EPBC Act referral

Australian Government
Department of Agriculture, Water and the Environment

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Title of proposal	**2020/8704 - Lot 172 DP 755923 Lot 823 DP 247285, Manyana, NSW**

Section 1

Summary of your proposed action

1.1 Project industry type Residential Development

1.2 Provide a detailed description of the proposed action, including all proposed activities

The subject land is located on Lots 172 & 823 which comprise approximately 20.4 ha of vacant freehold land situated to the west and north-west of Manyana village. The land is proposed for residential sub-division and is currently zoned R2 – Low Density Residential under the Shoalhaven Local Environmental Plan 2014 (LEP). At present, the two lots have approval to be sub-divided into one hundred and eighty-two (182) residential allotments. The subdivision will be implemented over 6 stages, with each stage including the addition of approximately 30 lots.

The proposal will result in impacts to 17.18 ha of vegetation, comprising 5.39 ha of Bangalay Moist Woodland Open Forest and 10.79 ha of Northern Coastal Sands Shrub/Fern Forest and 1 ha of disturbed/cleared area. Approximately 0.92 ha of Bangalay Paperbark Woodland (Endangered Ecological Community (EEC)) and 3 ha of Northern Coastal Sands Shrub/Fern Forest will be retained.Broad clearing of trees is prohibited under the project approval, with vegetation removal to be carried our commensurate with the construction of each stage.

The approval including the conditions and documents submitted to obtain a construction certificate explain with more precise detail associated with the activities.

However,the proposal includes:

(1) The staged subdivision of Lot 172 DP // 755923 and Lot 823 DP // 247285 into 182 residential lots, 1 playground space and playground area, 1 open space area including the EEC and its associated buffer zones, new roads and associated infrastructure and subdivision works.

(2) Construction of physical infrastructure and services, including inter-allotment drainage, pedestrian/cycle pathways, bus stop and bus bay, safety control measures within the development and on Sunset Strip and a fully channelised left turn lane on Berringer Road.

(3) Construction of water sensitive urban design measures, including a stormwater quality system incorporating on-site detention and infiltration, 3 water quality control points, grassed road side swales and biofiltration trenches and a gross pollutant trap.

(4) Landscaping, vegetation management and associated works of the playground area, the EEC and associated bushland reserve and public spaces along streets.

(5) Removal of trees within the residential lots (except the 10m buffer to rear of lots along proposed Road No. 4 and 6 which back onto existing residential properties) and subject to (7), the timing of removal of trees shall be commensurate with development of each stage of the project.

(6) Removal of trees for the purposes of construction of civil and infrastructure works (as per Condition B7) and subject to (7), the timing of removal of trees shall be commensurate with development of each stage of the project.

(7) Removal of trees and vegetation identified on Drawing No.24256-07 – Tree Details within the buffer referred to in (5) for the purpose of construction of infrastructure and services is permitted only with the consent of Council.

(8) Removal of trees within reserves for the construction of 3 water quality control points and commensurate with the respective stage of the development.

(9) Revegetation of the EEC and associated maintenance as specified in Condition E17.

The development will be constructed in six (6) stages as follows (see Ecoplanning 2019):

Stage 1 Subdivision and creation of 30 residential lots and passive open space, infrastructure works, construction of traffic, pedestrian and cycle safety measures, vegetation management and rehabilitation of EEC and associated buffer zone, APZ, weed management, fencing and landscaping in according with B8 and B9. Only this stage has a construction certificate at present. Construction certificates will be needed before works commence on the further stages.

Stage 2 Subdivision and creation of 32 residential lots, infrastructure works including earthworks, removal of trees, roads, stormwater and drainage, services, civil works, pedestrian/cycle pathways.

Stage 3 Subdivision and creation of 29 residential lots, including earthworks, removal of trees, traffic calming device on Road 4, stormwater and drainage, services, civil works, water sensitive urban design measures, pedestrian/cycle pathways.

Stage 4 Subdivision and creation of 31 residential lots and passive open space, including infrastructure works, earthworks, removal of trees, roads, stormwater and drainage, services, a water quality control pond, civil works, traffic calming devices on Road 3, pedestrian/cycle pathways, playground area walking paths and signage.

Stage 5 Subdivision and creation of 31 residential lots and passive open space, including infrastructure works, earthworks, removal of trees, roads, stormwater and drainage, services, a water quality control pond, civil works, traffic calming devices on Road 3, pedestrian/cycle pathways.

Stage 6 Subdivision and creation of 27 residential lots including infrastructure works, earthworks, removal of trees, roads, stormwater and drainage, services, civil works.

A Vegetation Management Plan and an Environmental Management Plan has been prepared in accordance with the

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approval (conditions B8, B9, and B11), both of which are to be complied with during construction. The approval also contains extensive protocols for dealing with trees with hollows (condition D9). More details is provided in Ecoplanning (2019a. b).

1.3 What is the extent and location of your proposed action?

See Appendix B

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland)

Lots 172 & 823 comprise approximately 20.4 ha of vacant freehold, vegetated land situated to the west and north-west of Manyana village. The site is currently zoned R2 – Low Density Residential under the Shoalhaven 2014 LEP. It is bounded by residential development in the south and east, by vegetated freehold land in the north and vegetated Crown land in the west. The northern boundary is demarcated by Berringer Road and the western boundary by Cunjurong Point Road.

The site lies at an altitude of approximately 20-30 m AHD and is gently-sloping land with a southerly aspect. Two low-lying ephemeral drainage depressions are located within the property. The most westerly drainage runs south-easterly and the second runs through the centre of the property in a southerly direction. Only the westerly drainage channel supports riparian vegetation. Both drainage lines form part of the upper catchment of a small coastal lagoon that discharges onto Manyana Beach (BES 2006).

1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?

The subject land is located on Lots 172 & 823 which comprise approximately 20.4 ha of vacant land.

The proposal will result in impacts to 17.18 ha of vegetation, comprising 5.39 ha of Bangalay Moist Woodland Open Forest and 10.79 ha of Northern Coastal Sands Shrub/Fern Forest and 1 ha of disturbed/cleared area. Approximately 0.92 ha of Bangalay Paperbark Woodland EEC and 2.30 ha of Northern Coastal Sands Shrub/Fern Forest will be retained.

1.7 Proposed action location

Lot - Lot 172 // DP 755923 & Lot 823 DP // 247285, Manyana, NSW

1.8 Primary jurisdiction New South Wales

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

☐ Yes ☑ No

1.10 Is the proposed action subject to local government planning approval?

☐ Yes ☑ No

1.11 Provide an estimated start and estimated end date for the proposed action

Start Date 23/07/2020
End Date 02/12/2030

1.12 Provide details of the context, planning framework and state and/or local Government requirements

The development was assessed pursuant to the then Part 3A of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act) and determined by the Minister for Planning.

