a native ground layer; and
 - Areas of proposed removal of *Heavier-soils* Plains Grassland (EVC 132_61) with sufficient species and structural diversity to support orchid species.

Due to layout changes, as of spring 2025, 7.497 hectares of potential habitat within the current layout (v183.7) had not yet undergone early-summer targeted flora surveys. These were undertaken as follows:

- December 2025 targeted flora surveys for early-summer flowering species. During this assessment, the following areas were surveyed:
 - All areas of proposed removal of Plains Grassy Wetland (EVC 125);
 - All areas of proposed removal of Plains Grassy Woodland (EVC 55_61 and 55_63) that support a native ground layer; and
 - All areas of proposed removal of *Heavier-soils* Plains Grassland (EVC 132_61).

All the above detailed targeted surveying for threatened flora involved visual searching on foot by qualified and experienced botanists along transects spaced five metres apart. Where any threatened flora species were observed, the location was recorded using a handheld GPS.

Limitations of native vegetation assessment

The site assessments were carried out in late spring (2021) and winter (2025). The short duration and seasonal timing of field assessments can result in some species not being detected when they may occur at other times. Additionally, some flora species and life forms may be undetectable at the time of the survey or unidentifiable due to a lack of flowers or fruit. To overcome this, targeted surveys for listed flora species at an appropriate time of year have been undertaken in all areas of suitable habitat proposed to be impacted.

The 2025 assessment was conducted during a drought that was occurring across much of south-western Victoria. The extent of native vegetation was able to be adequately recorded primarily based on the extent of perennial tussock grasses and shrubs; however, the condition of the vegetation was less than optimal as many seasonal lifeforms were absent. Where native vegetation that was recorded during the 2021 assessment was unclear during the 2025 assessment, a precautionary approach (based on the field conditions) was adopted and it was assumed that these patches of native vegetation were present and were assigned the condition score determined in the 2021 assessment.

During the 2025 assessment, some grassland areas along Woolsthorpe-Hexham Road had recently been burnt. Where this was the case, it was assumed that these areas contained patches of native vegetation and were assigned DEECA's pre-European modelled EVC (DEECA 2025a) and assigned the score of contiguous patches. Any impacts to these areas have been accounted for in the current impact assessment.

These limitations were not considered to compromise the validity of the current investigation, which was designed to address the relevant policies and decision guidelines.

Identification of EVCs considers vegetation types that would have naturally occupied the landscape prior to European impacts. Significant past alteration of the project study area's hydrology as well as past vegetation clearance has resulted in the emergence of the establishment of vegetation in some areas that is likely to be notably different to what would have naturally occupied the project study area. Identification of EVCs in altered areas was therefore based upon consideration of:

- Modelled EVC mapping (DEECA 2025a);
- Observations of adjacent landforms that had not been significantly altered;
- Observations of nearby natural vegetation;
- Any observed indigenous flora species that are useful for determining EVCs; and
- Relevant published EVC benchmark descriptions.

If the above information was not sufficient to allow for a reasonable conclusion to be made on which EVC would have naturally occurred, and the observed vegetation resembled an EVC which is likely to have naturally occurred in the region, EVC identification was based upon the modelled EVC mapping.

5.3. Existing conditions

5.3.1. Patches of native vegetation

Project study area

Pre-European EVC mapping (DEECA 2025a) indicated that the project study area and surrounds would have supported Plains Grassy Woodland (EVC 55), Plains Grassy Wetland (EVC 125), Plains Grassland (EVC 132), Creekline Grassy Woodland (EVC 68), Swampy Riparian Woodland (EVC 83), Riparian Woodland (EVC 641) and Plains Swampy Woodland (EVC 651) prior to European settlement based on modelling of factors including rainfall, aspect, soils and remaining vegetation.

Evidence on site, including floristic composition and soil characteristics, suggested that Plains Grassy Woodland (EVC 55_61), Higher Rainfall Plains Grassy Woodland (EVC 55_63), Plains Grassy Wetland (EVC 125), Heavier-soils Plains Grassland (EVC 132_61), Creekline Grassy Woodland (EVC 68), Plains Sedgy Wetland (EVC 647) and Aquatic Hermland (EVC 653) were present within the project study area (Table 6).

90 patches (referred to herein as habitat zones) comprising the abovementioned EVCs, were identified in the project study area (Table 6). This totalled an area of 53.712 hectares of native vegetation in patches and included 10 large trees in patches (Appendix 1). The average condition score across all patches was 21/100, with only 7% of patches scoring $\geq 40/100$.

In addition, 1.590 hectares of DEECA-mapped wetlands occurred within the project study area. These areas have been treated here as patches of native vegetation in accordance with the Guidelines.

Therefore, the total area of native vegetation (patches and DEECA-mapped wetlands) that has been recorded within the project study area was 55.302 hectares.

Table 6: Description of EVCs in the project study area

EVC	Description within the project study area	Area (ha) within the project study area
Plains Grassy Woodland (EVC 55_61) - endangered	Plains Grassy Woodland occurred as patches along roadsides and within wind-breaks on private property in the north and east of the site, which receive between 500 mm and 700 mm rainfall annually (BoM 2018a,b). It generally lacked a canopy and large trees, but where these occurred,	9.317

EVC	Description within the project study area	Area (ha) within the project study area
	<p>they were River Red-gums. The understory tree layer (where present) was Black Wattle, Silver Wattle and Blackwood. In most patches, the ground layer was species depauperate and dominated by exotic grasses. Native species in the ground layer (where they occurred) included spear grasses, wallaby grasses and Sheep's Burr. The most common weeds were pasture grasses including Phalaris, Barley-grass, Cocksfoot and Yorkshire Fog.</p> <p>Three patches along Hexham-Ballangeich Road, totalling 5.113 ha, qualified as the EPBC Act-listed GEWVP. These areas would also qualify as the FFG Act-listed WPGW.</p>	
<p>Heavier-soils Plains Grassland (EVC 132_61) - endangered</p>	<p>Plains Grassland occurred as species and structurally depauperate patches along farm tracks on private property, and as species and structurally rich patches along roadsides. Patches on private land were dominated by wallaby grasses, while patches along roadsides also supported Kangaroo Grass, spear grasses and Common Wheat-grass as well as Blue Devils, Sheep's Burr, Woodland Sorrell and Wiry Dock. The most common weeds were pasture grasses including Phalaris, Barley-grass, Cocksfoot and Yorkshire Fog.</p> <p>Seven patches along numerous roadsides, totalling 3.288 ha, qualified as the EPBC Act-listed Natural Temperate Grassland of the Victorian Volcanic Plain. These areas would also qualify as the FFG Act-listed WPGC.</p>	4.926
<p>Plains Grassy Wetland (EVC 125) - endangered</p>	<p>Plains Grassy Wetland occurred in low-lying paddocks and along watercourses on roadsides and public land, ranging from ephemeral to permanent. Patches included native grasses such as Common Tussock-grass, Australian Sweet-grass and Common Blown-grass and native herbs including Poison Lobelia, Swamp Starwort and Creeping Monkey-flower. The most common weeds were moisture-loving grasses including Phalaris, Yorkshire Fog and Annual Beard-grass.</p>	35.369
<p>Higher Rainfall Plains Grassy Woodland (EVC 55_63) - endangered</p>	<p>Higher Rainfall Plains Grassy Woodland occurred on private land as windbreaks east of Grassmere-Hexham Road in the south-west of the site (district of Woolsthorpe), which receives an average of over 700 mm rainfall per year (BoM 2018c).</p> <p>Higher Rainfall Plains Grassy Woodland supported a canopy of River Red-gum, with the ground layer being dominated by weedy species, including pasture grasses such as Phalaris, Yorkshire Fog and Cocksfoot.</p>	1.795

EVC	Description within the project study area	Area (ha) within the project study area
Creekline Grassy Woodland (EVC 68) - endangered	Creekline Grassy Woodland occurred as three patches along an unnamed creek on private land. All patches lacked a canopy and were dominated by aquatic natives including Cumbungi, Common Reed and Water Ribbons. Slow-moving water was observed within the creekline of all patches of Creekline Grassy Woodland at the time of survey.	0.755
Aquatic Hermland (EVC 653) - endangered	Aquatic Hermland occurred throughout the study area as aquatic vegetation in creeks and large drainage lines with flowing water. It was dominated by Water Ribbons and Grey Spike-rush, with variable covers of Common Duckweed, Azolla and Swamp Wallaby-grass. Weed cover in the water was very low, although fringing vegetation tended to be heavily invaded by Toowoomba Canary Grass and other pasture grasses.	0.278
Plains Sedgy Wetland (EVC 647) - endangered	Plains Sedgy Wetland occurred throughout the study area in roadside depressions, low-lying pastureland and ephemeral drainage lines and ponds. Vegetation was often species-poor, consisting of Common Spike-rush, Swamp Wallaby-grass, Short-stem Sedge and Knob Sedge. Weed cover was often high and consisted of pasture grasses and Club-rush.	0.423
Mapped Wetlands	Mapped Wetlands occurred on private property and have been treated as native vegetation in accordance with the Guidelines. Areas of Mapped Wetlands have been given the modelled score in accordance with the Guidelines.	1.590
TOTAL		55.302

The habitat hectare assessment results for these habitat zones are provided in Appendix 1. Details of large trees in patches are provided in Appendix 2.

Transport route study area

Evidence on site, including floristic composition and soil characteristics, suggested that Plains Grassy Woodland (EVC 55_61), Plains Grassy Wetland (EVC 125), *Heavier-soils* Plains Grassland (EVC 132_61) and Creekline Grassy Woodland (EVC 68) were present within the transport route study area.

59 patches (referred to herein as habitat zones) comprising the abovementioned EVCs, were identified in the transport route study area. This totalled an area of 19.514 hectares of native vegetation in patches and included 13 large trees in patches (Table 7).

Table 7: Area of each EVC in the transport route study area

EVC	Area (ha) within the transport route study area
Heavier-soils Plains Grassland (EVC 132_61) - endangered	10.641
Plains Grassy Woodland (EVC 55_61) - endangered	8.837
Creekline Grassy Woodland (EVC 68) - endangered	0.028
Plains Grassy Wetland (EVC 125) - endangered	0.008
TOTAL	19.514

Road widening study area

Evidence on site, including floristic composition and soil characteristics, suggested that Plains Grassy Woodland (EVC 55_61), Plains Grassy Wetland (EVC 125), Heavier-soils Plains Grassland (EVC 132_61) and Creekline Grassy Woodland (EVC 68) were present within the road widening study area.

131 patches (referred to herein as habitat zones) comprising the abovementioned EVCs, were identified in the road widening study area. This totalled an area of 36.816 hectares of native vegetation in patches and included one large tree in a patch (Table 8).

