AARON ORGAN

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Expert Witness Statement: Flora and Fauna Investigations for the Proposed Amendment C65 – Melton Planning Scheme (489-555 Robinsons Road, Truganina)

ON BEHALF OF:

Marksx Group Pty Ltd

July 2008

AUTHOR:

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Ecology Partners Pty Ltd

EXECUTIVE SUMMARY

This statement has been prepared by Mr Aaron Organ, Principal Ecologist/Director, Ecology Partners Pty. Ltd., of 420 Victoria Street, Brunswick. The statement is based on the findings of the Draft Native Vegetation Precinct Plan (NVPP) as part of the proposed rezoning on behalf of all land owners within the Precinct.

Ecology Partners Pty. Ltd. has prepared a Draft Native Vegetation Precinct Plan for the entire precinct entitled:

- Ecology Partners Pty. Ltd. 2008a. Draft Native Vegetation Precinct Plan: Boundary and Robinsons Road, Truganina. Draft report for SM Urban Pty. Ltd. by Ecology Partners Pty. Ltd.

Ecology Partners Pty. Ltd. has also completed a previous flora and fauna assessment for the rezoning of the lands at Lots 1 and 2, TP 116965 under the current amendment C65 of the Melton Shire Council Planning Scheme:

- Ecology Partners Pty. Ltd. 2008b. Flora and Fauna Assessment of the 'Australand Property' located on Christies Road, Deer Park, Victoria. Unpublished report for Growth Areas Authority and Australand Holdings Ltd.

I have not materially changed my opinions or facts associated with the flora and fauna values within the study area, and the proposed impacts on ecological values associated with the proposed rezoning and subsequent development on the subject site.

1 INTRODUCTION

I, Aaron Organ, together with other members of Ecology Partners Pty. Ltd were commissioned by Marksx Group to prepare a Statement of Expert Evidence for the proposed rezoning of land at 489-555 Robinsons Road, Truganina.

Ecology Partners Pty. Ltd. prepared a draft NVPP entitled:

- Ecology Partners Pty. Ltd. 2008a. Draft Native Vegetation Precinct Plan: Boundary and Robinsons Road, Truganina. Draft report for S M Urban Pty. Ltd. by Ecology Partners Pty. Ltd.

No amendments have been made to this report and I adopt this report, in combination with this document, as my Statement of Expert Evidence.

My evidence is intended to assist the Panel in its consideration of the rezoning of the property located at 489-555 Robinsons Road, Truganina. As far as I am aware, my report does not contain any factual or technical errors.

1.1 Background

Ecology Partners Pty. Ltd. was previously engaged by landholders in the precinct to prepare a Native Vegetation Precinct Plan (NVPP) for a proposed land rezoning at Boundary and Robinsons Roads, Truganina, Victoria.

The previous assessment of the subject site was undertaken to identify any species or vegetation communities of conservation significance, to record any potential areas of indigenous vegetation that may have implications under the *State's Native Vegetation Management Framework – A Framework for Action* ('the Framework').

1.2 Objectives of the Flora and Fauna Assessment, and NVPP

Specifically, the objectives of previous assessments undertaken by Ecology Partners Pty. Ltd. (2008a, 2008b) were to:

- Implement a landscape approach to vegetation management (across the entire Precinct; which includes the Marksx Group Pty. Ltd. land);
- Undertake a general assessment of the flora and fauna values within the Precinct, including any species and ecological communities of conservation significance (i.e. an appraisal under Commonwealth and state Government legislation);
- Undertake a detailed flora and fauna assessment of the Australand property;
- Clearly specify, prior to the Precinct being rezoned for residential and employment purposes, areas of vegetation to be removed and any areas of vegetation to be retained within the Precinct;

- Specify Net Gain offset requirements in respect of the Precinct, including works or other actions necessary to achieve Net Gain for native vegetation removed within the precinct; and,
- Specify the procedure for providing offsets, to achieve Net Gain.

2 THE STUDY AREA

The study area (defined on Title Plan 833828J) is approximately 77 hectares in size and is rectangular in shape with a length of 1.6 kilometres and a width of 0.5 kilometres. It is one of several parcels of land affected by C65 to Melton Planning Scheme, and is located approximately 20 kilometres west of Melbourne CBD, Victoria. The entire Precinct is bounded by Boundary Road to the South, Middle Road to the north, Christies Road to the west and Robinsons Road to the east.

The Marksx Group Pty. Ltd. property supports varying quality remnant *Heavier-soils* Plains Grassland (EVC 132_61).

3 METHODS

3.1 Nomenclature

Common and scientific names of vascular plants follow the Flora Information System (FIS, 2007), which is a database managed by the Department of Sustainability and Environment (DSE) and the Census of Vascular Plants of Victoria (Walsh and Stajsic 2007).

Vegetation community names follow the DSE Ecological Vegetation Classes (EVC) Benchmarks (www.dse.vic.gov.au).

3.2 Literature Review

Information from the FIS and relevant EVC Benchmarks, and other relevant literature, such as Oates and Taranto (2001) were reviewed. Aerial photography provided by the proponent was used for mapping purposes and Google Earth (2007) was also accessed.

Two previous ecological assessments recently completed within the Marksx Group site were reviewed:

- Brett Lane & Associates Pty. Ltd. 2008a. Robinsons Road flora and fauna assessment; and,
- Brett Lane and Associates Pty. Ltd. 2008b. Mt Emu-Settlement Road, Mount Emu: Offset Management Plan.

3.3 Habitat Hectare Assessment

A habitat hectare assessment was undertaken on the Marksx Group in November 2007 as this is the only area of remnant native vegetation precinct in the Precinct.

