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# **Abbreviations**

BAM Biodiversity Assessment Method

BC Act NSW Biodiversity Conservation Act 2016

BDAR Biodiversity Development Assessment Report

BMP Biodiversity Management Plan

BOS NSW Biodiversity Offset Scheme

CEMP Construction Environmental Management Plan

DPE NSW Department of Planning and Environment

EEC Endangered Ecological Community

EPA NSW Environment Protection Authority

EP&A Act NSW Environmental Planning and Assessment Act 1979

EPBC Act Commonwealth Environment Protection and Biodiversity Conservation Act 1999

FM Act NSW Fisheries Management Act 1994

Ha Hectares

MNES Commonwealth Matters of National Environmental Significance

NSW New South Wales

PCT Plant Community Type

SAII Serious and Irreversible Impact

TEC Threatened Ecological Community

# 1 Introduction

### 1.1 Purpose and objectives

This Biodiversity Management Plan (BMP) is a sub-plan of the Construction Environmental Management Plan (CEMP) for the Jindabyne Education Campus project (the Project). Construction of the Jindabyne Education Campus comprises a new primary school and a new high school at Jindabyne.

The purpose of this BMP is to describe how impacts on flora and fauna associated with the project will be managed throughout the duration of the construction of the project. Works are to be implemented in accordance with the mitigation measures and management strategies contained within this sub-plan.

The project's likely potential impacts to flora and fauna have been assessed within the Biodiversity Development Assessment Report (BDAR) (WSP 2022) and in assessment of modification 1. The BDAR and assessment of modification 1 confirmed the likely potential for impacts to flora and fauna to occur during the project's construction. However, it concluded that providing the identified mitigation and management strategies are implemented, any residual impacts related to the proposed works would not be significant. This sub-plan applies to all aspects of flora and fauna management for the project, during the construction phase of the project.

The objectives of the BMP sub-plan include:

- ensure controls and procedures are implemented during construction activities to avoid, minimise or manage potential adverse impacts to flora and fauna within and adjacent to the project
- to describe the measures to be implemented to minimise flora and fauna impacts
- ensure appropriate measures are implemented to address the relevant Conditions of Consent (CoC)
- ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 4 of this plan.

### 1.2 Conditions of consent

Table 1.1 outlines the conditions of consent for the project (SSD-15788005-Mod-1) under B21 that are addressed within this BMP.

Table 1.1 Conditions of Consent relevant to the Biodiversity Management Plan

coc	Condition	Associated management procedure
CoC B21a	Be prepared by a suitably qualified and experienced person/s	This Plan, Section 1.4
CoC B21b	Identify areas of land where impacts on biodiversity are to be avoided as outlined in the Biodiversity Development Assessment Report (BDAR) prepared by WSP Australia Pty Ltd and dated July 2022 and set out how these areas will be protected from construction impacts	This Plan, Section 4.1
CoC B21c	Set out the measures identified in the BDAR to minimise, mitigate and manage impacts on biodiversity, including timing and responsibility for delivery of the measures	This Plan, Section 4.2

### 1.3 Site location

The site of the proposed new education campus at Jindabyne is located within the western extent of the existing Jindabyne Sport and Recreation Centre at 207 Barry Way (101 DP1019527). The site is located within the Snowy Monaro Regional local government area and is approximately 2.2 km south of the Jindabyne town centre.

The majority of the site is undeveloped and contains maintained grasslands and scattered trees. Much of the surrounding land comprises remnant grassland, woodland and agricultural land.

### 1.4 Biodiversity Management Plan preparation

This Biodiversity Management Plan has been prepared based on the Biodiversity Development Assessment Report (WSP 2022) by personnel as outlined in Table 1.2.

Table 1.2 Personnel

Name	Role	Qualifications
Toby Lambert	Technical Executive, Ecology Team Leader - technical review	Bachelor of Environmental Science Accredited BAM Assessor
Selga Harrington	Regional Team Manager, Ecology South – report preparation including technical review.	Bachelor of Science (Hons) Accredited BAM Assessor
Lucy Gill	Graduate Ecologist – report preparation	Bachelor of Environmental Science and Management (Hons)

# 2 Environmental requirements

## 2.1 Legislation

Legislation relevant to flora and fauna management includes:

- Environment Protection and Biodiversity Conservation Act 1999
- NSW Environmental Planning and Assessment Act 1979
- National Parks and Wildlife Act 1974
- Biodiversity Conservation Act 2016
- Biosecurity Act 2015
- Pesticides Act 1999.

Relevant provisions of the above legislation that applies to ecological management and conservation are detailed in Table 2.1.

Table 2.1 Principal legislation and regulation

Legislation and regulation	Relevance		
Environment Protection and Biodiversity Conservation Act 1999	Under the EPBC Act, a person must not take an action that has, or will have, or is likely to have a significant impact on any matter of national environmental significance (MNES) without approval from the Federal Minister.		
NSW Environmental Planning and Assessment Act 1979	Provides for project environmental assessment and approval.		
National Parks and Wildlife Act 1974	The Act and regulation provision for the protection and conservation of habitat, ecosystems, ecosystem processes, and biological diversity.		
Biodiversity Conservation Act 2016	This Act provides framework to avoid, minimise and offset the impacts of proposed development and land use change on biodiversity. Under this Act, it is an offence to:  — damage habitat of threatened species or ecological community  — picking a plant that is a threatened or protected species, or part of a threatened ecological community  — harm animals that is a threatened or protected species, or part of a threatened ecological community.		
Biosecurity Act 2015	The Act and regulation provision to establish biosecurity zones within Australia to monitor, control and respond to pests and diseases.		

Legislation and regulation	Relevance
Pesticides Act 1999	This Act promotes the protection of human health, environment, property and trade in relation to the use of pesticides. It is an offence under the Act to:  — use a pesticide that harms or damages a person or property, a non-target animal or plant  — use a pesticide that harms a threatened species or protected animal  — possess or use an unregistered pesticide without a permit, or contrary to the approved label  — fail to comply with the label or permit while using a pesticide  — keep a registered pesticide in a container without a label  — possess or use a restricted pesticide without authorisation
	<ul> <li>EPA may make pesticide control orders which prohibit use or possession of restricted pesticides.</li> </ul>
	Removal and treatment of weeds within the project site must be in accordance with this act.

### 2.2 Guidelines and standards

Table 2.2 lists the non-statutory guidelines, standards and recovery plans that are relevant to this plan.

Table 2.2 Guidelines and standards

#### Guidelines and standards

#### Codes of Practice

NSW Department of Planning, Industry and Environment. 2018. Code of Practice for injured, sick and orphaned macropods.

NSW Department of Planning, Industry and Environment. 2021. Code of Practice for injured, sick and orphaned possums and gliders.

Office of Environment & Heritage (OEH). 2011. Code of Practice for injured, sick and orphaned protected fauna.

#### Disease

NSW Government, Department of Planning, Industry and Environment. Saving our Species (SoS). 2020. Hygiene guidelines – protocols to protect priority biodiversity areas in NSW from *Phytophtora cinnamomi*, myrtle rust, amphibian chytrid fungus and invasive plants.

#### Relevant recovery plans, priority action statements and best practice guidelines

BirdLife Australia. 2020. Temperate Woodland Bird Conservation Action Plan.

Department of Agriculture and Water Resources. 2017. Australian Pest Animal and Weed Strategy 2017-2027.

Department of Agriculture, Water and the Environment. 2021. Conservation advice for *Leucochrysum albicans subsp. Tricolor* (Hoary Sunray).

Department of Climate Change, Energy, the Environment and Water. 2007. Introducing the NSW threatened species priorities action statement (PAS), DECC NSW.

Department of Climate Change, Energy, the Environment and Water. 2008. Approved Conservation Advice for Calotis glandulosa (Mauve Burr-daisy).

#### Guidelines and standards

Department of Environment, Climate Change and Water. 2010. National recovery plan for *Prasophyllum petilum*. DECCW (NSW), Hurstville.

Invasive Plants and Animals Committee. 2016. Australian Weeds Strategy 2017 to 2027, Australian Government Department of Agriculture and Water Resources, Canberra.

National Parks and Wildlife Service. 2003. Management of native birds that show aggression to people.

Sinclair, S.J. 2010. National Recovery Plan for the Hoary Sunray *Leucochrysum albicans var. tricolor*. Department of Sustainability and Environment, Melbourne.

# 3 Existing environment

The following section is a summary of that described in detail in the BDAR (WSP 2022).

### 3.1 Site description

The site of the proposed new education campus at Jindabyne is located within the western extent of the existing Jindabyne Sports and Recreation Centre at 207 Barry Way (101 DP1019527). The site is located within the Snowy Monaro Regional local government area and is approximately 2.2km south of the Jindabyne town centre. The majority of the site is undeveloped and contains maintained grasslands and scattered trees. Much of the surrounding land comprises remnant grassland, woodland and agricultural land.

### 3.2 Vegetation and threatened ecological communities

Only one Plant Community Type (PCT) occurs in in the subject land, Snow Gum – Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion (PCT 1191).

This PCT is part of the Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion as listed as Critically Endangered under the BC Act. This Threatened Ecological Community (TEC) is identified as a threatened entity at risk of a Serious and Irreversible Impact (SAII).