Table 8: Area of each EVC in the road widening study area

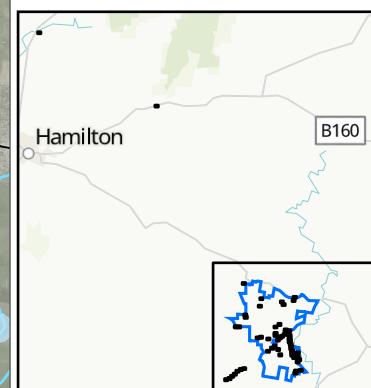
EVC	Area (ha) within the road widening study area
Heavier-soils Plains Grassland (EVC 132_61) - endangered	19.317
Plains Grassy Woodland (EVC 55_61) - endangered	17.419
Plains Grassy Wetland (EVC 125) - endangered	0.052
Creekline Grassy Woodland (EVC 68) - endangered	0.028
TOTAL	36.816

Figure 1: Wind farm overview

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 11/09/2025

Wind farm boundary
● Proposed turbine - v183.7
DEECA wetland
Watercourse

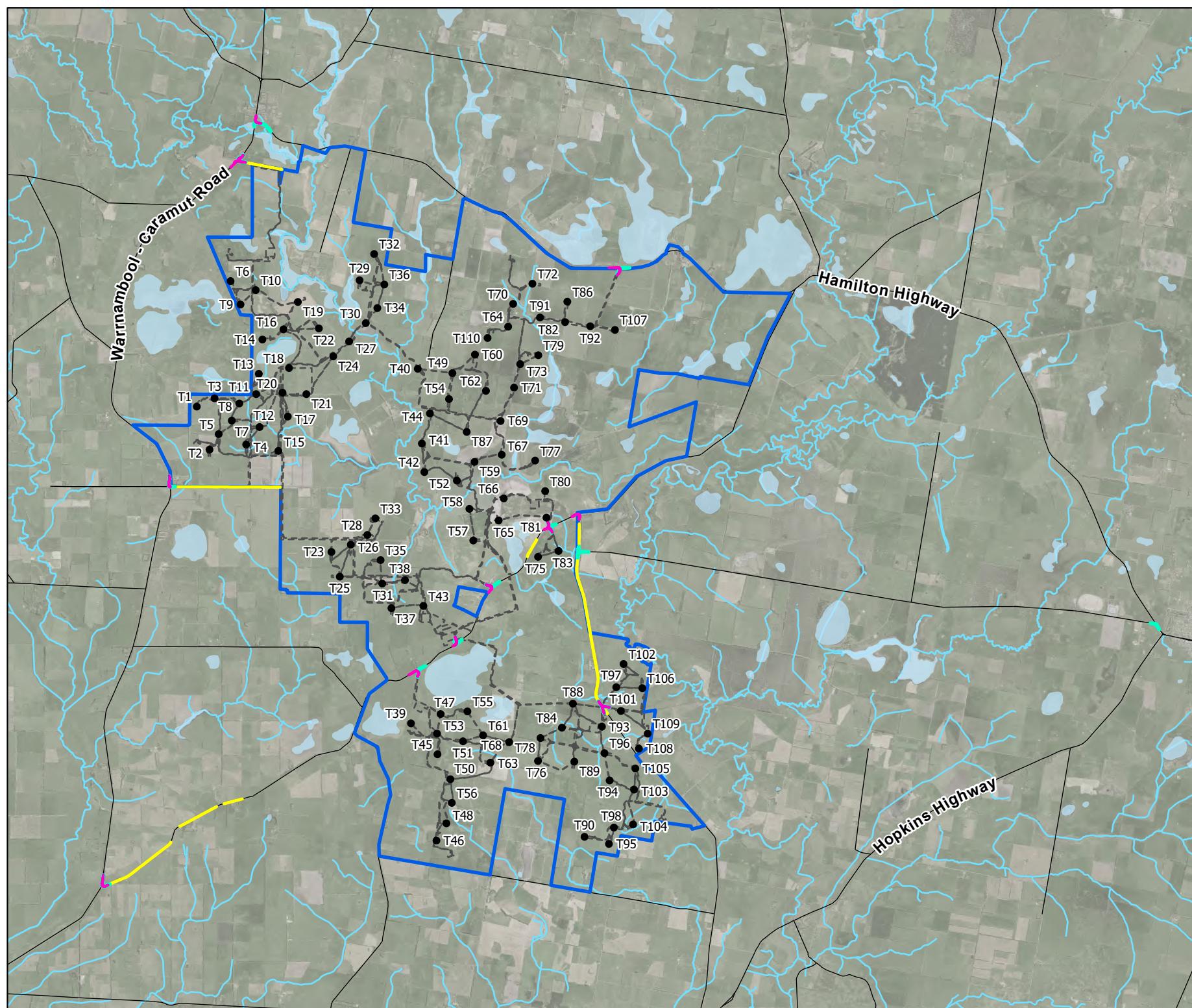
Works area
□ Development footprint - v183.7
□ Local road upgrades
□ Portland transport route
□ Geelong transport route



N
0 1 2 3 4
Kilometres



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5.3.2. Scattered trees

Project study area

Scattered trees recorded in the project study area would have once comprised the canopy component of Plains Grassy Woodland (EVC 55_61).

31 scattered trees occurred in the project study area (Appendix 2), including:

- 15 large scattered trees (\geq 80 centimetres DBH, two of which are dead); and
- 16 small scattered trees ($<$ 80 centimetres DBH).

Details of all scattered trees recorded are listed in Appendix 2.

Transport route

No scattered trees were recorded within the transport route study area.

Road widening

No scattered trees were recorded within the road widening study area.

Figure 2-1: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

Works area

Portland transport route

Native vegetation

Native Vegetation

- Large tree in Patch
- Large Tree in Patch

● Large Scattered Tree

TPZ

Plains Grassy Woodland

Removal

 Native vegetation to be removed by
Portland transport route



Figure 2-2: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

Works area

 Portland transport route

Native vegetation

 Large Tree in Patch

 Large Scattered Tree

 Small Scattered Tree

 TPZ

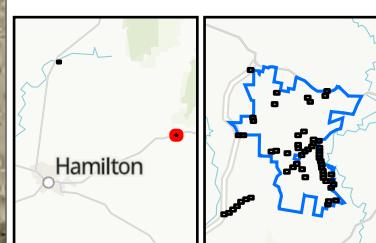
 Plains Grassy Woodland

FFG community

 Western Basalt Plains (River Red Gum) Grassy Woodland

Removal

 Native vegetation to be removed by Portland transport route



 Metres



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Figure 2-3: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

Works area

- Development footprint - v183.7
- Local road upgrades
- Geelong transport route
- Portland transport route

Native vegetation

- Plains Grassy Woodland

FFG community

- Western (Basalt) Plains Grasslands Community

Removal

- Native vegetation to be removed by Geelong transport route
- Native vegetation to be removed by Portland transport route



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Figure 2-4: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary** (Solid blue line)
- Works area**
 - Development footprint - v183.7** (Pink dashed line)
 - Geelong transport route** (Magenta dashed line)
 - Portland transport route** (Cyan dashed line)
- Native vegetation**
 - Plains Grassland** (Pink hatched area)
- FFG community**
 - Western (Basalt) Plains Grasslands Community** (Yellow dashed line)
- EPBC community**
 - Natural Temperate Grassland of the Victorian Volcanic Plain** (Light green area)
 - DEECA wetland** (Light blue area)

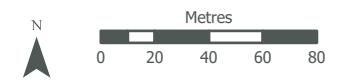
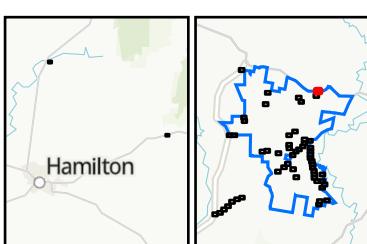
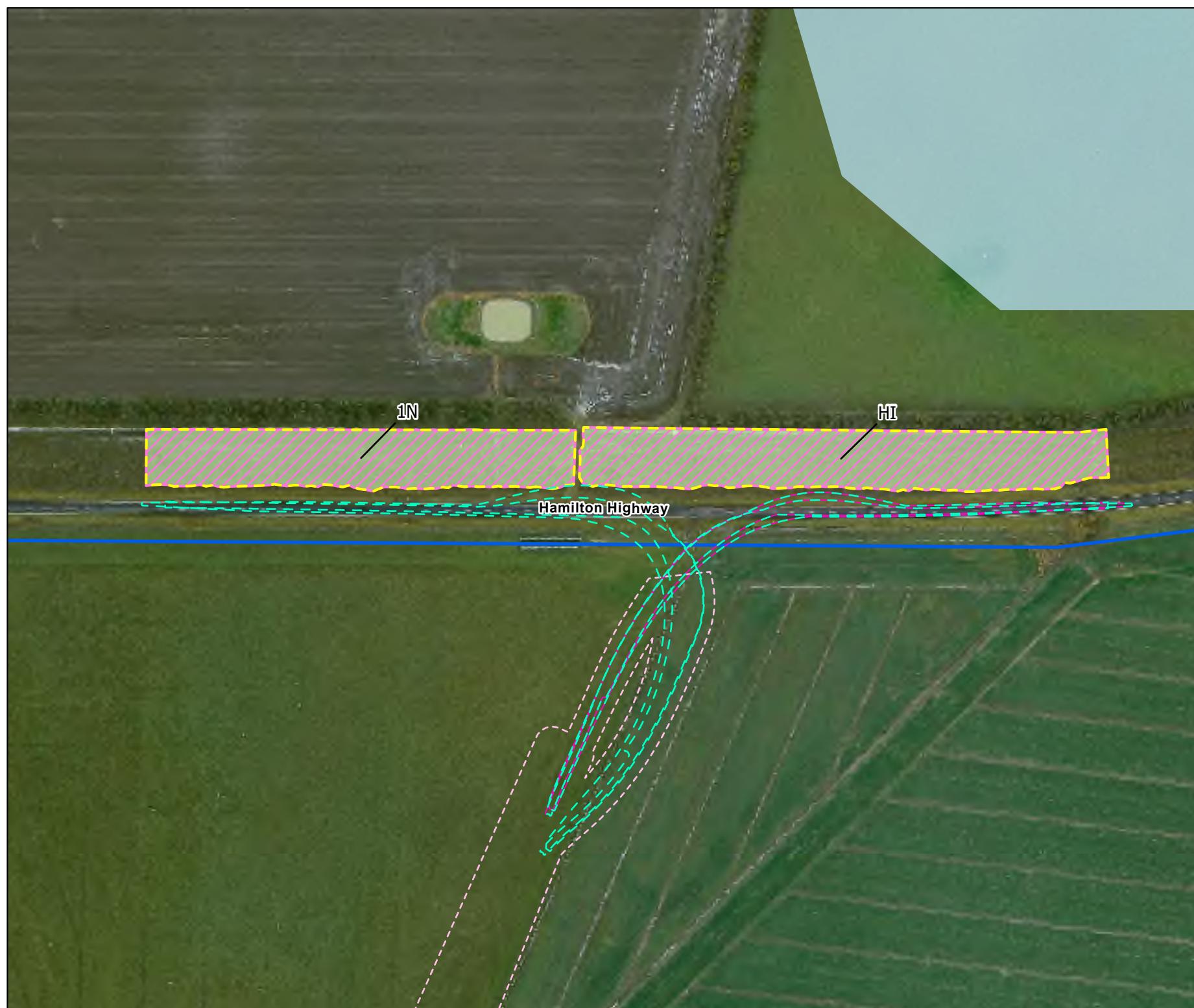


Figure 2-5: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

Wind farm boundary

Works area

Development footprint - v183.7

Native vegetation

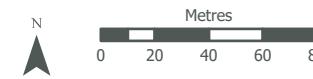
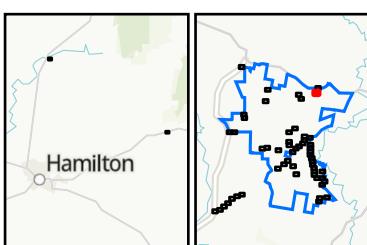
- Large Tree in Patch
- Large Scattered Tree
- Small Scattered Tree

TPZ

Plains Grassy Woodland

Removal

- Tree to be removed by Development footprint
- Native vegetation to be removed by Development footprint