Net Gain is an overall outcome where native vegetation and habitat gains are greater than vegetation and habitat losses. The Framework has defined a three-step approach for applying Net Gain to protection and clearance decisions. Emphasis is placed on the first two steps, and only after these two steps have been taken should offsets (actions undertaken to achieve commensurate gains) be considered (NRE 2002). The three-step approach is:

1. To '*avoid*' adverse impacts, particularly through vegetation clearance.
2. If impacts cannot be avoided, to '*minimise*' impacts through appropriate consideration in planning processes and expert input to project design or management.
3. Identify appropriate '*offset*' options.

Net Gain is the overall outcome where native vegetation and habitat gains are greater than the losses and where losses are avoided, where possible.

4 RESULTS

4.1 Flora Species

Ninety-two flora species (34 indigenous and 58 exotic) were recorded within the entire Precinct area, with the majority of indigenous species recorded on the Marksx Group site (Ecology Partners Pty. Ltd. 2008a). Planted trees and shrubs were not recorded unless they were seen to be naturally spreading within the Precinct.

4.2 Ecological Vegetation Class

The literature review and site assessment indicates that part of the site supports vegetation with affinities to one Ecological Vegetation Class: *Heavier-soils* Plains Grassland EVC (Western Basalt Plains, 132_61), which is listed as a threatened community under the FFG Act.

4.3 Vegetation Condition

The majority of the Precinct supports 'improved' pasture and grazing paddocks with few or no indigenous species persisting. The Marksx Group site supports patches of indigenous grassland of varying condition from poor to moderate. This area has been recently sprayed with herbicide forming a mosaic of large areas of dead and regenerating indigenous grassland plants and exotic species and unsprayed areas. Areas of indigenous grassland are dominated by Kangaroo Grass *Themeda triandra* with scattered indigenous species such as Sheep's Burr *Acaena echinata,* Common Woodruff *Asperula conferta,* Grassy Bindweed *Convolvulus remotus,* Blue Devil *Eryngium ovinum,* Small Loosestrife *Lythrum hyssopifolia* and Black Cotton-bush *Maireana decalvans.* Levels of exotic species vary within these areas from scattered individuals to moderate infestations.

Two significant flora species were observed within these areas of indigenous grassland including two specimens of the nationally significant Spiny Rice-flower *Pimelea spinescens* subsp. *spinescens* and one specimen of the state significant Arching Flax-lily *Dianella* sp. aff. *longifolia* (Benambra) (Figure 1).

Surrounding these areas of indigenous grassland are areas of pasture grasses and exotic herbaceous species dominated variously by Cane Needle-grass *Nassella hyalina,* Perennial Rye-grass *Lolium perenne,* Galenia, Artichoke thistle, Serrated Tussock *Nassella trichotoma* and Fescue *Vulpia* spp.

4.4 Significant Flora Species and Communities

4.4.1 National

One nationally significant flora species (Spiny Rice-flower) was recorded on the Marksx Group site during the previous assessment (Ecology Partners Pty. Ltd. 2008a) (Figure 1).

An additional nine nationally significant species have previously been recorded from the local areas (FIS) (Ecology Partners Pty. Ltd. 2008a). Three additional flora species which have not previously been documented in the local area, but have habitat as potentially occurring within a 10 kilometre radius of the Precinct [Department of the Environment, Water, Heritage and the Arts (DEWHA) - Protected Matters Search Tool].

Based on the condition of vegetation on the Marksx Group site and overall survey effort, it is unlikely that any additional species of national conservation significance would occur on the site.

4.4.2 State

One state significant flora species [Arching Flax-lily *Dianella* sp. aff. *longifolia* (Benambra)] was recorded on the Marksx Group site during the previous assessment by Ecology Partners Pty. Ltd. (2008a) (Figure 1). One additional state significant flora species (Pale Spike-sedge *Eleocharis pallens*) has previously been recorded on the site (Brett Lane and Associates Pty. Ltd. 2008a).

An additional 43 state significant flora species have previously been recorded in the general vicinity of the site, as documented on the FIS. Based on the survey effort within the Marks Group site, it is unlikely that many additional species of state conservation significance would occur on the site.

4.4.3 Regional and local

Seventeen regionally significant flora species were recorded within the Precinct during the assessment. All other indigenous flora species are considered to be of local significance.

4.4.4 Significant communities

One vegetation community listed as threatened under the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) occurs on the Marksx Group site: 'Natural Temperate Grassland of the Victorian Volcanic Plain', which is currently listed as critically endangered under the Act. *Heavier-soils* Plains Grassland present within the Marksx Group site falls within this EPBC Act listed community.
Plains Grassland is also listed as a threatened ecological community under Victoria's *Flora and Fauna Guarantee Act 1988* (FFG Act).

4.5 Fauna Species

The Precinct currently supports habitat for a small number of native fauna species, principally locally common open country birds adapted to modified environments.

Thirty-six terrestrial fauna species, comprising four introduced mammals and 27 birds (20 native, seven introduced), three native reptiles and two native frogs were recorded in the Precinct, with the majority been recorded on the Marksx Group site during the previous

surveys (Ecology Partners Pty. Ltd. 2008a). All of these species are common throughout the local area.

An additional three fauna species have been identified as potentially occurring, or their habitats as potentially occurring within the Precinct (EPBC Act Protected Matters Search Tool).

4.6 Significant Fauna

4.6.1 National

No nationally significant fauna species were recorded on the Marksx Group site during the previous assessment. Sixteen nationally significant fauna species have previously been recorded from the local area (AVW). This includes 14 fauna species that are currently listed as threatened under the EPBC Act and two species (Australasian Bitten, Hooded Robin) which are not listed under the EPBC Act but are considered threatened under The National Action Plan for Australian Birds.

