KOALA KOALITION
ECONETWORK PORT STEPHENS INC.

PO Box 97 Nelson Bay NSW 2315
koalakoalition@econetworkps.org

4th December2023

Director – Energy and Resource Assessments, Development Assessment,
Department of Planning and Environment, Parramatta NSW 2124

Attention: Jarrod Blane

Ref: SSD-6334, Sutton Forest Sand Quarry,
13302 Hume Highway (Lot 3 and Lot 4 of DP253435), Sutton Forest, NSW in Wingecarribee Shire)

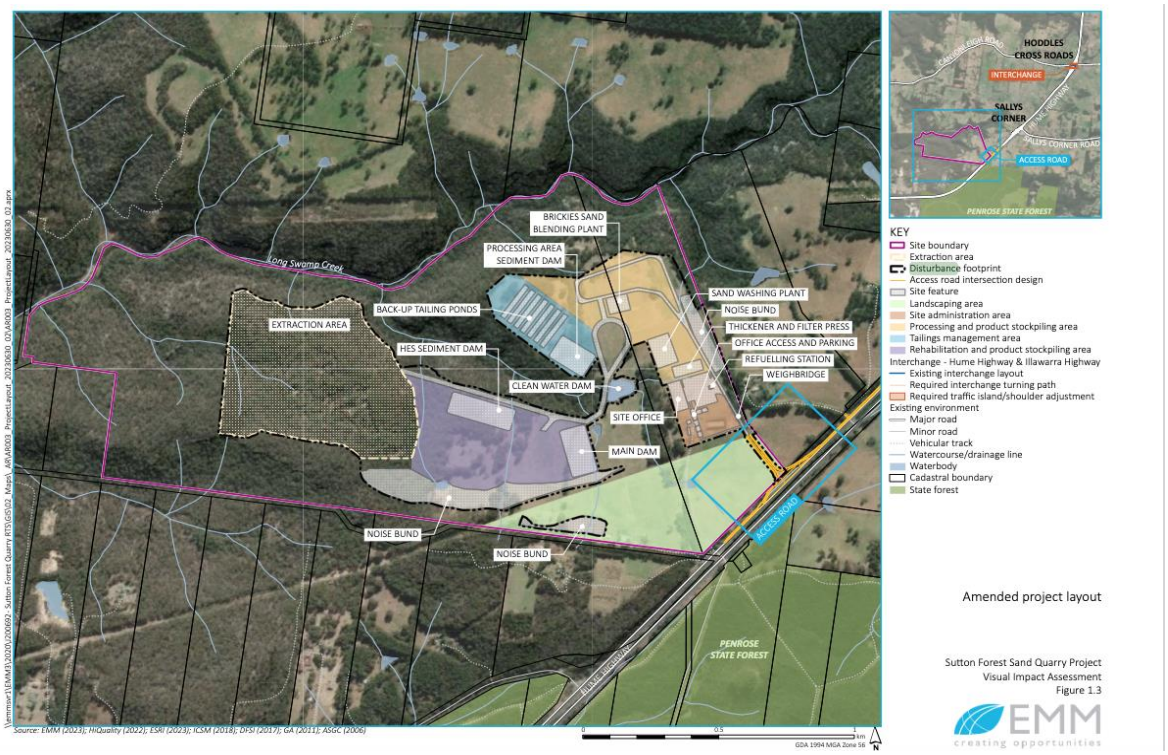
OBJECTION

The Koala Koalition was formed in June 2021 in response to the growing need for a strong voice to advocate for better protection for koalas in Port Stephens and neighbouring LGAs. It operates as a Special Interest Group within EcoNetwork Port Stephens. The members of this alliance, comprising groups and individuals, are committed to working collaboratively with local councils, landholders, environment groups and other stakeholders to ensure that strategies such as the Comprehensive Koala Plan of Management (CKPoM) are actively used to address and rectify the plight of koalas in our region.