Trees may be absent from this TEC as a consequence of tree removal under pastoral management and grazing by domestic stock. As such, areas of derived native grassland corresponding to PCT 1191 within the subject land are considered to be part of this TEC.

There were also areas of non-native vegetation that were classed as Miscellaneous ecosystems (exotic trees/shrubs). A list of exotic species and weeds recorded on site is provided in Table 3.3 in Section 3.4.

# 3.3 Threatened and migratory species

#### 3.3.1 Flora

Table 3.1 outlines the threatened plant species have potential habitat on site (PCT1191) and may be present:

Table 3.1 Threatened flora species

Scientific name	Common name	BC Act status	EPBC Act status
Calotis glandulosa	Mauve Burr-daisy	Vulnerable	Vulnerable
Leucochrysum albicans var. tricolor	Hoary Sunray		Endangered
Prasophyllum petilum	Tarengo Leek Orchid	Endangered	Endangered
Swainsona sericea	Silky Swainson-pea	Vulnerable	-
Thesium australe	Austral Toadflax	Vulnerable	Vulnerable

#### 3.3.2 Fauna

No threatened fauna species were detected on site, however the site contains a number of hollow-bearing trees which provide important habitat for fauna including threatened species. Threatened species that may use these hollows and migratory species that may occur on site are outlined in Table 3.2.

The project area does not contain any large stick nests that would be appropriate for use by raptor species. However, there is a Little Eagle nest located outside the project area, approximately 220 metres to the north-west.

There are no threatened fauna species SAII entities that would be affected by the project.

Table 3.2 Threatened fauna and migratory species

Common name	Scientific name	BC Act status	EPBC Act status	Likelihood			
Common name	Scienting name	DC ACI Status	EFBC ACT Status	Likelinood			
Migratory Marine Birds							
Fork-tailed Swift	Apus pacificus		Marine, Migratory	Moderate			
Migratory Terrestrial Species							
White-throated	Hirundapus	-	Vulnerable, Migratory	Moderate			
Needletail	caudacutus						
Satin Flycatcher	Myiagra cyanoleuca	70	Migratory	High			
Birds							
Gang-gang Cockatoo	Callocephalon	Vulnerable	Endangered	Moderate. Potential			
	fimbriatum			habitat available on site			
Mammals							
Eastern Pygmy-	Cercartetus nanus	Vulnerable		Moderate. Potential			
possum				habitat available on site			

# 3.4 Exotic species and weeds

Exotic species and High Threat Weeds were present within the project area. A total of 24 introduced species of plant were recorded within the project area, including 5 species of High Threat Weeds (Table 3.3).

Table 3.3 Exotic and weed species recorded within project area

Status	Scientific name	Common name	Biosecurity duty
High Threat	Bromus diandrus	Great Brome	General Biosecurity Duty - prevent, eliminate or minimise spread
Weeds	Crataegus monogyna	Hawthorn	General Biosecurity Duty – prevent, eliminate or minimise spread
	Rumex acetosella	Sheep Sorrel	General Biosecurity Duty – prevent, eliminate or minimise spread
	Hypericum perforatum St Johns Wart		General Biosecurity Duty – prevent, eliminate or minimise growth  Regional Recommended Measure – land managers
			should mitigate spread, plant should not be bought, sold, grown or released into the environment

Status	Scientific name	Common name	Biosecurity duty		
	Pyracantha sp.	Firethorn	General Biosecurity Duty – prevent, eliminate or minimise spread		
Exotic	Bromus hordeaceus	Soft Brome	Due diligence – prevent spread where possible		
species	Petrorhagia nanteuilii		Due diligence – prevent spread where possible		
	Echium plantagineum	Paterson's Curse	General Biosecurity Duty - prevent, eliminate or minimise spread		
	Avena barbata	Bearded Oats	Due diligence – prevent spread where possible		
	Arenaria leptoclados	Lesser Thyme-leaved Sandwort	Due diligence – prevent spread where possible		
	Verbascum thapsus	Great Mullein	Due diligence – prevent spread where possible		
	Hirschfeldia incana	Shortpod Mustard	Due diligence – prevent spread where possible		
	Trifolium arvense	Haresfoot Clover	Due diligence – prevent spread where possible		
	Vulpia myuros	Rat's Tail Fescue	Due diligence – prevent spread where possible		
	Taraxacum officinale	Common Dandelion	Due diligence – prevent spread where possible		
	Hordeum leporinum	Wall Barley	Due diligence – prevent spread where possible		
	Hypochaeris radicata	Flatweed	Due diligence – prevent spread where possible		
	Cirsium vulgare	Spear Thistle	General Biosecurity Duty – prevent, eliminate or minimise spread		
	Erodium cicutarium	Common Stork's-bill	Due diligence – prevent spread where possible		
	Plantago lanceolata	Ribwort Plantain	Due diligence – prevent spread where possible		
	Potentilla recta	Sulphur Cinquefoil	Due diligence – prevent spread where possible		
	Lolium perenne	Perennial Ryegrass	Due diligence – prevent spread where possible		
	Salvia coccinea	Scarlet Sage	Due diligence - prevent spread where possible		
	Marrubium vulgare	Horehound	General Biosecurity Duty – prevent, eliminate or minimise spread		

## 3.5 Impacts and offsets

Direct impacts on biodiversity identified for the project include:

- clearing of native vegetation, consistent with Critically Endangered Ecological Community (Table 3.4)
- clearing of fauna habitat and areas connecting threatened species habitat, such as movement corridors
- impacts to fauna from vehicle strikes.

Table 3.4 Impacts to threatened ecological community

Threatened ecological community	Area (ha) in development site
Monaro Tableland Cool Temperate Grassy Woodland in the	2.2 ha total consisting of:
South Eastern Highlands Bioregion	— 0.75 ha of woodland
	— 1.46 ha of derived grassland.

In addition to the direct impacts of the project, a number of indirect impacts were identified including:

- reduced viability of adjacent habitat due to edge effects
- reduced viability of adjacent habitat due to noise, dust or light spill
- transport of weeds and pathogens from the site to adjacent vegetation
- loss of breeding habitat provided by hollow bearing trees
- trampling of threatened flora species
- rubbish dumping
- wood collection
- removal and disturbance of rocks, including bush rock.

# 4 Mitigation measures

### 4.1 Avoidance

The Biodiversity Development Assessment Report (BDAR) assessed the impacts to biodiversity and provided credit calculation to offset the project. An application for payment into the Biodiversity Conservation Fund was submitted to fulfil the offset obligation for the project.

Clearing of native vegetation must not occur outside the area assessed for clearing in the BDAR and modification 1 as shown in Figure 4.1. Native vegetation clearing must be less than 2.2 ha total and consisting of:

- less than 0.75 ha of woodland
- less than 1.46 ha of native derived grassland.

The land where impacts on biodiversity are to be avoided are shown in Figure 4.1. Temporary construction fencing is required around these areas to protect biodiversity during construction.

## 4.2 Mitigation measures

The environmental management approach has been developed to be consistent with the regulatory requirements for management of biodiversity impacts, identified as likely to be encountered during the construction and operational phases of the project. Specific measures and requirements to address impacts on flora and fauna are outlined in Table 4.1.

Table 4.1 Mitigation and management measures

Mitigation measure (action)	Timing	Responsibility	Source of requirement
Nest boxes will be provided to minimise habitat loss to hollow-bearing fauna (and species that may be living in the buildings) in accordance the following requirements:  — hollow-bearing trees will be marked/tagged and mapped in a pre-clearing survey.  — the size, type, number and location of nest boxes required will be based on the results of the pre-clearing survey.  Twenty-seven hollow-bearing trees were identified within the modified development footprint. A minimum of seventy per cent of nest boxes will be installed prior to any hollow-bearing vegetation removal, with all nest boxes to be installed within six months from the date of the commencement of clearing.	Pre-construction	Site Supervisor or Site Environmental Officer	CoC B21c (BDAR reference B7) This Plan
Biodiversity exclusion zones (temporary fencing) for retained vegetation (Figure 4.1), will be clearly identified on the ground by a suitably qualified ecologist prior to the commencement of construction. Fencing will remain in place for the duration of the project, and only removed upon completion of the project.	Pre-construction	Site Supervisor or Site Environmental Officer	CoC B21c (BDAR reference B7 and 8)
Construction workforce will be supplied with sensitive area maps (showing clearing boundaries and exclusion zones) including updates as required (Figure 4.1).	Construction	014	CoC B21c (BDAR reference B7 and B9)

