Attachment G: Council's Ecology Assessment

DA/1774/2013

Assessment of Significance

24 September 2015

An assessment of significance (seven-part test) has been undertaken in accordance with DECC's *Threatened species assessment guidelines: The assessment of significance* (DECC 2007) to determine the significance of impacts of DA/1774/2013 (the application) at 142-146 Dudley Road and 2A Kopa Street, Whitebridge (the site) on *Petaurus norfolcensis* (Squirrel Glider), a threatened species listed on Schedule 2 as vulnerable on the NSW *Threatened Species Conservation Act 1995* (TSC Act).

The squirrel glider is a small, nocturnal tree dependant gliding marsupial which occurs in forests and woodlands along Australia's east coast, with a concentration of records in Lake Macquarie and the Lower Hunter (Fallding, 2015). Squirrel gliders occur in a range of dry and moist sclerophyll forest, swamp forest and woodland communities dominated by:

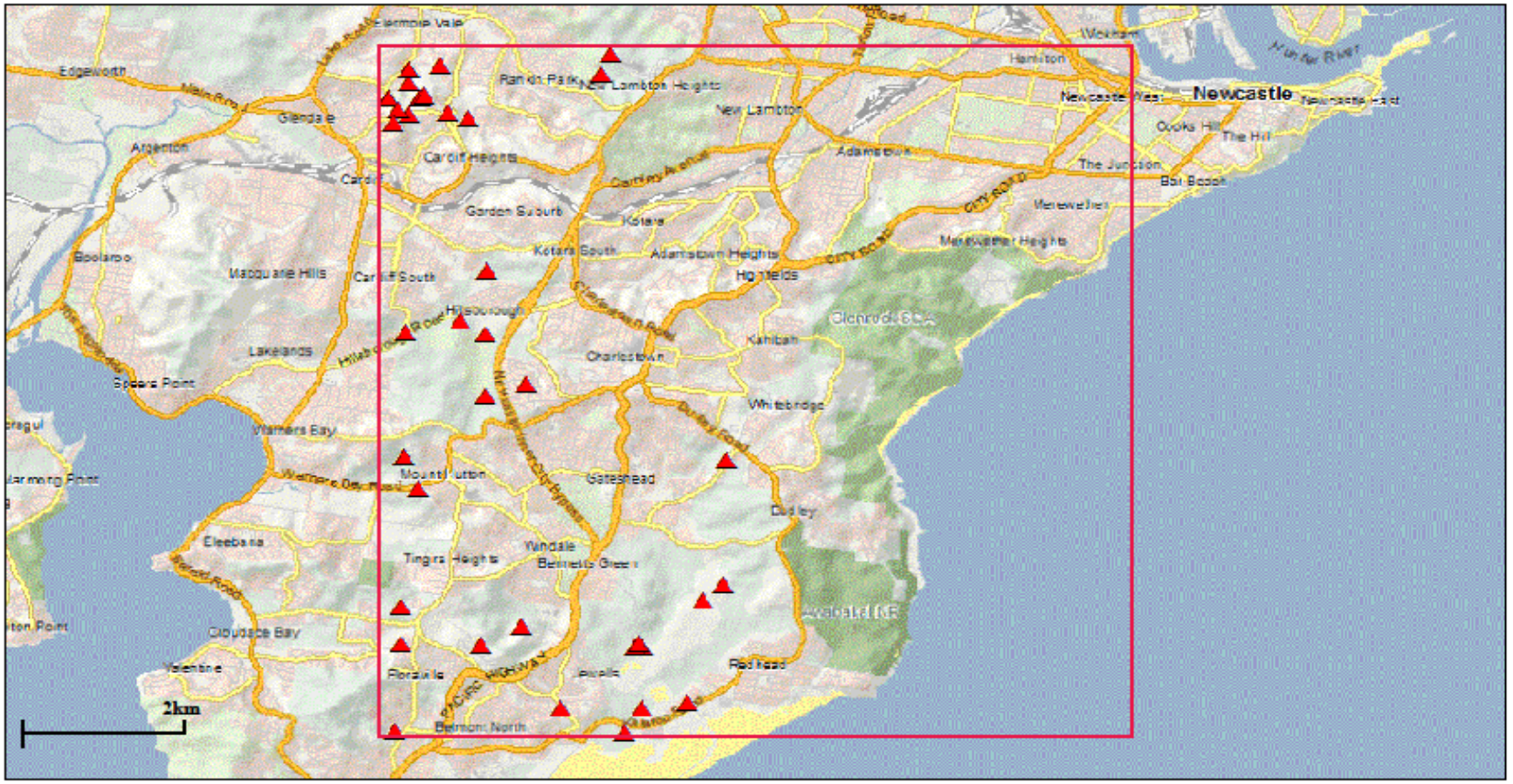
- Winter flowering eucalypts or flowering banksias (Quin et al. 2004, Sharpe 2004, Sharpe and Goldingay 2010); or
- Summer flowering eucalypts with an understorey of Acacia species that provide edible gum exudates in winter (e.g. *A. irrorata*, *A. parramattensis* and *A. longifolia*) (Smith and Murray, 2003) (Fallding 2015).