The Koala Koalition EcoNetwork Port Stephens (KKEPS) recently became aware of the Sutton Forest Sand Quarry proposal to extract up to a maximum of 1 million tonnes per annum (Mtpa) and dispatch up to 860,000 tpa leaving a total disturbance area of over a third of the 300-ha project site. **1**

The project site is known to be in an area of ecological importance, contains prime koala habitat with an observed koala population, and is part of the recognised Southeast and Tablelands Regional Plan Corridors. **2 - 3**

We are writing to object to this proposal due to its negative impact on threatened species and due to the need to reverse the tripling of habitat loss and habitat fragmentation in NSW since 2016. (Nature Conservation Council NSW, 6th November 2023)



Dismissive updated Biodiversity Assessment Report (BDAR)

It is concerning that the updated BDAR downplays the importance of the project site by suggesting that other areas are better, or that this area is already impacted. Examples include:

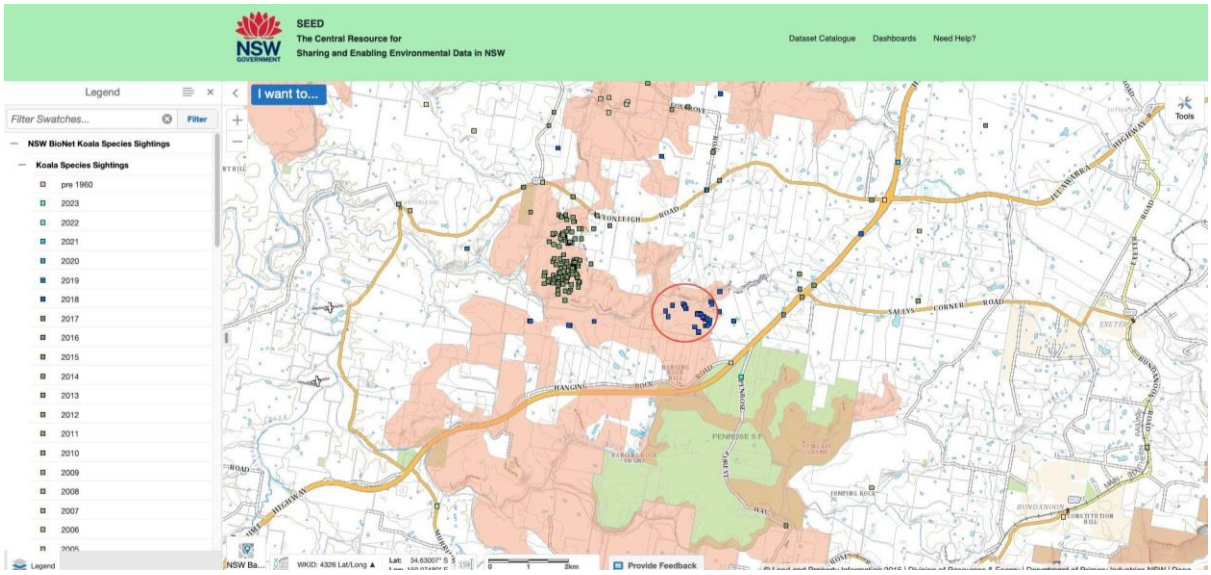
"Areas of higher condition intact native vegetation occur in the locality as large tracts of bushland on hills and around watercourses and form a landscape-scale habitat corridor between the southern Blue Mountains to the north, and Morton National Park to the south" and

"Highway bisects the area immediately to the south." **4**

In regards to the 'Regional Wildlife Habitat Corridor' the BDAR refers to several conservation reserves that exist and form part of the corridor, and mentions that the subject site occurs within the southern portion of the corridor and is the "more fragmented portion of the corridor, with large areas of intact bushland interspersed with large areas of cleared land". **5**

The subject site is part of a recognised important wildlife corridor. According to the NSW Department of Planning and the Environment, the "Southeast and Tablelands Regional Plan Corridors were mapped by refining connectivity models for a range of fauna species, through a process of on ground validation and local knowledge. Local experts who contributed to the final map include staff from all local governments within the planning region, LLS, and National Parks staff." **6**

The screenshot below showing the corridor and recorded koala sightings from NSW SEED, with approximate site location, indicates the connectivity. **7** Sightings, however, can only be taken as a guide. With additional surveys using more diverse survey techniques, the number and range of koalas may exceed what is shown in SEED.



The Niche Biodiversity Offsets Assessment report has not been updated since 2018. It does not list the koala in Table 5 Threatened fauna predicted to occur within the Development Site, although SEED records sightings. The same Table 5 lists the Gang Gang Cockatoo as Vulnerable when it has been listed as Endangered since March 2022.

The Executive Summary of the Environmental Impact Statement concludes “The Proposal would also not impact known or potential Koala populations” ignoring the local community findings and SEED records.