Development consent was granted on 8 July 2008 (Determination of Major Project No. 05-0059 – File No. 9040674). Conditions of Consent (CoC) required the proponent to enter into a Voluntary Planning Agreement with Shoalhaven Council under Section 93F of the EP&A Act. (schedule 3, SOC 43-45. It also provided for works and costs to undertake the following:

- Extension of the Community Hall, Yulunga Reserve ($36,134)
- Upgrade foreshore facilities, including provision of car parking ($15,265)

- Upgrade works to Bendalong Road and Inyadda Drive ($56,160)
- Construction of a rural road type B intersection, Bendalong Road and Inyadda Drive ($12,721).

It was required that the Planning Agreement was registered on the title of the land in accordance with the Real Property Act 1900.

The CoC included the requirement for a Vegetation Management Plan (VMP) (see B8 of the CoC) to be prepared for each stage of the subdivision and a VMP to be specifically prepared and implemented for the part of the site containing the EEC (see B9 of the CoC). The developer was required to maintain the EEC in accordance with the recommendations of the approved VMP after its dedication to Shoalhaven Council.

The developer was also required to prepare and embellish all public reserves in accordance with the VMP (for EEC) and detailed landscape design plans to be approved by Shoalhaven Council as part of the Construction Certificate.

B11 of the CoC requires the preparation of an Environmental Management Plan (EMP)

B12 of the CoC requires the provision of physical barriers between the roadside perimeter of the EEC and passive open space with restricted access for maintenance vehicle and separate access for pedestrians at locations determined in the VMP. The provision of two wildlife crossing signs

C4 of the CoC specifies that any clearing to be undertaken for Stages 2, 3 or 4 of the development and affecting Bangalay Moist Woodland / Open Forest will not be undertaken between the beginning of October and the end of February in any year to minimise potential impacts on breeding by migratory species Black-faced Monarch (Monarcha melanopsis) and Rufous Fantail (Rhipidura rufifrons).

D9 of the CoC outlines the protocols that must be followed for trees with hollows during construction.

E16 of the CoC requires the proponent to dedicate the EEC, associated buffer area and bushland reserve upon registration of the plan of subdivision for Stage 1 and Stage 5 and the playground area and open space upon registration of the plan of subdivision for Stage 3.

E17 of the CoC requires the proponent to manage and maintain the EEC, associated buffer area and bushland area (including water ponds) in accordance with the VMP for a period of three years following the registration of the plan of the subdivision for the final stage of the subdivision.

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders

Given the project was assessed under Part 3A of the EP&A Act, public exhibition of the Environmental Assessment (EA) was required, allowing the public the opportunity to comment on the proposal.

In relation to Manyana, the Manyana District Citizens Association was identified as the Principal Consulting Body by Shoalhaven Council. Meetings were arranged through the Secretary of this Association and meetings were held on two occasions. In considering matters such as this development proposal, the Manyana District Citizens Association goes outside of its direct members in order to obtain input and feedback from a wider cross section of the community. This session involved members of various groups within the community including Manyana District Citizens Association, Playgroup, Local Environment Group, Bushcare, local Rural Fire Service Brigade, and sporting clubs including Fishing, Soccer and Board-riders (Cowman Stoddart Pty Ltd 2016).

Consultation was also held during the planning process with the former Department of Environment and Conservation (DEC) via meetings and teleconference (see BES 2006). The Department of Health, Department of Education and Training and Infrastructure Service Providers were also consulted (Cowman Stoddart Pty Ltd 2016).

Two meetings were held with the then Department of Planning in August 2005 and December 2006.

Various staff at Shoalhaven Council were consulted over the life of the project including three meetings (Cowman Stoddart Pty Ltd 2016).

A summary of the outcomes of consultation can be found in the EA (Cowman Stoddart Pty Ltd 2016).

As a CoC, the proponent was required to liaise with the Jerrinja Local Aboriginal Land Council (LALC) and determine the course of action to be taken for known surface artefacts found at the site and in relation to the salvage operations. Written confirmation was to be obtain from the Jerrinja LALC as to the course of action with regard to Manyana 1. The proponent has confirmed that this liaison has been undertaken and written confirmation can be provided if required.

South East Archaeology were engaged to do this consultation and it was part of the Cultural Heritage Management Plan which outlines the methodology of work at the Manyana 1 site and the associated scrape sites A and B. Works around the Manyana 1 site are not due to be undertaken until stage 2 of the project.

The CoC also require the proponent to notify the LALC prior to the commencement of works at each stage of the development and provide it with an opportunity to view the works. The proponent has confirmed the liaison attempts and has provided written evidence (this can be provided if required). The LALC will be given the opportunity to inspect the site after vegetation clearing but prior to any topsoil stripping, which is based on advice from South East Archaeology.

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1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project

The proposal was assessed under Part 3A of the NSW EP&A Act and determined by the Minister for Planning. An EA was prepared including a Flora and Fauna Assessment (BES 2006). An EMP and FFMP (Ecoplanning 2019a & b) were prepared and correspondence undertaken with DoEE (Ecoplanning 2018a & b). A further targeted MNES assessment was undertaken

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in May-June 2020 (Ecoplanning 2020).

Approximately 17.18 ha of vegetation, comprising 5.39 ha of Bangalay Moist Woodland Open Forest, 10.79 ha of Northern Coastal Sands Shrub/Fern Forest and 1 ha of disturbed/cleared area will be removed. 0.92 ha of Bangalay Paperbark Woodland and 2.30 ha of Northern Coastal Sands Shrub/Fern Forest will be retained. Impacts include removal of potential habitat for the Greater Glider, GreyHeaded FlyingFox, Swift Parrot, Black-faced Monarch, Rufous Fantail and Satin Flycatcher. Following extensive survey, the Southern Brown Bandicoot and Spotted-tailed Quoll were deemed unlikely to occur (Ecoplanning 2020).

1.15 Is this action part of a staged development (or a component of a larger project)?

☐ Yes ☑ No

1.16 Is the proposed action related to other actions or proposals in the region?

☐ Yes ☑ No

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Section 2

Matters of national environmental significance

2.1 Is the proposed action likely to have any direct or indirect impact on the values of any World Heritage properties?

☐ Yes ☑ No

2.2 Is the proposed action likely to have any direct or indirect impact on the values of any National Heritage places?

☐ Yes ☑ No

2.3 Is the proposed action likely to have any direct or indirect impact on the ecological character of a Ramsar wetland?

☐ Yes ☑ No

2.4 Is the proposed action likely to have any direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?

☑ Yes ☐ No

Species or threatened ecological community

Greater Glider (Petauroides volans)

Impact

Greater Gliders have been observed within the site in 2005 by BES (2006). The proposed action will remove approximately 17.18 ha of vegetation all of which is considered potential foraging and/or low-quality denning habitat for this species. 3.45 ha of native vegetation is being retained onsite, which includes Greater Glider feed tree, Eucalyptus botryoides.