Squirrel gliders live in social groups of two to nine individuals in leaf lined nests in tree hollows, generally within a 5-15 ha home range (van der Ree and Bennett 2003, Sharpe and Goldingay 2007, Goldingay et al. 2010). Home range varies according to habitat quality, especially the presence of feed trees and habitat trees with suitable hollows (Fallding 2015). Squirrel gliders nest in tree hollows with entrances < 5 cm wide used most frequently (Beyer et al 2008).

There are 43 records of squirrel glider listed the NSW BioNet database within a 10 km radius of the site (Figure 1, database queried 28/08/2015). Recent records of the species have been confirmed within native vegetation south west of Dudley Road and west of Patterson Close (Clulow, 2015).

The site has been extensively previously cleared and is dominated by exotic grasses including kikuyu grass *Pennisetum clandestinum* and coolati grass *Hyparrhenia hirta.* The subject site contains several native trees and shrubs along the southeast and northeast site boundaries, and occurs adjacent to the Fernleigh Track which contains native groundcover, understory and canopy layers.

Given the occurrence of previous records of the species in relation to the site, and occurrence of native trees at the site and connectivity with the Fernleigh Track, there is potential for squirrel glider to occur at the site where native trees exist.



Legend

Squirrel Glider (Petaurus norfolcensis)

Atlas of NSW Wildlife records

N

Data from the BioNet Atlas of NSW Wildlife website, which holds records from a number of custodians. Location accuracy varies. Maps from the website are interactive: map displays can be modified from the original extent and a maximum of 5 species can be selected to display. Map may contain errors and omissions. Neither the Office of Environment and Heritage nor any other data custodian will accept liability for any loss, damage, cost or expenses incurred as a result of the use of, or reliance upon, the information in the map. Map copyright the State of NSW through the Office of Environment and Heritage.

Your Selection: Public Report of all Valid Records of Squirrel Glider (Species: Petaurus norfolcensis) in selected area [North: -32.92 West: 151.66 East: 151.76 South: -33.02] returned a total of 43 records of 1 species.

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Figure 1 NSW BioNet squirrel glider records within a 10km radius of the site (database query 28/08/2015).

a) In the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

Key life cycle components for squirrel glider include availability and extent of foraging habitat, provision of hollow-bearing trees for nest sites, and provision of habitat for movement between areas of habitat. These lifecycle components are examined below.

Availability and extent of foraging habitat

Squirrel gliders feed on sugary exudates (nectar, saps, honeydews and gums) to obtain energy and insects and pollen to obtain protein (Smith 2002). Winter is a time of critical food shortage because insects and exudates are scarce and energy requirements are high (Smith 2002). Squirrel gliders occur in a range of dry and moist sclerophyll forest, swamp forest and woodland communities dominated by:

- Winter flowering eucalypts or flowering banksias (Quin et al. 2004, Sharpe 2004, Sharpe and Goldingay 2010); or
- Summer flowering eucalypts win an understorey of Acacia species that provide edible gum exudates in winter (e.g. *A. irrorata*, *A. parramattensis* and *A. longifolia*) (Smith and Murray, 2003) (Fallding 2015).

Important vegetation communities in Lake Macquarie LGA for squirrel gliders are those containing spotted gum *Corymbia maculata,* scribbly gum *Eucalytpus haemastoma,* swamp mahogany *Eucalytpus robusta* and red bloodwood *Corymbia gummifera* (Fallding 2015). The majority of LGA records are in dry sclerophyll forest with banksia understorey (Forest Fauna Surveys 2014).

The application would result in the clearing of eight native trees and two shrubs on the subject site (Existing Tree Plan Rev D, Dwg No DA-SP-03 Mansfield Urban 20/02/2015). These comprise:

- A group of five trees in the Kopa Street road reserve comprising three scribbly gum *Eucalyptus racemosa,* two white stringybark *Eucalyptus globoidea* and one native daphne *Pittosporum undulatum* (a shrub)*,* within land zoned R3.
- A group of three trees comprising two white stringybark *Eucalyptus globoidea* and one scribbly gum *Eucalyptus racemosa* on the subject site, within land zoned R3.
- One prickly-leaved tea tree *Melaleuca styphelioides* (a shrub) on the subject site adjacent to the Fernleigh Track, within land zoned E2.

Refer to Figure 2 for zoning of the subject site and indicative tree/shrub removal locations.

The application would clear eight native trees and two native shrubs, of which five trees and one shrub occur in the Kopa Street road reserve. This vegetation occurs within native vegetation mapped as Sugarloaf Lowlands Bloodwood-Apple-Scribbly Gum Forest and Coastal Sheltered Apple-Peppermint Forest (Bell and Driscoll 2015). There are extensive areas of mapped Sugarloaf Lowlands Bloodwood-Apple-Scribbly Gum Forest (MU30j) and Coastal Sheltered Apple-Peppermint Forest (MU11) that would be retained adjacent to the site as part of a large contiguous patch within the local area (approximately 13 ha and 72 ha respectively; total habitat 85 ha of these vegetation types). In terms of patch size, the application would clear eight trees and two shrubs within a retained patch of 445ha ha (Figure 3) within Lake Macquarie LGA (which is continuous with native vegetation in Newcastle LGA, not included in this patch size estimate). Note that this patch size analysis does not assume connectivity with native vegetation south of Dudley Road, as there is no evidence of squirrel gliders crossing the gap across Dudley Road (Clulow 2015), and the height and gap between canopy trees indicates this connectivity for squirrel gliders is not viable. The loss of eight potential foraging trees within this 85 ha of habitat, therefore,

considered unlikely to have an adverse effect on the life cycle of squirrel glider such that a viable local population of the species is likely to be placed at risk of extinction.