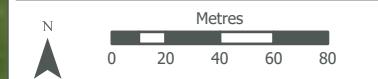
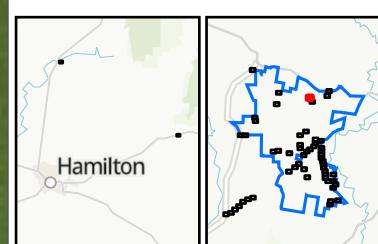
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Figure 2-6: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary** 
- Works area** 
- Development footprint - v183.7** 
- Proposed turbine - v183.7** 
- Native vegetation** 
- Plains Grassy Wetland** 
- Removal** 
- Native vegetation to be removed by Development footprint** 

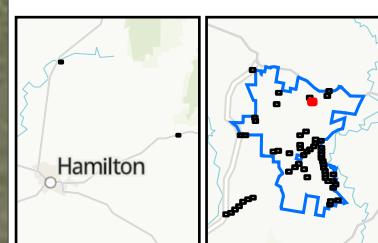


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Figure 2-7: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary** (Blue line)
- Works area**
 - Development footprint - v183.7** (Dashed pink line)
 - Proposed turbine - v183.7** (Black dot)
- Native vegetation**
 - Plains Grassy Wetland** (Green hatched area)
- Removal**
 - Native vegetation to be removed by Development footprint** (Red hatched area)

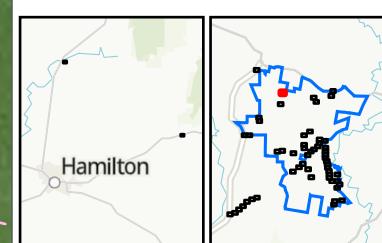


Metres
0 20 40 60 80

Figure 2-8: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary** (Blue line)
- Works area**
 - Development footprint - v183.7** (Dashed pink line)
 - Proposed turbine - v183.7** (Black dot)
- Native vegetation**
 - Plains Grassland** (Pink hatched area)
 - Plains Grassy Woodland** (Yellow hatched area)
- Removal**
 - Native vegetation to be removed by Development footprint** (Red area)



N
Metres
0 20 40 60 80



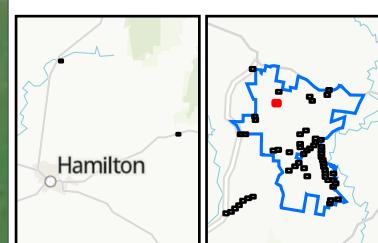
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Figure 2-9: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Development footprint - v183.7
- Proposed turbine - v183.7
- Native vegetation
 - Plains Sedgy Wetland
 - Riparian Woodland
 - DEECA wetland
- Removal
 - Native vegetation to be removed by Development footprint

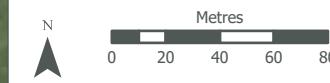
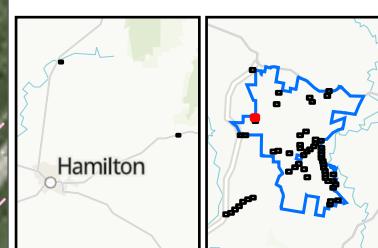


N
Metres
0 20 40 60 80

Figure 2-10: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary**
- Works area**
- Development footprint - v183.7**
- Proposed turbine - v183.7**
- Native vegetation**
- Creekline Grassy Woodland**
- Removal**
- Native vegetation to be removed by Development footprint**



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Figure 2-11: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary** (Blue line)
- Works area**
 - Development footprint - v183.7** (Dashed pink line)
 - Proposed turbine - v183.7** (Black dot)
- Native vegetation**
 - Creekline Grassy Woodland** (Green hatched area)
- Removal**
 - Native vegetation to be removed by Development footprint** (Red area)

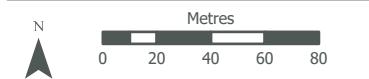
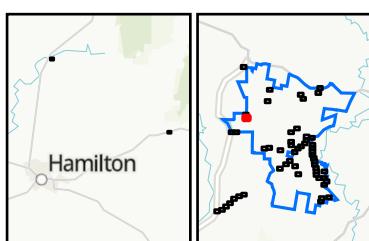
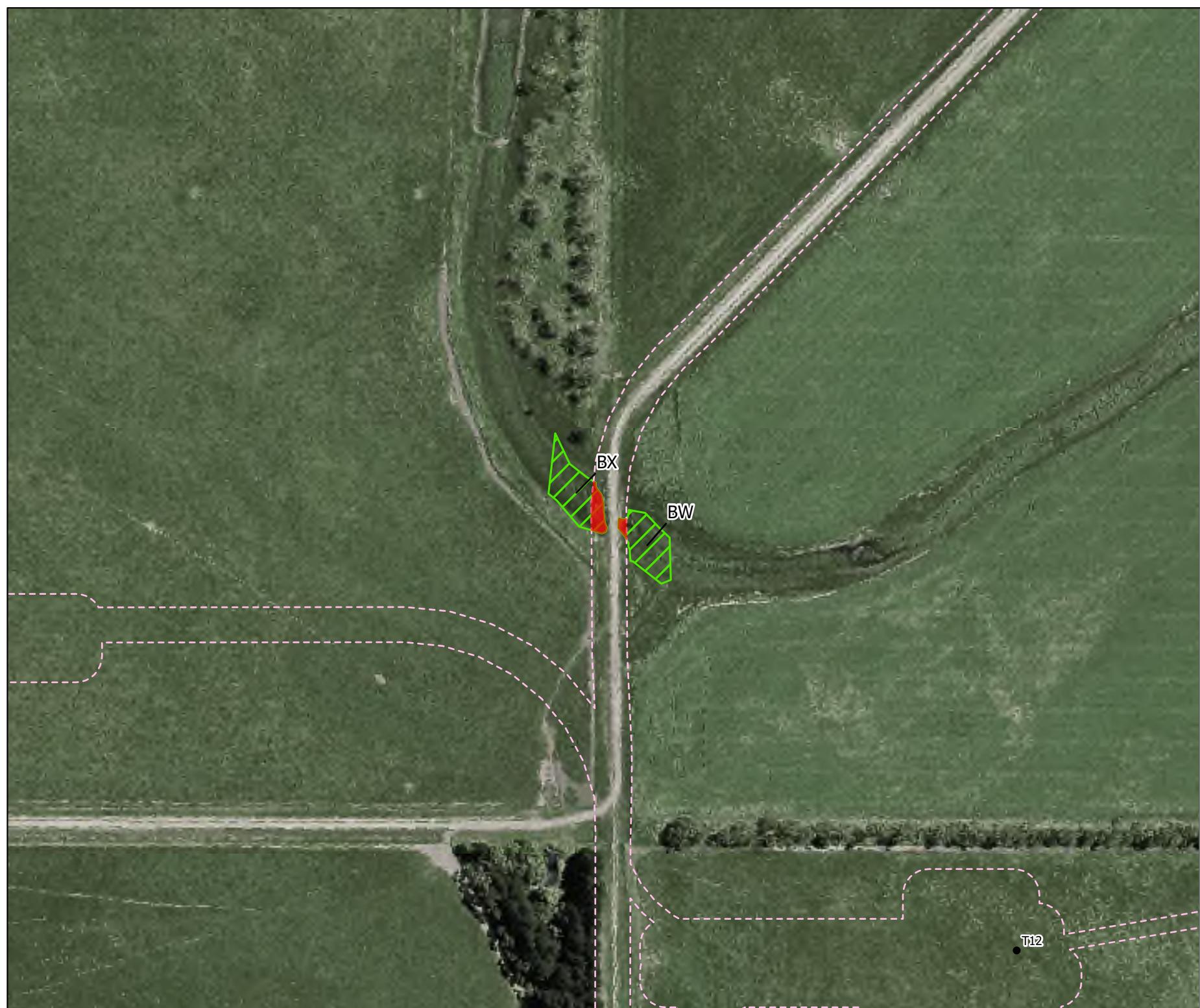


Figure 2-12: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

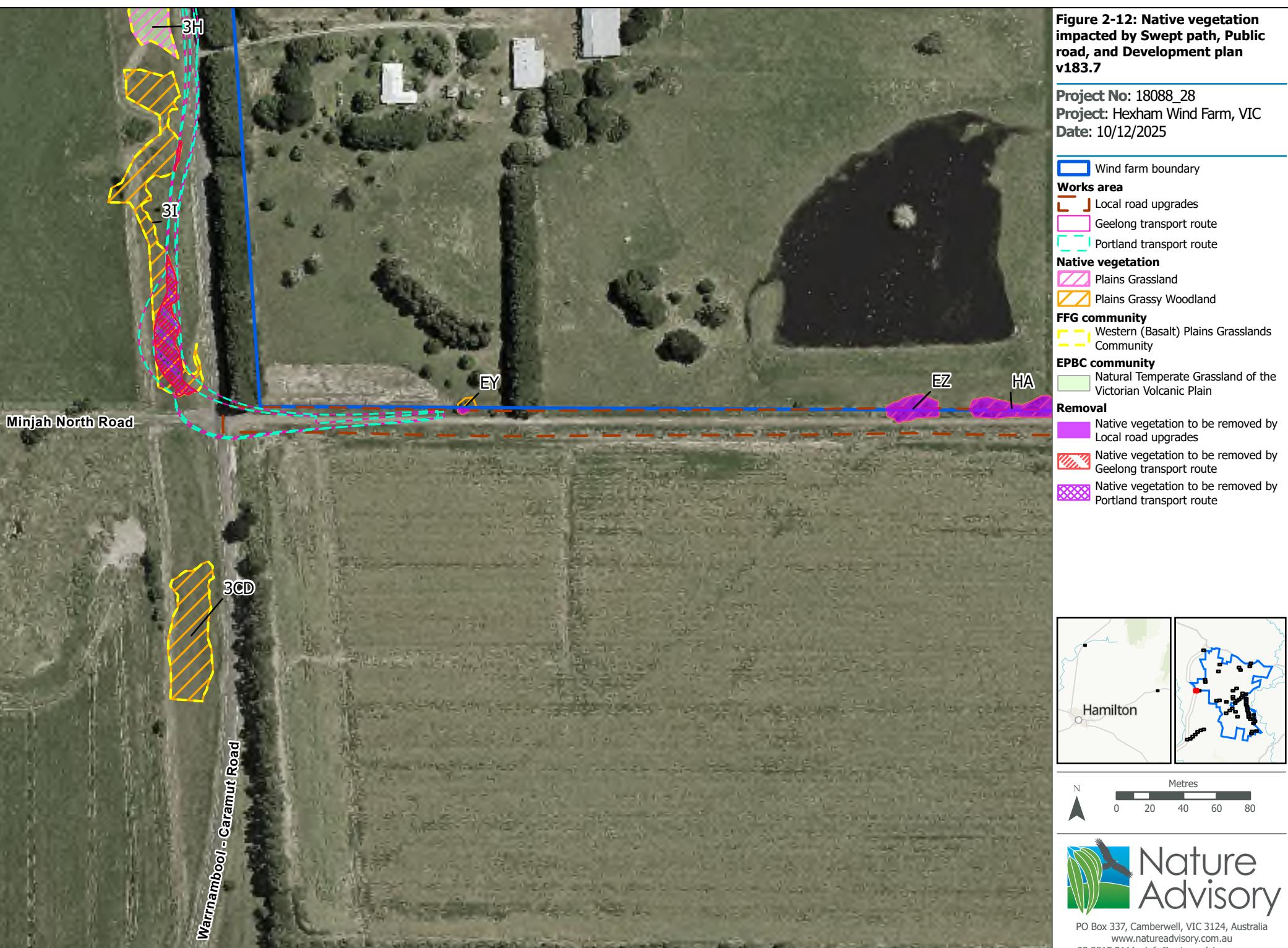


Figure 2-13: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Local road upgrades
- Native vegetation
- Plains Grassy Woodland
- Removal
- Native vegetation to be removed by Local road upgrades

