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Date: 24 May 2024

Technical memo

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Project	Frasers Solar Farm – Intersection Upgrade – Ecology
Project reference	E310614 - P520288
Document number	ENTURA-253BA3
Subject	Frasers Solar Farm – Intersection Upgrade – Flora and Fauna Assessment

Introduction

The construction of the Frasers Solar Farm at Glengarry, Victoria will require an upgrade of the intersection of Frasers Lane and Traralgon-Maffra Road to allow construction and transport vehicles as a condition of the development approval. The proposed upgrade is provided in Figure 1.

Pursuant to the 'Notes' provided within the planning permit (Number PA1900723) issued for the project by the responsible authority for the Minister of Planning on 10 September 2020:

5. *Before any works on public land start, a permit to take protected flora under the Flora and Fauna Guarantee (FFG) Act 1988 may be required.*
6. *Before any works commence, a permit(s) may be required under the Wildlife Act 1975 for the destruction of wildlife habitat. The applicants/project management should liaise with DELWP – Gippsland Region to determine requirements.*

Furthermore, condition 24 to 30 of the permit relate to upgrade of road infrastructure for the project.

The current draft design of the proposed upgrade (as provided to Entura on 13 February 2024) will require a small amount of widening of the intersection at Frasers Lane, and extension of the existing culvert. Additionally, there will be some minor works on the shoulder of the Traralgon-Maffra Road immediately opposite the intersection and to the west of the intersection (see Figure 2), and the installation of a street light pole at the intersection, in the direction of the 'GIVE WAY' sign in Figure 2. Gransolar are currently working with Department of Transport and Planning (DTP) to finalise an approved design.

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Gransolar also proposes to construct a new access to the solar farm off Frasers Lane approximately 130 m east of the intersection with Traralgon-Maffra Road (Figure 1).