Provision of hollow-bearing trees for nest sites

Squirrel gliders live in social groups of two to nine individuals in leaf lined nests in tree hollows, generally within a 5-15 ha home range (van der Ree and Bennett 2003, Sharpe and Goldingay 2007, Goldingay et al. 2010). Home range varies according to habitat quality, especially the presence of feed trees and habitat trees with suitable hollows (Fallding 2015). Multiple nest sites are used and may be changed frequently (van der Ree 2000). Squirrel gliders nest in tree hollows or dens, which are typically large trees (> 60 cm dbh) (Smith 2002). Squirrel gliders will use hollows with a range of entrance diameters (4-15cm) but prefer those with small entrance diameters that exclude other larger animals (Smith 2002); entrances < 5 cm wide are used most frequently (Beyer et al 2008). High glider density is only achievable in habitats with abundant hollow-bearing trees (> 4 habitat trees/ha) (van der Ree 2000, Smith and Murray 2003).

The application would not clear any hollow-bearing trees. No squirrel glider nesting habitat would be impacted by the application. The application is therefore considered unlikely to have an adverse effect on the lifecycle of squirrel glider such that a viable local population of the species is likely to be placed at risk of extinction.

Provision of habitat for movement between areas of habitat

The subject site includes native vegetation that forms part of a LMCC Native Vegetation and Corridor Map (2011) 'corridor narrowed to less than 200 m' and 'rehabilitation corridor' (see Figure 4). The application would clear eight native trees and one shrub that form part of this corridor, and one native shrub which occurs outside the corridor. The loss of these eight trees and one shrub from the corridor would not sever movement habitat for squirrel glider, as all trees on the subject site in the E2 zone, including those adjacent to the Fernleigh Track, and all trees identified within Lot 102 DP 843703, the Fernleigh Track would be protected. Post development, the LMCC native vegetation corridor would retain native vegetation and habitat and would continue to allow for north-south movement of squirrel gliders although this might be at greater risk given the number of alternative routes are reduced and loss of critical trees in the future could interrupt movement. Squirrel gliders are reluctant to come to the ground to cross gaps and crossing width depends on tree height on either side of the gap (van der Ree 2000). As a general rule, the average gap crossing distance between trees is 1.8 times launch height minus 2 m (assuming that the landing point is a minimum of 2 m above the ground) (Fallding 2015). Post development, retained trees at the site provide sufficient height and gap crossing width to continue to allow for north-south movement of squirrel gliders (Figure 5). The application is therefore considered unlikely to have an adverse effect on the lifestyle of squirrel glider such that a viable local population of the species is likely to be placed at risk of extinction. There is, however, an impact to the native vegetation corridor, which exposes the existing corridor to a higher risk of impact from natural storms etc., which justify recommended conditions of consent to enhance and improve connectivity (as outlined in the General Discussion and Mitigation Measures following the assessment of significance).

At present the width of the native vegetation corridor at the site is variable, narrowing from approximately 50 metres on the Kopa Street unconstructed road reserve to less than 5 m on the subject site in the centre of Lot 2A. From the centre of Lot 2A south the existing corridor is entirely on NCC/LMCC land comprising the Fernleigh Track. The narrowest point in the corridor is at the centre of Lot 2A where it is limited to one young scribbly gum on the boundary of the Fernleigh track & Lot 2A. The narrowest point is shown on the left hand side of Figure 5. Removal of eight trees on the subject site results in a reduction of the corridor width to approximately 30 metres on the Kopa Street unconstructed road reserve but does not change the narrowest point of the corridor in the centre of Lot 2A just south of the pathway.

Potential indirect impacts of development

The development has the potential to indirectly impact on squirrel gliders by bringing urban development closer to the native vegetation corridor. This could potentially increase predation pressure on squirrel glider through domestic cats. Although there is no restriction on existing development along the Fernleigh Track, existing developments are of lower density and further away than the proposed development. Each new dwelling in the application has the potential to own cats, and if cats are not kept inside then the application could lead to an increase of predation rates on squirrel gliders. A Section 88B Restriction-Keeping of Pets is appropriate for the application, as outlined in the General Discussion and Mitigation Measures following the assessment of significance.

