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Final Report

Targeted Surveys for Growling Grass Frog *Litoria rainformis*, 510 Summerhill Road, Wollert, Victoria

Prepared for

Cleanaway Operations Pty Ltd

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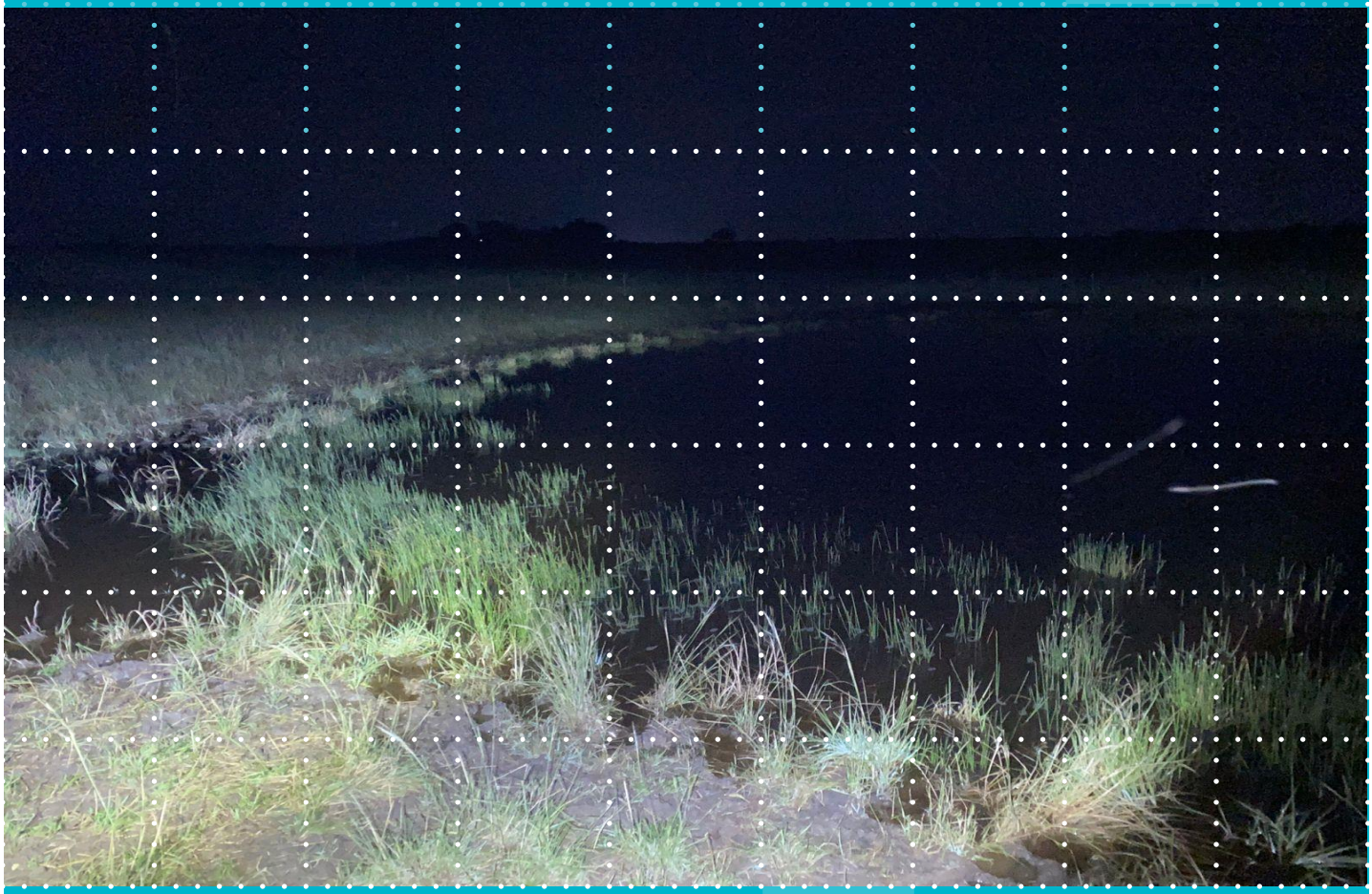

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Ecology and Heritage Partners acknowledge the Traditional Owners of the country we live and work on, and we pay our respect to Elders past, present and emerging.

EXECUTIVE SUMMARY

Introduction

Ecology and Heritage Partners Pty Ltd was engaged by Cleanaway Operations Pty Ltd (Cleanaway) to undertake targeted Growling Grass Frog *Litoria raniformis* surveys at 510 Summerhill Road, Wollert, Victoria (the 'proposal area'). The surveys were required to determine the presence or absence of Growling Grass Frog and address any implications for the construction of the proposed waste-to-energy (WtE) facility known as the Melbourne Energy and Resource Centre (MERC) under Commonwealth and State environmental legislation.

Methods

Numerous online-resources and databases including DELWP Naturekit Map (DELWP 2022a) and the Victorian Biodiversity Atlas (VBA) (DELWP 2022b) were consulted to provide an assessment of flora and fauna values associated with the proposal area. An inspection was undertaken on 8 November 2022 by a qualified zoologist to identify the extent and suitability of potential habitat for Growling Grass Frog within the proposal area. Three nights of nocturnal Growling Grass Frog surveys were then undertaken within the proposal area and land adjacent, including the Merri Creek (referred to as the 'study area') by two experienced zoologists. A habitat assessment occurred in conjunction with targeted surveys. Surveys were conducted in accordance with approved methodology identified within relevant approved guidelines for detecting Growling Grass Frog, with surveys focusing on suitable habitat identified within the proposal area (DEWHA 2009).

Limitations

It is important to acknowledge that the number of documented records for the Growling Grass Frog within and around the proposal area is not necessarily a reflection of population size or density and does not offer information on how a species is making use of an area.