Mitigation measure (action)	Timing	Responsibility	Source of requirement
All employees and contractors working on site will undergo site induction training relating to flora and fauna management issues. The induction training will address elements related to flora and fauna management including:  — existence and requirements of this sub-plan — relevant legislation — flora and fauna mitigation and management measures — procedure to be implemented in the event of an incident.	Construction	Site Environmental Officer	CoC B21c (BDAR reference B9)
Clearing of native vegetation will be monitored against the approved clearing (see Section 5.3).	Construction	Site Supervisor or Site Environmental Officer	CoC B21c (BDAR reference B10)
The threatened species unexpected finds protocol (Appendix B) will be implemented if threatened flora and fauna species, not assessed in the biodiversity assessment, are identified in the disturbance area.	Construction	Site Supervisor or Site Environmental Officer	CoC B21c (BDAR reference B12) Appendix B
Relocate habitat features (e.g., fallen timber, hollow logs) from the development footprint to adjacent retained vegetation where practicable.	Construction	Site Supervisor or Site Environmental Officer	CoC B21c (BDAR reference B13) This Plan
<ul> <li>Implement hygiene protocols including:</li> <li>vehicles and other equipment to be used during clearing phases in the construction zone and general construction equipment (such as excavators, graders etc.) are to be visibly free of soil, seeds and plant material before entering the site to prevent the introduction of weeds and pathogens.</li> <li>weed and pathogen management (provided in Appendix C) to control spread of weeds or pathogens.</li> </ul>	Construction	All site staff Site Supervisor or Site Environmental Officer	CoC B21c (BDAR reference B14) Appendix C Arrive Clean, Leave Clean Guidelines (Department of Environment 2015; provided in Appendix D)
Prepare a vegetation management plan to regulate activity in vegetation and habitats adjacent to the school. The plan may include controls on rubbish disposal, wood collection, rock collection, fire management, and disturbance to nests and other niche habitats.	Operation	School Infrastructure NSW Grounds keeper/ Maintenance contractor	CoC B21c (BDAR reference B15) This Plan
Provide for the ecological restoration, rehabilitation and/or ongoing maintenance of retained native vegetation and habitat on, or adjacent to, the development to industry best practice and standards.	Operation	School Infrastructure NSW Grounds keeper / Maintenance contractor	CoC B21c (BDAR reference B16)

Notes: BDAR mitigation measure B11, which requires timing of works to avoid critical life cycle events (i.e. breeding and nursing) of threatened species, has been removed from this list of mitigation measures due to the absence of threatened species on site. In the instance of an unexpected find, this condition would be reconsidered. BDAR mitigation measures 1-4 apply to design phase and have not been included as part of the construction sub-plan.

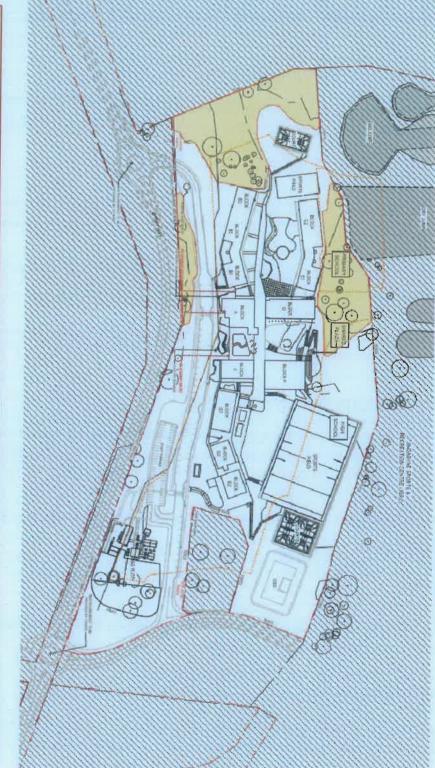


Figure 4.1 Biodiversity exclusion zone sensitive area map

Project No PS125032
Biodiversity Management Plan
Jindabyne Education Campus
School Infrastructure NSW

# 5 Compliance and monitoring

### 5.1 Roles and responsibilities

The organisational structure and overall roles and responsibilities will be outlined within the CEMP. Specific responsibilities for the implementation of biodiversity controls are outlined in Section 4 of this plan.

### 5.2 Training

All employees and contractors working on site will undergo site induction training relating to flora and fauna management. The induction training will address the following aspects of flora and fauna management:

- existence and requirements of this sub-plan
- relevant legislation and guidelines, as stated in Section 2 of this plan (Table 2.1 and Table 2.2)
- flora and fauna mitigation measures, as stated in Section 4 of this plan (Table 4.1)
- procedure to be implemented in the event of an accident.

Provision and development of training is the responsibility of the site environment officer. Further details regarding staff induction and training will be outlined in the CEMP.

## 5.3 Inspections and monitoring

Regular monitoring for flora and fauna will assess the effectiveness of mitigation measures implemented for the flora and fauna present (or potentially present) on site. Inspections and monitoring will include daily (informal) visual inspections, documented weekly inspections by site environment officer to ensure mitigation measures and environmental controls are working effectively.

Inspections of biodiversity aspects will occur during the construction phase of the project and include:

- site environmental fencing
- vegetation clearance extents
- weed monitoring
- erosion and sediment controls.

A biodiversity inspection checklist is provided in Appendix E. The details of additional environmental monitoring protocols and procedures will be outlined within the CEMP.

### 5.4 Non-conformances

Any non-conformances (i.e. not meeting nominated environmental objectives or targets, not complying with environmental legislation or other requirements) will have corrective and/or preventative actions identified and implemented.

# 6 Review and improvement

### 6.1 Continual improvement

Continual improvement of this plan will be achieved by the ongoing evaluation of environment management performance against the proposed mitigation and management strategies, environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continual improvement process will be designed to:

- identify areas of opportunity for improvement of environmental management and performance
- determine the cause or causes of non-conformances and deficiencies
- develop and implement a plan of corrective and preventative action to address non-conformances and deficiencies
- verify the effectiveness of the corrective and preventative actions
- document any changes in procedures resulting from process improvement
- make comparisons with objectives and targets.

# 6.2 Plan update

Pending the processes described in the CEMP, this may result in the need to update or revise this sub-plan. This will occur as needed.

Only the site environmental representative, or delegate, has the authority to change any of the environmental management documentation. In terms of approval of updates or amendments to this sub-plan, this is to be carried out by the environmental representative who will verify that the amendments are consistent with the project approval.

A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure, which will be outlined within the CEMP.

# 7 Limitations

This Report is provided by WSP Australia Pty Limited (WSP) for School Infrastructure NSW (Client) in response to specific instructions from the Client and in accordance with WSP's proposal dated 18 March 2021 and agreement with the Client dated 7 October 2022 (Agreement).

### 7.1 Permitted purpose

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# 8 References

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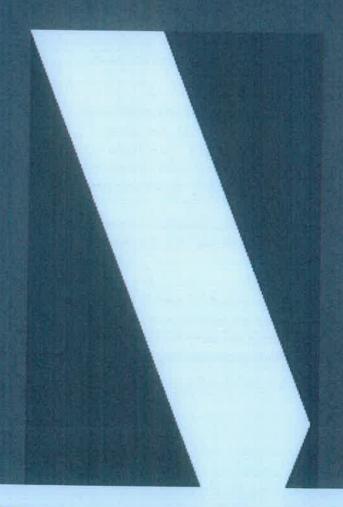
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State Government of NSW and Department of Planning and Environment (2022). NSW State Vegetation Type Map, <a href="https://datasets.seed.nsw.gov.au/dataset/nsw-state-vegetation-type-map">https://datasets.seed.nsw.gov.au/dataset/nsw-state-vegetation-type-map</a> [Accessed 2022].

WSP (2022), Jindabyne Education Campus Biodiversity Development Assessment Report.

# Appendix A

Clearing protocols



# A1 Clearing protocols

To prevent injury and mortality of fauna during the clearing of vegetation, an experienced and licensed wildlife carer and/or ecologist will be present to capture and relocate fauna where required. The Vegetation clearing protocol as outlined below will be followed.

### A1.1 Mark hollow-bearing trees

Clearly mark all trees containing hollows which are to be removed based on hollow bearing tree survey and mapping.

Signage and flagging will be erected around the trees until they are deemed as 'cleared' by a qualified ecologist and can be removed.

### A1.2 Clearing

A chainsaw is preferable to heavy machinery to remove native vegetation in any areas where there would only be partial clearing. Clearing will be undertaken using the 'two stage process', specifically:

#### Stage 1 - Non habitat tree removal

When vegetation, that may provide habitat for native fauna, is proposed to be removed the area will be surveyed immediately (proceeding night & day of clearing) prior to clearing, to:

- obtain updated information on fauna and fauna habitat resources present; and
- capture and relocate non-mobile fauna, such as reptiles and frogs and key habitat features such as active bird nests or scare animals away.

Following clearing, re-check after clearing to ensure no animals have become trapped or injured during clearing operations.

### Stage 2 – Habitat tree removal

Any habitat trees (hollow –bearing or with nests) proposed to be felled will be 'bumped and shaken' and remain for up to 24–48 hours or as per Ecologist(s) recommendations as to allow any potential fauna time to relocate from the tree.