Records of this species from Manyana (south of Bendalong Road including the forested lands immediately adjacent to the site) occurred in 2004, 2005, and 2008. Most records in the wider locality (5 km from the site) over this period occurred in 2005, in the North Bendalong area. The only reliable post-2010 record of this species in the Manyana-Bendalong area, or within approximately 5 km of the site, is from west of Pine Street, Bendalong in 2013. Since 2013, there is only one record of the species within 5 km of the site, in 2017, which is located on the edge of the site. The veracity of this record is unclear, as this record was entered with a similar source and timing to two other unusual records, including a Southern Brown Bandicoot record later downgraded from “sighting” to “possible ID” (Ecoplanning 2020).

The pattern of Greater Glider records in the Manyana-Bendalong area indicates a marked decline in detection of this species from 2010 onwards. While the causes of a decline in detection of a species cannot be determined with certainty, as a number of factors could contribute to a lack of species records in the BioNet database, the decline in detection of Greater Gliders in the Manyana-Bendalong area is temporally similar to population declines in Booderee National Park (approx. 20 km to the north east) reported by Lindenmayer et al. (2011), which Lindenmayer et al. (2018) found could not be anticipated or explained by any clear mechanism.

Greater Gliders require hollows of a size range >15 cm, and may require 2-4 live den trees for every 2 ha of suitable forest (Eyre 2002). The site contains few, low-quality den trees in the form of tree hollows of a size-class greater than 15 cm (as estimated from ground level). A maximum of 15 trees are estimated to contain suitable denning habitat, across a site that is approximately 20 ha in size. The density of tree hollows suitable for the Greater Glider (or other large arboreal fauna) is approximately 0.75 hollow / ha (Ecoplanning 2020).

Goldingay (2012) reports Greater Glider mean den use of 3.1 to 11 separate hollows, use of 4 to 6 dens per month, over a small home range of 1.2-4.1 ha, with larger home ranges recorded in Queensland of up to 19.3 ha. Typically, 4 to 20 different dens are used by individuals within their home range (Comport et al. 1996; Smith et al. 2007). Therefore, in consideration of this species’ requirement for a large number of denning sites, the site constitutes poor-quality denning habitat (Ecoplanning 2020).

The minimum survey effort recommended to detect Greater Gliders in accordance with Southwell (2020) is five nights of spotlighting to achieve a detection probability of 0.97. Wintle et al. (2005) further states that the Greater Glider’s strong eye-

shine, propensity to stare at intruders, small home range size (ca. 2 ha), and relatively high population densities (>0.8 individuals/ha), increases the detectability of this species, with spotlighting being the preferred method of survey.

Ecoplanning conducted five nights survey in primarily favourable detection conditions. Taking into account the 95% credible intervals on the mean estimates curve for probability of detection of Greater Gliders, it is considered that Ecoplanning's surveys on the site have a probability between 0.85 and 0.97 of detecting Greater Glider (Wintle et al. 2005). In addition to Ecoplanning's surveys, five nights of supplementary surveys were undertaken lead by ANU, and again by Gaia Research. Based on published detectability studies, the overall survey effort for the site has a probability of detecting Greater Gliders of >0.97. Based on extensive survey (114 person-hours; 10 nights), it was concluded the Greater Glider was not present at the site.

The site does not represent a key source population for breeding or dispersal. Further, the estimate of a maximum of 15 suitable hollows present on site means it is unlikely to be capable of supporting a source population for breeding or dispersal of Greater Gliders. In the absence of adequate denning habitat, the site is unlikely to support a breeding population.

Species or threatened ecological community

Grey-headed Flying-fox (Pteropus poliocephalus)

Impact

Small numbers (one individual heard on each of two night's survey, out of a total of 10 survey-nights and 114 person-hours of nocturnal survey on the site) of Grey-headed Flying-foxes were recorded foraging on the site during nocturnal surveys. One dead Grey-headed Flying-fox was found opportunistically on site. The nearest roost camp record is at Yatte Yattah (DAWE 2020). No roost camps are found on site or in the wider locality.

The site contains foraging habitat in the form of flowering eucalypts, paperbarks, and other tree and shrub species. Trees such as Lilly Pilly (Acmena smithii) are found in the Bangalay Moist Woodland/Open Forest and provide fruits on which this species may feed. A roost camp is not currently found on site. Community liaison conducted during surveys indicates that the site is not known to have previously contained a roost camp (Ecoplanning 2020).

The proposed action will remove approximately 17.18 ha of vegetation. This broad ranging species is not likely to decline due to the removal of this small area of intermittently used foraging habitat.

Due to the high mobility and regular genetic exchange of Grey-headed Flying-foxes through the species' entire geographic range, all individuals are considered part of one population. The population is divided into spatially structured colonies (DoEE 2020). The site represents potential foraging habitat utilised by the local colony (roost camp) of Grey-headed Flying-foxes, likely individuals from the Yatte Yattah area or other nearby colonies.

The population in the Manyana area, or more broadly in the Shoalhaven LGA or surrounding region, has not been identified as an important population in recovery plans. The site is used only by foraging individuals and, therefore, does not support a key source population for either breeding or dispersal.

The site is not necessary for breeding, roosting, or dispersal of this species. The site is utilised for foraging, however, large areas of foraging habitat occur in the locality, including areas of canopy unaffected by the Currowan fire (Ecoplanning 2020).

The removal of a relatively small area (when compared to the species broad range and high mobility) of intermittently used foraging habitat for this species is not likely to lead to a decrease in the size of the local population of this species. Moreover, the local population of this species does not constitute an important population (Ecoplanning 2020).

This species is likely to continue utilising retained vegetation on site and in the surrounding locality following development activity on the site (Ecoplanning 2020).

Species or threatened ecological community

Swift Parrot (Lathamus discolor)

Impact

Swift Parrots were not recorded on site by BES (2006) or in the surrounding locality during any previous surveys. Only one Swift Parrot record exists in the locality (5 km radius). This record includes a note that the Swift Parrot was recorded in a mixed flock with Rainbow Lorikeets, despite Saunders & Heinsohn (2008) listing Rainbow Lorikeets as a competitor species which have a negative effect on the likelihood of Swift Parrot occurrence. BioNet records for the wider region (60 km radius) show a pattern of Swift Parrot occurrence in the area immediately north of Bateman's Bay, however only widely scattered records north of Ulladulla (Ecoplanning 2020).

Records of sightings published by the Illawarra Bird Observers Club (IBOC) were reviewed, including a search for all records of Swift Parrots for all years between 2007 and 2019. IBOC reports contained no sightings in Manyana or within 5 km of the site. Birdlife Australia's Woodland Birds for Biodiversity (WBFB) project conducts biannual nationwide surveys for Swift Parrots. WBFB reports contained no sightings in Manyana or within 5 km of the site (Ecoplanning 2020).

The site could potentially be used for foraging activities during winter non-breeding dispersal across mainland SE Australia, however the foraging resources available are low.

The site could potentially be used for foraging activities during winter non-breeding dispersal across mainland SE Australia,

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however the foraging resources available are low. Of the tree species known to be important for foraging, only Eucalyptus robusta may occur on site in low numbers (though none could be found in BES (2006) or Ecoplanning (2020) surveys).