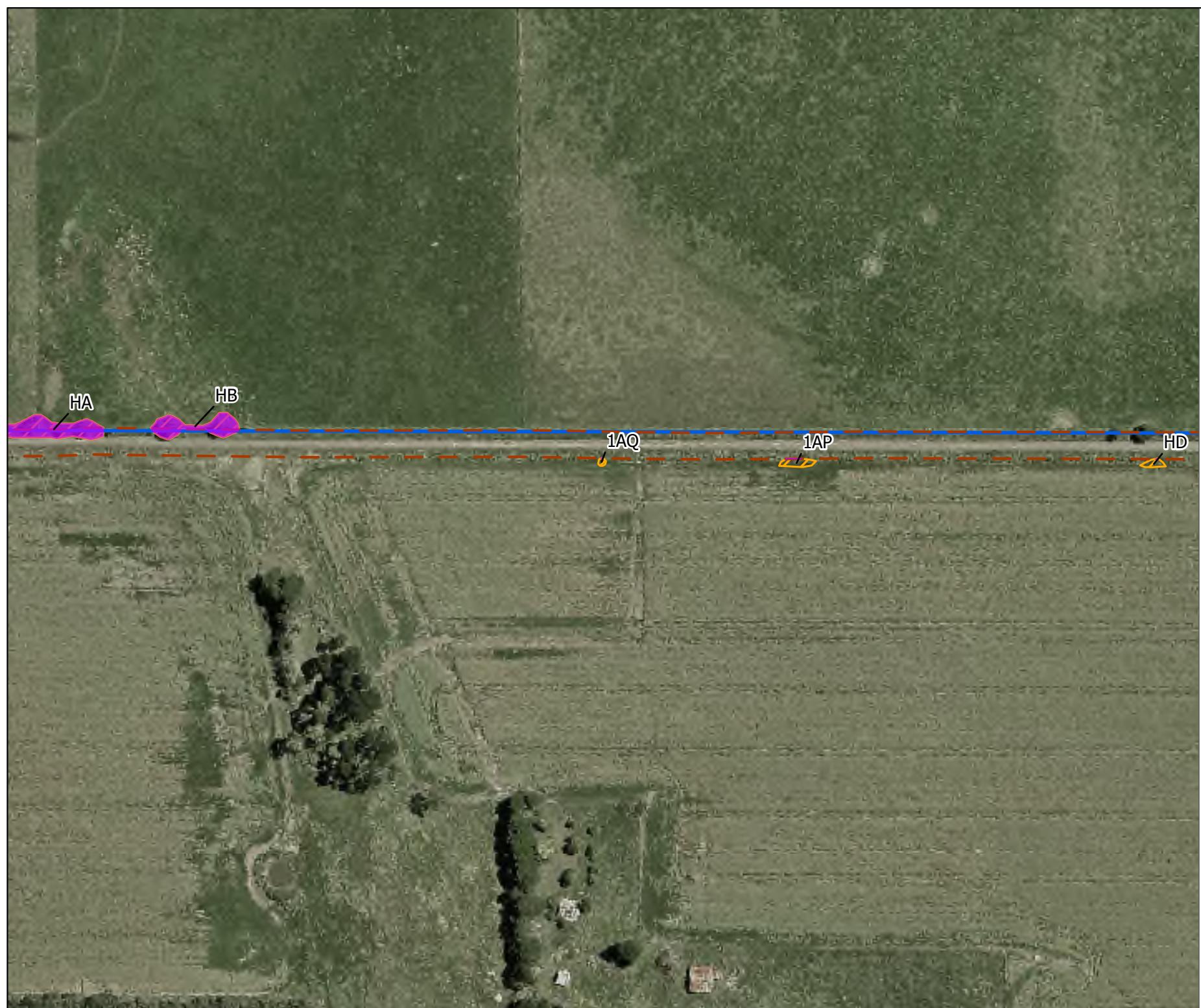


Figure 2-14: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025



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Figure 2-15: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

 Wind farm boundary

Works area

 Development footprint - v183.7

Native vegetation

-  Small Scattered Tree
-  TPZ
-  Aquatic Herbland

Removal

-  Tree to be removed by Development footprint
-  Native vegetation to be removed by Development footprint

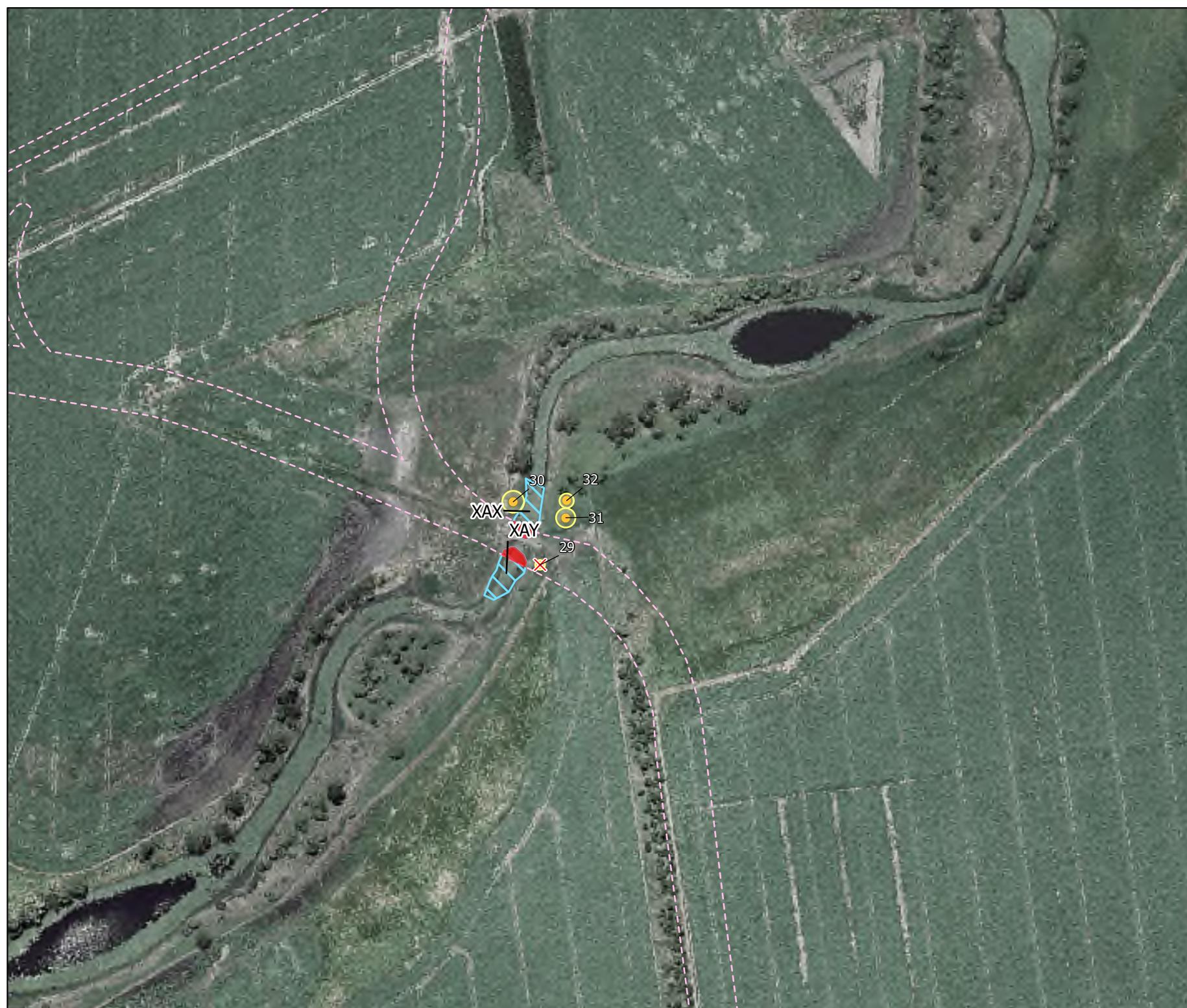
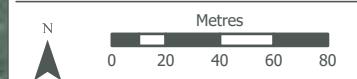
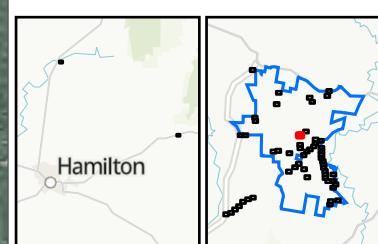


Figure 2-16: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary** (Blue line)
- Works area** (Pink dashed line)
- Development footprint - v183.7** (Pink dashed line)
- Proposed turbine - v183.7** (Black dot)
- Native vegetation** (Green hatched area)
- Plains Grassy Wetland** (Green hatched area)
- Removal** (Red area)
- Native vegetation to be removed by Development footprint** (Red area)

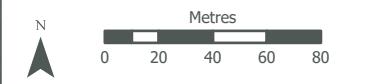
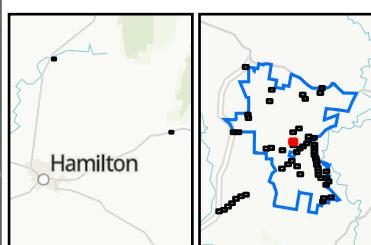
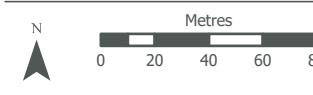
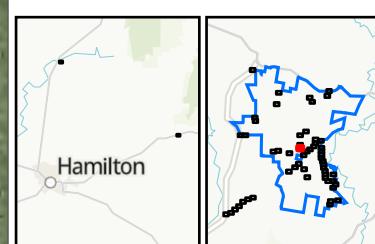




Figure 2-17: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Development footprint - v183.7
- Native vegetation
- Plains Grassy Wetland
- Removal
 - Native vegetation to be removed by Development footprint



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Figure 2-18: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Development footprint - v183.7
- Native vegetation
- Plains Grassy Wetland
- Removal
- Native vegetation to be removed by Development footprint

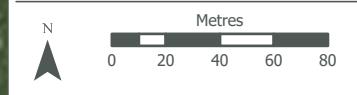
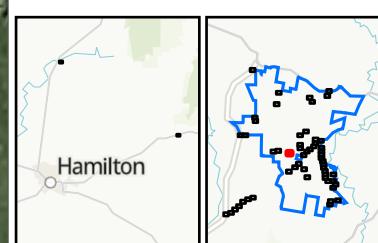
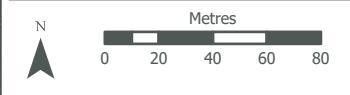
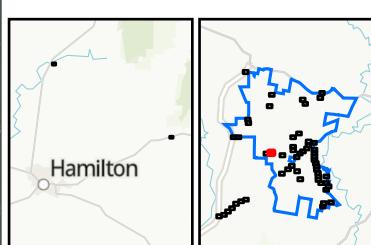


Figure 2-19: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Development footprint - v183.7
- Native vegetation**
 - Small Scattered Tree
 - TPZ
- Removal**
 - Tree to be removed by Development footprint