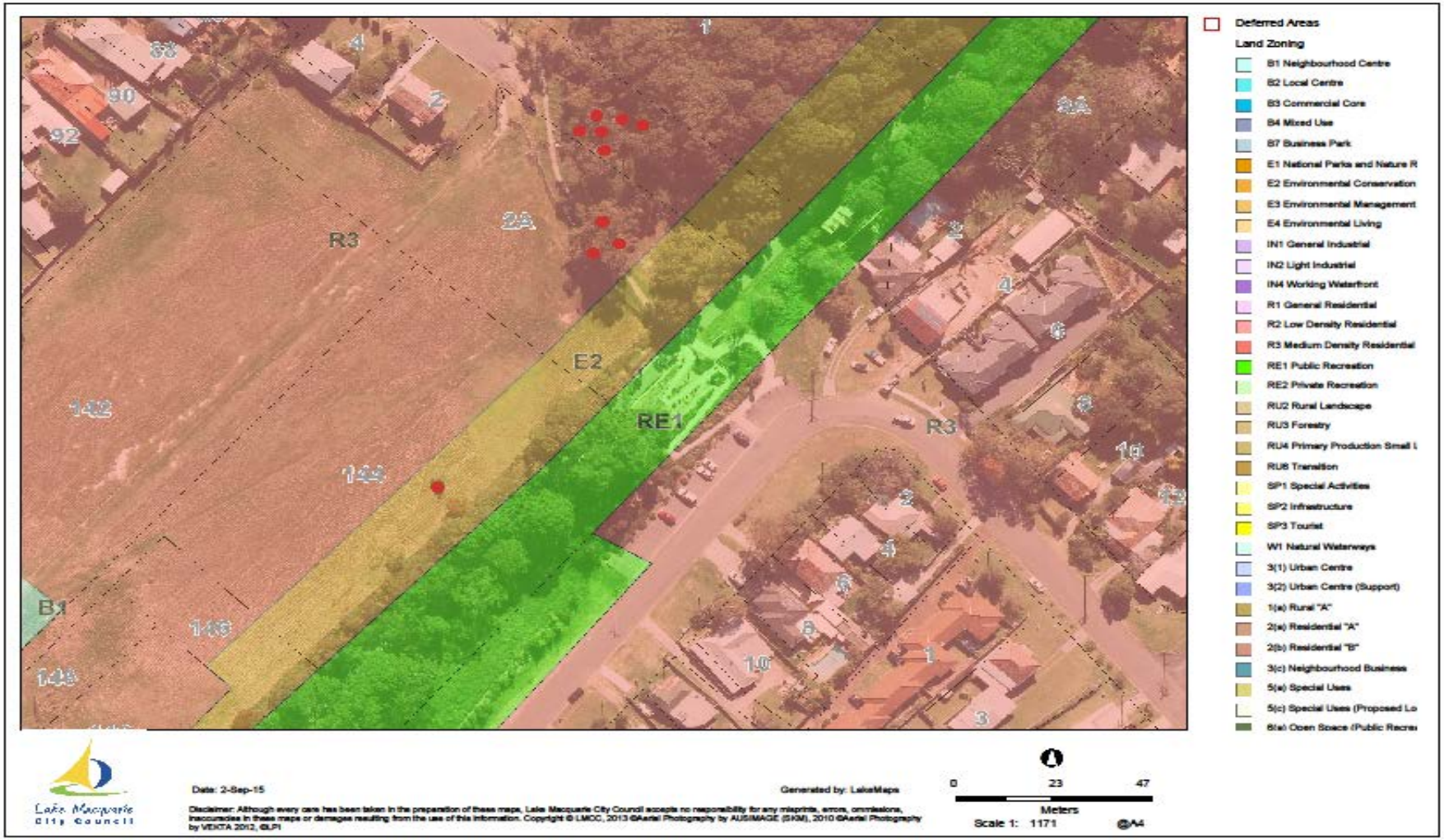

Figure 2 Zoning on and adjacent to the subject site. Red dots represent indicative location for proposed native tree or shrub removal- refer to Tree Protection Plan submitted with the application (Rev D, Dwg No DA-SP-04 Mansfield Urban 20/02/2015) for exact location and further details.