Based on the previous flora and fauna surveys on the site (Brett Lane and Associates Pty. Ltd. 2008a; Ecology Partners Pty. Ltd. 2008a) and the agricultural history of much of the study area few, if any nationally significant fauna species are likely use habitats within the study area.

4.6.2 State

Fifty-six state significant fauna species have previously been recorded from approximately 10 kilometres surrounding the Marksx Group site. While a small number of state significant species (primarily grassland or wetland birds) may occupy habitats within the Precinct on rare occasions, there is no important habitat for any state significant fauna species within the Precinct.

4.6.3 Regional and local

There have been at least 30 regionally significant fauna species recorded from the local area (AVW).

These fauna may visit the Marksx Group site while moving between areas of higher quality remnant vegetation (i.e. flying overhead), such as Spotted Harrier and Whiskered Tern.

All other native fauna recorded on the site site are of local significance, as they are not listed as rare or threatened on a national, state and regional level.

4.7 Site Conservation Significance

Remnant grassland on the Marksx Group site is of at least regional conservation significance.

The reason for this is that Plains Grassland within the study area:

- Is currently listed as critically endangered under the EPBC Act,
- Is currently listed as a threatened community under the FFG Act,
- Is a threatened EVC (listed as endangered) in the Bioregion,
- It is located adjacent to the Ravenhall Nature Conservation Reserve,
- Exists in poor to moderate condition, and,
- Supports national and state significant flora species.

The site is located immediately south of the Ravenhall Nature Conservation Reserve (104 hectares) which is a grassland reserve (managed by Parks Victoria), located to the north of Middle Road, between Christies Road and Robinsons Road. The reserve has been created recently as part of the new Metropolitan Remand Centre subdivision, which lies to the east of the reserve. It is zoned Public Use Zone (Other Public Use) and mapped as Plains Grassland (EVC 132). Middle Road and a gas pipeline easement separate the Nature Conservation Reserve and remnant grassland on the Marksx Group site.

5 HABITAT HECTARE ANALYSIS

Small modified patches of remnant Plains Grassland exist on the Marksx Group site. Several habitat hectare patches of remnant native vegetation (i.e. where the understorey vegetation comprises greater than 25% native species) are present on the site. These have been previously calculated and assessed with the results tabulated below (Table 1). Offset targets for potential vegetation loss within the precinct have also been calculated (Table 2).

Table 1. *Quantity and significance of remnant vegetation within the Precinct*

Habitat Zone			PG1	PG2	PG3	PG4	PG5
EVC Name			**PG**	**PG**	**PG**	**PG**	**PG**
EVC Number			**132**	**132**	**132**	**132**	**132**
Total Area of Habitat Zone (ha)			**0.21**	**5.45**	**0.87**	**5.38**	**0.45**
		Max Score	**Score**	**Score**	**Score**	**Score**	**Score**
Site Condition	Large Old Trees	10	N/A	N/A	N/A	N/A	N/A
	Canopy Cover	N/A	N/A	N/A	N/A	N/A	N/A
	Understorey	25	10	10	10	10	5
	Lack of Weeds	15	9	8	6	9	9
	Recruitment	10	6	3	6	6	3
	Organic Matter	5	3	4	5	3	5
	Logs	5	N/A	N/A	N/A	N/A	N/A
	Treeless multiplier (Site Conditions x 1.36)	N/A	38	34	38	38	30
Landscape value	Patch Size	10	1	4	4	4	4
	Neighbourhood	10	0	0	0	0	0
	Distance to Core	5	3	3	3	3	3
Habitat Score		**100**	**42**	**41**	**45**	**45**	**37**
Habitat score as a proportion of 100		N/A	0.42	0.41	0.45	0.45	0.37
Habitat Zone area (ha) Proposed to be removed		N/A	0.21	5.45	0.87	5.38	0.45
Habitat Hectares			**0.09**	**2.23**	**0.39**	**2.42**	**0.17**
Bioregion			VVP	VVP	VVP	VVP	VVP
EVC Conservation Status			End	End	End	End	End
Conservation Significance	**Conservation Status x Habitat Score**		Very High	Very High	Very High	Very High	High
	Threatened Species Rating		High	High	High	High	High
	Other Site Attribute Rating		N/A	N/A	N/A	N/A	N/A
	Overall Conservation Significance (highest rating)		Very High	Very High	Very High	Very High	High
No. of Large Old Trees to be removed in each Habitat Zone			N/A	N/A	N/A	N/A	N/A

Notes: PG= Plains Grassland, VVP = Victorian Volcanic Plain, End = Endangered, N/A= Not Applicable.

5.1 Summary of Net Gain Habitat Hectare Assessments

In summary, there is an estimated total of 5.30 habitat hectares within the Marks Group land, consisting of:

- 5.13 habitat hectares of Very High conservation significance Plains Grassland; and,
- 0.17 habitat hectares of High conservation significance Plains Grassland.

5.2 Offset Calculations (step three)

Once steps 1 and 2 have been considered, then offsets or Net Gain targets can be calculated for any permitted vegetation clearance. Net Gain targets or offsets can be calculated according to Appendix 4, Table 6 within the Framework (NRE 2002). The Port Phillip and Westernport Native Vegetation Plan (PPWCLPB 2006) can also contribute to Net Gain targets.

Net Gain targets are based on a development scenario where there would be a total loss of vegetation, and are calculated below (Table 2).