When removing hollow-bearing trees:

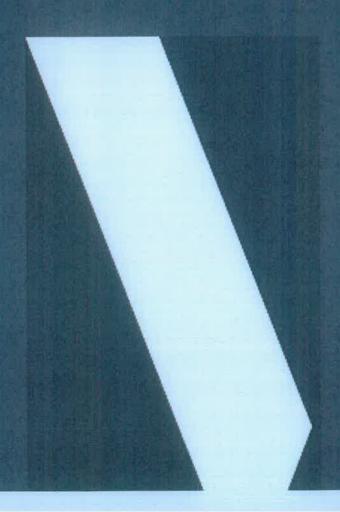
- an ecologist/wildlife handler (spotter) should be present at each tree to be removed to look for signs of animal
  movement in the tree to be cleared. The spotter should be able to communicate directly with plant operators
- the operator will be skilled in removing habitat trees and the two-stage clearing procedure. The ecologist will discuss
  the method of felling (i.e. orientation, equipment etc.) with the operator to ensure animal welfare is considered
- prior to clearing hollow-bearing trees, an excavator or loader is to hit the trunk as high up the tree as possible several times. Wait at least 30 seconds. Repeat this process several times
- where possible, habitat trees are to be knocked with an excavator bucket or other machinery used for clearing to create only enough disturbance to encourage any remaining fauna to move from the tree, or at least show themselves prior to felling. Excessive knocking of the tree must not take place
- the tree is to be left for several minutes before being felled as gently as possible
- once the hollow-bearing limb or hollow-bearing tree is on the ground, it will be inspected carefully by an ecologist
  and fauna would be captured, processed and, if healthy, relocated before the next limb/tree is removed
- if taking the tree down in stages, remove non-hollow-bearing limbs first. Then remove hollow-bearing limbs.
- injured fauna will be taken to a local vet for treatment or WIRES or similarly-qualified and licensed personnel will be contacted to collect and treat any injured individuals.

#### Handling wildlife:

- direct contact with any wildlife should be avoided wherever possible
- fauna mortality as well as rescued and relocated fauna will be recorded
- if the animal is not injured or stressed, it may be released nearby in an area that is not to be disturbed by the Project construction, in accordance with the following:
  - sites identified as suitable release points by the Project Ecologist or WIRES rescuer
  - release will be into similar habitat as close to the original area as possible
  - if the species is nocturnal, release will be carried out at dusk; and
  - release would generally not be undertaken during periods of heavy rainfall.

# Appendix B

Unexpected Threatened Species Find protocols



# B1 Unexpected Threatened Species Find protocols

In the event an unexpected threatened species is encountered during site works, the protocol outlined below must be followed.

### B1.1 Protocol

Threatened flora or fauna species unexpectedly encountered

STOP WORK

Worker/Contractor to notify Site supervisor and other workers in immediate area

Site supervisor to demarcate and prevent access to area to reduce impact and redirect works where practicable

Site supervisor would arrange for an ecologist to conduct an assessment of significance of likely impact and develop management options

If a significant impact is likely to occur, DCCEEW and DPE would be consulted where appropriate

Obtain approvals, licenses or permits as required

Recommence works once advice is received and necessary approvals, licenses and permits are obtained

Include species in inductions, toolbox talks and update CEMP and relevant sub-plans

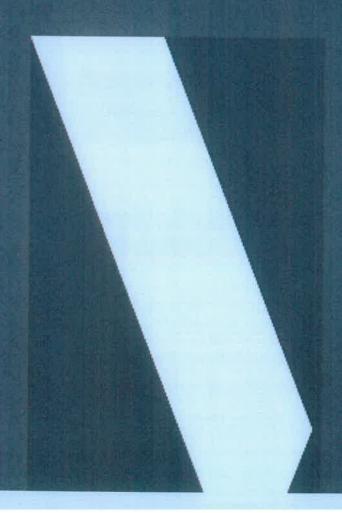
# B1.2 Reporting

A record of the unexpected finds should be maintained by the contractor and should include the following details:

- date, time and location of unexpected find
- details regarding assessment by the Environment Manager, site supervisor (and advice from suitably qualified ecologist or specialist)
- actions undertaken before work recommenced.

# Appendix C

Hygiene protocols for management of weeds and pathogens



# C1 Hygiene protocols

This protocol describes the weed and pathogen management and control strategies to be implemented during site works.

#### C1.1 Protocol

Weed infestations and/or plant pathogens (such as Phytophthora cinnamomi and Myrtle Rust) identified during pre-clearing/demolition/construction survey and/or during site inspections

1

Determine appropriate control methods in consultation with ecologist/specialist

ment weed control (manual and chemical control), including off site disposal if required but minimised

Monitor site during inspections to determine if ongoing weed control is required

Stabilise or rehabilitate the affected area once weed management is complete

Continue to monitor site during inspections for presence of weeds and plant pathogens

# C1.2 Weed and pathogen control methodology

Weeds within the site would be controlled according to control plans and measures recommended in the NSW Weed Control Handbook (DPI 2018). If weeds or pathogens are introduced to the site by the project, the aim would be eradication from the site.

#### C1.2.1 Manual control

- Weeds requiring hand or mechanical removal, including contaminated topsoil, would require disposal by encapsulation (deep burying) or to an approved waste management facility.
- Carry out mechanical means of control (such as mowing or slashing) where feasible in proximity to waterways and aquatic environments.
- Machinery involved in weed management activities require deep cleaning to remove any plant material or soil, prior to commencement of construction.

### C1.2.2 Chemical (pesticide) control

- Only pesticides registered for use near water may be used near waterways and aquatic environments.
- Avoid applying pesticides:
  - on hot days when plants are stressed
  - after the seed has set
  - within 24 hours of rain or when rain is imminent
  - when winds will cause drift of pesticides into non-target areas.
- Keep a record of pesticide application. This must be maintained by the contractor and must include the following:
  - who applied the pesticide
  - date of pesticide application
  - details of pesticide used (full product names)
  - where the pesticide was applied (to what weed and in what location)
  - amount of pesticide used (total amount use, rate of application, area covered)
  - weather conditions during pesticide application.

### C1.2.3 Minimising spread of weeds and pathogens

The following three steps should be followed to reduce spread of weeds and/or pathogens

#### 1 Check

- Check personnel, clothing, footwear, backpacks and equipment for soil, plant material and other debris.
- Check exterior and interior of vehicles and machinery for soul, plant material and other debris.

#### 2 Clean

- Remove all soil, plant material and other debris using a brush and clean water.
- If dirty, wash hands with soap and water-
- Remove seeds from clothing, footwear, tools and equipment by hand. Seeds that are difficult to remove can
  sometimes be scraped off clothing with a sharp tool but use caution. Where possible, have a co-worker doublecheck that you have removed all seeds.
- Remove all soil, plant material and other debris from the interior of vehicle and machinery using vacuum or dustpan and brush. Place debris in a bag and dispose of at an offsite licensed facility.
- If Myrtle Rust is detected on site, disinfect equipment and exterior of vehicles with disinfectant.

#### 3 Dry

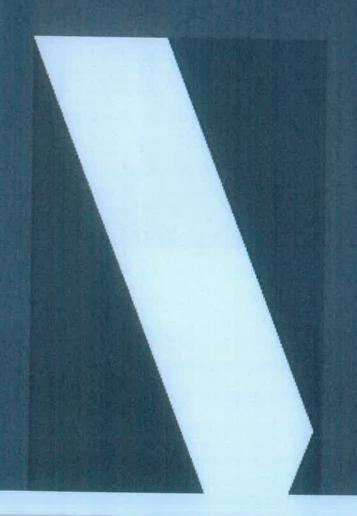
 Where practical, ensure hands, clothing, footwear, vehicles, machinery and equipment are dry before proceeding.

### C1.2.4 Disposal of weeds

- All weed plant material and topsoil containing weed plant material should be disposed of at an offsite licensed facility.
- Securely cover loads of weed-contaminated material to prevent weed plant material falling or blowing off vehicles between site and disposal location.

# Appendix D

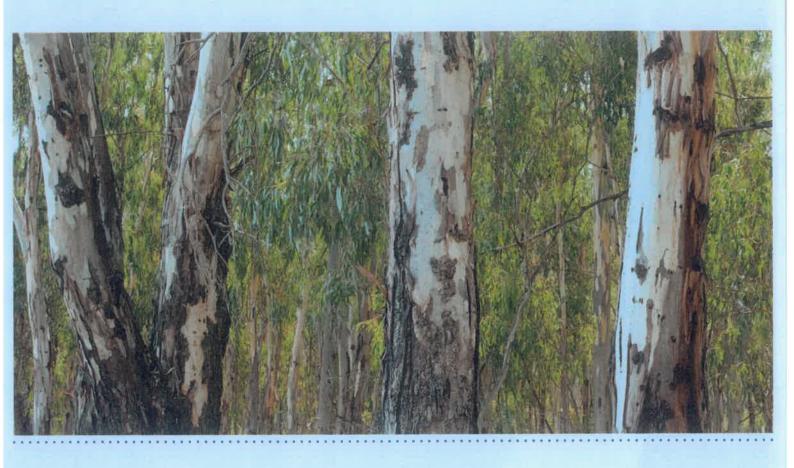
Arrive clean, leave clean guidelines





# Arrive Clean, Leave Clean

Guidelines to help prevent the spread of invasive plant diseases and weeds threatening our native plants, animals and ecosystems



The Department acknowledges the traditional owners of country throughout Australia and their continuing connection to land, sea and community. We pay our respects to them and their cultures and to their elders both past and present.

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#### Images

(from cover) John Baker and the Department of the Environment (back cover) Nick Rains

# Arrive Clean, Leave Clean

# Help prevent the spread of invasive plant diseases and weeds threatening our native plants, animals and ecosystems

### When working in the bush, it's important to remember:

- Any activity in the bush has the potential to spread invasive species, including environmental restoration activities such as weeding and revegetation.
- Revegetation carries a particularly high risk as it involves the introduction of plants and soil. This risk
  increases through the use of dirty tools and equipment or plants and materials that are not certified to be
  free of pathogens and weeds.
- Clothing, hats, footwear, tools, equipment, machinery and vehicles can transport invasive species like *Phytophthora cinnamomi*, myrtle rust (*Puccinia psidii*), insects and weeds into our bushland.
- Even your skin and hair, as well as glasses, phones, watches, wallets and other pocket items can carry myrtle rust spores.
- Once these pathogens and weeds invade our bushland, eradication is often impossible. Follow these guidelines to help prevent their spread.