The National Recovery Plan for the Koala published in March 2022 states that “Land use policy and practices causing the loss, modification, and fragmentation of native vegetation cover is considered the most threatening of processes for decline in global biological diversity and is currently a significant threat to Koala populations in Australia”. **8**

The NSW Koala Strategy refers to a number of key areas where initiatives to help koalas are important which includes the Southern Highlands. It is important, therefore, to see past any bias in the BDAR and to see not only the importance of the subject site but also the potential for habitat regeneration and reconnection. For example, the Hume Highway may intersect the area to the south, but with the use of fauna fencing and under/ over passes koalas may still be able to roam their usual territory. **9**

The likely impacts of this proposal on koalas and other wildlife

The satellite image below **10** clearly shows that the approximate location of the project site falls within a native forest area bisected by the highway (which can be connected with one or more wildlife crossings and fauna fencing). There has already been some clearing to the south of the site so any further clearing, plus additional stressors from clearing and extraction operations, could be detrimental to the success of the wildlife corridor.

The key impacts from this project proposal include:

* Habitat clearance activities destroying feed and shelter trees;

* Habitat loss increasing the edge effect and causing koalas to roam wider for feed trees and mating;

* Noise and dust pollution from the extraction operations and from dispatching material using road haulage;

* Increased chemical pollution from the extra traffic the road haulage vehicles will cause on the Hume Highway, and potentially pollution they bring on site.

Looking at some of these impacts in more detail indicates the potential outcomes for koalas located in this area:

Human generated environmental stressors increasing disease and mortality in koala populations

A 2019 study by Dr Edward Narayan of the Western Sydney University Narayan found a correlation between environmental stress, stress hormone levels and their overall health. Wild koala sub populations with less risk of dog attacks, bush fires and habitat clearance had significantly lower levels of faecal glucocorticoid metabolites (FGMs) and were not presenting physical signs of disease; FGMs being a non-invasive biomarker to quantify physiological stress. A number of earlier studies have suggested that stress weakens the immune system in marsupials, exacerbates infections and can limit breeding potential. **11** Hing et al (2014) state “it is important to consider associations between stress and reproduction for the sustainability of free-ranging populations”. **12**

Wildlife corridors, habitat fragmentation and population viability

Any potential genetic connections between koala populations using this wildlife corridor may be important for their ability to adapt to climate change via allelic richness. As populations become more isolated due to habitat fragmentation and other stressors, their viability as a population in human-impacted landscapes drastically decreases. **13, 14**

Noise as an environmental stressor and how noise can impact the lifecycles of koalas and other wildlife

Studies on captive koalas have shown that koalas can become hypervigilant to human presence and activities rather than becoming desensitised. **15**. If the same response can be expected by koalas living in urban areas or where there is sudden human activity, operations such as the proposed sand

extraction may increase stress levels in local koala populations which in turn could reduce disease resistance, reduce fertility and increase mortality.

A 2019 meta analysis of more than 100 studies on the impact of noise pollution on wildlife has found that noise may affect communication, distribution, foraging or homeostasis of organisms. **16** The ability to hear male koalas bellow is important for koala reproduction. Female koalas can detect physical clues from a bellow with the more successful males generally being bigger and heavier. A female can travel up to 500 metres out of their normal home range to reach the male. **17**

Increased vehicle movements, the road traffic effect, air pollution and climate change

While development applications generally look at pollution readings on site, it is important to recognise how any increase in road haulage may increase levels of pollution in the road effect zone of haulage routes. An increase in vehicles on the road will also add to air pollution associated with the volume of traffic and the wear and tear of vehicles and road surfaces.

The road effect zone, i.e. the area on each side of the road where pollution (noise, light, chemical), disturbance effects (such as turbulence) and habitat modification, impacts adjacent land. Although there are a number of characteristics that determine the size of the road effect zone, **18** it is generally accepted that for busy main roads the road effect zone can be 500m or more on each side although pollution generally decreases with distance from the road. Roadside dust can contain metals such as copper, cadmium, lead, antimony and zinc. **19** Habitats can be sensitive to airborne Nitrogen oxides (NOx), sulphur dioxide (SO2) and ammonia (NH3), as well as to nitrogen deposition and acid deposition. Transport is known to be the single largest source of NOx emissions. **20**

A lack of investigation for the potential edge effects of dust on wildlife and flora could have dire consequences. Dust affects animals who not only breathe in the material, but ingest it while eating foliage so that it prevents effective digestion. The dust is also known to affect the health of vegetation and prevents the production of chlorophyll.