Table 2. Net Gain habitat hectare and tree targets for the Precinct

Habitat Hectares Target						Large Tree Target				
Target No.	Conservation Significance	Target EVC	Total Losses in Habitat Ha	Net Gain Multiplier*	Net Gain Target (Habitat Ha)	Total Losses	Multiplier*	Total to be Protected	Multiplier*	Total to be Recruited
1	**Very High**	PG	5.13	**2**	10.26	n/a	n/a	n/a	n/a	n/a
2	**High**	PG	0.17	**1.5**	0.26	n/a	n/a	n/a	n/a	n/a
				Total habitat hectares	**10.52**		**Total**	0	**Total**	0

Notes: *These multipliers relate to Table 6 of the Framework; PG = Plains Grassland, N/A = Not Applicable.

5.2.1 Summary of Net Gain Habitat Hectare

The Framework (Appendix 4, Table 6) sets out responses to proposals to clear and offset habitat hectare patches or habitat zones. If all remnant native vegetation within the Precinct is proposed to be removed there will be a requirement to generate from the Victorian Volcanic Plain bioregion a total of **10.52 habitat hectares** of Plains Grassland, containing:

- 10.26 habitat hectares of Very High conservation significance Plains Grassland; and,
- 0.26 habitat hectares of High conservation significance Plains Grassland.

This is slightly less than the previous Net Gain assessment completed within the Marksx Group site, where a total of 11.10 Very High and 0.28 High conservation significance Plains Grassland was required to be offset as part of this assessment (Brett Lane and Associates Pty.

Ltd. 2008a). That is, a total of **11.38 habitat hectares** of Plains Grassland (Brett Lane and Associates Pty. Ltd. 2008a).

The slight variation in the Net Gain offset is attributed to the difference in habitat score and mapped extent of Plains Grassland within the Marksx Group site.

5.3 Avoidance and Minimisation (First two steps)

Avoidance may generally be interpreted as avoiding adverse vegetation impacts, such as the clearance of habitat zones and trees, and the vegetation being retained post construction (NRE 2002). Minimisation may generally be interpreted as reducing impacts on trees and habitat zones (NRE 2002).

Based on the current Precinct Structure Plan (PSP) no areas of remnant Plains Grassland are proposed to be retained. Once steps 1 and 2 have been considered, then offsets or Net Gain targets can be calculated for any permitted vegetation clearance.

Net Gain targets or offsets can be calculated according to Appendix 4, Table 6 within the Framework (NRE 2002). The Framework (Appendix 4, Table 6) sets out responses, including like for like criteria and Net Gain ratios, to proposals to clear and offset native vegetation, based on the conservation significance of the vegetation, which is determined by the habitat score and Bioregional conservation status from Appendix 3, Table 5 of the Framework (NRE 2002).

5.4 Potential Options to Achieve Net Gain

5.4.1 Habitat hectares

In determining the appropriate offset responses for any permitted vegetation clearance, the Framework sets out several 'like for like' criteria in Table 6, Appendix 4, which must generally be considered for any offset site (NRE 2002). In order to locate an offset site for vegetation of Very High conservation significance, there is a requirement that the offset be:

- The same vegetation/habitat type;
- Similar or more effective ecological function AND land protection function as impacted by the loss; and,
- At least 90% of the quality of the vegetation being lost.

In order to locate an offset site for vegetation of High conservation significance, there is a requirement that the offset be:

- The same vegetation/habitat type OR a Very High significance vegetation/habitat in the same Bioregion;
- Similar or more effective ecological function OR land protection function as impacted by the loss; and,

- At least 75% of the quality of the vegetation being lost.

Impacts on vegetation remnants should be avoided/minimised as much as possible, as this can significantly reduce the Net Gain targets, compared with the often costly and onerous task of finding and managing offset sites.

A Net Gain offset site, located on Mt Emu-Settlement Road, Mount Emu, has been identified and assessed, which can potentially offset the majority of the loss of remnant Plains Grassland on the Marksx Group site (Brett Lane and Associates Pty. Ltd. 2008b).

6 ENVIRONMENTAL LEGISLATION AND POLICY

6.1 *Environment Protection and Biodiversity Conservation Act 1999*

Listed flora and fauna species, and ecological communities

An action requires approval from the Commonwealth Environment Minister if it will, or if it is likely to, have a significant impact on an endangered or critically endangered species, or on an 'important population' or critical habitat of a listed vulnerable species.

Flora: One nationally significant flora species (Spiny Rice-flower) was recorded on the Marksx Group site during the previous assessment (Ecology Partners Pty. Ltd. 2008a). No EPBC Act listed fauna species were recorded during the previous assessment. It is not expected that any additional EPBC Act listed flora species would occur with the study area.

Listed communities: One EPBC Act-listed community, the critically endangered Natural Temperate Grassland of the Victorian Volcanic Plain is present within the study area.

For native vegetation to qualify as a Natural Temperate Grassland of the Victorian Volcanic Plain under the EPBC Act the following condition thresholds and key diagnostic characteristics must be met:

- The total perennial tussock cover represented by the native grass genera *Themeda, Austrodanthonia, Austrostipa or Poa* is at least 50%;

OR

- If the total perennial tussock cover represented by the above 4 native grass genera is less than 50%, then the ground cover of native forbs (wildflowers) is at least 50% of total vegetation cover during spring-summer (September to February);

OR

- The cover of non-grass weeds is less than 30% of total vegetation cover at any time of the year (DEWHA 2008).

Fauna: Although a fauna assessment was not within the scope of the previous assessment conducted by Ecology Partners Pty. Ltd., it is understood that a targeted survey for Striped Legless Lizard has been undertaken, with no individuals recorded on the site (Brett Lane and Associates Pty. Ltd. 2008a). There is potentially suitable habitat for one additional EPBC Act-species (Golden Sun Moth) on the site.