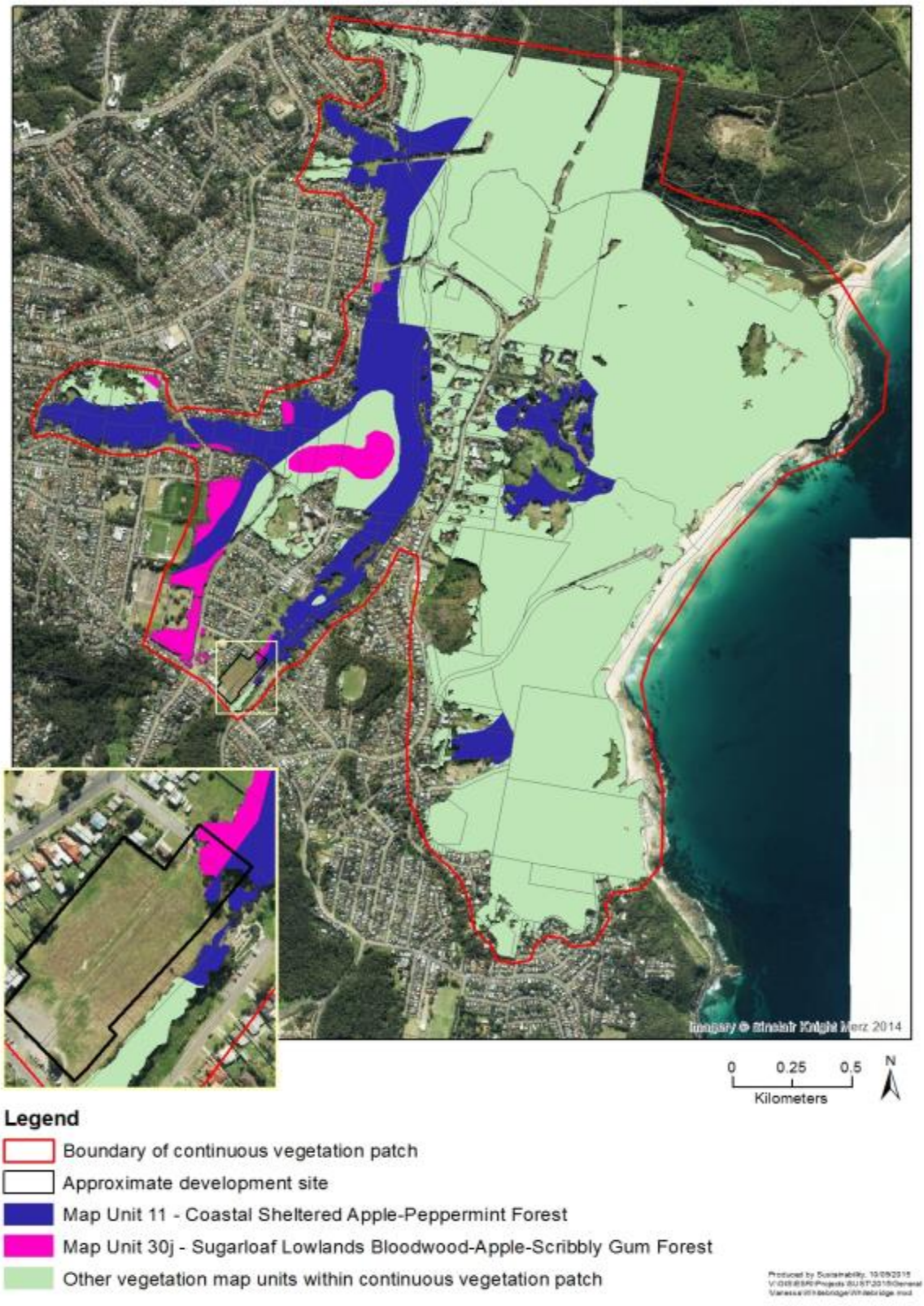

Figure 3 Native vegetation patch and vegetation contiguous with the subject site within the local area

Figure 4 LMCC native vegetation and corridors on and adjacent to the subject site (extract LMCC Native Vegetation and Corridors Map 2011). Red dots represent indicative location for proposed native tree or shrub removal- refer to Tree Protection Plan submitted with the application (Rev D, Dwg No DA-SP-04 Mansfield Urban 20/02/2015) for exact location and further details.

Figure 5 View south along the Fernleigh Track. Trees to be retained post development will continue to allow for north-south fauna movement. All trees shown in this image will be retained. The shrub with a red dot will be removed.

Figure 6 View north along the Fernleigh Track. Trees to be retained post development will continue to allow for north-south fauna movement. All trees shown in this image will be retained.

b) In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction.

Not applicable to this threatened species.

c) In the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

(i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

Not applicable to this threatened species.

(ii) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.

Not applicable to this threatened species.

d) In relation to the habitat of a threatened species, population or ecological community:

(i) The extent to which habitat is likely to be removed or modified as a result of the action proposed, and

The application would result in the clearing of eight native trees and two shrubs on the subject site (Existing Tree Plan Rev D, Dwg No DA-SP-03 Mansfield Urban 20/02/2015). These comprise:

- A group of five trees in the Kopa Street road reserve comprising three scribbly gum *Eucalyptus racemosa,* two white stringybark *Eucalyptus globoidea* and one native daphne *Pittosporum undulatum* (a shrub), within land zoned R3.
- A group of three trees comprising two white stringybark *Eucalyptus globoidea* and one scribbly gum *Eucalyptus racemosa* on the subject site, within land zoned R3.
- One prickly-leaved tea tree *Melaleuca styphelioides* (a shrub) on the subject site adjacent to the Fernleigh Track, within land zoned E2.

Refer to Figure 2 for zoning of the subject site and indicative tree/shrub removal locations.

The Tree Protection Plan submitted with the application (Rev D, Dwg No DA-SP-04 Mansfield Urban 20/02/2015) has demonstrated that all trees on the subject site in the E2 zone, including those adjacent to and forming part of the Fernleigh Track, and all trees identified within Lot 102 DP 843703, the Fernleigh Track, have been adequately protected from impacts associated with the proposed stormwater design, to the satisfaction of Council's Tree assessment officer (referral date 13/3/2015).

The NSW Rural Fire Service have issued general terms of approval for DA/1774/2013 (29/05/2015). On the 15/09/2015, they issued further correspondence stating the RFS had reviewed the submitted amendments (12/08/2015) and raised no objections subject to compliance with terms of approval dated 29/05/2015. In relation to vegetation clearing or modification, these general terms of approval state 'At the issue of subdivision or construction certificate, whichever is first, the entire property shall be managed as an inner protection area (IPA) in perpetuity as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'. These general terms of approval relate to the subject site only. No clearing or modification of native vegetation on surrounding lots (including Lot 102 DP 843703, the Fernleigh Track) is required to comply with the RFS general terms of approval.

The application would modify the E2 area of the subject site through the provision of infrastructure including retention basins and a pathway, and revegetation works. All existing

trees in the E2 zoned land will be retained. One native shrub, prickly-leaved tea tree *Melaleuca styphelioides*, will be cleared from the E2 zoned land. Revegetation works are detailed in the Ecological corridor Landscape (Rev D, Dwg No DA-EC-01 and DA-EC-02 Mansfield Urban 20/02/2015) and described within the Mitigation Measures section following the assessment of significance.