The pattern of records, including observations in the KBA of foraging almost exclusively on Spotted Gum, Broad-leaved Ironbark and lerp, which were not observed on site, does not indicate that the site or surrounding locality may constitute an area of important foraging habitat for Swift Parrots during their irregular movements into the South Coast of NSW (Ecoplanning 2020).

Should the Swift Parrot use the site for foraging, winter foraging activities in the region are not likely to be significantly affected by the loss of poor-quality foraging habitat on site, and Swift Parrots are likely to persist in the area as significant foraging resources will remain on site and areas of unburnt canopy vegetation in the locality.

Existing records indicate that the site and surrounding locality are unlikely to be used by large proportions of the populations. Large movements of Swift Parrots have been recorded in the South Coast region only south of Ulladulla and only in association with large flowering events of Spotted Gum. Only single birds have been observed in the Manyana locality. Further afield, the nearest record of a larger flock, 26 birds in Yatte Yattah, is approximately 8km from site with birds seen foraging in a paddock in Eucalyptus tereticornis, which is known to be a key tree species (Saunders and Tzaros 2011) and which does not occur on site.

No Swift Parrot records from approximately Ulladulla north to the Illawarra indicate a pattern of site fidelity anywhere in this region. Records in this region show only sporadic occurrence of Swift Parrots, generally single birds or small numbers, and no records of repeat visits of flocks to the same location across seasons.

The site does not contain significant habitat features for Swift Parrots, is not located in a region known to be important for Swift Parrots, and does not have a recorded pattern of visitation which would indicate the presence of significant habitat on site or in the surrounding area. The site is not likely to be utilised as a site of significant foraging or as a site of refugia for the Swift Parrot population. The site is not likely to contain large numbers of flowering eucalypts at a time coincident with Swift Parrot movements into the area and the site has not supported significant Swift Parrot feeding behaviour as documented in any of the reviewed database or regional sources (Ecoplanning 2020).

2.4.2 Do you consider this impact to be significant?

☐ Yes ☑ No

2.5 Is the proposed action likely to have any direct or indirect impact on the members of any listed migratory species or their habitat?

☑ Yes ☐ No

Migratory species

Black-faced Monarch (Monarcha melanopsis)

Impact

This species was recorded on site by BES (2006) in the Bangalay Moist Woodland Open Forest in the north east of the site. BES (2006) reported potential breeding activity on site. The Black-faced Monarch are assumed to be using the site for breeding due to previous records. The site does not support an ecologically significant proportion of the population or a significant area of important habitat for this species (Ecoplanning 2020).

The site contains known breeding habitat for this species in the dense mesic understorey vegetation of Bangalay Moist Woodland Open Forest. The entire site constitutes potential foraging habitat for this insectivorous species of which 17 ha will be removed for the proposal.

The habitat on site does not support an ecologically significant proportion of the population, is not of critical importance to the species life-cycle stages, is not near the limit of the species' range, and is not within an area where the species is declining, and therefore is not considered important habitat for this species. The area of habitat for this species likely to result in a significant impact if affected is 260 ha to constitute national significance or 2,600 ha to constitute an internationally significant impact (DoE 2015). The area of habitat to be cleared on site, 17 ha, is well below these thresholds (Ecoplanning 2020).

Black-faced Monarchs are not known to occur in dense aggregations and the area of vegetation to be cleared cannot support an ecologically significant proportion of Black-faced Monarchs, which is defined as 460 individuals to be significant nationally and 4,600 individuals to be significant internationally (DoE 2015). Therefore, the proposed action will not seriously disrupt the lifecycle of an ecologically significant proportion of the population (Ecoplanning 2020).

Migratory species

Rufous Fantail (Rhipidura rufifrons)

Impact

Rufous Fantail was observed during surveys by BES (2006) in the north-eastern part of the study area. They migrate from this south-eastern region to winter north in Australia and New Guinea.

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The study area is within a region widely used by this species and evidence of breeding activities have been observed. Hence the study area is considered habitat for this migratory species (Ecoplanning 2018a).

The proposal is unlikely to substantially modify an area of important habitat for this migratory species. The existing drainage line and vegetative buffer will be maintained and will provide vegetative connectivity through the study area. It will be managed by a Flora and Fauna Management Plan to ensure vegetation condition and hydrology is not significantly impacted during and post construction. This vegetative corridor will link to extensive habitat north of the study area. Additionally, two water quality facilities will be integrated into the water management which will control sediment and pollutant filtration and water levels. This will ensure the habitat for this migratory bird species is maintained at a high level of resilience.

The study area covers a small area of habitat that provides breeding and foraging potential for this migratory species. Due to its size, the study area cannot support an ecologically significant proportion of the population of this species. The retention and management of the vegetative corridor through the study area will ensure that the species can continue to use the study area for foraging and breeding activities.

Migratory species

Satin Flycatcher (Myiagra cyanoleuca)

Impact

Satin Flycatcher is widespread in eastern Australia and in NSW they are most common on and east of the Great Dividing Range. Satin Flycatcher has not been recorded in the study area but has been recorded substantially in the south-eastern region (Atlas of Living Australia 2018). The species migrates north over winter to Northern Australia and New Guinea.

The study area is within a region widely used by this species and evidence of breeding activities have been observed. Hence the study area is considered habitat for this migratory species (Ecoplanning 2018a).

The proposal is unlikely to substantially modify an area of important habitat for this migratory species. The existing drainage line and vegetative buffer will be maintained and will provide vegetative connectivity through the study area. It will be managed by a Flora and Fauna Management Plan to ensure vegetation condition and hydrology is not significantly impacted during and post construction. This vegetative corridor will link to extensive habitat north of the study area. Additionally, two water quality facilities will be integrated into the water management which will control sediment and pollutant filtration and water levels. This will ensure the habitat for this migratory bird species is maintained at a high level of resilience.

The study area covers a small area of habitat that provides breeding and foraging potential for this migratory species. Due to its size, the study area cannot support an ecologically significant proportion of the population of this species. The retention and management of the vegetative corridor through the study area will ensure that the species can continue to use the study area for foraging and breeding activities.

2.5.2 Do you consider this impact to be significant?

☐ Yes ☑ No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

☐ Yes ☑ No

2.7 Is the proposed action likely to be taken on or near Commonwealth land?

☐ Yes ☑ No

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

☐ Yes ☑ No

2.9 Is the proposed action likely to have any direct or indirect impact on a water resource from coal seam gas or large coal mining development?

☐ Yes ☑ No

2.10 Is the proposed action a nuclear action?

☐ Yes ☑ No

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2.11 Is the proposed action to be taken by a Commonwealth agency?

☐ Yes ☑ No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage place overseas?

☐ Yes ☑ No

2.13 Is the proposed action likely to have any direct or indirect impact on any part of the environment in the Commonwealth marine area?