EPBC Act Implications

As greater than 50% of the vegetative cover in areas on the Marksx Group site is represented by the native grass genera *Themeda, Austrodanthonia* and *Austrostipa* spp., Plains Grassland remnants are considered to be part of the critically endangered Natural Temperate Grasslands of the Victorian Volcanic Plain ecological community.

An EPBC Act referral to the Commonwealth Environment Minister is likely to be required for the proposed rezoning and subsequent development on the Marksx Group site as at least one EPBC listed species (Spiny Rice-flower) and one critically endangered ecological community were recorded within the study area.

6.2 *Flora and Fauna Guarantee Act 1988*

The primary legislation for the protection of flora and fauna in Victoria is the FFG Act. The Act builds on broader national and international policy in the conservation of biodiversity.

FFG Act Implications

A permit under the FFG Act is not warranted as part of any proposed development given that the study area is on private property.

6.3 *Planning and Environment Act 1987*

A Planning Permit from Melton Shire Council is required to clear/remove remnant native vegetation within the study area.

No Environmental Significance Overlays (ESO) or Vegetation Protection Overlays (VPO) under local planning scheme, as defined by the Melton Shire Council cover the study area (http://www.dse.vic.gov.au/planningschemes/hume/map.html).

6.4 *Net Gain Policy*

If any native vegetation clearance is proposed, then the State Government's Net Gain policy will need to be considered. This has been discussed in Section 5.

7 CONCLUSION

Patches of varying quality Plains Grassland exist on the Marksx Group site (Figure 1). One national (Spiny Rice-flower) and two state (Arching Flax-lily, Pale Spike-sedge) significant flora species have previously been recorded on the site (Figure 1).

Based on the current (PSP) (i.e. assuming that all areas of remnant native vegetation are proposed to be removed) there is currently a requirement to generate from the Victorian Volcanic Plain bioregion a total of **10.26 habitat hectares** of Very High conservation significance Plains Grassland, and **0.26 habitat hectares** of High conservation significance Plains Grassland. Ministerial approval would need to be obtained for the proposed removal of Very High conservation significance vegetation within the study area.

Given that all areas of remnant native vegetation within the Precinct, including the Marksx Group site, are proposed to be removed (i.e. in accordance with the PSP), all Net Gain offsets will need to be located outside the Precinct).

A Net Gain Offset Management Plan has been prepared for the proposed removal of the Plains Grassland remnants on the Marksx Group site (Brett Lane and Associates Pty. Ltd. 2008b). As part of the rezoning process DSE will consider whether the objectives of 'the Framework' (i.e. avoidance, minimisation) have been fully met, and whether the Net Gain offset site(s) outlined in the Net Gain Offset Management Plan is considered a suitable Net Gain outcome.

With respect to the current PSP if all areas of remnant Plains Grassland are proposed to be removed then theoretically the first two steps of 'the Framework' have not been demonstrated (i.e. avoid and minimise). This is despite the fact that the third step (i.e. offset) would largely be achieved through the security and long-term management of the Plains Grassland remnant located on Mt Emu-Settlement Road, Mount Emu. However, if the Mt Emu-Settlement Road offset site was agreed to be managed for a period of 10 years and protected in perpetuity, there would still be a requirement to generate 0.16 habitat hectares of High conservation significance and 0.926 of Very High conservation significance Plains Grassland, and this would need to be sourced from another offset site. Alternatively, the combined **1.086 habitat hectare** deficit could potentially be achieved through a financial contribution to Melton Shire Council (if agreed by relevant parties), so that it can then be directed into the management of another suitable offset site within the municipality.

In addition, the proposed removal of remnant native vegetation on the Marksx Group site may trigger the EPBC Act due the presence of the critically endangered Spiny Rice-flower, and Plains Grassland remnants which are likely to meet the condition thresholds under the critically endangered 'Natural Temperate Grassland of the Victorian Volcanic Plain'.

However, if some of the Plains Grassland remnants were to be retained within the study area this will present several management challenges in the future.

This is particularly pertinent given the future context in which these remnants will be located (i.e. surrounded by commercial and industrial development, with partial or no habitat connectivity throughout the landscape). It is important to note that one of the most important considerations for the long-term viability of any retained grassland remnants in an urban context is the level of future management, and required funding and resources for adequate management to be achieved. That is, if any retained Plains Grassland remnants within the study area are not adequately managed in the future, regardless of good connectivity, then the overall quality of these remnants is likely to continue to deteriorate as a result of threatening processes such as weed invasion, rubbish dumping, accumulation of biomass, and unrestricted access.

It is well documented that grassland communities function on a shorter ecological timeframe compared with other vegetation communities such as forests and woodlands. Grasslands require disturbance regimes or biomass reduction such as grazing and/or fire to maintain floristic diversity and composition, and this will be difficult to achieve in an urban/industrial context. Given the spatial context and the moderate to high weed levels present in the grassland remnants, there is likely to be a requirement for a substantially greater management commitment for the Marksx Group in the future. The future industrial development will be reliant on the development of infrastructure and services, and will regularly be serviced by heavy vehicles, which, if not managed appropriately, are unlikely to be complimentary to the long-term protection and management of remnant Plains Grassland.

Despite the inherent difficulty and long-term management requirements for smaller grassland remnants in urbanised environments, there are several similar sized grassland remnants which have been reserved and successfully managed for conservation in the region (e.g. William Angliss Grassland, Mt Derrimut Grassland, Laverton Creek Grassland Reserve north of Boundary Road, Central Creek and Denton Avenue Grassland Reserves). In addition, other similar sized grassland remnants continue to be reserved (e.g. small grassland north of Kororoit Creek Road) in industrial and residential developments throughout western Melbourne.