(ii) Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

The subject site includes native vegetation that forms part of a LMCC Native Vegetation and Corridor Map (2011) 'corridor narrowed to less than 200 m' and 'rehabilitation corridor' (see Figure 4). The application would clear eight native trees and one shrub that form part of this corridor, and one native shrub which occurs outside the corridor. The loss of these eight trees and one shrub from the corridor would not fragment or isolate squirrel glider habitat, as all trees on the subject site in the E2 zone, including those adjacent to the Fernleigh Track, and all trees identified within Lot 102 DP 843703, the Fernleigh Track would be protected. Post development, squirrel glider movement would still be possible ie the LMCC native vegetation corridor would retain native vegetation and habitat and would continue to allow for north-south movement of fauna.

(iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality.

Factors influencing the long-term survival of squirrel glider include foraging habitat, nesting habitat and movement habitat.

The application would clear eight native trees and two native shrubs. This vegetation occurs within native vegetation mapped as Sugarloaf Lowlands Bloodwood-Apple-Scribbly Gum Forest and Coastal Sheltered Apple-Peppermint Forest (Bell and Driscoll 2015). There are extensive areas of mapped Sugarloaf Lowlands Bloodwood-Apple-Scribbly Gum Forest (MU30j) and Coastal Sheltered Apple-Peppermint Forest (MU11) that would be retained adjacent to the site as part of a large contiguous patch within the local area (approximately 13 ha and 72 ha respectively; total habitat 85 ha of these vegetation types). In terms of patch size, the application would clear eight trees and two shrubs within a retained patch of 445ha ha (Figure 3) within Lake Macquarie LGA (which is continuous with native vegetation in Newcastle LGA, not included in this patch size estimate). The loss of eight potential foraging trees within this habitat patch is therefore not considered important to the long-term survival of the species in the locality.

The application would not clear any hollow-bearing trees. No squirrel glider nesting habitat would be cleared by the application.

The application would clear eight trees that form part of a LMCC native vegetation corridor. Post development, retained vegetation on and adjacent to the subject site would continue to allow for squirrel glider movement in a north-south direction.

The habitat proposed for clearing is therefore not considered essential to the long-term survival of the squirrel glider population.

e) Whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly).

There is no critical habitat listed for this species listed by the NSW Office of Environment and Heritage.

f) Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan.

No recovery plan has been prepared by the Office of Environment and Heritage (OEH) for this species. No threat abatement plans have been developed by OEH that are relevant to this species.

g) Whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

A threatening process is defined under Part 1 of the TSC Act, as "a process that threatens, or may have the capability to threaten the survival or evolutionary development of species, populations or ecological communities". Key threatening processes are listed under Schedule 3 of the Act.

The application would result in the operation of the following key threatening processes

- Clearing of native vegetation. The application would clear eight native trees and two shrubs (Existing Tree Plan Rev C, Mansfield Urban 16/12/2014).

Conclusion

Consideration of the seven factors under s.5A of the EP&A Act above indicates the application is unlikely to result in significant negative impact on a local population of squirrel glider and a species impact statement is not required as:

- The loss of eight potential foraging trees within a native vegetation patch of 445 ha, including 85 ha of habitat, is not considered important to the long-term survival of the species in the locality, and unlikely to have an adverse effect on the lifecycle of squirrel glider such that a viable local population of the species is likely to be placed at risk of extinction.

- The application would not clear any hollow-bearing trees. No squirrel glider nesting habitat would be cleared by the application.

- Post development, retained vegetation on and adjacent to the subject site would continue to allow for squirrel glider movement in a north-south direction.

There is, however, an impact to the native vegetation corridor, which exposes the existing corridor to a higher risk of impact from natural storms etc., which justify recommended conditions of consent to enhance and improve connectivity for squirrel gliders in the locality (as outlined in the General Discussion and Mitigation Measures following the assessment of significance).

Should the JRPP Panel disagree with this assessment, the application could be modified to avoid removal of the native trees that are part of the native vegetation corridor. In this case impacts on the squirrel glider would be relatively minor and indirect-they would be related to reducing the distance between the native vegetation corridor and urban development and the impacts of unconfined exotic pets such as cats.

The submission from Dr Clulow (16/08/2015) raises several valid points, and although Council agrees with some points raised in his submission, Council disagrees on his application of the seven part test and the scale of impact that would occur as a result of the application. This impact assessment is based on habitat that is currently present on the site and adjoining land.

Appendix 1: Consideration of the Draft Lake Macquarie Squirrel Glider Planning and Management Guidelines

The Lake Macquarie Squirrel Glider Guidelines were placed on exhibition after the lodgement and initial assessment of this development application and I will leave it to the development planner (town planning) to determine whether the guidelines have determinative wright.

Having said this, an assessment against the draft Guidelines is undertaken here and this will be used to refine the draft Guidelines as part of the public exhibition.

Section eight of the Draft Lake Macquarie Squirrel Glider Planning and Management Guidelines (2015) contain planning guidelines for squirrel gliders, which have been responded to below. These Guidelines state that a significant impact is expected to occur where squirrel gliders are present (or assumed to be present) if:

- An area of squirrel glider habitat of more than 4 ha will be cleared.

Comment: Four hectares of squirrel glider habitat will not be cleared. The application will clear eight native trees and two native shrubs, confined to an area of approximately 700 m^2.

- More than 1 ha of habitat will be cleared and the habitat patch size will be reduced to less than 4 ha.

Comment: The application will not clear more than one hectare, nor reduce the habitat patch size to less than four hectares.