☐ Yes ☑ No

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Section 3

Description of the project area

3.1 Describe the flora and fauna relevant to the project area

1 BES (2006)
2 Ecoplanning (2020)
The site covers app. 20.4ha of vacant vegetated land. Flora and fauna surveys detected 184 flora species and 69 fauna species. Three vegetation communities were identified1.
The proposal will impact (in ha) 17.18 of vegetation, comprising 5.39 of Bangalay Moist Woodland Open Forest and 10.79 of Northern Coastal Sands Shrub/Fern Forest and 1 of disturbed/cleared area. Approximately 0.92 of Bangalay Paperbark Woodland EEC, listed under the TSC Act, and 2.3 of Northern Coastal Sands Shrub/Fern Forest will be retained.
No vegetation on site is characteristic of a Threatened Ecological Community (TEC) listed under the EPBC Act (see Ecoplanning 2018b). Littoral Rainforest (RF) and Coastal Vine Thickets of Eastern Australia is listed under the EPBC Act as 'critically endangered'. Whilst some rainforest elements are present onsite, these are associated with Bangalay Moist Woodland/Open Forest, and a rationale for these areas not being Littoral RF under the TSC Act is provided in BES (2006). EPBC Act Littoral RF CEEC was listed in 2008, but is noted to be consistent with TSC Act listed (TSSC 2008).
The Bangalay Paperbark Woodland within the study area was determined to comprise the endangered ecological community Swamp sclerophyll forest on the coastal floodplains as listed on the NSW TSC Act1.
Surveys by BES concluded that no threatened flora species were present onsite despite intensive survey and they are not expected to occur1.
The flora survey effort employed a total of 27.5 person-hours and fauna survey effort totalled 61.75 person hours and 231 trap nights1.
Surveys targeting threatened species resulted in the detection of four threatened species listed under the TSC Act, the Greater Broad-nosed Bat, Gang-gang Cockatoo, Powerful Owl and SquareTailed Kite and two migratory species, the Black-faced Monarch (BFM) and Rufous Fantail, listed on the EPBC Act, within the study area1. The Greater Glider (GG) was recorded at the site by BES (2006) but was not listed under the EPBC Act at the time.
BES (2006) recorded 40 trees containing hollows of varying sizes some of which could provide nest sites for birds such as the Gang-gang Cockatoo and Glossy Black-cockatoo, or mammals including the Common Brushtail Possum or Common Ringtail Possum, which were both recorded in the study area. Several very large hollows provide potential roosting or nesting sites for forest owls such as the Powerful Owl1.
Habitat for a number of MNES was present at the site. However, many were considered unlikely to occur due to targeted survey. Further survey was undertaken in 2020 to further assist in determining their likelihood of occurrence of the GG, Southern Brown Bandicoot (SBB), Spotted-tailed Quoll (SQ) and Swift Parrot (SP).
Extensive surveys were undertaken to confirm presence/absence. None were recorded at the site and none were considered likely to occur (see Ecoplanning 2020). No further consideration of the SBB nor SQ has been undertaken and is not considered necessary. However, as a precaution, impacts to potential habitat for GG and SP have been considered.
Grey-headed Flying-fox was were recorded on site as was the BFM and Rufous Fantail1,2. BFM are assumed to be using the site for breeding due to previous records2.
An assessment pursuant to NSW SEPP 44–Koala Habitat Protection was carried out by BES, which concluded that the study area did not contain core Koala habitat (BES 2006). The site is mapped as Pink on the NSW SEPP 2019–Koala Habitat Protection, Koala Development Application Map. Despite the presence of a number of Koala Feed trees listed for the South Coast under the SEPP, there are no Koala records within a 10 km radius of the site within the past 10 years. The most recent record is 44 km away from 2020 and the closest record 11.3 km away from 2004 (DPIE 2020). Further, this species was not recorded during extensive surveys of the site (see Ecoplanning 2020).
The Koala Habitat Assessment Tool (DotE 2014) was completed as a precaution.
Koala Occurrence – Low (0): No evidence of Koalas within 5km of the site within the past 2 or 5 years; Vegetation composition – High (2+): Has forest or woodland with 2 or more known koala food tree species; Habitat connectivity – High (2+): The site is part of a contiguous landscape 500 ha; Key existing threats – Low (0): Areas which score 0 for koala occurrence and are likely to have some degree dog or vehicle threat present; Recovery value – Low (0) There are no records of this species from within a 10 km radius of the site in the last 20 years and they have not been recorded on site during past and recent surveys.
TOTAL = 4
Based on the EPBC Koala Habitat Assessment Tool the site would not be considered habitat critical to the survival of the Koala (scored <5). Further the Koala is very unlikely to occur at the site and there is no further consideration of impacts to this species.

3.2 Describe the hydrology relevant to the project area (including water flows)

The study area lies at an altitude of approximately 20-30 m Australian Height Datum (AHD) and is gently-sloping land with an aspect generally to the south. Two low-lying ephemeral drainage depressions are located within the property. The most westerly drainage runs in a south-easterly direction. The second drainage runs through the centre of the property in a southerly direction. Only the westerly drainage line supports vegetation associated with drainage lines to any substantial

degree. Both drainage lines form part of the upper catchment of a small coastal lagoon that discharges onto Manyana Beach (BES 2006).

Storm Consulting Pty Ltd were engaged to investigate the impact of the proposed development on surface and groundwater and the retained vegetation within the EEC. This report recommended the provision of constructed wetlands to provide a high level of treatment of runoff, gross pollutant traps to allow for the collection of pollution and coarse sediment, the provision of detention on all proposed allotments, the use of swale drains where grades allow, infiltration trenches adjacent to the EEC area to ensure appropriate drainage is maintained and the use of recycled water from the Conjola Regional Sewerage Scheme for outdoor use and toilet flushing. These measures also ameliorate the impacts of increased run off during peak flows (Cowman Stoddart 2006).

The proposal includes measures to maintain water quality by the provision of water quality control ponds and other drainage infrastructure. Refer to Section 6.8 of the EA for further details and the attached Storm Consulting Report (2007).

3.3 Describe the soil and vegetation characteristics relevant to the project area

The study area appears to be underlain by Tertiary undifferentiated sediments comprising gravel, sand, clay, quartzite, sandstone and conglomerate (Ulladulla 1:250000 Geological Series Sheet S1 56-13). These have weathered to form red loamy and sandy soils typical of the Manyana area. Soils throughout much of the study area are covered by a thick humus layer (BES 2006).

Northern Coastal Sands Shrub/Fern Forest (description taken from BES 2006)

This community occurs across the majority of the study area on sandy clay soils. The community comprises an open-forest dominated by Eucalyptus piperita, E. pilularis, and Corymbia gummifera but also includes E. eugenioides, E. globoidea, E. paniculata subsp. paniculata and E. botryoides. The canopy height is approximately 25 m with foliage projective cover of approximately 35 %.

There is a sub-canopy dominated by Syncarpia glomulifera subsp. glomulifera, to a height of approximately 14 m with variable foliage projective cover ranging between approximately 5-25%. Within this sub-canopy, there are dense, almost closed stands of Turpentine in places. Other sub-canopy species generally occur very sporadically.

Parts of the community have been affected by relatively recent prescribed burning and consequently the understorey is often dominated by Dodonaea triquetra.