Photos: (left) Wildflowers on Mondurup Peak, Stirling Range before Phytophthora dieback (Robert Olver), (right) Mondurup Peak, Stirling Range after Phytophthora dieback (Department of Parks and Wildlife WA)

# Phytophthora cinnamomi

# What is Phytophthora cinnamomi?

Phytophthora cinnamomi is a soil-borne plant pathogen that attacks the roots of susceptible plants—destroying the root system and reducing the ability of the plant to absorb water and nutrients. This causes symptoms referred to as 'dieback' which can lead to plant death.

Under favourable conditions *Phytophthora* spp. can spread easily and quickly, destroying plants and plant communities. These guidelines to help minimise the risk of spreading *Phytophthora cinnamomi* also apply to other species of *Phytophthora* present in Australia, as the management of those species is similar.



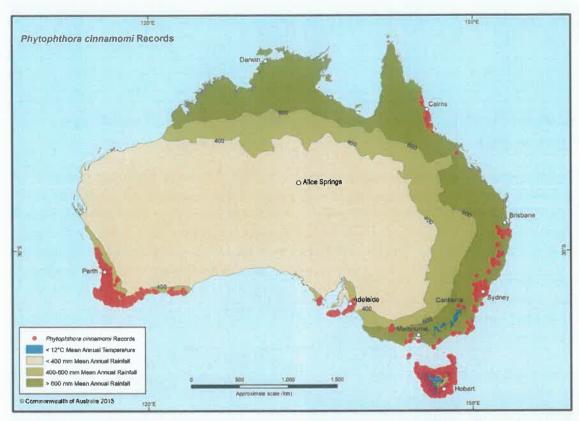
Photo: Impact of *Phytophthora cinnamomi* at Dwellingup, WA (Department of Parks and Wildlife WA)

# What does *Phytophthora* cinnamomi threaten?

Thousands of Australian native plant species are susceptible to *Phytophthora cinnamomi*, and several of those species may be at risk of extinction due to its impacts. The dramatic impact of *Phytophthora* spp. infestations on plant communities may also lead to major declines in some insect, bird and animal species due to the loss of shelter, nesting sites and food sources.

# Where is *Phytophthora* cinnamomi found?

Phytophthora cinnamomi thrives in warm, moist conditions with temperatures between 15°C and 30°C, and with rainfall greater than 400 millimetres a year. Its impact is greatest in Western Australia, Victoria, Tasmania and South Australia. The Northern Territory remains the only jurisdiction unaffected, as its environmental conditions are generally unfavourable to the pathogen.



Map: P. cinnamomi isolations, records of impact and broad climatic envelope of P. cinnamomi susceptibility in Australia.

This map was published in the <u>Threat abatement plan for disease in natural ecosystems caused by Phytophthora cinnamomi</u> in 2014. It does not represent the precise distribution of the pathogen in Australia and is for general information only.

# How does *Phytophthora* cinnamomi spread?

Phytophthora cinnamomi spreads through soil, water and organic matter. It can remain dormant for long periods during dry weather and is impossible in most situations to eradicate from infested areas, which means limiting further spread is critical. Any activity that moves soil, water or plant material can spread the disease. This includes soil on tools, footwear and vehicles.

To help to prevent the spread of this plant disease:

- arrive clean, leave clean: ensure all clothing, hats, footwear, tools, equipment, machinery and vehicles are free of mud, soil and organic matter before entering and exiting bushland
- ensure any soil, plants or other materials entering the site are certified free of weeds and pathogens.
   You can do this by purchasing from Nursery Industry Accreditation Scheme Australia (NIASA) accredited businesses, and by ensuring that materials conform to Australian Standards—for example, AS3743–2003 Potting mixes or AS4454– 2012 Composts, soil conditioners and mulches.

# Myrtle rust

### What is myrtle rust?

Myrtle rust is a disease caused by the fungus *Puccinia psidii*, initially identified as *Uredo rangelii*. It affects trees and shrubs in the Myrtaceae plant family—attacking young, soft, actively-growing leaves, shoot tips and young stems, as well as fruits and flower parts.

The first signs of rust infection are tiny raised spots or pustules on infected leaves. After a few days, the pustules erupt into distinctive bright yellow spore masses. Left untreated, the disease can cause deformed leaves, heavy defoliation of branches, dieback, stunted growth and plant death.

# What does myrtle rust threaten?

Plants susceptible to myrtle rust are those in the Myrtaceae family, which includes bottle brush (Callistemon spp.), tea tree (Melaleuca spp. and Leptospermum spp.), lilly pillies (Syzygium spp.) and eucalypts (Eucalyptus spp., Angophora spp. and Corymbia spp.). The Myrtaceae family in Australia is ecologically important, accounting for about 10% of Australia's native flora, with many Australian plant communities dominated by myrtaceous species.

Knowledge of the impacts of myrtle rust on Australian biodiversity is still limited. Myrtle rust infection may cause significant mortality among younger plants and therefore reduce the number of plants capable of maturing and reproducing. This may contribute to the decline of species, including threatened species, leading to potential impacts on the structure and function of ecosystems dependent on Myrtaceae. At the time of writing, nearly 350 native species are known to be susceptible to myrtle rust infection, some severely. The host list (see **References and resources** below) is expected to grow. However, all Myrtaceae are potentially susceptible and potential hosts for the disease.



Photo: Myrtle rust pustules on scrub turpentine (*Rhodamnia rubescens*) fruit (R.O. Makinson)



Photo: Myrtle rust pustules on scrub turpentine (*Rhodamnia rubescens*) leaves (R.O. Makinson)

# Where is myrtle rust found?

Myrtle rust was first detected in Australia in 2010 on the New South Wales central coast. It is now established along the east coast of Australia from southern New South Wales to far north Queensland, mostly east of the Great Escarpment. It is also present in Victoria, mainly at production nurseries and wholesale outlets in and around metropolitan Melbourne. The first detection of myrtle rust in Tasmania was in February 2015 at a property near Burnie on the north-west coast. At the time of writing, myrtle rust has not been detected in the Australian Capital Territory, the Northern Territory, South Australia, Western Australia or on Lord Howe Island or Christmas Island, but moister regions and vegetation types in all these jurisdictions are at risk of myrtle rust establishment. Domestic import restrictions apply for non-infested jurisdictions.

# How does myrtle rust spread?

Myrtle rust spores can spread easily via contaminated clothing, hats, footwear, equipment or vehicles. It can also be spread by infected plant material, insects and other animals, or the wind. Even your skin and hair, as well as watches, wallets and other pocket items can carry myrtle rust spores. It is impossible to eradicate myrtle rust from infested bushland, so limiting further spread is critical.

To help to prevent the spread of myrtle rust:

- arrive clean, leave clean:
  - Wash all clothing, hats and gloves between site visits—using warm or hot machine wash with detergent.
  - Ensure all clothing, hats, footwear, tools, equipment, machinery and vehicles are free of mud, soil and organic matter before entering and exiting bushland.
  - Use a solution of 70% ethanol or methylated spirits in 30% water to disinfect items that may be contaminated (including hats, footwear, tools, equipment, machinery, vehicles, walking sticks, tent pegs, phones, glasses, watches, wallets and other personal items).

- ensure any soil, plants or other materials entering the site are certified free of weeds and pathogens. You can do this by purchasing from Nursery Industry Accreditation Scheme Australia (NIASA) accredited businesses, and by ensuring that materials conform to Australian Standards—for example, AS3743–2003 Potting mixes or AS4454–2012 Composts, soil conditioners and mulches.
- monitor plants carefully as nurseries and plant maintenance facilities may provide ideal conditions for myrtle rust (see Australian Nursery Industry myrtle rust management plan 2012 in References and resources below).



Photo: Myrtle rust spores on clothing after chance contact with an infected shrub (R.O. Makinson)

# Weeds

#### What is a weed?

A weed is any plant that has a negative impact on our economy, environment, health and surroundings. Weeds are generally species which are not native to Australia. However, some native species growing outside of their native range can also become invasive. Many weeds are species which have escaped cultivation and become naturalised—that is, they have begun reproducing without human assistance.

#### What do weeds threaten?

Many weed species are able to invade natural areas and cause disturbance to bushland ecosystems. They can alter plant and animal community composition, cause changes to nutrient cycles, change natural fire regimes, outcompete native species for resources, impact threatened species and threaten biodiversity.

#### Where are weeds found?

The diversity of weed species recorded in Australia means that most terrestrial and aquatic ecosystems are vulnerable to weed invasion. Weeds have characteristics that help them grow well in many environments—from our towns and cities through to our coasts, deserts and alpine areas.

## How do weeds spread?

Weeds typically spread easily by producing large numbers of seeds or reproducing vegetatively. They are often excellent at surviving and reproducing in disturbed environments and are commonly the first species to colonise and dominate in these conditions. Seeds and other plant material can spread into natural and disturbed environments via wind, animals, waterways and people (including contaminated clothing, hats, footwear, tools, equipment, machinery and vehicles).