The Growling Grass Frog calling season typically occurs between October – December and the species is known to be active until late March. This behaviour may be impacted by above average rainfall and La Nina weather patterns.

Results

At the time of the assessment there were approximately 306 records of Growling Grass Frog within 10 kilometres of the proposal area (DELWP 2022b), with the most recent record dating to 2021. Habitat surveys within the proposal area revealed waterbodies of a similar quality (moderate), with emergent, floating and fringing aquatic vegetation. The use of dams as water sources for livestock has negatively impacted water quality with highly turbid water and pugging in the riparian zone. Merri Creek contained habitat of a higher quality with emergent and fringing vegetation present. Recent flooding events has negatively impacted sections of the creek with widespread damage to much of the vegetation, and banks of the river. Water quality was considered habitable for all surveyed bodies of water, with other frog species observed in all waterbodies within the proposal area (Table 3).

Targeted surveys for Growling Grass Frog were conducted in October-November of 2022. Growling Grass Frog were confirmed calling at the reference sites on the 9th and 28th of November, however were not detected within the proposal area or neighbouring Merri Creek during the surveys.

Legislative and Policy Implications

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

No Growling Grass Frog were recorded within the proposal area or at Merri Creek, with a population of species unlikely to be present within the proposal area due to a history of disturbance onsite. The proposal area does not contain areas of existing high or medium quality habitat, or areas required for habitat creation or enhancement. Therefore, a referral to the Commonwealth Environment Minister under the EPBC Act is not required for the species.

Flora and Fauna Guarantee Act 1988 (FFG Act - Victoria)

There were no Growling Grass Frog observed within the proposal area and no other threatened and/or protected species found under the FFG Act. Further, an FFG Act permit is not required for removal of species or communities on private land, or for the removal of habitat for a listed terrestrial fauna species.

Conclusion

Targeted surveys were conducted at all waterbodies and inundated areas at 510 Summerhill Road, Wollert, Victoria. Despite targeted surveys being undertaken in accordance with the appropriate methodology, during optimal conditions, with Growling Grass Frog heard calling at local reference sites, Growling Grass Frog were not detected within the proposal area.

The absence of species within the proposal area may be due to aspects such as reduced water quality, increased pollution, numerous dispersal barriers between waterbodies and debris from recent flooding. However, the Merri Creek site should still be considered moderate to high quality habitat for the species based on aspects such as permanent hydrology of the site, good cover of fringing vegetation and the presence of terrestrial refugia.

The proposal area could potentially be used for dispersal activities, however, targeted survey results indicate low likelihood of an extant population occurring within the proposal area.

CONTENTS

1 INTRODUCTION

1.1 Background

Ecology and Heritage Partners Pty Ltd was engaged by Cleanaway Operations Pty Ltd (Cleanaway) to undertake targeted surveys for Growling Grass Frog *Litoria rainformis* at 510 Summerhill Road, Wollert (the 'proposal area') (Figure 1). The proposal area has recently been purchased and a waste-to-energy (WtE) facility known as the Melbourne Energy and Resource Centre (MERC) is proposed to be developed on site.

The purpose of this assessment was to undertake targeted surveys for Growling Grass Frog to determine the presence or absence of this species, and where possible to ascertain its distribution, abundance and the extent of the species habitat within the proposal area. Three surveys were undertaken between October and November of 2022 under suitable conditions.

Although the proposal area is located within the Melbourne Strategic Assessment (MSA) area, and any development is subject to approval conditions in accordance with the Biodiversity Conservation Strategy (BCS) (DEPI 2013a), targeted surveys were undertaken as part of a precautionary approach due to the nature of the proposed development.

1.1.1 Biodiversity Conservation Strategy

The BCS and associated sub-regional species' strategies (DEPI 2013b) identify conservation outcomes and offset consolidation strategies for Victoria's native vegetation and Matters of National Environmental Significance (MNES) under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), including mechanisms for how these outcomes will be delivered. The BCS covers Melbourne's four growth corridors within the expanded 2010 Urban Growth Boundary, as well as 28 precincts under the 2005 Urban Growth Boundary, except where a planning scheme amendment to introduce a Precinct Structure Plan has been approved prior to 1 March 2012.

To facilitate the planning approvals process for Melbourne's growth areas, the Victorian Government has introduced the 'Time Stamping' project (DSE 2009). This project captures, and 'time stamps' native vegetation information within Melbourne's urban growth areas. This data can then be used to calculate native vegetation offsets for future development, and to prepare Native Vegetation Precinct Plans (NVPP) for these areas.

Classes of actions associated with urban development in most of the land in Melbourne's growth corridors have been approved under Section 146B of the EPBC Act by the Commonwealth Environment Minister (Minister). The approval was made in relation to the western, north-western and northern growth corridors on 5 September 2013.

The proposal area is located within the northern growth corridor. The Commonwealth approvals are subject to conditions, which included the former Habitat Compensation Obligations (HCO) and the restriction of urban development in identified conservation areas.

1.2 Scope and Objectives

The objectives of the targeted surveys were to:

- Confirm the presence/absence of Growling Grass Frog within the proposal area and adjacent to the proposal area
- If Growling Grass Frog is detected:
    - Determine any potential indirect impacts on Growling Grass Frog, and its habitat at a National and State level associated with the proposed development
    - Provide advice on mitigation measures that may be undertaken to avoid and/or mitigate potential adverse impacts on Growling Grass Frog
    - Provide information in relation to any implications of Commonwealth and State environmental legislation and Government policy associated with future proposed development of the proposal area.