Conversely, a broader strategic perspective and rational ecological planning approach could be considered as part of the rezoning of this the Precinct. For example, a larger area of Plains Grassland, which meets the 'like for like' criteria under 'the Framework' and which exceeds the current Net Gain offset target of 10.52 habitat hectares could be considered. The protection and long-term management of a Plains Grassland remnant(s), which can provide more gain than the current target of 10.52 habitat hectares, may be a suitable ecological outcome, given that in this instance, the first two steps of 'the Framework' (i.e. avoid and minimise) have not been considered as part of the current PSP process. Any approved Plains Grassland offset site(s) outside of the Precinct should ideally; 1) be as large as possible, 2) be of high quality, 3) be connected to other consolidated areas of remnant native vegetation across the landscape, and 4) should support significant flora and fauna species. As mentioned, the Mt Emu-Settlement Road offset site may partially meet these objectives.

The entire or partial retention of remnant native vegetation on the Marksx Group site would be consistent with the objectives of 'the Framework'. However, it is my view that consistent with other small isolated grassland remnants throughout the Victorian Volcanic Plain bioregion, the long-term viability of these areas is dependent upon the type and intensity of management in the future, and the current context in which they are reserved. Indeed, based on the current site conditions and the intensity of development planned for the area, this presents a major challenge for land managers in the future.

8 REQUIRED INFORMATION

Name and Address

This report has been prepared by Aaron Organ, Director of Ecology Partners, 420 Victoria Street, Brunswick, Ph (03) 9940 1411, aorgan@ecologypartners.com.au

Area of Expertise

Aaron Organ has over 13 years experience in the environmental field, including eight years in an environmental consultant capacity. Mr Organ holds a Bachelor of Applied Science in Natural Resource Management and a Masters of Social Science Environment and Planning.

Aaron has also previously worked as a field ecologist in East Gippsland Victoria, and has worked as a ranger in Queensland and Victoria, having extensive experience in National Park and Reserve management throughout Australia.

He has broad knowledge and working experience relating to flora and fauna throughout south eastern Australia, and has either managed or played an important role in providing environmental advice on a number of large infrastructure projects such as proposed pipelines, and road and rail developments. He has also been a lead author and/or co-author for over 200 projects and has provided expert advice to a range of clients. Some of these projects include proposed wind farms in Victoria, South Australia and Tasmania, long-term flora and fauna monitoring throughout the Illawarra escarpment New South Wales, and various large commercial and industrial projects as well as small residential projects throughout Victoria.

Expertise to make the Report

Aaron Organ has considerable knowledge of the native flora and fauna in south eastern Australia, including throughout areas west of Melbourne. Relevant past experience includes:

- Expert witness at VCAT and Panel hearings for proposed developments throughout Victoria, including the Panel hearing for the proposed Dollar Wind Farm and Donald Mineral Sands Project, the proposed construction of a dwelling at 8 Charlotte Court, Warrandyte (VCAT), a proposed medium density housing at 2 Ramptons Road, Eltham (VCAT), and a medium density unit development in Frankston (adjacent to Kananook Creek) (VCAT).
- Completed over 200 flora and fauna investigations /assessments many for proposed residential developments.
- Aaron has also written numerous environmental reports and management plans for proposed residential and industrial developments.

Instructions in Relation to this Matter

Ecology Partners Pty. Ltd. was commissioned by Marksx Group Pty. Ltd. along with other parties to prepare a Draft Native Vegetation Precinct Plan as part of the rezoning of the site located at 489-555 Robinsons Road, Truganina.

As far as I am aware, my report does not contain any factual or technical errors.

Author's Declaration

I, Aaron Organ, have made all the inquiries that I believe are desirable and appropriate and that no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.