To help to prevent the spread of weeds:

- arrive clean, leave clean: ensure all clothing, hats, footwear, tools, equipment, machinery and vehicles are free of weed seeds, mud, soil and organic matter before entering and exiting bushland.
- ensure any soil, plants or other materials entering the site are certified free of weeds and pathogens. You can do this by purchasing from Nursery Industry Accreditation Scheme Australia (NIASA) accredited businesses, and by ensuring that materials conform to Australian Standards—for example, AS3743–2003 Potting mixes or AS4454–2012 Composts, soil conditioners and mulches.
- if revegetating, select indigenous plants that occur naturally in your local area. Undertake weed control work well in advance to minimise the weed seed bank before you start planting. At the very least, slash the flower heads of weed species before they go to seed.

# Before beginning a project

#### Undertake a risk assessment:

- Identify any planned activities with the potential to spread pathogens and weeds. This includes movement of people, equipment, vehicles and materials to/from/through infected or potentially infected areas.
- Determine the project site's pathogen and weed risks through liaison with land managers (for example government agencies, traditional owners, Indigenous Protected Area managers etc.).
- Consult sources of advice and expertise for contingent risks (for example state/territory departments of primary industry, pathology/weed identification services at botanic gardens).

# Develop a hygiene management plan:

- Use your risk assessment to determine which hygiene procedures are necessary to prevent the spread of pathogens and weeds, and how and where to apply them.
- Ensure all materials taken onto the site—such as seedlings, mulch, soil, gravel, rock and sand—are certified free of weeds and pathogens. You can do this by purchasing from Nursery Industry Accreditation Scheme Australia (NIASA) accredited businesses, and ensuring materials conform to Australian Standards—for example, AS3743—2003 Potting mixes or AS4454—2012 Composts, soil conditioners and mulches.
- Create a checklist of hygiene procedures for project managers and participants to use.

# Consider the following during project planning:

 Limit the number of sites you visit to one per day. If this is not possible, visit clean sites before infested sites.

- Provide training or briefing to all participants on the risks of spreading pathogens and weeds and risk mitigation strategies. If available, provide maps to participants with the location of infested and clean areas and wash-down points.
- Ensure that rigorous inspections and quality checks are built into the management of the entire supply chain for materials and plant material when carrying out revegetation or translocation activities where pathogens are a potential concern (see Australian Nursery Industry myrtle rust management plan 2012 in References and resources below). This is particularly important when working in areas where threatened species and threatened ecological communities are found.
- Where there is the risk of Phytophthora dieback (a plant disease caused by the pathogen Phytophthora cinnamomi), schedule activities for the dry season as it spreads more easily in wet and muddy conditions. If necessary, postpone activities and reschedule for a day when the soil is dry and doesn't stick to footwear, equipment and tools.
- If working in a weedy area, try to schedule activities for when the weed species are not in seed.
- Avoid taking vehicles into bushland. If a vehicle is necessary, ensure it is clean and dry on entry and exit, and restrict movement to hard, dry surfaces, formed roads and designated parking areas—avoid driving through puddles and mud. Where myrtle rust is a risk, avoid parking near myrtaceous plants—for example bottle brushes, tea trees, lilly pillies and eucalypts—and thoroughly clean vehicles inside and out between site visits.
- Avoid polystyrene boxes and tools with wooden or cracked handles. Use equipment that can be cleaned easily and thoroughly.
- Minimise the number of personal items you carry.
  Where myrtle rust is a risk, clean all items—such
  as GPS devices, glasses, phones, watches, wallets
  and other items kept in your pockets—with
  alcohol wipes before entering and leaving sites.

# One site per day

# Before entering or leaving a site

- Be aware of what plants look like when infected with myrtle rust and Phytophthora dieback (see images above).
- Remove all weed seeds, mud, soil and organic matter from clothing, footwear, tools, equipment, machinery, vehicles, boxes, backpacks, walking sticks, tent pegs and anything else that touches plants or the ground. Stay as clean as possible while in the bush.
- If you are entering clean bushland or have come from an area that is infested with *Phytophthora* spp. or myrtle rust, ensure everything with you is cleaned and disinfected with a solution of 70% ethanol or methylated spirits in 30% water. This includes footwear, tools, equipment, machinery, vehicles, backpacks, walking sticks, tent pegs and personal items.

# Disinfecting clothing, footwear, equipment and other personal items

- i. Carry a hard brush and a spray bottle of disinfectant—made up of a solution of 70% ethanol or methylated spirits in 30% water. If you are able to carry more, assemble a simple hygiene kit—see Appendix A.
- ii. Set up a wash-down area for participants to wash and dry their face and hands and clean their footwear before entering and exiting the site.
- iii. To clean footwear, first use a hard brush or stick to remove as much mud, soil and organic matter as possible before disinfecting with a solution of 70% ethanol or methylated spirits in 30% water applied through a spray bottle or a footbath.

- iv. Seal all personal rubbish in a bag and spray the outside of the bag with a solution of 70% ethanol or methylated spirits in 30% water before responsible disposal offsite.
- Collect all removed mud, soil and organic matter in a bag or bucket, and keep it out of clean bushland.

#### Disinfecting vehicles and machinery

- i. Use a wash-down facility for vehicles and machinery if available, or wash-down on a hard, well-drained surface, for example a road, and on ramps if possible. See References and resources below for links to online wash-down guidelines.
- ii. Pay particular attention to cleaning mud flaps and tyres.
- iii. Dispose of wash-down water so that it drains back into a low area of the infested zone away from waterways. If this is not possible, empty it into a waste container for responsible disposal offsite.
- Don't allow wash-down water to drain into clean bushland.
- v. Don't drive through wash-down water.



Photo: Wash-down point (Department of Parks and Wildlife WA)



Photo: Truck undercarriage wash-down (South Coast Natural Resource Management, WA)

# Additional considerations where myrtle rust is present

- Disposable overalls and caps may be worn over clothing upon entering a site, and removed when leaving the site. However, in high-risk cases, also shower and change into clean clothes (including hats, gloves and footwear).
- Wash all clothing, hats and gloves between site visits using warm or hot machine wash with detergent.
- Do NOT remove any plant material from sites infested with myrtle rust. Dispose of plant waste by burial on site. If this is not possible, seal the waste in a plastic bag, seal the bag in a second bag and spray the outside of the bag with a solution of 70% ethanol or methylated spirits in 30% water before responsible disposal offsite.

# Revegetation

Where weeds and other disturbances are controlled, natural regeneration can assist the bushland to revegetate over time. Where revegetation activities are necessary, the following steps will help stop the spread of invasive species:

 Arrive clean, leave clean—ensure all clothing, hats, footwear, tools, equipment, machinery and vehicles are free of weed seeds, mud, soil and organic matter before entering and exiting bushland.

- Liaise with land managers and relevant plant specialist stakeholders (for example Australian Network for Plant Conservation, Greening Australia, Landcare groups, botanic gardens, seed banks etc.) to collaborate on the revegetation strategy.
- Select indigenous plants that occur naturally in your local area wherever possible.
- Avoid species with the potential to become weeds of the environment or agriculture.
- If the site is infested with *Phytophthora* spp.
  or myrtle rust, select species resistant to the
  disease, or seed from more tolerant individuals of
  susceptible plant species.
- Consult the Australian Network for Plant
  Conservation translocation guidelines 2004
  (see References and resources below). These
  focus on threatened species but many of the
  techniques and considerations also apply to
  non-threatened species.
- Consider a combination of revegetation techniques such as seed production areas, direct sowing and enhancement of natural sites to assist natural regeneration. Many of these will be lower risk than the use of seedlings.
- If using seedlings, purchase them from a supplier that can guarantee high standards of hygiene—such as NIASA-accredited businesses. For added certainty, ensure the supplier allows testing of a random sample of seedlings and soil for *Phytophthora* spp. 3–6 weeks before acceptance of the seedlings. If the pathogen is present, the batch must be rejected.
- Check plants on receipt and at intervals during any holding period. Seek specialist advice if any suspect symptoms appear (for example coloured pustules, leaf necrosis).
- If propagating, maintain high standards of hygiene—see the section on propagation below.
- Plant when the soil is moist but not wet.
- Use mains or disinfected water to irrigate plants.
- If you are aware of a plant pathogen infestation, begin revegetation in the clean part of the bushland before moving to the infested area.
   Ensure all clothing, hats, footwear, tools, equipment, machinery and vehicles are clean before leaving the infested area.

## Weed management

When conducting weed management activities, the following steps will help stop the spread of invasive species:

- Arrive clean, leave clean—ensure all clothing, hats, footwear, tools, equipment, machinery and vehicles are free of weed seeds, mud, soil and organic matter before entering and exiting bushland.
- Schedule weeding for dry soil conditions where possible.
- Use techniques that minimise soil disturbance.
   For example, mow or slash or use an appropriate herbicide in preference to digging or grading.
- Ensure transport and disposal of plant material does not introduce weeds to new areas. In sites free of myrtle rust, place weeds into a bag or container immediately for removal. Always cover trailers when transporting plant material to prevent anything from falling off. Some weeds can reproduce vegetatively—from leaves, bulbs or other plant material—while others use seeds, and some may require heat or cold treatment before composting, mulching or disposal.
- If a site is infested with myrtle rust, do **NOT** remove any plant material. Dispose of plant waste by burial on site. If this is not possible, seal the waste in a plastic bag, seal the bag in a second bag and spray the outside of the bag with a solution of 70% ethanol or methylated spirits in 30% water before responsible disposal offsite.
- If you are aware of a plant pathogen infestation, begin weeding in the clean part of the bushland before moving to the infested area. Clean all clothing, hats, footwear, tools, equipment, machinery and vehicles before leaving the infested area.