1.3 Proposal Area

The proposal area is located at 510 Summerhill Road, Wollert, and is approximately 26 kilometres north of Melbourne's CBD (Figure 1). The proposal area covers approximately 82 hectares in area and is bound by Summerhill Road to the south, and is surrounded by undeveloped pastureland to the north, east and west.

According to the Department of Environment, Land, Water and Planning (DELWP) Native Vegetation Information Management Tool (DELWP 2022b), the proposal area occurs within the Victorian Volcanic Plain bioregion, within the jurisdiction of the Yarra Valley Water Catchment Management Authority (CMA) and the City of Whittlesea municipality.

The proposal area falls within the Farming Zone (FZ), Rural Conservation Zone (RCZ) and includes Environmental Significance Overlay – Schedule 4 (ESO4). The proposal area also falls within Reach 2 for Conservation Area 34 of the Growling Grass Frog Masterplan, with the Merri Creek identified as containing important population and habitat for species persistence (DELWP 2017d). The proposal area is within the Northern Quarries Precinct Structure Plan (PSP) area within the MSA area and is subject to the assessment process and Environment Mitigation Levy under the Biodiversity Conservation Strategy (BCS) Melbourne's Growth Corridors and Sub-regional Species Strategy for the Growling Grass Frog (DEPI 2013b).

The site has recently been acquired by Cleanaway and is currently being used for agriculture (cattle grazing) and is heavily modified, with a residence and associated sheds in the central portion of the property. The site is predominantly low lying with several low rising stony knolls present throughout. Three large dams are located within the site and have previously inundated areas of the paddocks during past weather events.

Two dams are located along the southern boundary, one in the west and one in the east (Figure 2a). Another sits just north of this residence (Figure 2a). Approximately 500m of Merri Creek was also included in the survey effort to detect Growling Grass Frog (Figure 2b). This stretch of Merri Creek is located approximately 1 kilometre west of 510 Summerhill Road, Wollert. Two reference sites for Growling Grass Frog, located in Donnybrook, were visited prior to surveying the proposal area.

Vegetation within the site consists predominantly of exotic pasture grasses including Perennial ryegrass *Lolium perenne*, Toowoomba Canary-grass *Phalaris aquatica*, Chilean Needle Grass *Nassella neesiana* and Yorkshire Fog *Holcus lanatas*. Scattered native species are present within the site, including Kangaroo Grass *Themeda triandra*, Blue Devil *Eryngium ovinum* and Rush *Juncus* spp, primarily within stony knolls and low-lying inundated areas within the site. Patches of insavies weeds such as Artichoke thistle *Cynara cardunculus* and Gorse *Ulex europaeus* are also present across the site.

1.4 Growling Grass Frog (*Litoria raniformis*)

EPBC Act Conservation Status: Vulnerable

FFG Act Conservation Status: Vulnerable

Plate 1. Growling Grass Frog *Litoria raniformis* (Ecology and Heritage Partners Pty Ltd)

Although formerly widely distributed across southern eastern Australia, including Tasmania (Hero *et al.* 1991), Growling Grass Frog (Plate 1) populations have declined markedly over the past two decades in many areas, particularly in south and central Victoria where some populations have experienced local extinction.

Growling Grass Frog are largely associated with permanent or semi-permanent still or slow flowing waterbodies (i.e. streams, lagoons, farm dams and old quarry sites) (Hero *et al*. 1991; Barker *et al*. 1995; Cogger 1996). The species can also utilise temporarily inundated waterbodies during breeding season, to facilitate reproduction (Organ 2003). The presence of key habitat attributes, primarily an extensive cover of emergent, submerged and floating vegetation (Robertson *et al*. 2002, Organ 2004, 2005), and the spatial orientation of waterbodies (Robertson *et al*. 2002; Heard *et al*. 2004; Hamer and Organ 2008) are strong determinants of the species' presence. Terrestrial vegetation such as grasses and sedges, rocks and other ground debris around wetland perimeters also provide important foraging, dispersal and overwintering sites. Dispersal is thought to occur primarily along drainage lines or other low-lying areas between waterbodies, and unhindered movement between and within waterbodies is considered important for population viability.

2 METHODS

2.1 Desktop Assessment

The following information sources were reviewed prior to the targeted surveys for Growling Grass Frog, to provide an overview of the fauna values associated with the proposal area:

- The DELWP Native Vegetation Information Management (NVIM) Tool (DELWP 2022c) and NatureKit Map (DELWP 2022a) for:
    - Modelled data for location risk, native vegetation patches, scattered trees and habitat for rare or threatened species
    - The extent of historic and current Ecological Vegetation Classes (EVCs).
- The Victorian Biodiversity Atlas (VBA) for previously documented fauna records within the proposal locality (DELWP 2022b)
- Aerial photography of the proposal area.

2.2 Habitat Assessment

An assessment of the proposal area was undertaken by a qualified zoologist on 8 November 2022. The inspection sought to identify the extent and suitability of potential habitat for Growling Grass Frog present within the proposal area.

The following attributes of habitat quality for the Growling Grass Frog were recorded as part of the preliminary habitat assessment:

- The hydroperiod
- The location and extent of instream pools and off-stream waterbodies
- Habitat values of each waterbody including the type (dam, dam, wetland, creek, billabong, drain or ditch) flow (still, slow, rapid), depth and presence of terrestrial refuge sites (e.g. rocks, logs, debris)
- Aquatic vegetation cover (% cover of emergent, submergent and floating aquatic plants)
- Barriers to frog movement between waterbodies.

The hydroperiod (as defined in Heard et al., 2010) is the likelihood that an individual wetland will remain inundated over the course of a single breeding season, on an ordinal scale where:

- 0 = fills only in years with above average rainfall (intermittent)
- 1 = fills and dries out annually with average rainfall (ephemeral)
- 2 = dries out only during years of below average rainfall (semi-permanent)
- 3 = never dries out regardless of rainfall (permanent).