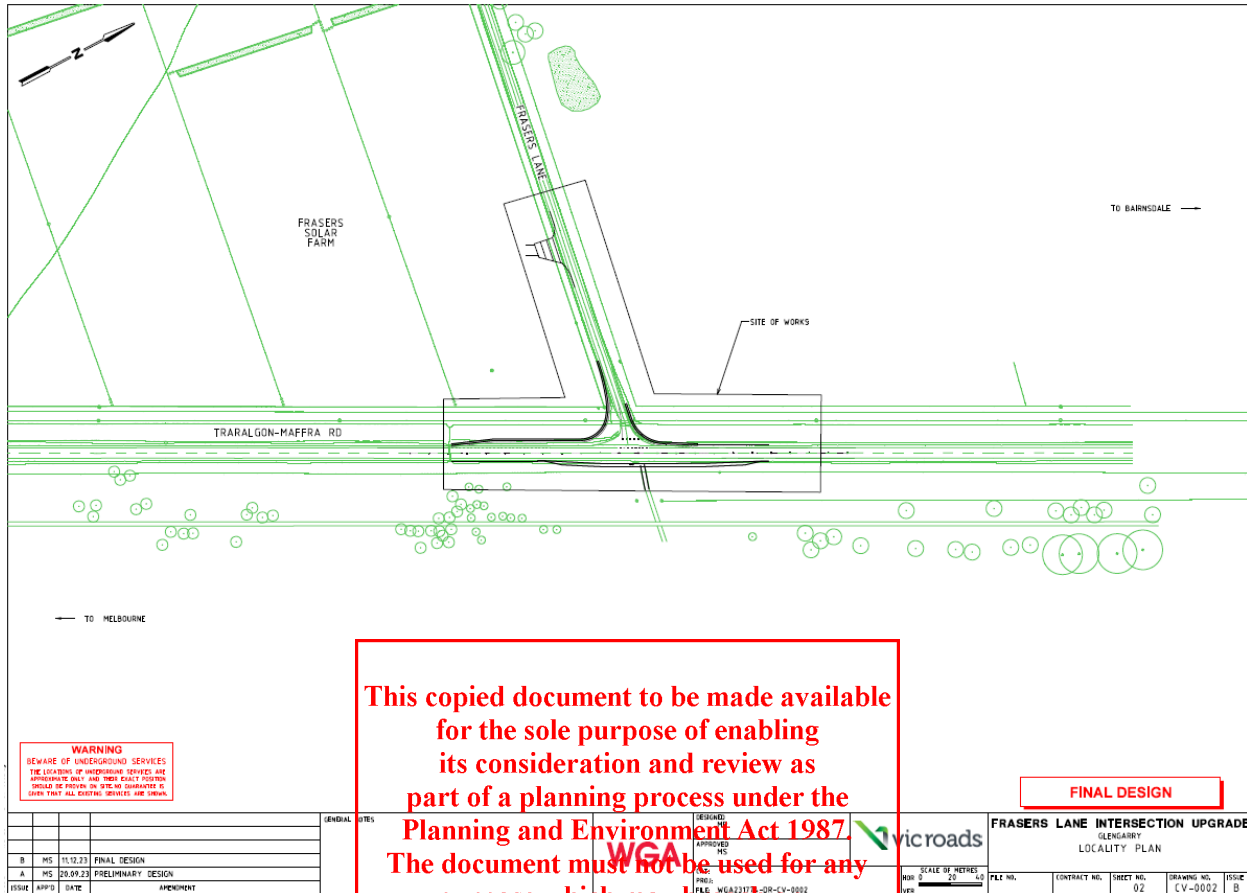


Figure 1: Proposed upgrade of the intersection of Frasers Lane with the Traralgon-Maffra Road (Source: Gransolar Constructions, Sheet 02 of Drawing WGA231774-DR-CV-0002)

Entura was contracted by Gransolar Constructions to undertake a flora and fauna assessment of the proposed upgrade area to identify if a permit under the *Flora and Fauna Guarantee Act 1988* (FFG Act) might be required. Specifically, a permit under the FFG Act is required where works on public land (such as road reserves) involve the removal of ‘protected flora’. Protected flora are native plants or communities of native plants that have legal protection under the *Flora and Fauna Guarantee Act 1988*. The List of Protected Flora includes:

- plant taxa (species, subspecies or varieties) listed as threatened under the *Flora and Fauna Guarantee Act 1988*
- plant taxa belonging to communities listed as threatened under the *Flora and Fauna Guarantee Act 1988*
- plant taxa which are not threatened but require protection for other reasons. For example, some species which are sought after as collectibles or for their attractiveness, such as orchids and grass trees.

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In addition, a permit under the *Wildlife Act 1975* may also be required if wildlife habitat will be destroyed.

Figure 3 summarises the vegetation within the vicinity of the intersection of Traralgon-Maffra Road, and Frasers Lane.



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Figure 3: Vegetation within the vicinity of the Frasers Lane intersection

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Site survey

A desktop review of the information available on NatureKit¹ was undertaken prior to a site visit to identify if there was any potential Ecological Vegetation Communities (EVCs) mapped within the proposed work area and if there were any threatened flora and fauna species present.

There are no threatened flora records from or adjacent the site. The nearest threatened flora records are over 1.3 km to the south-east of the site. They are the giant honey myrtle (*Melaleuca armillaris* subsp. *armillaris*) and matted flax-lily (*Dianella amoena*), both which are listed under the FFG Act. The giant honey myrtle is listed as endangered in Victoria however note that the NatureKit record is of a planted specimen according to VicFlora². The giant honey-myrtle is commonly grown as an ornamental tree, as a windbreak or street tree. The matted flax-lily is listed as critically endangered in Victoria.

The nearest threatened fauna species record is of a gang-gang cockatoo (*Callocephalon fimbriatum*) over 2 km to the west of the site. The gang-gang cockatoo is listed under the FFG Act and is considered endangered in Victoria.

A survey of the site was undertaken on the 6 March 2024. The proposed areas to be impacted by the upgrade works as shown in Figure 1 were all covered on foot and all flora species encountered were identified and recorded on a computer tablet with GPS capability using Entura's EFOS (Environmental Field Observation System). Dominant and co-dominant flora species and their cover abundance were recorded in order to attribute to a vegetation type. A complete flora species list is provided in Table 1.

The site survey record 41 flora species of which 25 were introduced species and 15 were native species (Table 1). No giant honey-myrtle or matted flax-lily plants were located during the survey, neither was any habitat for the gang-gang cockatoo identified. Gang-gang cockatoos primarily occur within the temperate eucalypt forests and woodlands of mainland south-east Australia. During the summer (breeding) months they inhabit mature wet sclerophyll forests whilst in the winter they range beyond montane forests to forage in eucalypt woodlands at lower, drier altitudes (Department of Agriculture, Water and the Environment 2022).

The areas proposed for disturbance for the intersection upgrade are either road shoulder or mown roadside easement which consisted of primarily introduced species (see Table 1, and Figure 2 to Figure 7). The dominant roadside flora species to the north of the intersection within the upgrade area were the introduced grasses paspalum *Anthoxanthum odoratum* (sweet vernal), *Cynodon dactylon* var. *dactylon* (couch) *Agrostis stolonifera* (creeping bent) and *Paspalum dilatatum* (paspalum). The only native species encountered in the roadside easement were the annual graminoids *Juncus bufonius* (toad rush) and *Schoenus apogon* (common bog-rush) and the perennial herb *Epilobium hirtigerum* (hairy willowherb) which had a cover of 2%. The extent of perennial native plant species was well below the threshold for an 'area of vegetation where at

¹ NatureKit is an online mapping and data exploration tool for biodiversity data

² <https://vicflora.rbg.vic.gov.au/flora/taxon/aee04d1d-f4a0-4714-9ece-08e5b6401e33>

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least 25 per cent of the total perennial understorey plant cover is native³. There were native species were associated with the roadside drain to the north of the intersection which is outside the works area including *Kunzea* sp. (forest burgan), *Juncus sarophorus* (broom rush) and *Lythrum hyssopifolia* (small loosestrife).