## **Propagation**

The following steps will help stop the spread of invasive species during propagation activities:

- Ensure all benches, equipment, pots and containers are clean and disinfected.
- While using implements such as cutting knives or secateurs, wash them regularly with a solution of 70% ethanol or methylated spirits in 30% water.
- Steam-air pasteurise soil mixes for 30 minutes at 60°C, or select materials that conform to Australian Standard AS3743–2003 Potting mixes or AS4454–2012 Composts, soil conditioners and mulches. These standards require the materials to be free from plant pathogens, pests, harmful chemicals and weeds.
- Avoid bringing soil on boots and equipment into the nursery areas.
- If possible, keep pots on raised wire-mesh benches at least 30 centimetres off the ground. Otherwise, keep them on free-draining blue metal.
- Keep the whole nursery area clean and free of dead plant material and rubbish.

# References and resources—general

Guidelines for the translocation of threatened plants in Australia— Second edition	2004	Vallee L, Hogbin T, Monks L, Makinson B, Matthes M and Rossetto M; Australian Network for Plant Conservation, Canberra	https://www.anbg.gov.au/anpc/publications/translocation.html
Leave no trace Australia		Web resources	www.lnt.org.au/resources/ biosecurity/bio-security.html
			www.lnt.org.au/resources/ skills-ethics-series.html

# References and resources—wash-down procedures

	Department of Agriculture, Fisheries and Forestry; State of Queensland	data/assets/pdf_file/0011/58178. IPA-Cleandown-Procedures.pdf
2011	Biosecurity Queensland, Department of Agriculture, Fisheries and Forestry; State of Queensland	https://www.youtube.com/ watch?v=dTNDecjTVfI
2011	Civil Contractors Federation, State of Victoria, Department of Primary Industries, Department of Sustainability and Environment, VicRoads and the Association of Land Development Engineers	www.civilcontractors.com/ Uploads/files/LR%20CCF%20 Machinery%20Hygiene%20 Bklt%2040pp.pdf
2010	NRM South, Tasmania	dpipwe.tas.gov.au/Documents/1 5130802_52keepingitcleansprea dswe.pdf
	NRM South, Tasmania	www.nrmsouth.org.au/ biosecurity/
	NRM South, Tasmania	Landholders www.nrmsouth.org.au/ wp-content/uploads/2014/08/ Biosecurity-kits-sales-fl yer-2015-Landholders.pdf  Community groups www.nrmsouth.org.au/ wp-content/uploads/2014/08/ Biosecurity-kits-sales-fl yer-2015-community.pdf
	2011	2011 Biosecurity Queensland, Department of Agriculture, Fisheries and Forestry; State of Queensland  2011 Civil Contractors Federation, State of Victoria, Department of Primary Industries, Department of Sustainability and Environment, VicRoads and the Association of Land Development Engineers  2010 NRM South, Tasmania

# References and resources—seed production areas

Sowing seeds: bridging the gap between ex situ collections and reintroduction	2012	Guja L, North T, Taylor D and McAuliffe J; Australasian Plant Conservation 21(3)	www.anbg.gov.au/anpc/ apc/21-3_guja.html
Developing seed production areas for native plants—Corangamite region guidelines	2008	Heyes S, Butler M, Gartlan C and Ovington A; Corangamite Seed Supply and Revegetation Project	www.florabank.org.au/files/ documents/seedproductionareas/ Corangamite%20Seed%20 Production%20Area%20 Guidelines08%20P1.pdf
Introducing seed production areas: an answer to native seed shortages	2008	Vanzella B; Greening Australia	www.florabank.org.au/files/ newsattachments/SPA%20 handout_%20master%20 GACR%20Bindi%20 Vanzella%20March08.pdf

# References and resources—Phytophthora cinnamomi

Managing Phytophthora dieback—Guidelines for local government	2000	Dieback Working Group	https://www.dwg.org.au/ images/dieback_publications/ Managing_Phytophthora_ Dieback_guidelines.pdf
Managing Phytophthora dieback in bushland—A guide for landholders and community conservation groups	2008	Dieback Working Group	https://www.dwg.org.au/ images/dieback_publications/ Managing_Phytophthora_ Dieback_in_Bushland.pdf
Resistant native plant species—A list of resistant native plant species from Western Australia from the Centre of Phytophthora Science and Management at Murdoch University		Dieback Working Group	https://www.dwg.org.au/images/dieback_publications/Western_Australian_Natives_Resistant.pdf
Susceptible native plant species—A list of susceptible native plants species from Western Australia from the Centre of Phytophthora Science and Management at Murdoch University		Dieback Working Group	https://www.dwg.org.au/images/dieback_publications/Western_Australian_natives_susceptible.pdf

Management of  Phytophthora cinnamomi  for biodiversity  conservation in Australia:  Part 1—A review of  current management.	2005	O'Gara E, Howard K, Wilson B and Hardy GEStJ—a report by the Centre for Phytophthora Science and Management, Murdoch University, Western Australia funded by the Australian Government Department of the Environment and Heritage	www.environment.gov.au/ biodiversity/invasive-species/ publications/managem ent-phytophthora-cinnam omi-biodiversity-conservation
Management of  Phytophthora cinnamomi for biodiversity conservation in Australia: Part 2—National best practice guidelines.  Appendix 1— Phytophthora cinnamomi  Appendix 2—The rationale of current management options  Appendix 3— Areas vulnerable to disesase caused by Phytophthora cinnamomi  Appendix 4—The responses of native Australian plant species to Phytophthora cinnamomi	2005	O'Gara E, Howard K, Wilson B and Hardy GEStJ—a report by the Centre for Phytophthora Science and Management, Murdoch University, Western Australia funded by the Australian Government Department of the Environment and Heritage	www.environment.gov.au/biodiversity/invasive-species/publications/management-phytophthora-cinnamomi-biodiversity-conservation
Management of  Phytophthora cinnamomi for biodiversity conservation in Australia: Part 3—Risk assessment for threats to ecosystems, species and communities: A review	2005	Wilson B, Howard K, O'Gara E and Hardy GEStJ—a report by the Centre for Phytophthora Science and Management, Murdoch University, Western Australia funded by the Australian Government Department of the Environment and Heritage	www.environment.gov.au/ biodiversity/invasive-species/ publications/managem ent-phytophthora-cinnam omi-biodiversity-conservation
Management of  Phytophthora cinnamomi  for biodiversity  conservation in Australia:  Part 4—Risk assessment  models for species,  ecological communities  and areas.	2005	Centre for Phytophthora Science and Management—a report by the Centre for Phytophthora Science and Management, Murdoch University, Western Australia funded by the Australian Government Department of the Environment and Heritage	www.environment.gov.au/ biodiversity/invasive-species/ publications/managem ent-phytophthora-cinnam omi-biodiversity-conservation

Threat abatement plan	2014	Australian Government	www.environment.gov.au/
for disease in natural ecosystems caused by Phytophthora cinnamomi		Department of the Environment	resource/threat-abatement-plan disease-natural-ecosystems-cau sed-Phytophthora-cinnamomi
Background: Threat abatement plan for disease in natural ecosystems caused by <i>Phytophthora cinnamomi</i>	2014	Australian Government Department of the Environment	www.environment.gov.au/ resource/threat-abatement-plan disease-natural-ecosystems-cau sed-Phytophthora-cinnamomi
Response of selected South Australian native plant species to Phytophthora cinnamomi	2012	Kueh KH, McKay SF, Facelli E, Facelli JM, Velzeboer RMA, Able AJ, Scott ES	onlinelibrary.wiley. com/doi/10.1111/ j.1365-3059.2012.02593.x/full
Infection of native plants by <i>Phytophthora cinnamomi</i> —key threatening process listing	2002	New South Wales Government Office of Environment and Heritage	www.environment.nsw. gov.au/determinations/ PhytophthoraKTPListing.htm
Stamp out the spread of Phytophthora dieback		Royal Botanic Gardens Sydney	www.rbgsyd.nsw.gov.au/data/ assets/pdf_file/0008/106937/ Phytophthora_brochure.pdf
Are you a carrier? Phytophthora dieback is a silent plant killer		Royal Botanic Gardens Sydney	www.rbgsyd.nsw.gov.au/data/ assets/pdf_file/0007/106936/ Phytophthora_flyer.pdf
Management of Phytophthora cinnamomi in production forests	2009	Tasmanian Government Forest Practices Authority	www.fpa.tas.gov.au/data/ assets/pdf_file/0004/58054/ Flora_technical_note_8_ Phytophthora.pdf
Biodiversity Guidelines: Protecting and managing Diodiversity on RTA projects	2011	NSW Roads and Maritime Services	www.rms.nsw.gov.au/ documents/about/environment/ biodiversity_guidelines.pdf
Guide 7: Pathogen management			