Habitat quality was defined with reference to the following criteria:

- **High quality habitat:** Areas that currently contain or have a high likelihood to contain important habitat attributes required by the species for breeding as well as foraging and dispersal (e.g. permanent or semi-permanent, extensive aquatic vegetation, high water quality, connected to other occupied sites, absence or low densities of predatory fish, high cover of terrestrial refuge sites).
- **Moderate quality habitat:** Habitat that supports one or more key habitat characteristics outlined above, but not all (for example site may be important for dispersal or foraging but not breeding).
- **Low quality habitat:** Sites unlikely to be used by Growling Grass Frog for breeding and a low likelihood for dispersal due to one or more of the following; absence or lack of aquatic vegetation, low water quality, presence of predatory fish, lack or low cover of terrestrial refuge sites.
- **No suitable habitat / degraded:** Areas consisting of open pasture have generally been cleared from previous land use activities and are highly modified areas dominated by exotic vegetation (i.e. open pasture) in poor condition and located some distance (e.g. over 200 metres) from wetland habitat.

2.3 Targeted Surveys

Nocturnal Growling Grass Frog surveys were undertaken across the proposal area along the edges of dams and inundated areas, as well as the edges of the Merri Creek by two experienced zoologists. A habitat assessment was undertaken in conjunction with targeted surveys on 8 November 2022. As such, the entirety of the site was surveyed.

Three nights of survey (8, 9 and 28 November 2022) took place during weather conditions considered suitable for Growling Grass Frog activity (Table 1). The surveys were conducted with reference to the prescribed methodology detailed in the following guidelines:

- Significant Impact Guidelines for the Vulnerable Growling Grass Frog (*Litoria raniformis*) *EPBC Act* Policy Statement 3.14 (DEWHA 2009d)
- Survey Guidelines for Australia's Threatened Frogs (DEWHA 2010).

Based on the survey protocols adhered to for this assessment, this would achieve a probability detection threshold of 0.99 as per the probability thresholds specified by DELWP (Heard *et al*., 2010).

Each survey involved spotlighting surveys, call identification, and active searching for adults and metamorphs. More specifically:

- An initial period of five minutes was spent listening to any calling frogs (all species) in and adjacent to habitats
- Following the initial period, the advertisement call was broadcast to elicit a response from any adult males present
- Surveyors used “Olight” LED hand-held spotlights (up to 1020 lumens/8.4 volts) to locate any calling males on floating vegetation in the waterbody and around the perimeter of waterbodies
- Surveyors actively searched ground-level habitat including surface rocks, underneath hard litter, and at the base of vegetation for frogs

- Surveyors used the resulting information to determine the significance of any recorded Growling Grass Frog populations.

Prior to conducting each survey, nearby reference sites with confirmed Growling Grass Frog populations (both artificial dams) were visited to determine if weather conditions facilitated the species calling. In total, two local reference sites were visited prior to eachsurvey. One reference site is located approximately 300m north of Donnybrook Railway Station along Springs Road, Donnybrook (37°32'19.4"S 144°58'16.9"E). The other reference site is approximately 500m west of the first reference site bordering Nature Promenade, Donnybrook (37°32'17.1"S 144°57'56.8"E). Growling Grass Frog were heard calling at the reference sites on the 9 and 28 November 2022, confirming the suitability of survey conditions at the time the surveys were undertaken across the proposal area.

2.4 Assessment Qualifications and Limitations

It is considered that the survey effort, timing and results presented meet the objectives of the survey guidelines.

The survey guidelines (DEWHA 2009) recommend surveying on nights with a daytime air temperature greater than 15 °C and night time air temperature greater than 12 °C. The 2022/23 season was heavily impacted by atypical wet and cold conditions throughout the Growling Grass Frog survey season, which limited days available to conduct surveys in optimal conditions. As such two surveys were conducted on consecutive days (8 and 9 November), to take advantage of suitable weather conditions.

The targeted survey efforts were undertaken within the Growling Grass Frog calling season (October – December), however Growling Grass Frog are known to be active until late March. Despite it being within the calling period, Growling Grass Frog have been observed via active searches late into the season (late February and early March) which may be due to above average rainfall and La Nina weather patterns.

All fieldwork was carried out under the appropriate licences, including a Research Permit (10009538) and Scientific Procedures Fieldwork Licence (SPFL 20005) issued by DELWP under the Victorian *Wildlife Act 1975,* and an Animal Research permit issued by the Wildlife and Small Institutions Animal Ethics Committee (05.17).

3 RESULTS

3.1 Desktop Assessment

The VBA contains 306 records of Growling Grass Frog within 10 kilometres of the proposal area (DELWP 2022b), with the most recent record dated in 2021.

3.2 Habitat Assessment

Habitats favoured by Growling Grass Frog include permanent or largely permanent still waterbodies with extensive emergent and submergent vegetation (DEPI 2013a; Hero *et a*l. 1991; Robertson *et al.,* 2002). The species is also associated with swamps, irrigated areas, farm dams, former quarry holes and off-stream habitats (DSE 2012). Suitable terrestrial habitat for post-breeding dispersal and overwintering refuge sites are also required and can include dense ground-level vegetation, rocks, logs and other ground debris (Robertson *et al.,* 2002). This species can also utilise temporarily inundated waterbodies for breeding purposes providing they contain water over the breeding season (Organ 2003).

The proposal area is highly modified, containing exotic pasture grass and weeds throughout the property and surrounding the periphery of the dams. Emergent, fringing and submergent vegetation was present in varying levels around the dams (Plate 2). The Merri Creek was found to be substantially littered with debris due to recent flooding events, with noxious weeds surrounding the perimeter of creek (Plate 3).

