Australian Bushfire ASSESSMENT CONSULTANTS

> Design & Assessment of Development in Bushfire Prone Areas
> Bushfire Risk Assessment & Management Plans
> Bushfire Evacuation Plans
> Building Solutions Advice for Bushfire Prone Areas

PO Box 34 FORSTER NSW 2428

Level 1 Building Q – Head Street Car Park
Head Street Forster 2428

Phone (02) 6555 5522

15 August 2025

Taronga Conservation Society Australia

Attention: **Rebecca White**
Senior Project Manager

Our Ref: 22442

Email: rwhite@zoo.nsw.gov.au

Dear Rebecca,

Taronga Zoo Sky Safari

I refer to our discussions in relation to the above matter.

You have requested that we review the correspondence from the NSW Rural Fire Service (RFS) dated 30 May 2025 (titled *Development Application; State Significant Development – Response to Submissions – Animal boarding establishments; Taronga Zoological Park 2A Bradleys Head Road Mosman NSW 2088, 22//DP843294*).

The RFS correspondence sets out their recommended conditions in relation to the proposal.

The table in the Annexure to this correspondence sets out suggested changes to the RFS' recommended conditions for the reasons outlined in the table.

Please let me know if you have any questions in relation to this matter.

Yours faithfully,

SIMON CARROLL
Graduate Diploma in Design for Bushfire Prone Areas
Graduate Diploma in Building Fire Safety & Risk Engineering
Bushfire Planning and Design Accredited Practitioner Level 3 – NSW
Accreditation Number BPAD9326

ANNEXURE

	RFS Recommended Conditions: Amended 30 May 2025	Comments / Suggested Changes
1	At the commencement of building works, and in perpetuity, the property around the pylons and along the elevated cable car route, located between the lower and upper stations, for a distance of 5 metres (either side of the proposed pylons), must be managed as an inner protection area (IPA) in accordance with the following requirements of Appendix 4 of Planning for Bush Fire Protection 2019: • tree canopy cover should be less than 15% at maturity; • trees at maturity should not touch or overhang the building; • lower limbs should be removed up to a height of 2m above the ground; • tree canopies should be separated by 2 to 5m; • preference should be given to smooth-barked and evergreen trees; • create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided; • shrubs should not be located under trees; • shrubs should not form more than 10% ground cover; • clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation; • grass should be kept mowed (as a guide, grass should be kept to no more than 100mm in height); and, • leaves and vegetation debris should be removed.	Suggest that RFS recommended condition 1 be amended to clarify that only the area for a radius of 5 metres around pylons is required to be maintained as an IPA. The main intent of APZ measures is to manage fuel loads at the base of the pylons, and maintenance of shrubs, ground covers and grasses will only be relevant to the land within a 5 metre radius of the base and lower part of the pylons. Given the height of the pylons, another consideration is potential for parts of any trees to touch or overhang pylons. The inclusion of a requirement that trees be managed so that they do not touch or overhang any pylons (point (b) in the amended condition) will ensure that there is no potential for any vegetation to contact any part of the pylon(s), with amended wording of the condition suggested to be along the lines of the following: *At the commencement of works, and in perpetuity, the property around the pylons for a radius of 5 metres from any pylon(s), must be managed as an inner protection area (IPA) in accordance with the following requirements of Appendix 4 of Planning for Bush Fire Protection 2019.* *(a) tree canopy cover in the IPA should be less than 15% at maturity;* *(b) trees at maturity should not touch or overhang any pylon(s);* *(c) lower limbs of any trees in the IPA should be removed up to a height of 2m above the ground;* *(d) tree canopies in the IPA should be separated by 2 to 5m;* *(e) preference should be given to smooth-barked and evergreen trees;* *(f) create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards any pylon(s);* *(g) shrubs should not be located under trees;* *(h) shrubs should not form more than 10% ground cover in the IPA;* *(i) grass should be kept mowed (as a guide, grass should be kept to no more than 100mm in height); and* *(j) leaves and vegetation debris should be removed.*
2	Proposed construction of the cable car Pylons and structural supports etc of the lower and upper stations, as well as storage and maintenance buildings, must be undertaken using non-combustible materials only and achieving a Fire Resistance Level (FRL) of 30/-/-.	The architectural plans identify that not all materials of construction proposed for the top and bottom station buildings are to be non-combustible. It is understood that those buildings have been designed to incorporate materials which can achieve FRL 30/-/-. All pylons are to be constructed of non-combustible material. The materials of construction for any storage and maintenance buildings will be subject to fire-resisting construction provisions in Part C of Volume 1 of the National Construction Code (Building Code of Australia). Given the above, suggest that RFS recommended condition 2 be replaced with wording along the lines of recommendations (A) and (B) of revised bushfire assessment (April 2025). Wording to be: *The support pylons for the Taronga Zoo Sky Safari project are to be constructed of non-combustible material.* *The structural elements for the proposed upper and lower entrance stations are to be of construction materials capable of achieving a Fire Resistance Level (FRL) of 30/-/- (noting that this will only apply if any other project requirements for fire-resisting construction are lesser).*
3	The provision of new water, electricity and gas, must comply with the following in accordance with Table 7.4a of Planning for Bush Fire Protection 2019: • reticulated water is to be provided to the development; • fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2021; • fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2021; • all above-ground water service pipes external to the dwelling are metal, including and up to any taps; • where practicable, electrical transmission lines are underground; • where overhead, electrical transmission lines are proposed as follows:	Suggest that this condition be deleted, as the condition is related to residential type proposals (note reference to 'dwelling' in fourth dot point). The proposed development is likely to utilise only existing electricity infrastructure. No water is likely to be required to the development except possibly for amenities in upper and lower stations. The revised Bushfire assessment report (April 2025) notes that the proposal will be subject to a separate assessment (by others) in relation to applicability of the NCC/BCA. This includes fire services, hydrants and any other structural/building fire safety measures for the purposes of Part E of Vol 1 of the NCC/BCA.