---------- Date: 21/7/2008

References

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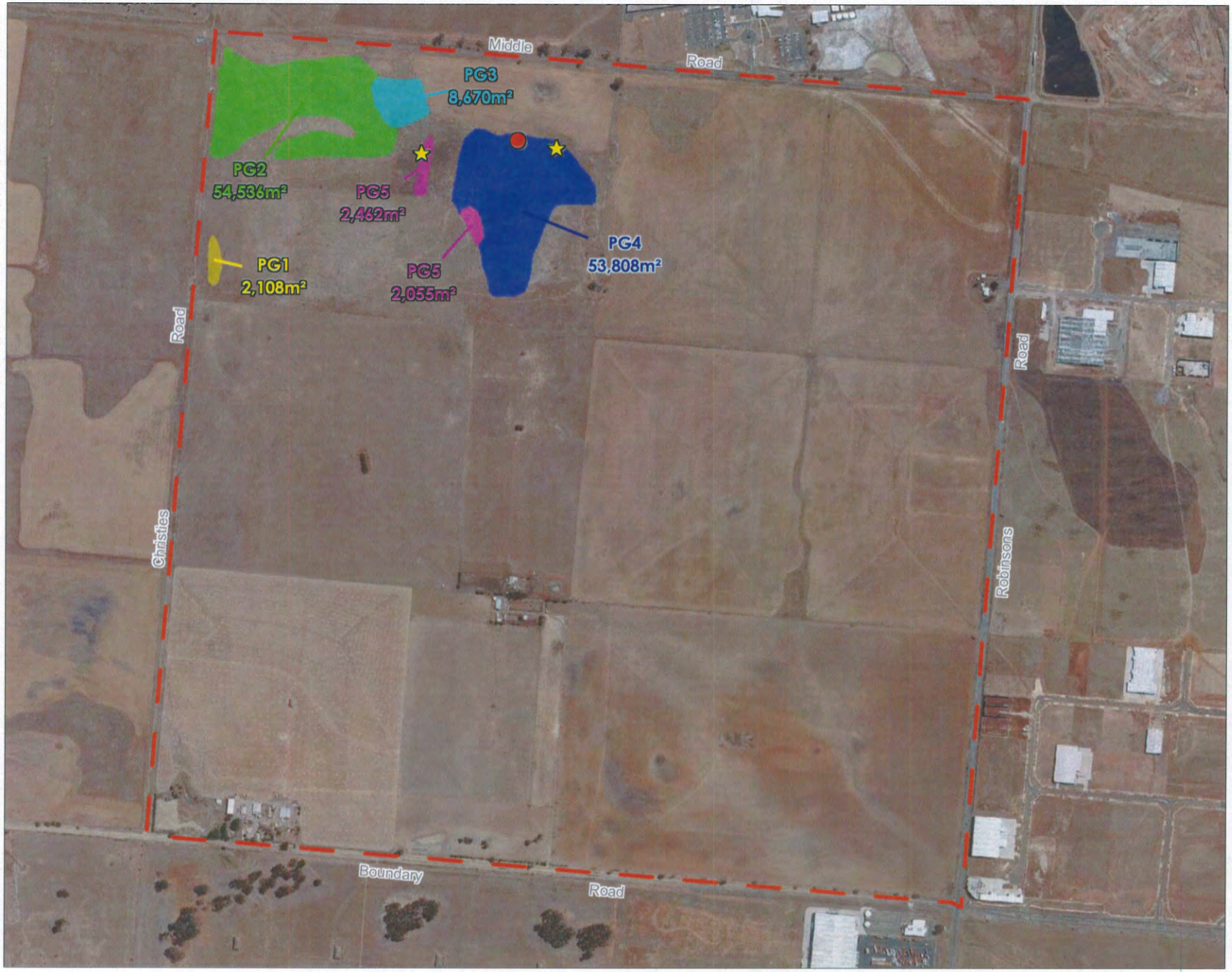

Figure 1
Ecological Features of study area, Boundary and Robinsons Roads, Truganina

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EP Map Num: 1073 Fig 1
Issue Date: 22/7/2007

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CURRICULUM VITAE

Name:

Aaron K. Organ

Position:

Director, Ecology Partners Pty. Ltd. (Principal Ecologist)

Professional Affiliations/Memberships:

Ecological Society of Australia
Victorian Planning and Environmental Law Association
Royal Australasian Ornithologist's Union
Australian Bird Study Association
Victoria Field Naturalist Club
Victorian Frog Group
Australian Society of Herpetologists
The Australian Herpetological Society

Qualifications:

Masters of Social Science (Environment and Planning), RMIT University
Graduate Certificate in Applied Science (Natural Resource Management), Deakin University
Bachelor of Applied Science (Natural Resource Management), Deakin University
Associate Diploma in Applied Science (Natural Resource Management)

Employment Profile:

April 2005 – present	Director – Ecology Partners Pty. Ltd.
July 2000 - April 2005	Zoologist/ Ecologist, Biosis Research Pty. Ltd.
Oct 1999 - June 2000	Ranger Parks Victoria – Mornington Peninsula National Park
1996-1999	Project Fire Fighter – Department of Natural Resources and Environment
1998-1999	Ranger – Qld Dept. of Enviro. Heritage. Whitsunday's National Park
1997-1998	Field Ecologist– Depart. of Natural Resources and Enviro. - East Gippsland Fox baiting program, Victoria

Fields of Competence:

- specialist herpetological and avifauna advice
- targeted fauna surveys and inventory
- regional environmental planning
- biodiversity survey
- rare and threatened species/communities assessment and management
- terrestrial and aquatic habitat assessment and monitoring
- survey methodology and design
- environmental design guidelines
- environmental impact statement
- natural environment
- impact minimisation (mitigation) guidelines

Professional Experience:

Aaron has over 13 years in applied conservation biology and management including over 8 years in a consulting capacity.

Publications:

Aaron has written over 200 consultant reports. A selection of completed reports is listed below.

Consultant Reports:

Hamer, A. & **Organ, A.** 2007. Green and Golden Bell Frog *Litoria aurea* Monitoring at Sydney Olympic Park, New South Wales, 2006/07, Unpublished Report for: Sydney Olympic Park Authority (N.S.W.)

Hamer, A. & **Organ, A.** 2007. Targeted fauna surveys, proposed Woodchip Mill, Myamyn, Victoria, Unpublished Report for: Midway Pty. Ltd.

Organ, A., Hill, A.J., & Hamer, A.J. 2006. Northern Murray Basin Project: Ecological Investigations and Analysis of Implications of Groundwater Disposal to Salinas, Ouyen, Victoria, Unpublished Report for: Enesar Consulting Pty Ltd

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Organ, A. & Hamer, A. 2006. Targeted Survey and Conservation Management Plan for the Growling Grass Frog *Litoria raniformis*: Pakenham Urban Growth Corridor, Pakenham, Victoria. Report prepared for Cardinia Shire Council.

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Organ, A & Rybak, B. 2006. Flora and Fauna assessment of a proposed residential development at 660 Tarneit Road, Tarneit, Victoria., Unpublished Report for: Tomkinson Pty Ltd

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Organ, A. & Aboltins, A. 2007. Targeted Growling Grass Frog *Litoria raniformis* Survey at Pretty Sally Reservoir, Wallan, Victoria, Unpublished Report for: Yarra Valley Water

Organ, A. & Annette, A. 2007. Targeted Growling Grass Frog survey throughout North East Victoria, Unpublished Report for: Department of Sustainability and Environment (Arthur Rylah Institute)

Organ, A. & Currie, J. 2007. Flora and Fauna Assessment for the Proposed Construction of an Outfall Drain, Heather Grove, Cranbourne East, Victoria, Unpublished Report for: Bosco Jonson Pty. Ltd.