The waterbodies within the proposal area were similar in habitat quality. They exist as medium sized open dams of moderate quality, with emergent, floating or fringing aquatic vegetation (Plate 2, 3 and 4). The emergent and fringing vegetation consists predominantly of Spiny rush *Juncus acutus*, Spike sedge *Eleocharis palustris* and Duck weed *Lemnoideae*. These dams persist entirely as a water source for agricultural and livestock purposes, which has negatively impacted habitat quality for Growling Grass Frog (Table 1). There is evidence that the dams were previously fouled by cattle due to highly turbid water, presence of litter and fetid smell. Throughout the banks of the waterbodies in the proposal area, there is evidence of pugging in the riparian zone and within the waterbody itself due to the presence of cattle. Pugging occurs when the soil is very wet, and the penetration of animal hooves remoulds the soil surface into a series of holes and mounds (Plate 5). This process can destroy soil structure by removing large soil pores and can kill plants or push propagules further down the soil profile.

Merri Creek was surveyed during the inspections (Plate 6) and contained higher quality habitat for Growling Grass Frog (Table 1), with emergent vegetation present and fringing vegetation in parts. This location had stretches of both fast-flowing rapids and slower flowing parts with still inlets. However, recent flooding has littered the Creek with floating debris and along the banks. This has resulted in widespread damage to much of the emergent and floating vegetation which once persisted (Plate 7).

Salinity levels is a key parameter to determine habitat quality for Growling Grass Frog. Salinity levels below 7.0 mS/cm are required for a body of water to be deemed habitable to Growling Grass Frog (Christy and Dickman 2002, SWIFT). Water quality was considered habitable for in all bodies of water within the proposal area and

within Merri Creek with salinity level readings for dams 1, 2, 3 and Merri Creek were 0.176 (mS/cm), 0.204 (mS/cm), 0.190 (mS/cm), 0.095 (mS/cm) respectively (Table 3).

While these salinity readings are well within the optimal range to support a Growling Grass Frog population, other factors (e.g. quality and amount of floating vegetation) suggest there is a low likelihood that the waterbodies surveyed currently support a breeding population of Growling Grass Frog.

Plate 2. Banks with some emergent vegetation (Juncus acutus) at dam 1 (Ecology and Heritage Partners Pty Ltd 08/11/2022).

Plate 3. Banks with some emergent vegetation (Juncus acutus) at dam 2 (Ecology and Heritage Partners Pty Ltd 08/11/2022).

Plate 4. Emergent vegetation (Juncus acutus) at dam 3 (Ecology and Heritage Partners Pty Ltd 08/11/2022).

Plate 5. Evidence of plugging from cattle movement around dam 1 (Ecology and Heritage Partners Pty Ltd 08/11/2022).

Plate 6. Section of Merri Creek with emergent vegetation (Ecology and Heritage Partners Pty Ltd 08/11/2022).

Plate 7. Floating debris at Merri Creek survey location (Ecology and Heritage Partners Pty Ltd 08/11/2022).

Table 1. Percentage cover of aquatic vegetation type at survey sites

Aquatic Vegetation Type	Dam Number			Merri Creek	
	1	2	3	North	South
Emergent (%)	5	5	5	40	5
Floating (%)	0	10	0	0	0
Open water (%)	95	90	95	30	90
Fringing aquatic vegetation (%)	10	5	15	20	5

Table 2. Habitat features at survey sites

Habitat Features	Dam Number			Merri Creek	
	1	2	3	North	South
Water depth	High	High	High	High	High
Hydrology	Permanent	Permanent	Permanent	Flowing	Flowing
Water flow	Still	Still	Still	Slow	Slow-rapid
Litter	Present	Absent	Absent	Absent	Present
Introduced fauna species	Not observed	Not observed	Not observed	Not observed	Not observed

Table 3. Water quality results for all waterbodies within proposal area and within Merri Creek

Water Quality Measurements	Dam Number			Merri Creek
	1	2	3	
Temperature (°C)	23.10	22.24	20.88	19.53
Acidity (pH)	6.84	6.11	7.61	8.82
Salinity (mS/cm)	0.176	0.204	0.190	0.095
Dissolved oxygen (ms/LDO)	6.26	4.80	7.61	17.01
Total dissolved solids (g/L)	0.114	0.132	0.124	0.049

3.3 Targeted Surveys

Targeted surveys for Growling Grass Frog were undertaken in accordance with survey guidelines with the weather conditions being conducive for frogs to be active. Despite surveys being undertaken during the active calling period for Growling Grass Frog, extra consideration was given to the survey effort, timing and methods. Active searches were employed to determine the presence/absence of the species.

Growling Grass Frog was not detected within the proposal area during the surveys. Several other common native frog species were heard calling within the proposal area during the targeted surveys, including Spotted Marsh Frog *Limnodynastes tasmaniensis,* Striped Marsh Frog *Limnodynastes peronii*, Southern Brown Tree Frog *Litoria ewingii*, Eastern Common Froglet *Crinia signifera* and Eastern Banjo Frog *Limnodynastes dumerilii* (Table 3).

Table 3. Summary of Growling Grass Frog survey results.

Survey Date	Weather conditions						Species
	Survey Temp (°C)	Wind direction	Wind speed (km/hr)	Relative Humidity (%)	Cloud Cover (%)	Rain	
08/11/2022	16.7	NE	9.3	71	5	0	Spotted Marsh Frog; Eastern Banjo Frog; Striped Marsh Frog; Eastern Common Froglet; Southern Brown Tree Frog.
09/11/2022	19	N	20.4	65	5	0	Spotted Marsh Frog; Eastern Banjo Frog; Striped Marsh Frog; Eastern Common Froglet.
28/11/2022	15.5	E	9.2	72	0	0	Spotted Marsh Frog; Striped Marsh Frog; Eastern Common Froglet; Eastern Banjo Frog

4 LEGISLATIVE AND POLICY IMPLICATIONS

4.1 *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)

The EPBC Act establishes a Commonwealth process for the assessment of proposed actions (i.e. project, development, undertaking, activity, or series of activities) that are likely to have a significant impact on matters of national environmental significance (MNES), or on Commonwealth land. An action, unless otherwise exempt, requires approval from the Commonwealth Environment Minister if it is considered likely to have an impact on any MNES.