RFS Recommended Conditions: Amended 30 May 2025		Comments / Suggested Changes
	• lines are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas; and • no part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines.	
4	Landscaping within the required asset protection zone, must comply with Appendix 4 of Planning for Bush Fire Protection 2019. In this regard, the following principles are to be incorporated: • A minimum 1 metre wide area (or to the property boundary where the setbacks are less than 1 metre), suitable for pedestrian traffic, must be provided around the immediate curtilage of the pylons and lower and upper stations; • Planting is limited in the immediate vicinity of the structures and buildings; • Planting does not provide a continuous canopy to the building (i.e. trees or shrubs are isolated or located in small clusters); • Landscape species are chosen to ensure tree canopy cover is less than 15% (IPA), and less than 30% (OPA) at maturity and trees do no touch or overhang buildings; • Avoid species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopies; • Use smooth bark species of trees species which generally do not carry a fire up the bark into the crown; • Avoid planting of deciduous species that may increase fuel at surface/ ground level (i.e. leaf litter); • Avoid climbing species to walls and pergolas; • Locate combustible materials such as woodchips/mulch, flammable fuel stores away from the building; • Locate combustible structures such as garden sheds, pergolas and materials such as timber garden furniture away from the building; and, • Low flammability vegetation species are used.	It is noted that the original RFS condition of 8 October 2024 was: *A plan for landscaping and any revegetation of the site should be prepared in consultation with an accredited bushfire consultant with the intent of reducing ember ignition and fire spread.* Suggest change to this condition to be closer to wording of original RFS condition of 8 October 2024 and in line with the wording in recommendation (D) of revised bushfire assessment (April 2025), that is: *Any plan for landscaping and revegetation within any areas associated with the Sky Safari project should be prepared in consultation with an accredited bushfire consultant and should address (in order of priority):* *(i) compatibility with animal welfare, and maintenance of habitat and containment requirements in any within any exhibit areas under, or directly adjacent to, any part of the Taronga Zoo Sky Safari project; and* *(ii) Taronga Zoo's own horticulture and public safety requirements; and* *(iii) the principles of Appendix 4 of Planning for Bushfire Protection 2019.*
5	Bush Fire Emergency Management and Evacuation Plan, must be prepared consistent with the: • NSW RFS document: A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan; and Planning for emergencies in facilities; Australian Standard AS 3745:2010; and, • The Bush Fire Emergency Management and Evacuation Plan, must include planning for the early relocation of occupants and a copy should be provided to the Local Emergency Management Committee for its information prior to occupation/use of the development. In addition Emergency management and response procedures, for the overall Zoo site are to be updated, to clearly document shut down and evacuation procedures for the Sky Safari project in the event of a bushfire and Taronga Zoos own horticultural and safety requirements.	Suggest that this condition be amended to be in line with recommendation (C) of revised bushfire assessment (April 2025), that is: *The Taronga Zoo Emergency Response Plan is to be updated to include the proposed Sky Safari and is to include shut down and evacuation procedures for the Taronga Zoo Sky Safari project in any bushfire event* The Taronga Zoo site is subject to a range of emergency management procedures. The existing emergency management procedures for the Zoo, which also include a range of potential events unrelated to bushfire, include measures for the evacuation and relocation of patrons generally. The wording of a condition as suggested above is consistent with wording for recent SSDA projects in TZ.