Note in Figure 3 that the vegetation between the roadside drain to the north and south of the Frasers Lane intersection is labelled potential native vegetation because of the presence of the perennial grass species *Themeda australis*. These areas were not assessed further because they are outside of the works area.

To the south of the intersection the roadside easement was dominated by the introduced grass *Cenchrus clandestinus* (kikuyu) which had a cover of 60%. Other introduced grasses that were common and widespread were *Paspalum dilatatum*, *Digitaria sanguinalis* (summergrass), *Sporobolus africanus* (ratstail grass) and *Dactylis glomerata* (cocksfoot). The only native species recorded was the annual or biennial herb *Laphangium luteoalbum* (jersey cudweed). Thus, there were there no perennial native plant species to meet the threshold for an 'area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native³'. There were native species were associated with the roadside drain to the south of the intersection which is outside the works area namely *Juncus sarophorus* and *Persicaria decipiens* (slender knotweed).

The upgrade of the intersection would require minor widening of the road opposite the intersection which would require extending the road surface to the east and realignment of the roadside drain to the east. The vegetation in the roadside easement in this area similarly to the western side of the road was dominated by the introduced grass *Cenchrus clandestinus* which had a cover of 60%. %. Other introduced grasses that were common and widespread were *Paspalum dilatatum* (10% cover), *Agrostis stolonifera* (10% cover) and *Holcus lanatus* (Yorkshire fog). The introduced graminoids *Cyperus eragrostis* (drain flat sedge) and *Juncus articulatus* (jointed rush) were also present in the small drain within the roadside easement. The native graminoids *Juncus sarophorus*, *Eleocharis acuta* (common spikerush), *Carex appressa* (tall sedge) and *Juncus bufonius*. However, the extent of perennial native plant species was well below the threshold for an of vegetation where at least 25 per cent of the total perennial understorey plant cover is native³.

The re-alignment of the roadside drain will extend into the edge of what has been mapped as potential native vegetation in Figure 3. The native perennial species *Themeda australis* and *Kunzea* sp. were present in patches in this area⁴. Note that the introduced grass *Cenchrus clandestinus* is still common and widespread (up to 60% cover) in the area where the native perennial species occur. However, no plants listed under the FFG Act were recorded within the proposed disturbance area during the survey and none are considered likely to be present given the disturbed nature of the roadside which is maintained as a mown strip.

³ Department of Environment, Land, Water and Planning. (2017). Guidelines for the removal, destruction or lopping of native vegetation.

https://www.environment.vic.gov.au/_data/assets/pdf_file/0021/91146/Guidelines-for-the-removal,-destruction-or-lopping-of-native-vegetation,-2017.pdf accessed 31/05/2024

⁴ Note that the EVC Plains Grassy Woodland/Gilgai Wetland Mosaic (EVC 259) has been mapped on the NatureKit in the Traralgon-Maffra Road reserve approximately 250 m to the north of the intersection and 400 m to the south of the intersection with Frasers Lane.

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The new access to the solar farm off Frasers Lane will occur across a narrow roadside easement which is approximately 4 m wide. The roadside easement is dominated by introduced grasses particularly *Paspalum dilatatum* (50%), *Dactylis glomerata* (20%) and *Cenchrus clandestinus* (10%). The only native flora species recorded was *Themeda australis* which had a cover of (2%). Thus, there were there no perennial native plant species to meet the threshold for an 'area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native'³.

The only fauna recorded during the survey were three burrowing crayfish burrows which were located within the roadside on the opposite side of the road from the intersection but outside of the proposed disturbance area. A brown tree frog (*Litoria ewingii*) was also recorded from a drain at the Frasers Lane intersection, which is also outside of the proposed disturbance area. Therefore, no wildlife or their habitats will be affected by the proposed intersection upgrade.

One introduced species which was encountered within the proposed disturbance area, blackberry (*Rubus fruticosus* aggregate), is listed as a 'Regionally controlled' weed under the *Catchment and Land Protection Act 1994* (CaLP Act). Regionally controlled weeds are usually widespread in a region and ongoing control measures are required to prevent their spread.