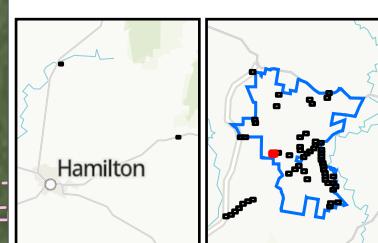
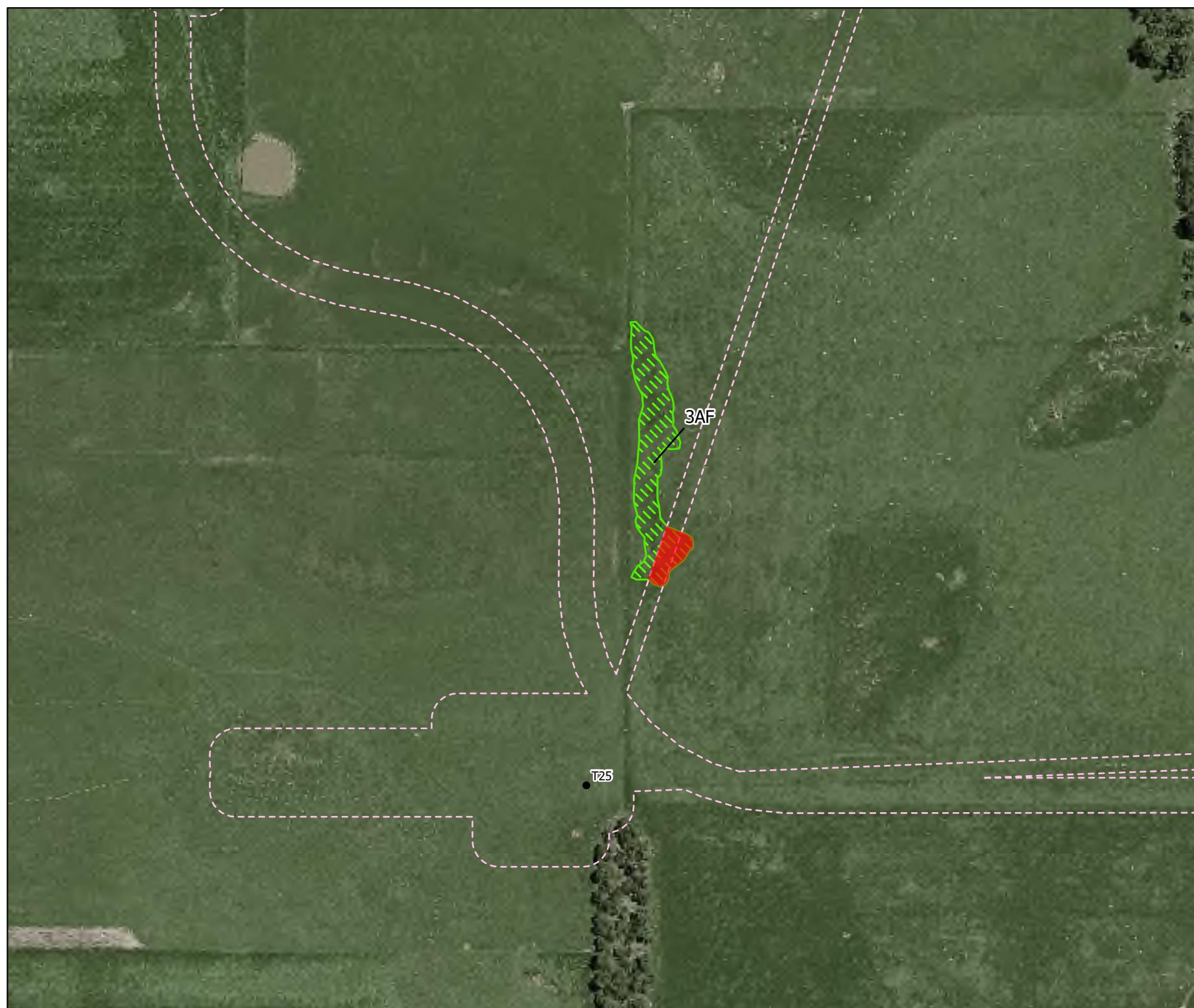


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Figure 2-20: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
 - Development footprint - v183.7
 - Proposed turbine - v183.7
- Native vegetation
- Plains Grassy Wetland
- Removal
 - Native vegetation to be removed by Development footprint



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Figure 2-21: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
 - Development footprint - v183.7
 - Geelong transport route
 - Portland transport route
- Proposed turbine - v183.7
- Native vegetation
 - Plains Grassland
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands Community
- Removal
 - Native vegetation to be removed by Development footprint

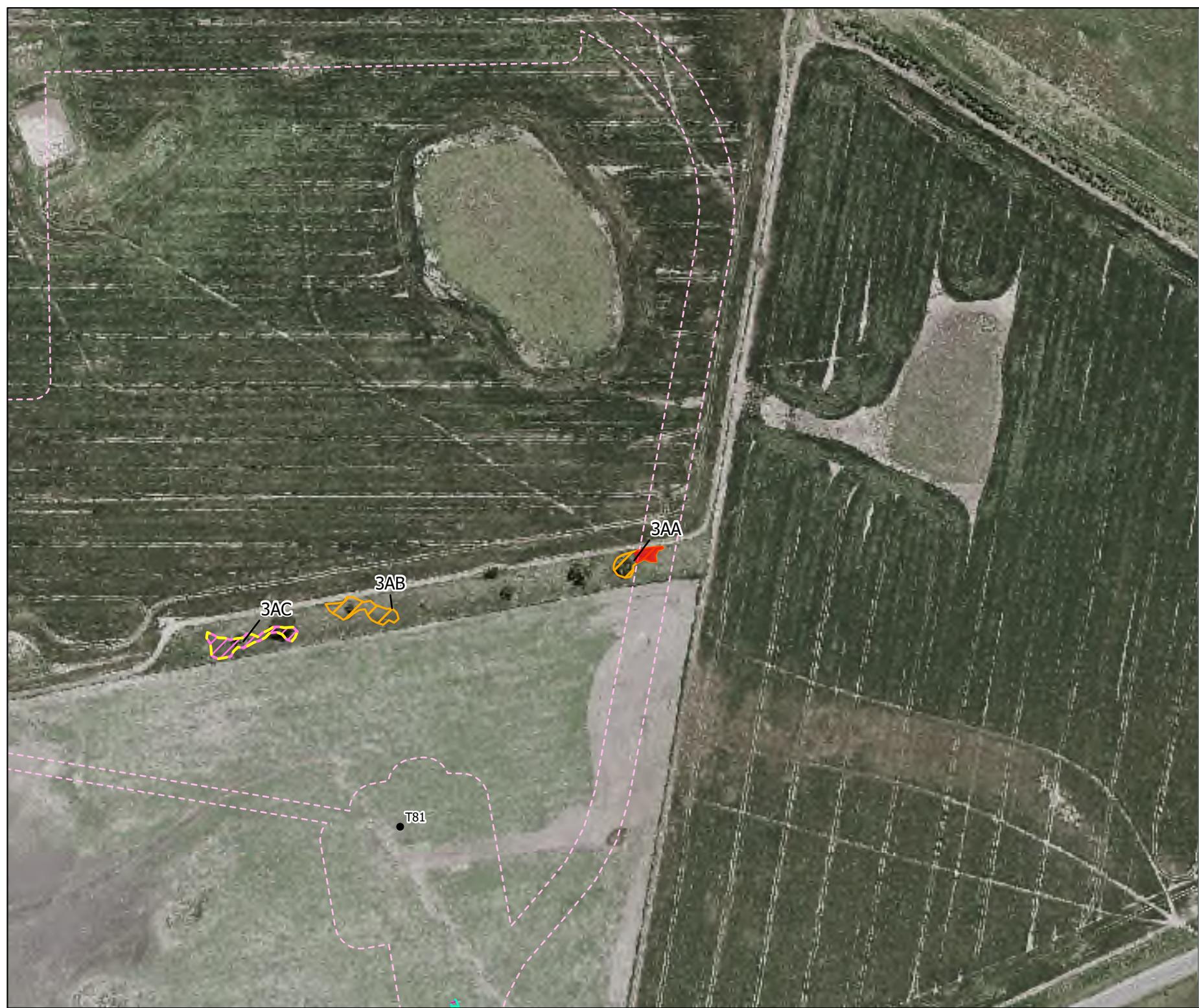
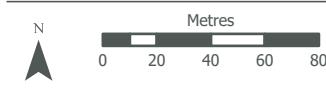
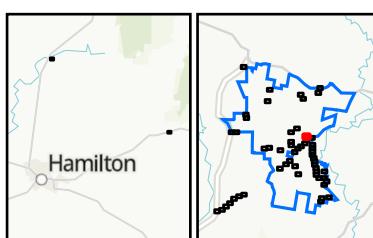


Figure 2-22: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

Wind farm boundary

Works area

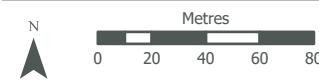
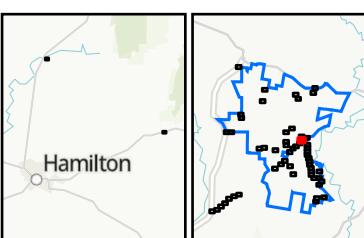
- Development footprint - v183.7
- Geelong transport route
- Portland transport route
- Proposed turbine - v183.7

Native vegetation

- Large Tree in Patch
- Large Scattered Tree
- TPZ
- Plains Grassy Woodland

Removal

- Native vegetation to be removed by Geelong transport route



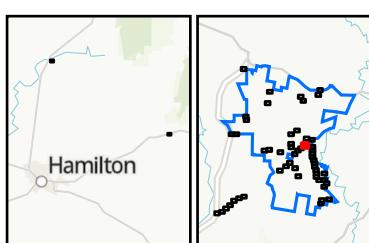
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Figure 2-23: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
 - Development footprint - v183.7
 - Local road upgrades
- Native vegetation
 - Large Tree in Patch
 - TPZ
 - Plains Grassy Woodland
 - DEECA wetland
- Removal
 - Native vegetation to be removed by Local road upgrades



Metres

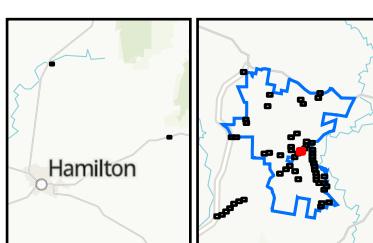


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Figure 2-24: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Local road upgrades
- Native vegetation
 - Plains Grassy Woodland
 - DEECA wetland
- Removal
 - Native vegetation to be removed by Local road upgrades



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Metres
0 20 40 60 80

Figure 2-25: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary** (Blue line)
- Works area**
 - Development footprint - v183.7** (Dashed pink line)
- Native vegetation**
 - Plains Grassy Wetland** (Green hatched area)
 - Plains Grassy Woodland** (Orange hatched area)
 - DEECA wetland** (Light blue area)
- Removal**
 - Native vegetation to be removed by Development footprint** (Red area)

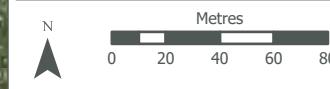
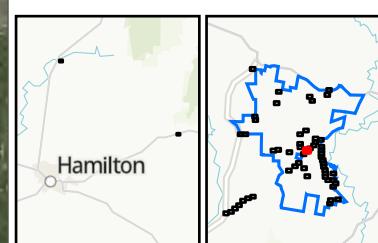


Figure 2-26: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
 - Development footprint - v183.7
 - Geelong transport route
 - Portland transport route
- Native vegetation
 - Plains Grassland
 - Plains Grassy Wetland
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands
 - Community
- Removal
 - Native vegetation to be removed by Geelong transport route
 - Native vegetation to be removed by Portland transport route