Organ, A. 2007. Pakenham Golf Course Redevelopment Oaktree Drive - EPBC Act preliminary information, Unpublished Report for: Peet Limited

Organ, A. 2007. Preliminary flora and fauna assessment of the proposed development on Racecourse Road, Mornington, Victoria, Unpublished Report for: Beveridge Williams & Co Pty Ltd (Caulfield)

Organ, A. 2007. Targeted Growling Grass Frog *Litoria raniformis* Survey and Ecological Advice for the proposed Freeway Service Centres, Officer, Victoria, Unpublished Report for: Hansen Planning Services

Organ, A. & Rybak, B. 2006. Flora and Fauna assessment of a proposed residential development at 660 Tarneit Road, Tarneit, Victoria. Unpublished Report for: Tomkinson Pty Ltd (Southbank)

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Organ, A. & Hamer, A. 2005. Flora and Fauna assessment of a proposed industrial development, Ryan Road, Pakenham, Victoria, Unpublished Report for: Head & Humphrey's Land Consultants Pty. Ltd.

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Hill, A.J., **Organ, A.** & Redman, A. 2006. Flora and Fauna Assessment, Net Gain Analysis, and Geological and Geomorphological Assessment of the proposed relocation of Sydenham Road, Delahey, Victoria, Unpublished Report for: VicRoads (Planning Investigations) (Melbourne City)

Hill, A.J., **Organ, A.**, & Hill, K. 2006. Flora and Fauna Assessment of the proposed Bass Highway Duplication: Stage 6 (King Road to Woolmer Road), Bass, Victoria, Unpublished Report for: VicRoads (Eastern Region - Traralgon)

Hill, K. & **Organ, A.** 2006. Flora and Fauna Assessment of the proposed Natural Gas Pressure Regulating Station, Taylors Road, Plumpton, Victoria, Unpublished Report for: JP Kenny Melbourne Pty Ltd

Hamer, A. and **Organ, A.** 2007. Growling Grass Frog *Litoria raniformis* monitoring 2006/07, Western Treatment Plant, Werribee, Victoria.

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Hamer, A. & **Organ, A.** 2006. Strategic advice on the Growling Grass Frog *Litoria raniformis*: Officer Structure Plan, Officer, Victoria. Report prepared for Cardinia Shire Council.

Hamer, A. & **Organ, A.** 2006. Craigieburn Bypass: Monitoring of crossing structures for the Growling Grass Frog *Litoria raniformis*, Thomastown to Craigieburn, Victoria.

Hamer, A. & **Organ, A.** 2006. Growling Grass Frog *Litoria raniformis* monitoring at crossing locations, Edgars Road extension, Epping, Victoria. Report prepared for VicRoads.

Hamer, A. & **Organ, A.** 2007. Growling Grass Frog *Litoria raniformis* Monitoring 2005/06, Western Treatment Plant, Werribee, Victoria.

Hamer, A. & **Organ, A.** 2007. Growling Grass Frog Litoria raniformis Monitoring 2006/07, Western Treatment Plant, Werribee, Victoria, Unpublished Report for: Melbourne Water Corporation

Foley, A. & **Organ, A.** 2007. Flora and Fauna Assessment of a VicTrack owned Rail Reserve, Campbellfield, Victoria. Ecology Partners, Melbourne, Victoria., Unpublished Report for: VicTrack

Currie, J. & **Organ, A.** 2007. Flora and Fauna Assessment of a Proposed School Development, Stephenson Street, Lethbridge, Victoria, Unpublished Report for: Beveridge Williams & Co Pty Ltd (Caulfield)

Currie, J. & **Organ, A.** 2007. Net Gain Analysis for two sites within the Pakenham Bypass, Nar Nar Goon, Victoria, Unpublished Report for: FRH Group Pty. Ltd.

Attendance at VCAT and Panel Hearings

A selection of past VCAT and Panel appearances include:

- 2008: Donald Mineral Sands EES, Western Victoria – (Panel)
- 2008: 2 Rowe Street and 12-16 Bank Street VCAT, Alphington, Victoria (VCAT)
- 2008: Officer Service Centres, Officer – for Clayton UTZ Pty. Ltd. (VCAT)
- 2007: Anglesea Golf Club proposed Amendment C32 – for TGM Group Pty. Ltd. (Panel)
- 2007: Medium density housing at 2 Ramptons Road, Eltham – for Nillimbik Shire Council (VCAT)
- 2007: Medium density unit development in Frankston (adjacent to Kananook Creek) – for Gary Testro Lawyer (VCAT)
- 2007: Single dwelling development at 683 Great Ocean Road, Eastern Views, Victoria – for SJB Planning Pty. Ltd. (VCAT)
- 2006: Construction of a dwelling at 8 Charlotte Court, Warrandyte - for Glossop Town Planning Pty. Ltd. (VCAT)
- 2005: Dollar Wind Farm, Gippsland – for Freehills Lawyers (Panel)

Publications:

- Hamer, A. & **Organ, A.** (accepted). Aspects of the ecology and conservation of the Growling Grass Frog *Litoria raniformis* in an urban-fringe environment, southern Victoria
- **Organ, A.** (in prep.). Ecology and conservation significance of the Growling Grass Frog *Litoria raniformis* throughout the Pakenham area, south east Melbourne, Victoria. Article for the Victorian Naturalist.