Table 1: List of flora recorded during site survey on 6 March 2024

Species name	Common name	Status
DICOTYLEDONS		
Asteraceae		
<i>Cirsium vulgare</i>	Spear thistle	i
<i>Erigeron sumatrensis</i>	Tall fleabane	i
<i>Laphangium luteoalbum</i>	Lesser nosedweed	
<i>Hypochoeris radicata</i>	Rough catsear	i
<i>Leontodon saxatilis</i>	Hairy hawkbit	i
<i>Sonchus asper</i>	Prickly sowthistle	i
<i>Sonchus oleraceus</i>	Common sowthistle	i
Fabaceae		
<i>Lotus angustissimus</i>	Slender birdsfoot-trefoil	i
Gentianaceae		
<i>Centaurium erythraea</i>	Common centaury	i
Lythraceae		
<i>Lythrum hyssopifolia</i>	Small loosestrife	
Mimosaceae		
<i>Acacia melanoxylon</i>	Blackwood	
Myrtaceae		
<i>Kunzea</i> sp. (Upright form) - formerly <i>Kunzea ericoides</i>	Forest burgan	

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Species name	Common name	Status
Onagraceae		
<i>Epilobium hirtigerum</i>	Hairy willowherb	
Plantaginaceae		
<i>Plantago coronopus</i>	Buckshorn plantain	i
<i>Plantago lanceolata</i>	Ribwort plantain	i
Polygonaceae		
<i>Persicaria decipiens</i>	Slender waterpepper	
<i>Rumex crispus</i>	Curled dock	i
Rosaceae		
<i>Rubus fruticosus</i> aggregate	Blackberry	i, R
MONOCOTYLEDONS		
<i>Agrostis stolonifera</i>	Creeping bent	i
<i>Anthosachne scabra</i>	Rough wheatgrass	
<i>Anthoxanthum odoratum</i>	Sweet vernal	i
<i>Cenchrus clandestinus</i>	Kikuyu	i
<i>Cynodon dactylon</i> var. <i>dactylon</i>	Couch	i
<i>Dactylis glomerata</i>	Cocksfoot	i
<i>Digitaria sanguinalis</i>	Summergrass	i
<i>Holcus lanatus</i>	Yorkshire fog	i
<i>Lachnagrostis aemula</i>	Tumbling downgrass	
<i>Lolium perenne</i>	Perennial ryegrass	i
<i>Paspalum dilatatum</i>	Paspalum	i
<i>Setaria</i> sp.	pigeongrass	i
<i>Sporobolus africanus</i>	Ratstail grass	i
<i>Themeda triandra</i>	Kangaroo grass	
Cyperaceae		
<i>Carex appressa</i>	tall sedge	
<i>Cyperus eragrostis</i>	Drain flatsedge	i
<i>Eleocharis acuta</i>	Common spikesedge	
Juncaceae		
<i>Juncus articulatus</i>	Jointed rush	i
<i>Juncus bufonius</i>	Toad rush	
<i>Juncus sarophorus</i>	Broom rush	

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Species name	Common name	Status
<i>Schoenus apogon</i>	Common bogsedge	
<i>Schoenus sp.</i>	bogsedge	
Xanthorrhoeaceae		
<i>Lomandra longifolia</i>	Sagg	

Key: i – introduced, R – regionally controlled weed in the West Gippsland catchment



Figure 4: Frasers Lane intersection and roadside looking south

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Figure 5: Frasers Lane intersection and roadside looking north



Figure 6: Roadside opposite Frasers Lane intersection looking south

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Figure 7: Roadside opposite Frasers Lane intersection looking north



Figure 8: Crayfish burrow in roadside reserve

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Summary and recommendations

There were no EVCs present within the proposed upgraded intersection for Frasers Lane and the Traralgon – Maffra Road nor were there any threatened flora species or habitats for wildlife.

There were also no flora species listed as ‘protected flora’ under the FFG Act that were recorded within the proposed disturbance area. Therefore, no permit under the FFG act to take ‘protected flora’ will be required nor will a permit be required under the *Wildlife Act 1975*.

Based on the potential that there could be impact on native vegetation to the east of Traralgon-Maffra Road at the intersection with Frasers Lane, an application under the FFG Act will be pursued.

It is also recommended that weed hygiene measures such as wash down of machinery prior to entry and exit of the site to avoid the spread of weeds namely the regionally controlled weed blackberry.

References

Department of Agriculture, Water and the Environment (2022). *Conservation Advice for Callocephalon fimbriatum (Gang-gang Cockatoo)*. Canberra: Department of Agriculture, Water and the Environment. Available from:

<http://www.environment.gov.au/biodiversity/threatened/species/pubs/768-conservation-advice-02032022.pdf>

Revision history

Revision 1.1			
Revision description	Final for submission to DEECA		
Prepared by	Raymond Brereton	On file	24/05/2024
Reviewed by	Raymond Brereton	On file	24/05/2024
Approved by	Bunfu Yu	On file	24/05/2024
	(name)	(organisation)	(date)
Distributed to	Rutul Barot	Gransolar Construction Australia Pty Ltd	24/05/2024
	(name)	(organisation)	(date)

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