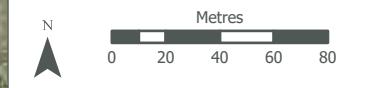
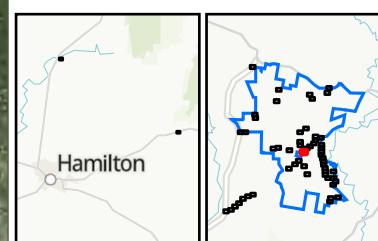
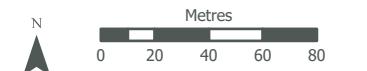
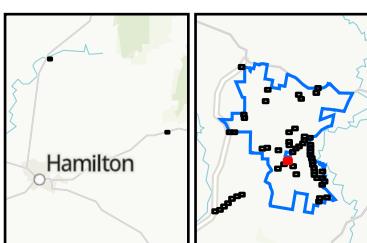


Figure 2-27: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
 - Development footprint - v183.7
 - Geelong transport route
 - Portland transport route
- Native vegetation
 - Plains Grassland
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands Community
- EPBC community
 - Natural Temperate Grassland of the Victorian Volcanic Plain
- Removal
 - Native vegetation to be removed by Portland transport route



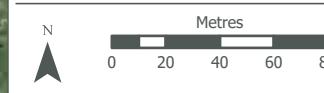
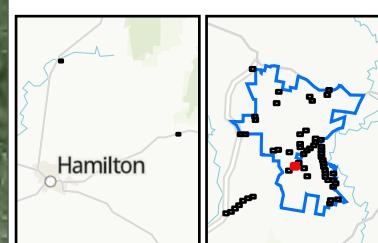
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Figure 2-28: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
 - Development footprint - v183.7
 - Geelong transport route
 - Portland transport route
- Native vegetation
 - Plains Grassland
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands Community
- EPBC community
 - Natural Temperate Grassland of the Victorian Volcanic Plain
 - DEECA wetland
- Removal
 - Native vegetation to be removed by Geelong transport route
 - Native vegetation to be removed by Portland transport route



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Figure 2-29: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

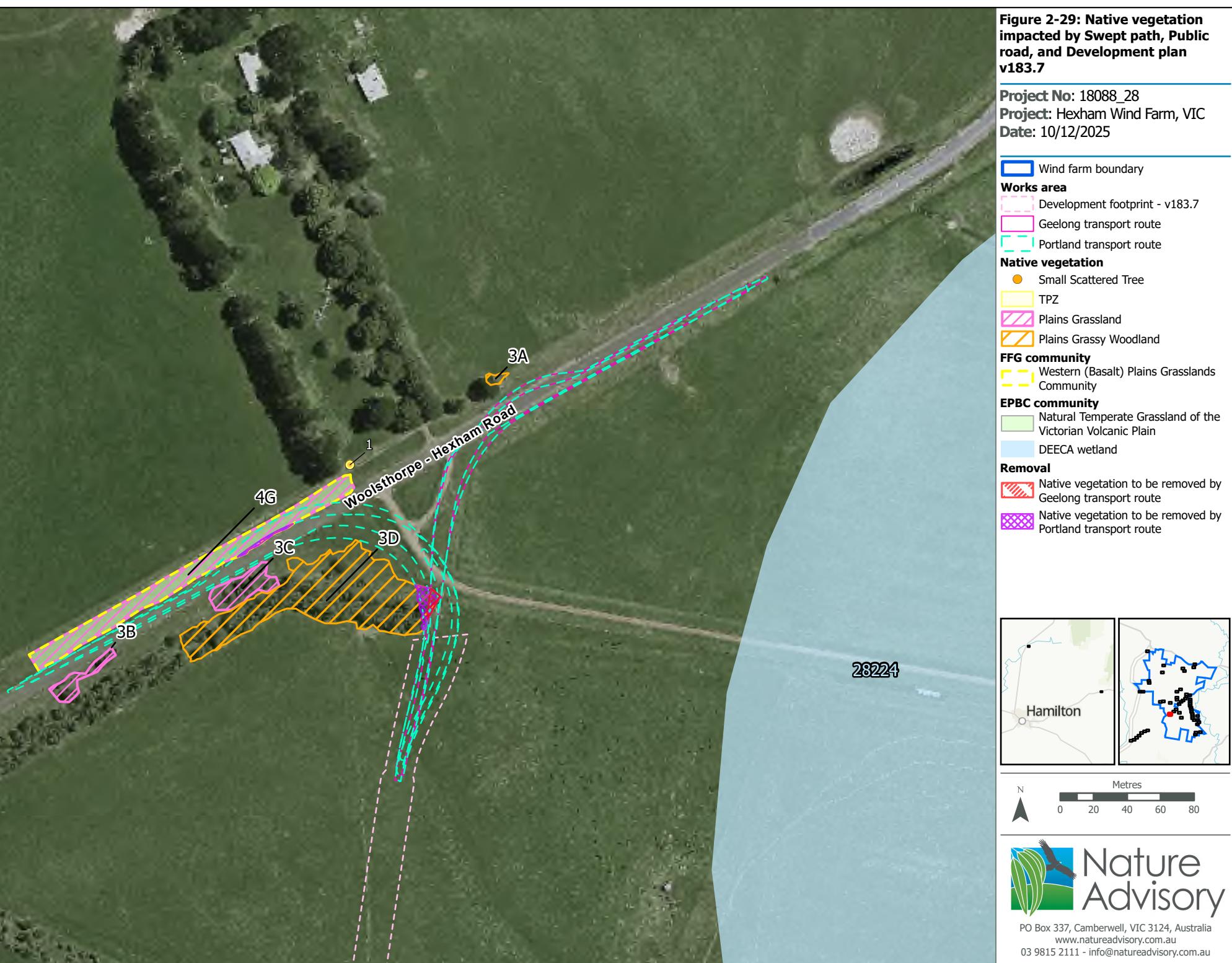
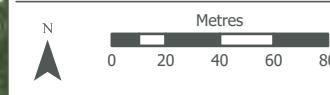
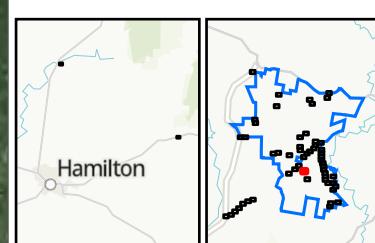


Figure 2-30: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Development footprint - v183.7
- DEECA wetland
- Removal
 - Native vegetation to be removed by Development footprint

28224



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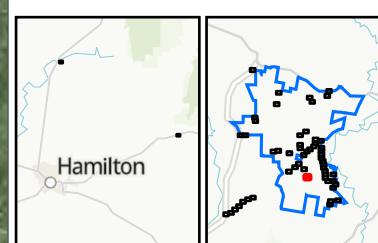
Figure 2-31: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

Wind farm boundary
Development footprint - v183.7
Native vegetation
Plains Grassy Woodland
DEECA wetland
Native vegetation to be removed by Development footprint

Removal

Native vegetation to be removed by Development footprint



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Figure 2-32: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Local road upgrades
- Portland transport route
- Native vegetation
 - Plains Grassland
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands
 - Community
- EPBC community
 - Natural Temperate Grassland of the Victorian Volcanic Plain
- Removal
 - Native vegetation to be removed by Portland transport route

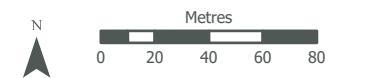
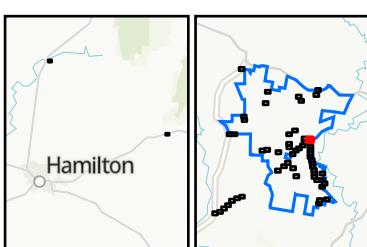


Figure 2-33: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

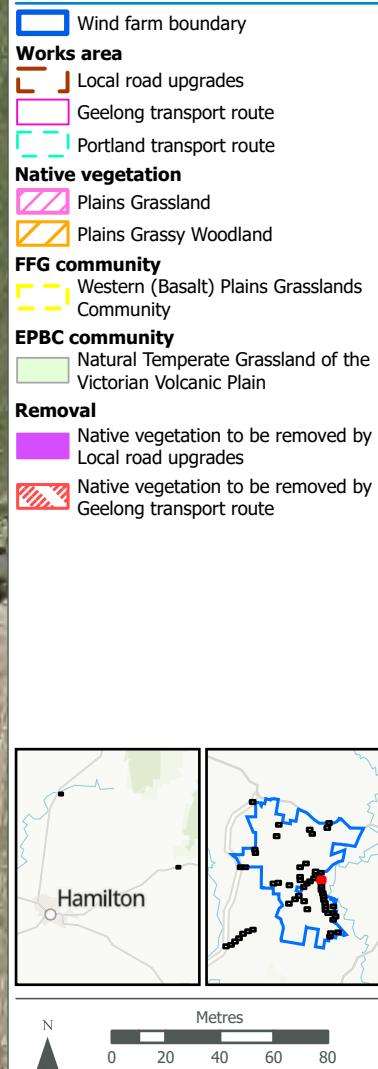
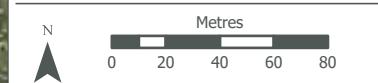
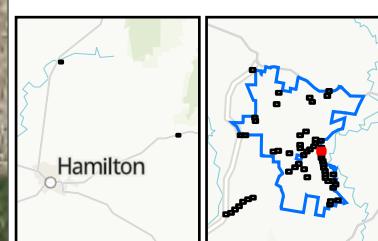


Figure 2-34: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
 - Local road upgrades
 - Geelong transport route
 - Portland transport route
- Native vegetation
 - Plains Grassland
 - Plains Grassy Wetland
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands Community
- EPBC community
 - Natural Temperate Grassland of the Victorian Volcanic Plain
 - Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Removal
 - Native vegetation to be removed by Local road upgrades



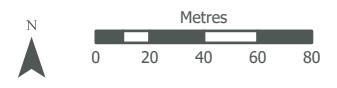
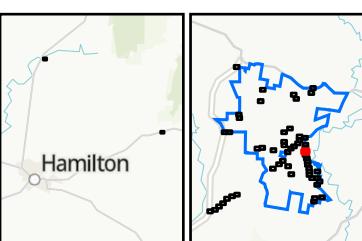
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Figure 2-35: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Local road upgrades
- Native vegetation
 - Plains Grassy Wetland
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands
 - Community
- EPBC community
 - Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Removal
 - Native vegetation to be removed by Local road upgrades



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Figure 2-36: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Local road upgrades
- Native vegetation
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands Community
- EPBC community
 - Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Removal
 - Native vegetation to be removed by Local road upgrades

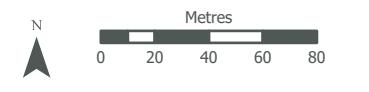
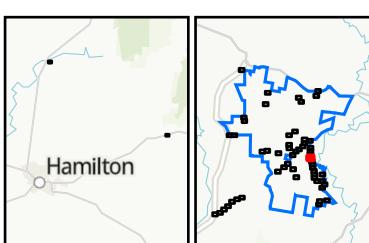
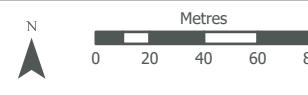
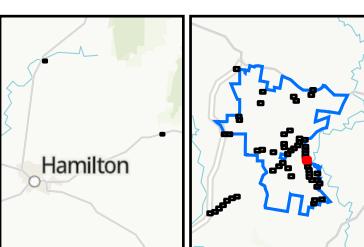


Figure 2-37: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Local road upgrades
- Native vegetation
 - Plains Grassland
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands
 - Community
- EPBC community
 - Natural Temperate Grassland of the Victorian Volcanic Plain
 - Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Removal
 - Native vegetation to be removed by Local road upgrades



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Figure 2-38: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Local road upgrades
- Native vegetation
 - Plains Grassland
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands
 - Community
- EPBC community
 - Natural Temperate Grassland of the Victorian Volcanic Plain
 - Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Removal
 - Native vegetation to be removed by Local road upgrades