The understorey is usually to a height of up to 4-6 m with foliage projective cover of approximately 25-40%. In the southern parts of the study area species such as Psychotria loniceroides, Synoum glandulosum subsp. glandulosum Elaeocarpus reticulatus, Notelaea venosa, Breynia oblongifolia and Rapanea variabilis also occur patchily in the understorey.

The groundcover includes a diverse range of native grasses, shrubs, ferns, forbs and climbers and Blechnum cartilagineum to a height of approximately 1.5 m with foliage projective cover of approximately 30-40%.

The understorey also includes a variety of climbers.

Bangalay Moist Woodland/Open Forest (description taken from BES 2006)

This community occurs in the eastern, primarily north-eastern, parts of the study area and for the purposes of this report the community is described as Bangalay Moist Woodland / Open Forest.

The canopy is dominated by E. botryoides but also includes E. pilularis, E. eugenioides, E. paniculata subsp. paniculata and Angophora floribunda to a height of approximately 20 m with foliage projective cover of approximately 20-30%. There is a moist sub-canopy to a height of approximately 10-15 m with foliage projective cover of approximately 20-40%. Parramatta Green Wattle is often present to approximately 15 m with foliage projective cover of approximately 10%.

The understorey is dominated by Black Fruited Saw-sedge, Rough-fruit Pittosporum Pittosporum revolutum, Scentless Rosewood, Bolwarra Eupomatia laurina, Senna Senna ssp., Coffee Bush and Wallaby Weed Olearia viscidula to a height of approximately 2.5 m with foliage projective cover of approximately 60%.

Groundcovers included a variety of native species to a height of approximately 1.5 m with foliage projective cover of approximately 40-60%. Climbers and scramblers are present.

In the north-eastern extremities of the study area there is an area of approximately 0.15 ha where there is a closed sub-canopy dominated by Lilly Pilly to a height of approximately 6 m. The understorey and groundcover is very sparse.

Bangalay Paperbark Woodland (description taken from BES 2006)

This community occurs primarily in westerly drainage line which drains the western parts of the study area, flowing to the southern study area boundary. This community is characteristic of the EEC Swamp Sclerophyll Forests on the coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions listed under the TSC Act.

The upper stratum is dominated by E. botryoides which forms a canopy to a height of approximately 22 m with foliage projective cover of approximately 25%. There is a sub-canopy to a height of 12 m with foliage projective cover of between approximately 20-30% dominated by Melaleuca linariifolia with Allocasuarina littoralis occurring occasionally on the community margins.

The understorey is generally dense to a height of 4 m with foliage projective cover of approximately 40%. The understorey is dominated by Gahnia clarkei which is abundant in clumps to approximately 2.5 m.

The groundcover includes a range of native predominately forbs, ferns and climbers to a height of approximately 1 m. The density of the groundcover is influenced by the density of the understorey but is generally very sparse with foliage projective cover averaging approximately 5%. Climbers include are present and this community also includes several individuals of Calanthe triplicata.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area

NA

3.5 Describe the status of native vegetation relevant to the project area

The Bangalay Paperbark Woodland on the site is characteristic of the EEC Swamp Sclerophyll Forests on the coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions listed under the TSC Act. No threatened ecological communities listed under the EPBC Act occur on site.

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area

The site lies at an altitude of approximately 20-30 m AHD and is gently-sloping land with a southerly aspect.

3.7 Describe the current condition of the environment relevant to the project area

The 20.4 ha site is primarily vegetated with the exception of about 1 ha of cleared / disturbed land. The site was not burnt during the most recent 2019/2020 fire event on the NSW South Coast. The vegetation is relatively intact, with limited weed invasion. There are about 40 trees containing hollows of varying sizes across the site (BES 2006). The site is bounded by residential development in the south and east, by vegetated freehold land in the north and vegetated Crown land in the west.

3.8 Describe any Commonwealth Heritage places or other places recognised as having heritage values relevant to the project

Heritage Impact Assessment has been undertaken by South-East Archaeology investigating the heritage significance of the site and the presence of indigenous cultural items. This work revealed the existence of two sites, one indigenous (artefact scatter) and one non-indigenous (timber weekender/fisherman's hut) (Cowman Stoddart 2006).

3.9 Describe any Indigenous heritage values relevant to the project area

One indigenous site, comprising an artefact scatter (identified as Site Manyana 1) was located in the south-eastern portion of the site. Site Manyana 1 is considered to have a low to moderate significance in a local context (see Cowman Stoddart 2006)

It was noted that there remains some potential for other indigenous items to be found should additional investigations, including sub-surface excavations be undertaken. Despite this however, the nature of the site with no reliable water supply, limited food source coupled with its relative remoteness from the coast, is such that other sites in the immediate vicinity located closer to the coast would have been considered more attractive (Cowman Stoddart 2006).

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area

The land is freehold title and owned by Manyana Coast Pty Ltd (ACN 617 758 915; ABN 92 617 758 915).

3.11 Describe any existing or any proposed uses relevant to the project area

The land is freehold title and owned by Manyana Coast Pty Ltd. Future land use will entail residential subdivision. See Section 1.2 and 1.15.1 of this Referral for a description of the proposed land uses for each stage of the subdivision.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 4

Measures to avoid or reduce impacts

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action

Areas of the EEC have been avoided and retained on site.

The following lists the Conditions of Consent (including mitigation measures) for the proposal relevant to MNES and ecology:

The CoC include the requirement for a Vegetation Management Plan (VMP) (see B8 of the CoC) to be prepared for each stage of the subdivision and a VMP to be specifically prepared and implemented for the part of the site containing the EEC (see B9 of the CoC). The developer is required to maintain the EEC in accordance with the recommendations of the approved Vegetation Management Plan after its dedication to Shoalhaven Council.

The developer is also required to prepare and embellish all public reserves in accordance with the VMP (for EEC) and detailed landscape design plans to be approved by Shoalhaven Council as part of the Construction Certificate.

B11 of the CoC requires the preparation of an Environmental Management Plan (EMP)

B12 of the CoC requires the provision of physical barriers between the roadside perimeter of the EEC and passive open space with restricted access for maintenance vehicle and separate access for pedestrians at locations determined in the VMP. The provision of two wildlife crossing signs.

C4 of the CoC specifies that any clearing to be undertaken for Stages 2, 3 or 4 of the development and affecting Bangalay Moist Woodland / Open Forest will not be undertaken between the beginning of October and the end of February in any year to minimise potential impacts on breeding by migratory species Black-faced Monarch (Monarcha melanopsis) and Rufous Fantail (Rhipidura rufifrons).

D9 of the CoC outlines the protocols that must be followed for trees with hollows during construction.

E16 of the CoC requires the proponent to dedicate the EEC, associated buffer area and bushland reserve upon registration of the plan of subdivision for Stage 1 and Stage 5 and the playground area and open space upon registration of the plan of subdivision for Stage 3.