At a time when Climate Change is becoming more recognised as an issue in Australia, threatening the survival of native species such as the koala, **21** and increasing the frequency and severity of flood events **22**, we suggest that additional road haulage truck movements resulting from journeys to and from this site should be discouraged.

Wildlife corridor considerations

For the Cumberland Plain Conservation Plan, guidance provided by the Office of the NSW Chief Scientist & Engineer **23** recommended that:

• koala corridors in the CPCP Area be expanded to an average minimum width of 390-425 metres, including a buffer within the corridor. Buffers reduce the direct and indirect impacts from humans, such as noise and light, and

• buffers within the koala corridors be at least 30 metres wide if a koala exclusion fence is installed between the urban area and the habitat corridor. The buffer should be 60 metres wide if a koala exclusion fence is not able to be installed.

These guidelines suggest the importance of much wider wildlife corridors than some amelioration or mitigation measures allow for. It could also be taken to show how valuable the existing wildlife corridor is in its current state.

Legislative loophole or exaggerated claim?

Given the Endangered classification of koalas, the presence of other threatened species, the recognition of the importance of the wildlife corridor, Australia's need to protect more habitat in its 30x30 pledge (despite currently doing the opposite), how can this project be permissible?

The applicant claims the proposal should go ahead by virtue of sub clause 2.9(3) of the State Environmental Planning Policy (Resources and Energy) 2021 as the landowner is currently grazing a 'small number' of dry stock cattle on the south-eastern part of the study area. **24** The applicant states that agriculture is defined under the Standard Instrument – Principal Local Environmental Plan to mean either of the following, yet these definitions suggest something on a much larger scale:

(a) aquaculture,
(b) extensive agriculture,
(c) intensive livestock agriculture,
(d) intensive plant agriculture.

If this proposal meets sub clause 2.9(3), we believe that it is important to undertake current and detailed studies of koalas living in moving through the study site and wider areas before any approval is given. Suitable attention also needs to be given to the importance of scattered trees, least-cost path analysis and possible avoidance of any corridors. **25**

Conclusion

The proposal will have a significant impact on a known important wildlife corridor through causing disruption to the corridor through intended habitat fragmentation, that will impact on the viability of the local population of at least one endangered species ie koala.

The proposal should be refused due to numerous likely significant impacts, including:

- Human generated environmental stressors increasing disease and mortality in koala populations.
- Noise as an environmental stressor and how noise can impact the lifecycles of koalas and other wildlife.
- Lack of investigation for potential edge effects of dust.
- Increased vehicle movements, the road traffic effect, air pollution and climate change.

The documentation is lacking, and further investigation is required, on numerous issues, including:

- Insufficient ecological studies.
- Unacceptable levels of noise, dust, increased vehicle movements, lighting, resulting in increased air pollution, noise, traffic movement and the decline of biodiversity.
- Insufficient consideration of avoidance and mitigation efforts.
- Insufficient consideration of cumulative and combined impacts on threatened wildlife.
- Insufficient mitigation efforts regarding climate change.
- Insufficient commitment to reducing greenhouse gas emissions.
- Lack of justification that the proposal is an ecologically sustainable project.

In conclusion, the Sutton Forest sand quarry proposal is likely to have a significant impact on biodiversity and therefore is not in the public interest and should not be approved.

References

1 EMM (2023) Appendix A: Updated project description: J200692 - Sutton Forest Sand Quarry - Amendment Report v3, p. A5 (https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6334%2120231003T224542.171%20GMT)

2 EMM (2023) Appendix A: Updated project description: J200692 - Sutton Forest Sand Quarry - Amendment Report v3, p. A2 (https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6334%2120231003T224542.171%20GMT)

3 EMM (2023) Appendix A: Updated project description: J200692 - Sutton Forest Sand Quarry - Amendment Report v3, p. A7 https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6334%2120231003T224542.171%20GMT

4 Biosis (2023) Appendix H: Biodiversity development assessment, p. 12 https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6334%2120231003T224535.703%20GMT

5 Biosis (2023) Appendix H: Biodiversity development assessment, p. 13 https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6334%2120231003T224535.703%20GMT

6 NSW Department of Planning and the Environment, Southeast and Tablelands Regional Plan Corridors Research Data https://researchdata.edu.au/southeast-tablelands-regional-plan-corridors/1342812