4.1.1 Implications

Under condition 2 of the Commonwealth Government's approvals for urban development in Melbourne's Growth Corridors, actions resulting in a net loss of 'habitat' for MNES (i.e. Growling Grass Frog) require the agreement of the Commonwealth Minister for the Environment. Targeted surveys were completed for Growling Grass Frog, however, despite systematic survey efforts no individuals were recorded, and no other significant fauna were detected. The proposal area does not contain areas of existing high or medium quality habitat, or areas required for habitat creation or enhancement. Therefore, a referral to the Commonwealth Environment Minister under the *EPBC Act* is not required for the species.

4.2 *Flora and Fauna Guarantee Act 1988* (Victoria)

The FFG Act is the primary legislation dealing with biodiversity conservation and sustainable use of native flora and fauna in Victoria. Proponents are required to apply for an FFG Act Permit to 'take' listed and/or protected flora species, listed vegetation communities and listed fish species in areas of public land (i.e. within road reserves, drainage lines and public reserves). An FFG Act permit is generally not required for removal of species or communities on private land, or for the removal of habitat for a listed terrestrial fauna species.

Although the proposal area is privately owned and therefore a permit to remove protected flora species, listed vegetation communities and listed fish species is not required, the Responsible Authority and/or the Department of Energy, Environment and Climate Action (DEECA) take into consideration the presence of FFG Act matters (e.g. species, ecological communities and threatening processes) as part of the strategic and statutory assessment and approval process (e.g. rezoning and planning permit application). Despite targeted surveys being undertaken during an appropriate survey period and conditions, Growling Grass Frog was not recorded within the proposal area. Consequently, there are no implications under the FFG Act relating to these species for any future development of the proposal area.

5 CONCLUSION

Targeted surveys were conducted at all waterbodies and inundated areas at 510 Summerhill Road, Wollert. A total of three dams were surveyed, and most of the proposal area was traversed on foot to account for any areas of inundation. Additional survey effort was undertaken at a nearby stretch of Merri Creek which resided west of the proposal area.

Targeted Growling Grass Frog surveys were undertaken on 8, 9 and 28 November 2022 at 510 Summerhill Road, Wollert. Despite the targeted surveys being undertaken according to the appropriate methodology (see Section 2), during optimal conditions when Growling Grass Frog was heard calling at local reference sites, Growling Grass Frog was not recorded within the proposal area. The absence of the species at these dams may be due to several factors including;

- Reduced water quality associated with water fouling by cattle or livestock, or increased salinity
- Increased pollution and pesticide/herbicide use
- Barriers to movement between waterbodies, including access to Merri Creek
- Debris from recent flooding driven habitat destruction.

Whilst the targeted surveys did not record any Growling Grass Frog at the Merri Creek site, this area is still considered to provide moderate to high quality habitat for the species based on the following characteristics:

- The permanent hydrology of the sites
- The good cover of fringing vegetation
- The presence of terrestrial refuge sites (i.e. logs, rocks, debris, vegetation etc).

The dams within the proposal area did not display these characteristics and were characterised as having low to medium quality habitat.

The proposal area could potentially be used for dispersal activities; however, the results of these targeted surveys indicate there is a low likelihood that an extant population of Growling Grass Frog currently occurs within the proposal area.

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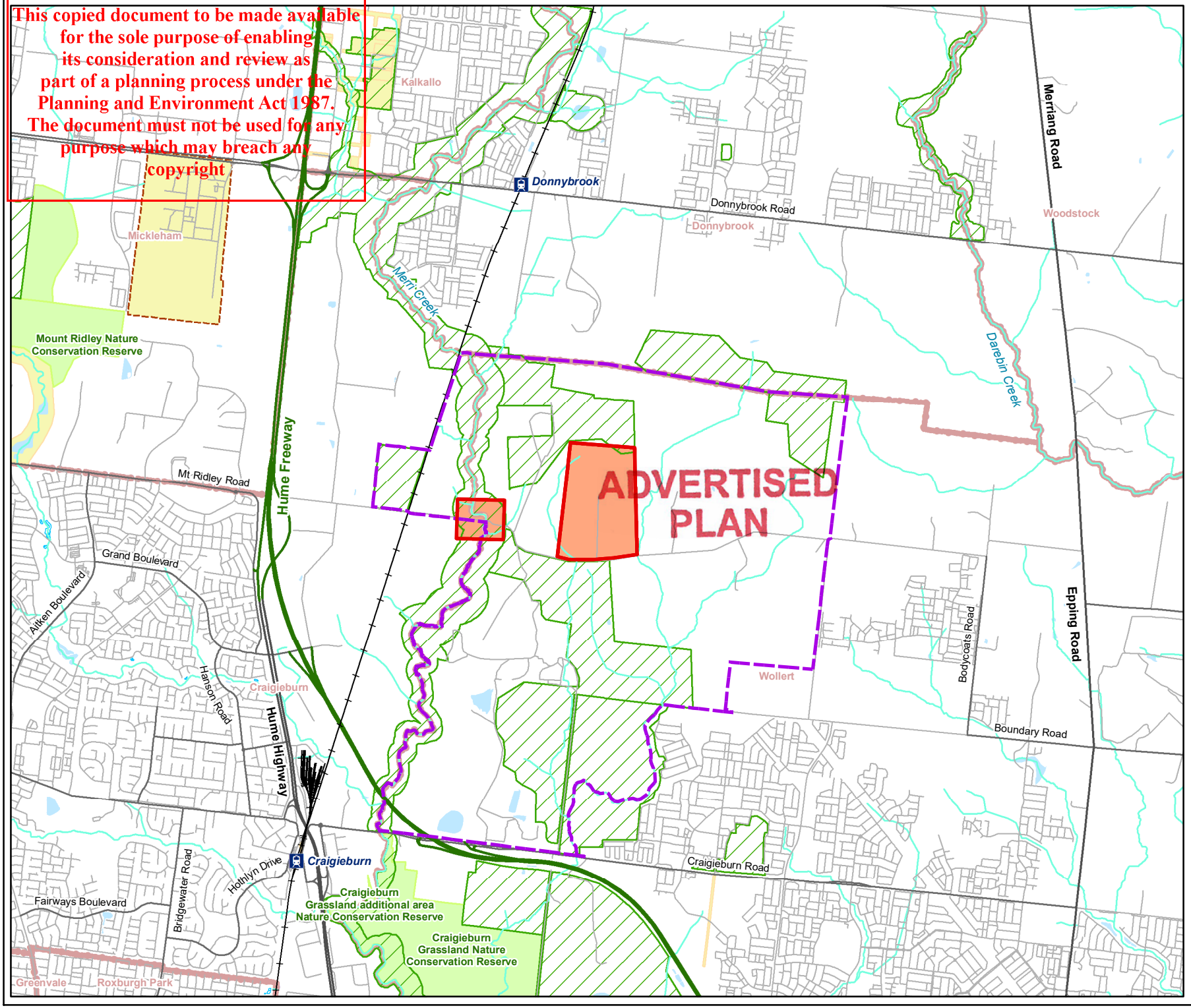
FIGURES