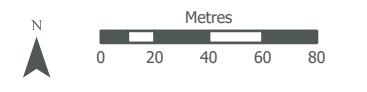
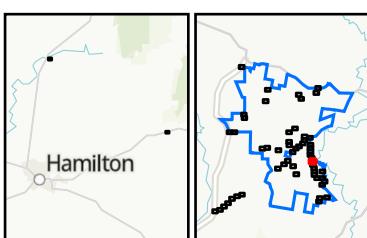
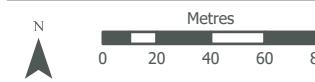
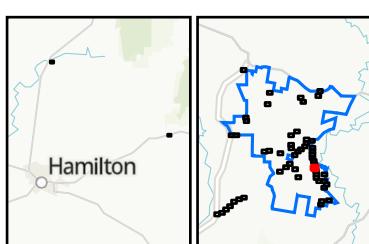


Figure 2-39: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Local road upgrades
- Native vegetation
 - Plains Grassland
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands
 - Community
- EPBC community
 - Natural Temperate Grassland of the Victorian Volcanic Plain
 - Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Removal
 - Native vegetation to be removed by Local road upgrades



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Figure 2-40: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Local road upgrades
- Native vegetation
 - Plains Grassy Woodland
 - Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- EPBC community
- Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Removal
 - Native vegetation to be removed by Local road upgrades

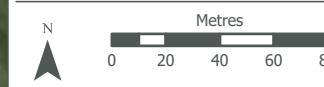
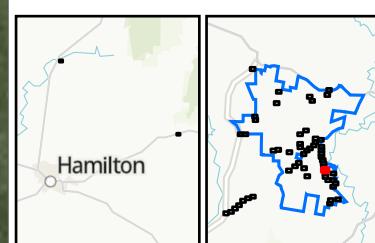
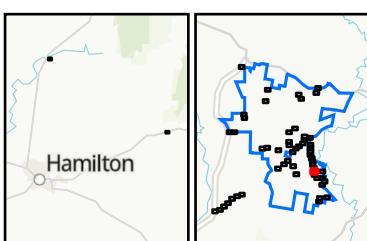


Figure 2-41: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
 - Development footprint - v183.7
 - Local road upgrades
- Native vegetation
 - Large Tree in Patch
 - TPZ
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands Community
- EPBC community
 - Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Removal
 - Native vegetation to be removed by Local road upgrades



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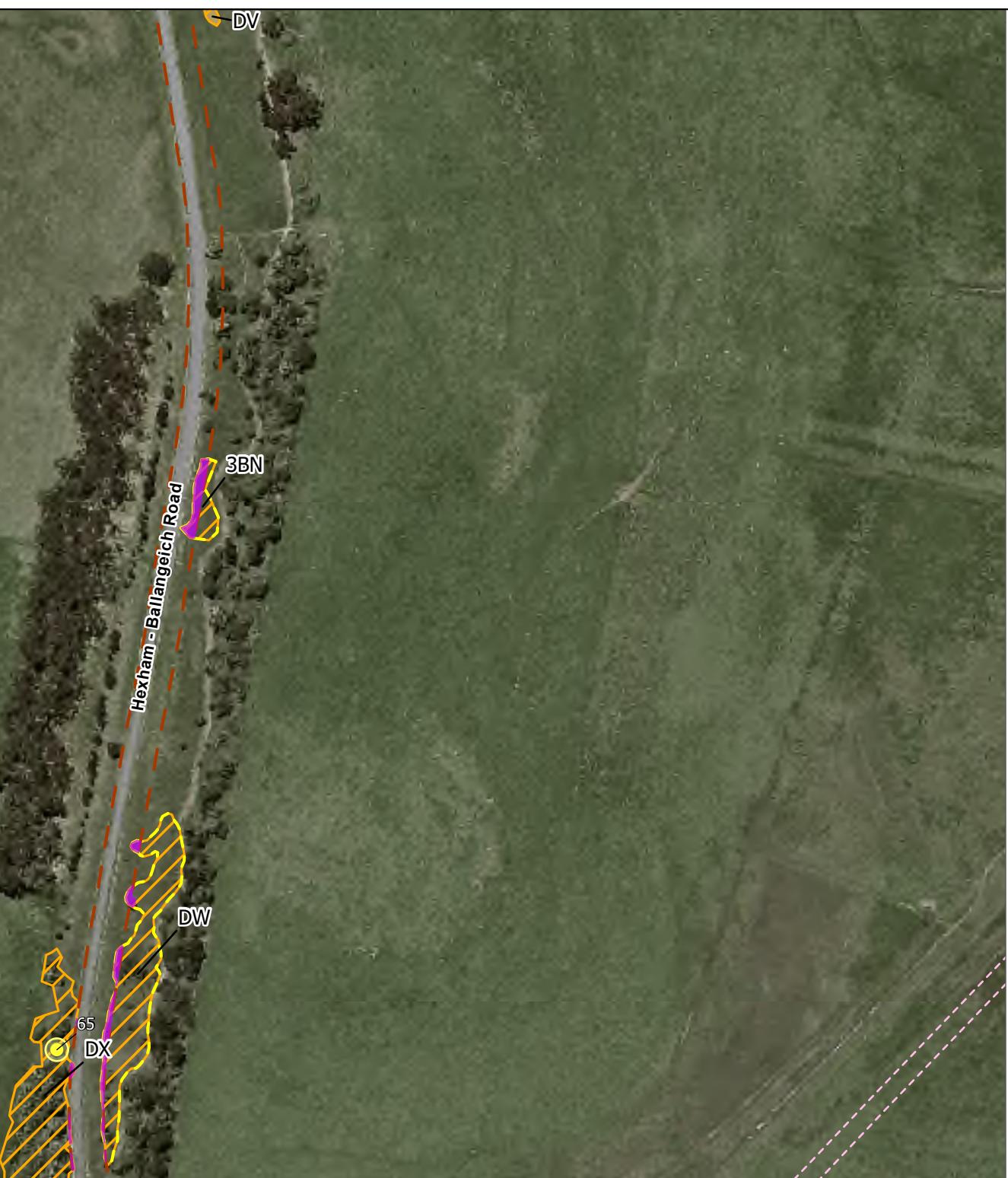
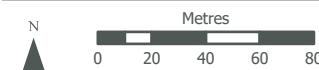
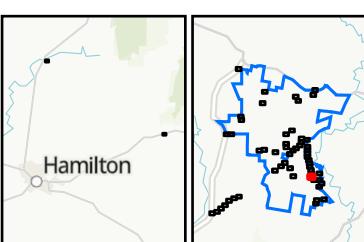


Figure 2-42: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
 - Development footprint - v183.7
 - Local road upgrades
 - Geelong transport route
 - Portland transport route
- Native vegetation
 - Large Tree in Patch
 - TPZ
 - Creekline Grassy Woodland
 - Plains Grassland
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands Community
- EPBC community
 - Natural Temperate Grassland of the Victorian Volcanic Plain
 - Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Removal
 - Native vegetation to be removed by Local road upgrades



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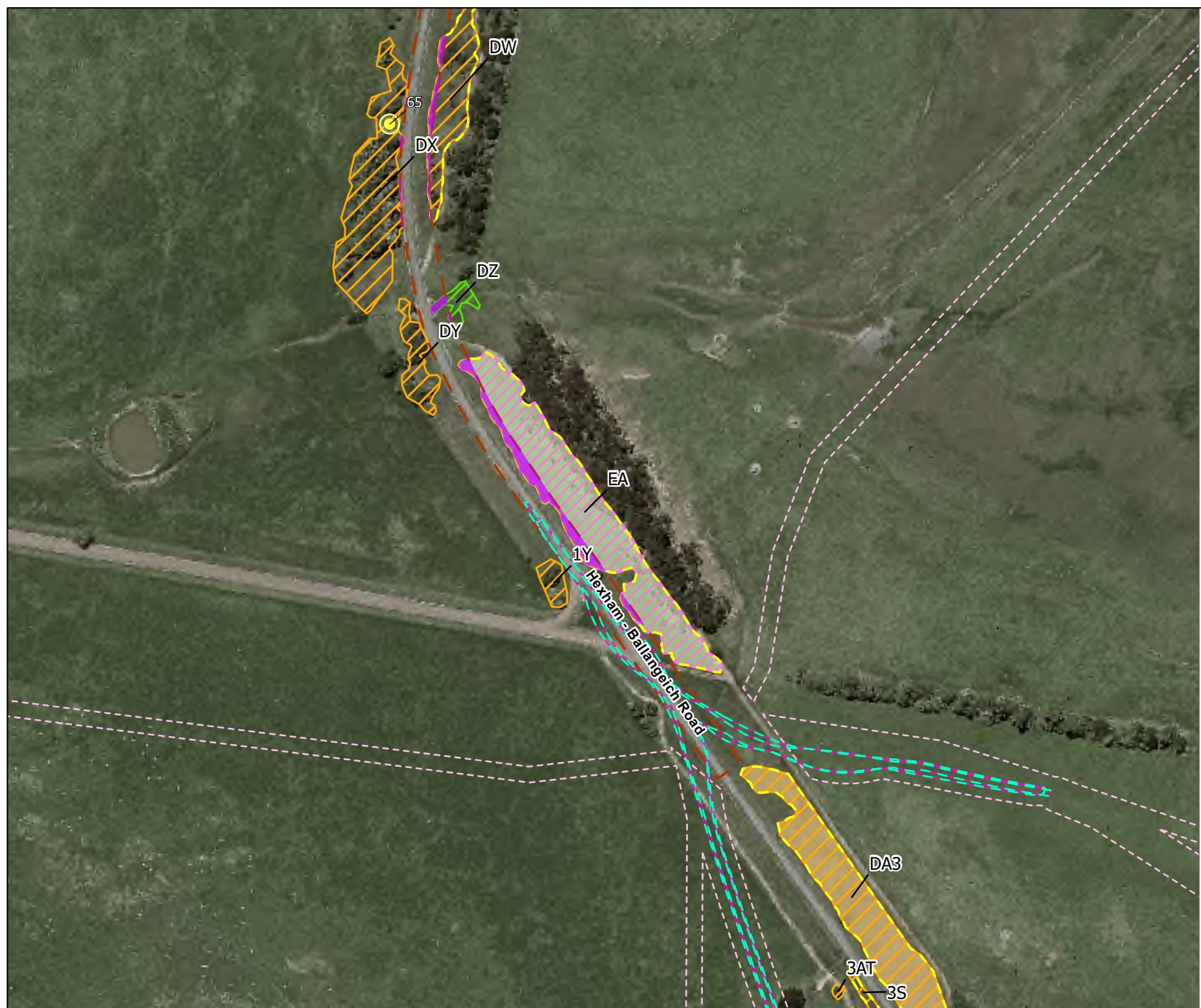
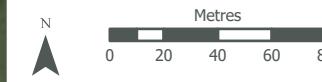
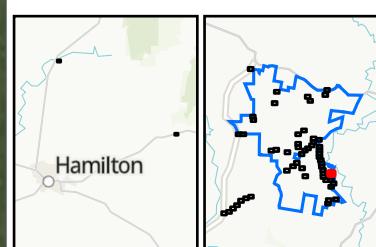


Figure 2-43: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Development footprint - v183.7
- Proposed turbine - v183.7
- Native vegetation**
- Large Scattered Tree
- TPZ
- Removal**
- Tree to be removed by Development footprint