E17 of the CoC requires the proponent to manage and maintain the EEC, associated buffer area and bushland area (including water ponds) in accordance with the VMP for a period of three years following the registration of the plan of the subdivision for the final stage of the subdivision..

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved

Potential habitat for all relevant MNES will remain at the site within an area to be protected and managed under a VMP. This land will eventually be dedicated to Shoalhaven Council. The developer is required to maintain the conserved land in accordance with the recommendations of the approved Vegetation Management Plan after its dedication to Shoalhaven Council. It was required that the Planning Agreement was registered on the title of the land in accordance with the Real Property Act 1900.

Extensive areas of potential habitat for all species also occur adjacent to the site and with the locality. Assessment of the likely impacts of the proposal on MNES found that the action is unlikely to significantly impact any MNES protected under the EPBC Act.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 5

Conclusion on the likelihood of significant impacts

5.1 You indicated the below ticked items to be of significant impact and therefore you consider the action to be a controlled action

- ☐ World Heritage properties
- ☐ National Heritage places
- ☐ Wetlands of international importance (declared Ramsar wetlands)
- ☐ Listed threatened species or any threatened ecological community
- ☐ Listed migratory species
- ☐ Marine environment outside Commonwealth marine areas
- ☐ Protection of the environment from actions involving Commonwealth land
- ☐ Great Barrier Reef Marine Park
- ☐ A water resource, in relation to coal seam gas development and large coal mining development
- ☐ Protection of the environment from nuclear actions
- ☐ Protection of the environment from Commonwealth actions
- ☐ Commonwealth Heritage places overseas
- ☐ Commonwealth marine areas

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action

The proposal is unlikely to be a controlled action nor have significant impacts on any MNES given it is unlikely to substantially modify an area of important habitat for any threatened or migratory species or place any important populations at risk of extinction (see Section 2.5 and 2.5 of this referral for further justification). It is considered unlikely that the Greater Glider occurs on the site following 10 nights and 114 person-hours of spotlighting survey, unlikely that the Swift Parrot would regularly utilise or rely on the site due to unsuitable phenology of flowering eucalypts on site and no breeding habitat for the Grey-headed Flying-fox occurs on site and some areas of potential foraging habitat will remain. Whilst habitat for the Black-faced Monarch, Satin Flycatcher and Rufous Fantail are present on the site, and would be impacted, areas of potential habitat will be conserved and managed onsite, provide ongoing habitat for these species, and the area of habitat removed cannot support an ecologically significant proportion of the population of these species at a national or international level. Furthermore, extensive areas of potential habitat for all species occurs adjacent to the site and throughout the locality, including an estimated 812 ha of habitat within 5 km of the site following the 2019-20 bushfires.

A more comprehensive treatment of the potential impacts to MNES are provide din Ecoplanning (2020).

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 6

Environmental record of the person proposing to take the action

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Explain in further detail

Yes – There have never been any proceedings against the person proposing to take the action.

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application

NA

6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?

☐ Yes ☑ No

6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

☐ Yes ☑ No

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 7

Information sources

Reference source

Bushfire and Environmental Services (BES) (2006). Flora and Fauna Assessment – Proposed Subdivision Lot 172 DP 755923 and Lot 823 DP 247285, Berringer Road, Cunjurong Point Road and Sunset Strip, Manyana. Prepared for Malbec Properties Pty Ltd.

Reliability

Good, from a reputable consulting company

Uncertainties

Nil

Reference source

Comport, S. S., Ward, S. J., and Foley, W. J. (1996). Home ranges, time budgets and food tree use in a high density tropical population of greater gliders, Petauroides volans minor (Pseudocheiridae: Marsupialia). Wildlife Research 23, 401-419.

Reliability

Good, scientific journal article.

Uncertainties

Nil

Reference source

Cowman Stoddart Pty Ltd (2006). Environmental Assessment Report – Project Approval 179 Lot Residential Subdivision. Lot 172 DP 755923 and Lot 823 DP 247285, Berringer Road, Cunjurong Point Road and Sunset Strip, Manyana

Reliability

Unknown, assumed good.

Uncertainties

Nil

Reference source

Department of Agriculture Water and the Environment (DAWE) (2020). Interactive Flying-fox Web Viewer. http://www.environment.gov.au/biodiversity/threatened/species/flying-fox-monitoring. Accessed June 2020.

Reliability

Good, government department application.

Uncertainties

Nil

Reference source

Department of the Environment (DoE) (2015). The Draft referral guidelines for 14 birds listed as migratory species under the EPBC Act. Commonwealth of Australia 2015.

Reliability

Good, published government document.

Uncertainties

Nil

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Reference source

Ecoplanning (2018a). Response to letter from Department of the Environment and Energy, regarding 182 lot sub-division, Berringer and Cunjurong Roads, Manyana. Letter to Jeff Bulfin, Precise Planning Pty Ltd, 17 April 2018.

Reliability

Good, from a reputable consulting company

Uncertainties

Nil

Reference source

Ecoplanning (2018b). Response to the Department of the Environment and Energy requesting additional information regarding EPBC Act application to the 182 lot residential subdivision at Berringer and Cunjurong Point Roads, Manyana. Letter to Ghazi Sangari, Ozy Homes Pty Ltd, 27 July 2018.

Reliability

Good, from a reputable consulting company

Uncertainties

Nil

Reference source

Ecoplanning (2019a). Environmental Management Plan Lot 172 // DP 755923, Lot 823 // DP 247285, Berringer Road, Cunjurong Point Road and Sunset Strip, Manyana, NSW. Prepared for Precise Planning Pty Limited, on behalf of Ozy Homes.

Reliability

Good, from a reputable consulting company

Uncertainties

Nil

Reference source

Ecoplanning (2019b). Flora and Fauna Management Plan, Lot 172 // DP 755923 & Lot 823 DP // 247285, Berringer Road, Cunjurong Point Road and Sunset Strip, Manyana (v. 2.3). Prepared for Precise Planning.

Reliability

Good, from a reputable consulting company

Uncertainties

Nil

Reference source

Eyre, T. J. (2002). Habitat preferences and management of large gliding possums in southern Queensland. Ph.D. thesis, Southern Cross University, Lismore

Reliability

Good, PhD Thesis

Uncertainties

Nil

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Reference source

Goldingay, R. L. (2012). Characteristics of tree hollows used by Australian arboreal and scansorial mammals. Australian Journal of Zoology 59, 277-294.

Reliability

Good, scientific journal article.

Uncertainties

Nil

Reference source

Kevin Mills & Associates (KMA) (1999), Vegetation Map – Coastal Shoalhaven Region. Prepared for Shoalhaven City Council.

Reliability

Good, from a reputable consulting company

Uncertainties

Nil

Reference source

Kevin Mills & Associates (KMA) (1995), The Vegetation: Cudmirrah National Park, Conjola National Park, and Cudmirrah Nature Reserve. A report prepared for the National Parks and Wildlife Service of New South Wales.