Legend

- Proposal Area
- Northern Quarries PSP
- Railway
- Freeway
- Major Road
- Collector Road
- Minor Road
- Minor Watercourse
- Permanent Waterbody
- Wetland/Swamp
- Parks and Reserves
- BCS Conservation Area
- Commonwealth Land
- Crown Land
- Localities

Figure 1

Location of the proposal area

Targeted Growling Grass Frog surveys for 510 Summerhill Road, Wollert

0 500 1,000
Metres

Map Scale: 1:50,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

ecology & heritage partners

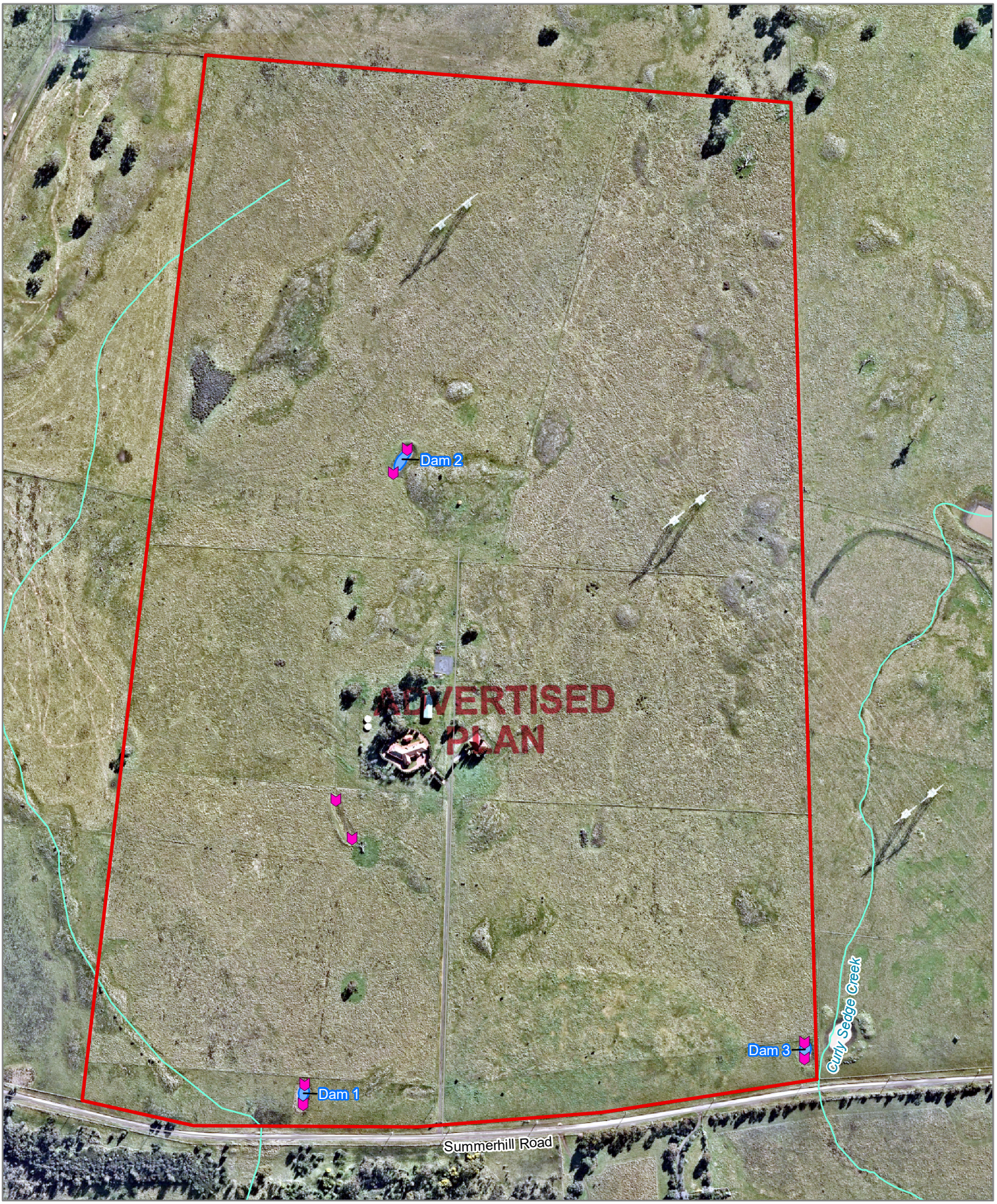


Figure 2a
Growling Grass Frog survey results
Growling Grass Frog Targeted Survey - 510 Summerhill Road, Wollert