- There is a greater than 5% loss of a habitat patches with an area of more than 10 ha.

Comment: The application will not clear greater than 5% loss of a habitat patches with an area of more than ten hectares.

- There will be any impact on a key strategic corridor linkage connecting habitat patches.

Comment: It is acknowledged that the application occurs adjacent to a key strategic corridor. The corridor will be narrowed for a short distance (approximately 35 m) as a result of the application. The greatest impact will be caused by the removal of trees in the Kopa Steet road reserve and subject site (both zoned R3) to support development of residential zoned land north of the corridor. However, it is proposed to plant trees within the E2 zone that would strengthen the corridor at its weakest point ie where it decreases to less than 5 m in the centre of Lot 2A. Post development, the LMCC native vegetation corridor would retain native vegetation and habitat and would continue to allow for north-south movement of fauna. The loss of eight trees and two shrubs has been determined to be not significant within Section 5A of the EP&A Act assessment of significance framework. This assessment is demonstrating that the strict application of the guidelines with regard to “any impact” is not appropriate as it also refers to positive as well as negative impacts and therefore on balance the proposed revegetation works will strengthen and reinforce the function of the corridor.

The draft Lake Macquarie Squirrel Glider Guidelines currently on exhibition state that:

“Habitat links and corridors for Squirrel Gliders should have a desirable width of greater than 150 metres and a minimum width of 30-40 metres that may be either suitable glider habitat and may contain vegetation of a structure and height that allows for movement. Notwithstanding this narrower strips of native vegetation can be important for connectivity and movement.

Individual trees (especially large mature trees) may be important for providing connectivity across roads and other barriers and gaps, and need to be assessed and retained where possible”

The draft Guidelines set an optimal width for corridors of 150 metres but at the same time acknowledge that for many sites and circumstances, this corridor width may not exist now, and there is no feasible means to establish such widths.

At present the width of the native vegetation corridor at the site is variable, narrowing from approximately 50 metres on the Kopa Street unconstructed road reserve to less than 5 m on the subject site in the centre of Lot 2A. From the centre of Lot 2A south the existing corridor is entirely on NCC/LMCC land comprising the Fernleigh Track. The narrowest point in the corridor is at the centre of Lot 2A where it is limited to one young scribbly gum on the boundary of the Fernleigh track & Lot 2A. The narrowest point is shown on Figure 5. Removal of eight trees on the subject site results in a reduction of the corridor width to approximately 30 metres on the Kopa Street unconstructed road reserve but does not change the narrowest point of the corridor in the centre of Lot 2A just south of the pathway.

- Habitat connectivity to a habitat patch will be lost, or narrowed to a width that is not suitable for maintaining in the long term.

Comment: Habitat connectively to squirrel glider habitat patches will not be lost, and can continue to be maintained in the long term through implementation of a long-term vegetation management plan. However, the application proposes to clear eight native trees and two shrubs, most of which occur within the LMCC Native Vegetation and Corridor Map (2011). This clearing will decrease the width of the corridor at an already narrowed point, and should be compensated for by imposing an amended Vegetation Management Plan condition on the application, as detailed in the following section.

- In addition to the above, for the population in the north east of Lake Macquarie LGA any loss of habitat is likely to have a significant impact on squirrel gliders and a reduction of habitat patch size below 4 ha would be significant.

Comment: The loss of eight trees and two shrubs has been determined to be not significant within the Section 5A of the EP&A Act assessment of significance framework. The loss of eight trees and two shrubs is not deemed significant in the context of the extensive areas of retained native vegetation within the local area.

General Discussion and Mitigation Measures

The application would mitigate the loss of eight native trees and two shrubs through the provision of revegetation works surrounding infrastructure (basins and pathway) in the E2 zoned land (Ecological Corridor Landscape Rev D, Dwg No DA-EC-01 and DA-EC-02 Mansfield Urban 20/02/2015). Council has identified the potential for increased planting in this area, whilst retaining compliance with RFS General Terms of Approval (ie plantings, when mature, will not form a continuous canopy; will not touch or overhand buildings; and are not species that retain dead material or deposit excessive quantities of ground fuel). Eleven clumps comprising three trees per clump can be planted on the subject site within land zoned E2. This planting density allows for 5 m of canopy separation at maturity, so that the clumps of trees, when mature, will not form a continuous canopy. Species shall be scribbly gum *Eucalyptus racemosa* and red bloodwood *Corymbia gummifera* as they are appropriate squirrel glider feed tree species, are suitable for the subject site, attain a relatively small diameter mature canopy (allowing greater number of trees to be planted), compliment and consolidate the existing native vegetation along Lot 102 DP 843703, the Fernleigh Track. This provision of tree planting on the subject site land zoned E2 would comply with the required 15% canopy cover permissible for inner protection areas under the RFS 'Planning for Bush Fire Protection' (2006). The provision of tree planting on the subject site land zoned E2 would improve the existing state of habitat provided currently for squirrel glider. Currently this area is dominated by exotic grasses including kikuyu grass *Pennisetum clandestinum* and coolati grass *Hyparrhenia hirta*. Native groundcover will be planted in dry areas on the subject site land zoned E2 and include blue flax-lilly *Dianella caerulea*, spiny-head mat-rush *Lomandra longifolia* and tussock grass *Poa labillardierei*. Native groundcover will be planted in wet areas on the subject site land zoned E2 and include common rush *Juncus usitatus*, Knotted Club Rush *Ficinia nodosa* and red-fruit saw-sedge *Gahnia sieberiana*. The provision of these native revegetation works represents an improvement from the current state of exotic grasses.