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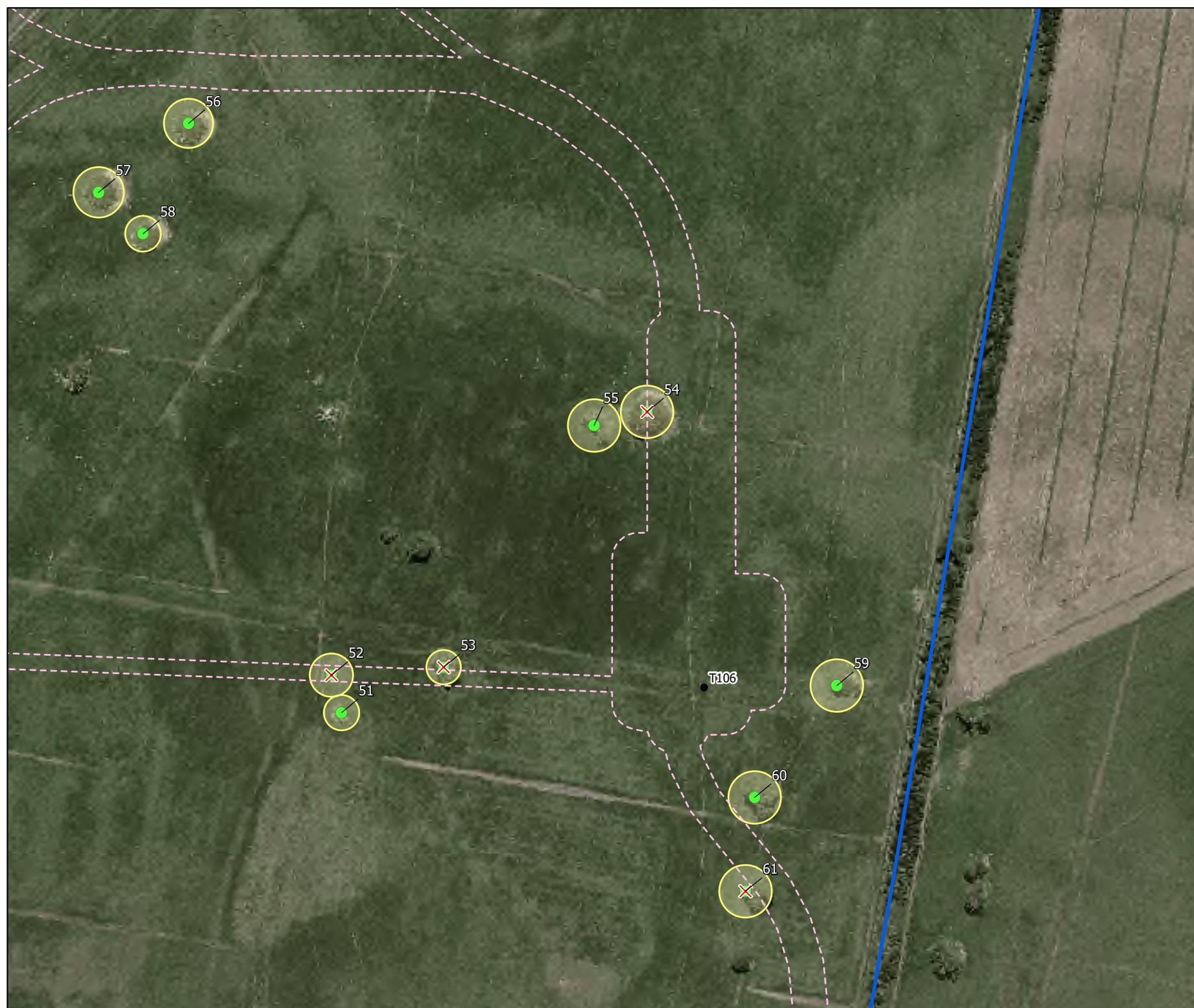


Figure 2-44: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
 - Development footprint - v183.7
 - Geelong transport route
 - Portland transport route
- Proposed turbine - v183.7
- Native vegetation
 - Plains Grassy Woodland
- FFG community
 - Western (Basalt) Plains Grasslands Community
- EPBC community
 - Grassy Eucalypt Woodland of the Victorian Volcanic Plain

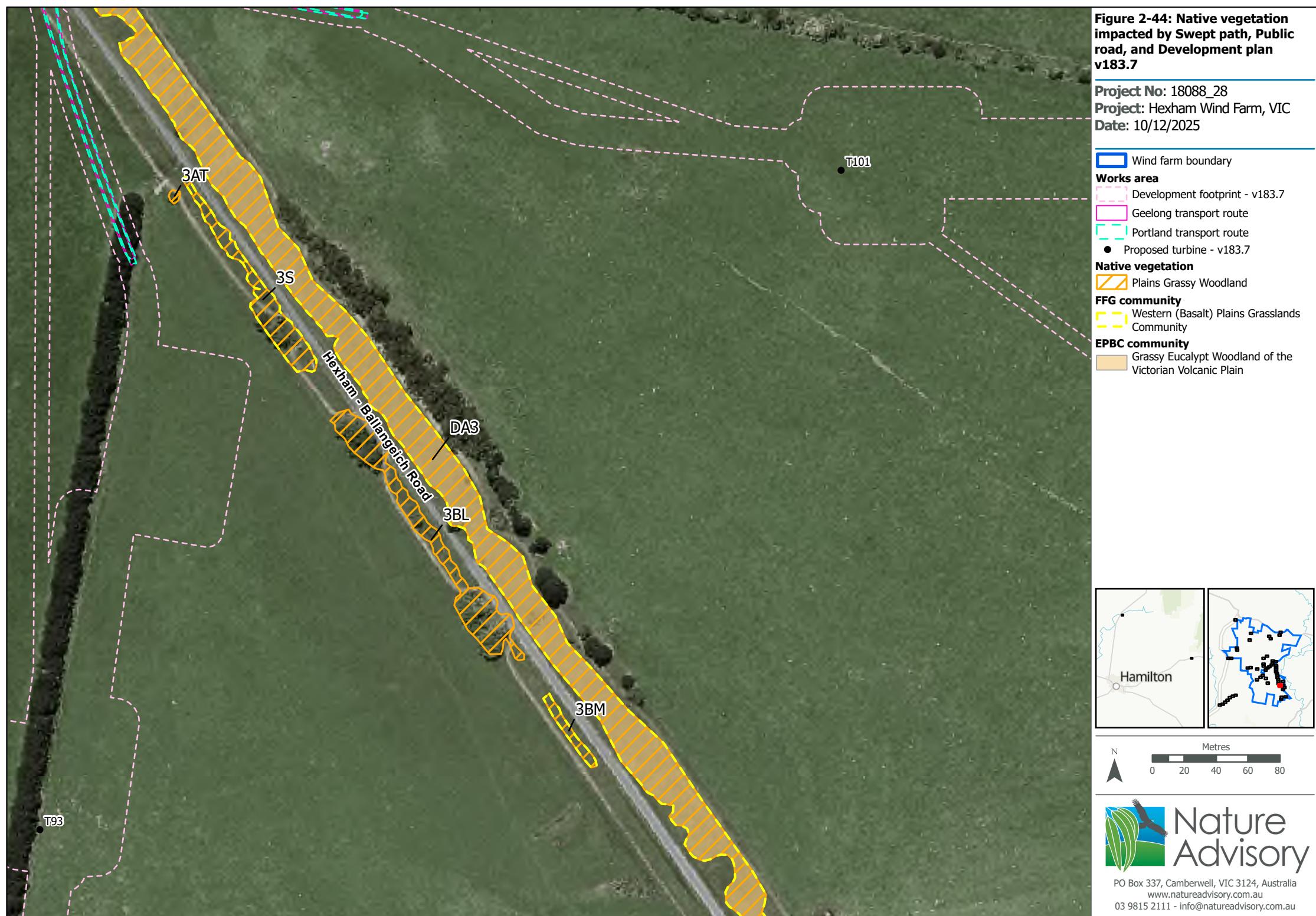
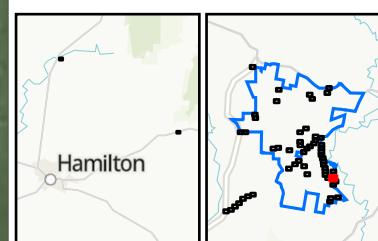


Figure 2-45: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Development footprint - v183.7
- Native vegetation
 - Plains Grassland
 - Plains Grassy Wetland
- Removal
 - Native vegetation to be removed by Development footprint



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Figure 2-46: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
 - Development footprint - v183.7
 - Proposed turbine - v183.7
- Native vegetation
 - Plains Grassy Wetland
 - DEECA wetland
- Removal
 - Native vegetation to be removed by Development footprint

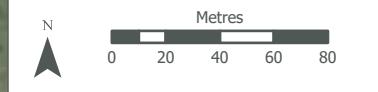
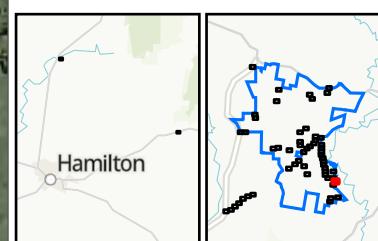
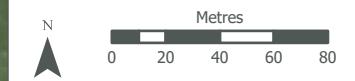
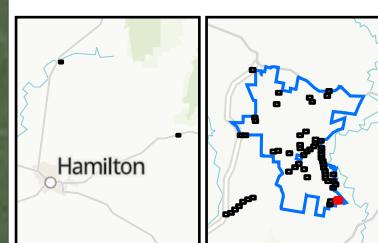




Figure 2-48: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
- Development footprint - v183.7
- Native vegetation
- Plains Grassland
- Plains Grassy Wetland
- Removal
- Native vegetation to be removed by Development footprint



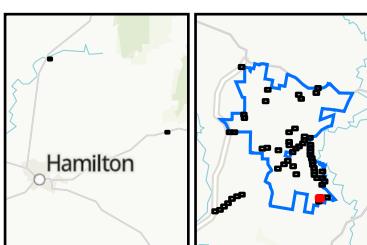
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Figure 2-49: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Works area
 - Development footprint - v183.7
 - Proposed turbine - v183.7
- Native vegetation
 - Plains Grassy Wetland
 - Plains Sedgy Wetland
- Removal
 - Native vegetation to be removed by Development footprint



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0 20 40 60 80



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Figure 2-50: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

- Wind farm boundary
- Development footprint - v183.7
- Proposed turbine - v183.7
- Native vegetation
- Plains Grassy Wetland
- Native vegetation to be removed by Development footprint

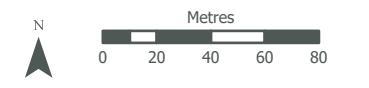
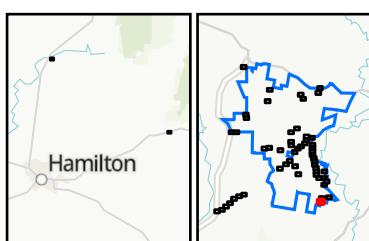


Figure 2-51: Native vegetation impacted by Swept path, Public road, and Development plan v183.7

Project No: 18088_28
Project: Hexham Wind Farm, VIC
Date: 10/12/2025

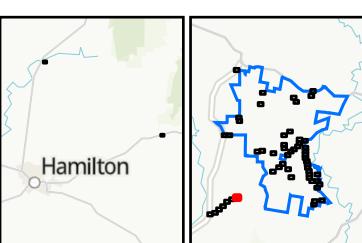
Works area
Local road upgrades

Native vegetation
Plains Grassland

FFG community
Western (Basalt) Plains Grasslands

EPBC community
Natural Temperate Grassland of the Victorian Volcanic Plain

Removal
Native vegetation to be removed by Local road upgrades



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