Legend

- Proposal Area
- Dam
- Minor Watercourse

Survey locations

- Call playback

N

0 50 100
Metres

Map Scale: 1:5,500 @ A4
Coordinate System: GDA2020 MGA Zone 55

Aerial source: Nearmap 2022

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Figure 2b
Growling Grass Frog survey results
Growling Grass Frog Targeted Survey - Merri Creek, Wollert

Legend

Study Area

Minor Watercourse

Survey locations

Call playback

N

0 25 50
Metres

Map Scale: 1:2,800 @ A4
Coordinate System:
GDA2020 MGA Zone 55

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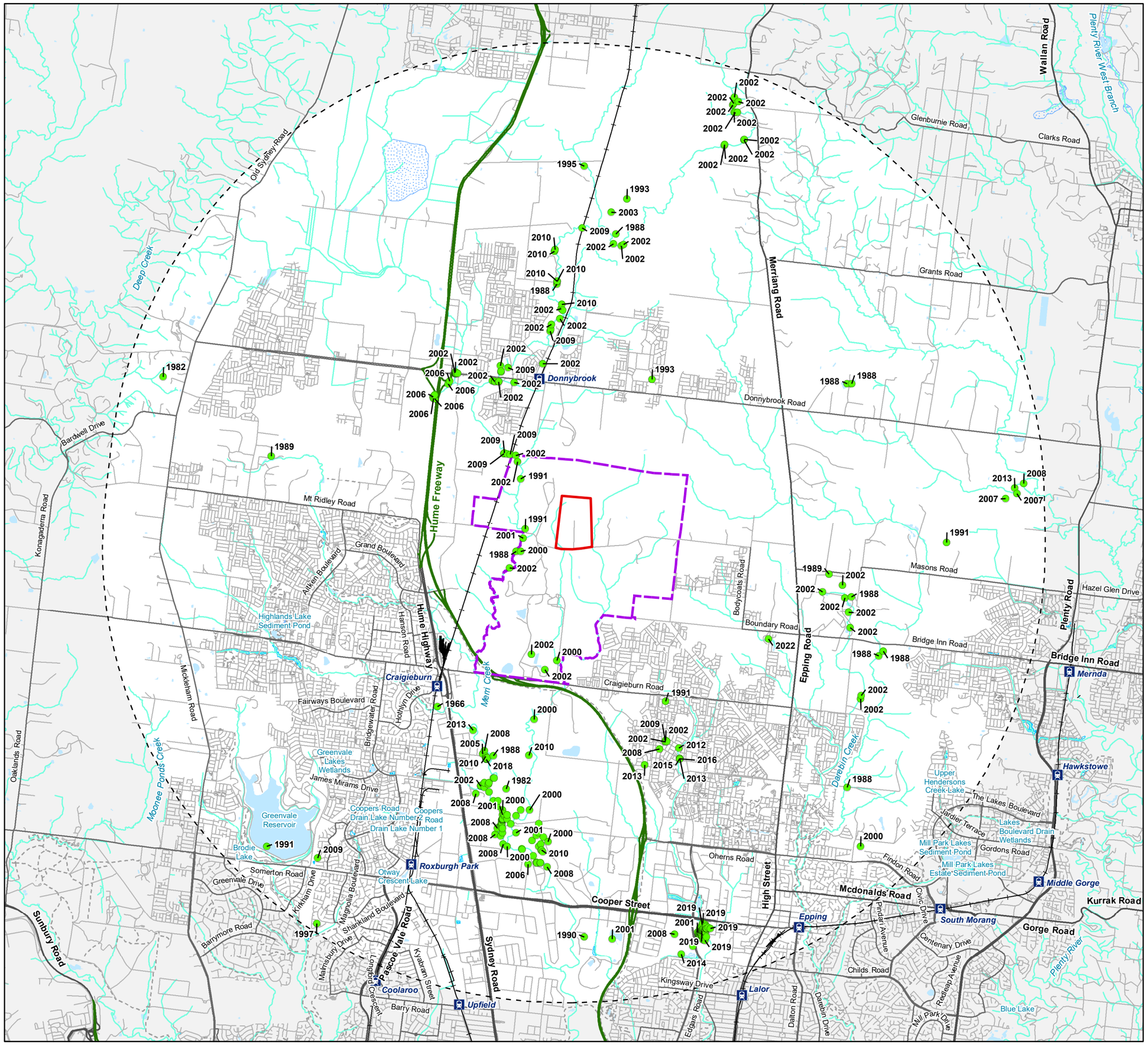
Aerial source: Nearmap 2022



Legend

- Proposal Area
- Northern Quarries PSP
- 10km buffer
- Growling Grass Frog records (VBA 2022)

ADVERTISED PLAN

Figure 3

Previously documented Growling Grass Frog records within 10km of the proposal area

Growling Grass Frog Targeted Survey - 510 Summerhill Road, Wollert

N

0 2 4

Kilometres

Map Scale: 1:80,000 @ A3
Coordinate System: GDA2020 MGA Zone 55

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