7 NSW SEED portal (Sharing and Enabling Environmental Data) https://geo.seed.nsw.gov.au/Public_Viewer/index.html?viewer=Public_Viewer&locale=en-AU

8 DAWE (2022) National Recovery Plan for the Koala: Phascolarctos cinereus (combined populations of Queensland, New South Wales and the Australian Capital Territory), p. 67, accessible via https://www.legislation.gov.au/Details/F2022L00555

9 NSW Office of the Environment and Heritage (2018) NSW Koala Strategy, https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Threatened-species/nsw-koala-strategy-18250.pdf

10 Satellite Pro satellite image.https://satellites.pro/Australia_map#-34.613714,150.192204,14 (Accessed 2nd December 2023)

11 Narayan, Edward (2019) physiological stress levels in wild koala sub-populations facing anthropogenic induced environmental trauma and disease, Scientific Reports, 9, article no: 6031

12 Hing, Stephanie, Narayan, Edward, Thompson, R.C. Andrew, and Godfrey, Stephanie (2014) A review of factors influencing the stress response in Australian marsupials, Conservation Physiology, 2 (1) article no: cou027

13 Frère, C. H., O'Reilly, G. D., Strickland, K., Schultz, A., Hohwieler, K., Hanger, J., de Villiers, D., Cristescu, R., Powell, D., & Sherwin, W. (2023). Evaluating the genetic consequences of population subdivision as it unfolds and how to best mitigate them: A rare story about koalas. Molecular Ecology, 32, 2174–2185. https://doi.org/10.1111/mec.16877

14 Tiang, D.C.F., Morris, A., Bell, M. et al. (2021) Ecological connectivity in fragmented agricultural landscapes and the importance of scattered trees and small patches. Ecol Process 10, 20 https://doi.org/10.1186/s13717-021-00284-7

15 Larsen, M. J., Sherwen, S. L., and Rault, J.-L. (2014) Number of nearby visitors and noise level affect vigilance in captive koalas, Applied Animal Behaviour Science 154 (2014) pp. 76–82, http://dx.doi.org/10.1016/j.applanim.2014.02.005

16 Kunc, H.P.; and Schmidt, R. (2019) The effects of anthropogenic noise on animals:a meta-analysis.Biol. Lett.15: 20190649.http://dx.doi.org/10.1098/rsbl.2019.0649

17 Back, A. (2011) Koalas' brutish bellows are all for love, Australian Geographic, 25th Febraury 2011. https://www.australiangeographic.com.au/news/2011/02/koalas-brutish-bellows-are-all-for-love/

18 van der Ree, R., Smith, D. j., and Grilo, C. (2015) The ecological effects of linear infrastructure and traffic: challenges and opportunities of rapid global growth, in van der Ree, R. (Ed), Handbook of Road Ecology, John Wiley and Sons

19 Phillips, BB, Bullock, JM, Gaston, KJ, et al. Impacts of multiple pollutants on pollinator activity in road verges. J Appl Ecol. 2021; 58: 1017–1029. https://doi.org/10.1111/1365-2664.13844 , p 1018

20 Ricardo AEA (2016) Natural England Commissioned Report NECR199: The ecological effects of air pollution from road transport: an updated review 2016 Foreword.

21 IUCN (2009) Press Release: Species on climate change hit list named, https://www.iucn.org/content/species-climate-change-hit-list-named-0

22 Adapt NSW (2022) Climate change impacts on storms and floods, accessed via https://www.climatechange.environment.nsw.gov.au/storms-and-floods

23 NSW DPE (2022) New expert advice on koala corridors, accessed via https://www.planning.nsw.gov.au/sites/default/files/2023-03/cpcp-new-expert-advice-on-koala-corridors-fact-sheet.pdf

24 Biosis (2022) Referral: Sutton Forest Sand Quarry Application Number: 01315 Commencement Date: 08/07/2022, EPBC Act Public Portal accessed via https://epbcpublicportal.awe.gov.au/_entity/sharepointdocumentlocation/33631f6a-3553-ed11-9562-00224818a6e7/2ab10dab-d681-4911-b881-cc99413f07b6?file=00-2022-09313%20Referral.pdf

25 Tiang, D.C.F., Morris, A., Bell, M. et al. (2021) Ecological connectivity in fragmented agricultural landscapes and the importance of scattered trees and small patches. Ecol Process 10, 20 https://doi.org/10.1186/s13717-021-00284-7 p. 1