Although the application is not considered to result in a significant negative impact on a local population of squirrel glider, the application does have an impact. It proposes to clear eight native trees and two shrubs, most of which occur within the LMCC Native Vegetation and Corridor Map (2011). This clearing will decrease the width of the corridor at an already narrowed point, and should be compensated for by requiring tree planting to widen the native vegetation corridor within the E2 zone and adjacent Council land. This matter has been discussed with Council's landscape architect, tree assessment officer, Asset Management, Traffic, and Community Planning, and it understood that compensatory planting is achievable to increase the density of trees at and surrounding the subject site. This will be achieved by imposing an amended Vegetation Management Plan condition on the application establishing increased planting, as detailed below. Areas proposed for revegetation and glider poles are shown on Figure 6.

<u>Amended Condition 14 - Vegetation Management Plan and Implementation</u>

The person entitled to the benefit of the consent shall engage a person qualified in natural vegetation management, ecology or bush regeneration to prepare a Vegetation Management Plan (VMP) in consultation with Council's Development Planner – Flora and Fauna. The VMP shall be submitted and approved by Council prior to the issue of the first construction certificate.

The VMP shall address and identify:

- Compensatory planting within land zoned RE1, E2 and the Kopa Street Road reserve of native groundcover, shrubs (including *Allocasuarina torulosa* and a mix of *Acacia* sp. and *Banksia* sp.), and trees (including *Eucalyptus globoidea, Corymbia gummifera, Eucalyptus racemosa*, *Eucalyptus haemastoma*, *Eucalyptus piperita* and *Angophora costata*). Compensatory planting will occur in the south and eastern areas of the subject site including surrounding the proposed stormwater basins, on

adjacent Council land within and adjacent to the Fernleigh Track, and within Council land adjacent to the Fernleigh Track at Hudson Street, Dudley Road and Station Street as shown in Figure 6 below.

- Weed removal and rehabilitation of native vegetation on land indicated above and shown in Figure 6 below.
- Ecological Corridor Landscape Rev D, Dwg No DA-EC-01 and DA-EC-02 Mansfield Urban 20/02/2015 shall be amended to include the provision of 11 clumps comprising three trees per clump of plantings (allowing for 5 m canopy separation when mature) on the subject site within land zoned E2. Species shall be scribbly gum *Eucalyptus racemosa* and red bloodwood *Corymbia gummifera.*
- Measures to establish a functioning corridor to enable fauna movement, in particular squirrel gliders. Structures (glider poles) shall be installed on land zoned E2 at the south eastern boundary of the subject site with the intent to facilitate movement of squirrel gliders between patches of native vegetation along the south eastern boundary of the subject site (a minimum of two is required). Glider poles shall be installed south of the Dudley Road/Station Street intersection and north of the Dudley Road/Station Street intersection on Council land with the intent to facilitate movement of squirrel gliders across this intersection (a minimum of three is required). Input from a squirrel glider expert shall be obtained and included in the design, placement and to confirm the number of these structures. They must be designed with consideration to site constraints including power lines and traffic/public safety requirements and have regard to any requirement of the Roads and Maritime Services, and be certified by a practicing structural engineer.
- The batters of the proposed stormwater basins shall be planted with native groundcover, trees and shrubs (as detailed above). Land between the proposed stormwater basins and the Fernleigh Track shall be mulched, excluded from mowing (to allow for natural regeneration) and planted with native groundcover, trees and shrubs (as detailed above), in compliance with the required density for bushfire asset protection zones.
- Clear depiction on plans and on the ground, areas that are not to be mown by maintenance staff and are to be maintained with native species.
- A suitable mechanism for continued maintenance and management in perpetuity of the native vegetation corridor and Asset Protection zone that is to be established on the E2 land.
- At least 5 years maintenance of rehabilitation and weeding on Council land, and at least 10 years maintenance, revegetation and rehabilitation of E2 zoned land.

Implementation of the VMP shall be carried out in accordance with the VMP approved schedule of works. Annual Monitoring statements shall be provided to Council's Development Planner Flora and Fauna verifying compliance with the VMP. The VMP shall be implemented and rehabilitation works maintained to the satisfaction of Council's Development Planner – Flora and Fauna.

<u>Keeping of Pets – Section 88B Restriction</u>

The registered Proprietor of the land shall provide an instrument under Section 88B of the Conveyancing Act requiring that cats shall be only kept as indoor pets. Cats shall not be permitted unless on a lead outside, on public roads or in private or public open space areas. Pets including dogs may be permitted within the outdoor private open space of the dwellings, but shall not be permitted off lead outside private open space areas.

The above restriction shall be placed on all lots including Torrens title and strata lots within the subdivision.

The Section 88B restriction shall be registered on the title of the lot prior to the issue of the first occupation certificate for that stage of the development.

Council shall be the party empowered to release, vary or modify this restriction.

Vanessa Owen
Development Planner – Flora and Fauna
Development Assessment and Compliance

Figure 6- Recommended areas for revegetation and weed suppression within land zoned RE1, E2 and the Kopa Street Road reserve (red polygon), and indicative locations for glider poles (red points).

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