Reliability

Good, from a reputable consulting company

Uncertainties

Nil

Reference source

Lindenmayer, D. B., J. T. Wood, L. McBurney, C. MacGregor, K. Youngentob, and S. C. Banks. (2011). How to make a common species rare: A case against conservation complacency. Biological Conservation 144:1663-1672.

Reliability

Good, scientific journal article.

Uncertainties

Nil

Reference source

Lindenmayer, D. B., J. Wood, C. MacGregor, C. Foster, B. Scheele, A. Tulloch, P. Barton, S. Banks, N. Robinson, N. Dexter, L. S. O'Loughlin, and S. Legge. (2018). Conservation conundrums and the challenges of managing unexplained declines of multiple species. Biological Conservation 221:279-292.

Reliability

Good, scientific journal article.

Uncertainties

Nil

Reference source

Mills, K. 1998. Vegetation Survey Methods and Natural Vegetation Types in the Coastal Parts of the City of Shoalhaven, New South Wales. Illawarra Vegetation Studies (7), Coachwood Publishing, Jamberoo, NSW.

Reliability

Good, from a reputable consulting company

Uncertainties

Nil

Reference source

NSW Office of Environment and Heritage (OEH) (2020a). Atlas of NSW Wildlife. http://www.bionet.nsw.gov.au/. Accessed May 2020

Reliability

Good, government agency database.

Uncertainties

Nil

Reference source

Smith, G. C., Mathieson, M., & Hogan, L. (2007). Home range and habitat use of a low-density population of Greater Glider, Petauroides volans (Pseudocheiridae: Marsupialia), in a hollow-limiting environment. Wildlife Research 34, 472-483.

Reliability

Good, scientific journal article.

Uncertainties

Nil

Reference source

Saunders, D.L. and Tzaros, C.L. (2011). National Recovery Plan for the Swift Parrot Lathamus discolour. Birds Australia, Melbourne.

Reliability

Good, published document from government agency.

Uncertainties

Nil

Reference source

Thomas, V., Gellie, N. and Harrison, T. 2000. Forest Ecosystem Classification and Mapping for the Southern CRA Region. Volume II Appendices. NSW National Parks and Wildlife Service Southern Directorate.

Reliability

Good, published document from government agency.

Uncertainties

Nil

Reference source

Wintle, B.A., Kavanagh, R.P., McCarthy, M.A., and Burgman, M.A. (2005). Estimating and dealing with detectability in occupancy surveys for forest owls and arboreal marsupials. Journal of Wildlife Management 69: 905-917.

Reliability

Good, scientific journal article.

Uncertainties

Nil

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 8

Proposed alternatives

Do you have any feasible alternatives to taking the proposed action?

Yes ☑ No

Australian Government
Department of Agriculture, Water and the Environment

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 9

Person proposing the action

9.1.1 Is the person proposing the action a member of an organisation?

☑ Yes ☐ No

Organisation

Organisation name	MANYANA COAST PTY LTD
Business name	
ABN	92617758915
ACN	
Business address	Unit 2A, 148-150 Canterbury Rd, Bankstown, 2200, NSW, Australia
Postal address	
Main Phone number	9709 4222
Fax	
Primary email address	ghazi@ozyhomes.com.au
Secondary email address	

9.1.2 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

☐ Small business
☑ Not applicable

9.1.2.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations *

☐ Yes ☑ No

9.1.3 Contact

First name	Ghazi
Last name	Sangari
Job title	Director
Phone	
Mobile	0414 357 112
Fax	
Email	ghazi@ozyhomes.com.au
Primary address	Unit 2, 148-150 Canterbury Rd, Bankstown, 2200, NSW, Australia
Address	

Declaration: Person proposing the action

I, GHAZI SANGARI **, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity.**

Signature: ..... **Date:** 23/06/20

I, _____**, the person proposing the action, consent to the designation of** _____ **as the proponent for the purposes of the action described in this EPBC Act Referral.**

Signature:.....**Date:** .....

Australian Government
Department of Agriculture, Water and the Environment

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Proposed designated proponent

9.2.1 Is the proposed designated proponent a member of an organisation?

☑ Yes ☐ No

Organisation

Organisation name	MANYANA COAST PTY LTD
Business name	
ABN	92617758915
ACN	
Business address	Unit 2A, 148-150 Canterbury Rd, Bankstown, 2200, NSW, Australia
Postal address	
Main Phone number	0414 357 112
Fax	
Primary email address	ghazi@ozyhomes.com.au
Secondary email address	

9.2.2 Contact

First name	Ghazi
Last name	Sangari
Job title	Director
Phone	0414 357 112
Mobile	
Fax	
Email	ghazi@ozyhomes.com.au
Primary address	Unit 2, 148-150 Canterbury Rd, Bankstown, 2200, NSW, Australia
Address	

Declaration: Proposed Designated Proponent

I, GHAZI SANGARI, **the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.**

Signature: ..... **Date:** 23/06/20

Australian Government
Department of Agriculture, Water and the Environment

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Referring party (person preparing the information)

9.3.1 Is the referring party (person preparing the information) a member of an organisation?

☑ Yes ☐ No

Organisation

Organisation name	ECOPLANNING PTY. LTD.
Business name	
ABN	48602713691
ACN	
Business address	Level 1, 345 Lawrence Hargrave Dr, Thirroul, 2515, NSW, Australia
Postal address	
Main Phone number	0421 603 549
Fax	
Primary email address	lucas.mckinnon@ecoplanning.com.au
Secondary email address	

9.3.2 Contact

First name	Lucas
Last name	McKinnon
Job title	Principal
Phone	0421 603 549
Mobile	
Fax	
Email	lucas.mckinnon@ecoplanning.com.au
Primary address	345 Lawrence Hargave Drive, Thirroul, 2515, New South Wales, Australia
Address	

Declaration: Referring party (person preparing the information)

I, Lucas McKinnon **, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.**

Signature: L J McKinnon **Date:** 23/06/2020

Australian Government
Department of Agriculture, Water and the Environment

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Appendix A

Attachment

Document Type	File Name
action_area_images	Figure 1_Disturbance and Avoidance_20200617.pdf
govt_approval_conditions	1452 - Development consent.pdf
public_consultation_reports	Environmental Assessment Report.pdf
supporting_tech_reports	Ecoplanning 2018 - Manyana - Response to EPBC letter 20180727.pdf
supporting_tech_reports	BES 2006 Flora and Fauna Assessment.pdf
supporting_tech_reports	Ecoplanning 2018 - Manyana EPBC Act letter 20180417 - reduced size.pdf
supporting_tech_reports	Ecoplanning 2020 - MNES Assessment.pdf
supporting_tech_reports	Ecoplanning 2020 - MNES Assessment_n_CV_.pdf
supporting_tech_reports	Ecoplanning 2020 - MNES Assessment_230602020.pdf
supporting_tech_reports	Ecoplanning 2020 - MNES Assessment_230602020_v2.pdf
supporting_tech_reports	Ecoplanning 2020 - MNES Assessment_230602020_v3.pdf
hydro_investigation_files	Storm consulting_ Water Cycle Management.pdf

Appendix B

Coordinates

Area 1
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