# References and resources—myrtle rust

Look out for myrtle rust	2010	New South Wales Department of Primary Industries	www.dpi.nsw.gov.au/data/ assets/pdf_file/0010/364870/ myrtle-rust-brochure.pdf
Identification of myrtle rust	2010	New South Wales Department of Primary Industries	www.dpi.nsw.gov.au/data/ assets/pdf_file/0009/337374/ identification-myrtle-rust.pdf
Preventing spread of myrtle rust in bushland	2010	New South Wales Department of Primary Industries	www.dpi.nsw.gov.au/data/ assets/pdf_file/0008/362096/pr eventing-spread-Myrtle-Rust-bu shland.pdf
New South Wales Department of Primary Industries myrtle rust resources page		New South Wales Department of Primary Industries	www.dpi.nsw.gov.au/ biosecurity/plant/myrtle-rust/ resources
Australian Nursery Industry myrtle rust management plan	2012	Nursery and Garden Industry Australia	www.ngia.com.au/ Folder?Action=View%20 File&Folder id=135&File=Myrtle%20 Rust%20Management%20 Plan%202012%20Final%20 V2.pdf
Myrtle rust—current information including national and international host lists; bibliography.	2014	The Australian Network for Plant Conservation	https://www.anbg.gov.au/anpc/ resources/Myrtle_Rust.html
Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects	2011	NSW Roads and Maritime Services	www.rms.nsw.gov.au/ documents/about/environment. biodiversity_guidelines.pdf
Guide 7: Pathogen management			
Current Biosecurity Threats		Biosecurity Tasmania, Department of Primary Industries, Parks, Water and Environment	dpipwe.tas.gov.au/biosecurity/ current-biosecurity-threats

# References and resources—weeds

Australian Weeds Strategy—A national strategy for weed management in Australia	2006	Natural Resource Management Ministerial Council, Australian Government Department of the Environment and Water Resources	www.environment.gov.au/ biodiversity/invasive/weeds/ publications/strategies/pubs/ weed-strategy.pdf
Weeds in Australia web pages		Australian Government Department of the Environment	www.weeds.gov.au
Weeds of National Significance (WoNS) web pages		Australian Weeds Committee	www.weeds.org.au
Vehicle and machinery checklists— clean-down procedures	2014	Biosecurity Queensland, Department of Agriculture, Fisheries and Forestry; State of Queensland	https://www.daff.qld. gov.au/data/assets/ pdf_file/0011/58178/ IPA-Cleandown-Procedures.pdf
Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects Guide 6:	2011	NSW Roads and Maritime Services	www.rms.nsw.gov.au/ documents/about/environment/ biodiversity_guidelines.pdf
Guide 6: Weed management			

# Appendix A

# **Example checklists**

#### Risk assessment checklist

Determine all risks associated with the potential transfer of pathogens or weeds to/from/through the project site (consider all participants handling plant material and equipment, from collection to site through to on-site works and clean-up).

Liaise with the project site's land managers to determine the presence of:
☐ Phytophthora spp.
☐ Myrtle rust
□ Weeds
Liaise with the project site's land managers to determine the presence of:
☐ Vulnerable native plant communities
$\square$ Species susceptible to <i>Phytophthora</i> spp. or myrtle rust
☐ Threatened species or communities listed under Commonwealth or state/territory legislation
Identify any planned activities with the potential to introduce or spread pathogens or weeds:
☐ Introduction of plant material to a site (seedlings, seeds, mulch etc.)
☐ Introduction of other materials to a site (soil, gravel, rock, sand etc.)
☐ Vehicle or machinery access to a site
☐ Any potential soil disturbance

#### Hygiene management plan checklist

To prevent the risks having an impact:

☐ Plan to visit only one site per day☐ Schedule activities for the right conditions

☐ Use equipment that can be cleaned easily and thoroughly

☐ Minimise personal items that can carry pathogens

☐ Include training sessions so participants are aware of why hygiene is necessary, how to arrive clean, stay clean and leave clean

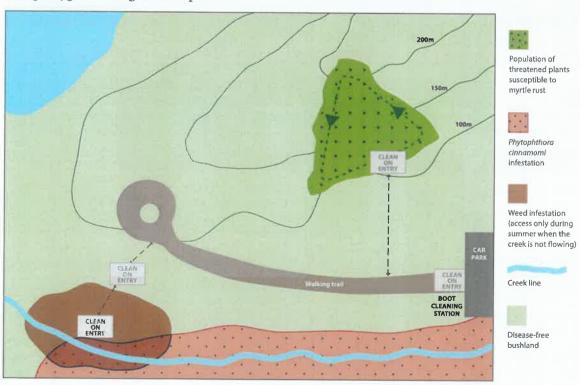
☐ Establish access controls including routes of access and timing on a management map

☐ Establish hygiene controls including hygiene procedures, hygiene infrastructure, clean on entry locations and wash-down points on a management map

☐ Maintain wash-down facilities and hygiene infrastructure

 $\square$  Record and monitor site for any accidental spread of pathogens or weeds

#### Example hygiene management map



A large area within the project site is disease-free bushland, including a population of threatened plants susceptible to myrtle rust. This population must be monitored regularly during and after the project for any indications of disease.

There is an infestation of the weed arum lily (Zantedeschia aethiopica) limited to a small area on either side of the creek. Part of this area is also infested with *Phytophthora cinnamomi* which is present along much of the creek line. To avoid the spread of *Phytophthora cinnamomi*, all weed control activities should be scheduled during the dry season when the creek is not flowing.

'Clean on entry' access to the site is via a boot cleaning station at the car park entrance. From the walking trail there is one pathway of access to the population of threatened plants and another to the arum lily population. At both of these 'clean on entry' points there will be hygiene kits containing hard brushes, spray bottles of disinfectant and alcohol wipes.

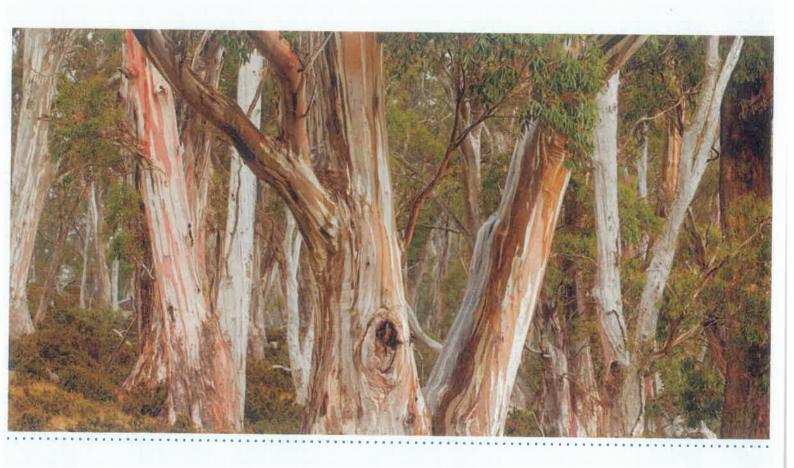
#### Biosecurity hygiene kit: assemble a simple kit with the following items:

- ☐ Plastic tub with a lid (to carry items and to use as a footbath)
- ☐ Stiff brush
- ☐ Newspaper to cover the footwell of a vehicle (replace with clean newspaper regularly)
- ☐ Dustpan and brush; possibly also a long-handled broom
- ☐ Plastic bag for sweepings and dirty newspaper
- ☐ Drum of water and some disinfectant, for example a solution of 70% ethanol or methylated spirits in 30% water; or 20% household bleach (with 5% active ingredient) in 80% water; or quaternary ammonium disinfectant diluted according to manufacturer's directions.
- $\square$  Spray bottle with a solution of 70% ethanol or methylated spirits in 30% water
- ☐ Alcohol wipes or gel for hands and personal items



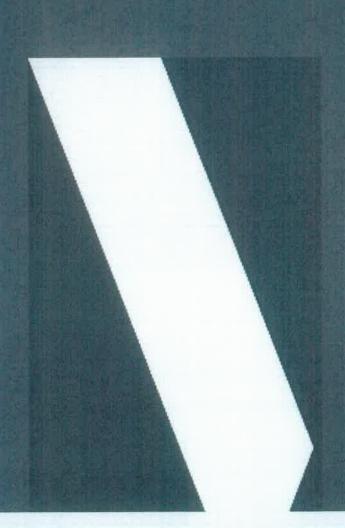
Photo: Biosecurity hygiene kit (Department of Parks and Wildlife WA)

environment.gov.au



# Appendix E

Biodiversity inspection checklist



# 四 Biodiversity inspection checklist

Date of inspection:	ected by:

Biodiversity protection	Compliance		Description of action (if required)	Ac	tion ris	Action risk rating		Completion
Headoule	Yes	No		_	2	ယ	4	sign off
General site and erosion management	16							
The site is generally in a tidy condition								
Areas of localised soil erosion have been identified and appropriate								
preventative measures implemented								
Stockpiles are less than 2 m in height								
Sediment fence is installed correctly and there are no gaps								
All materials and equipment are contained within the project boundary								
Stockpiles are sited in low-hazard areas clear of watercourses								

Biodiversity protection	Compliance	liance	Description of action (if required)	Ac	tion ris	Action risk rating		Completion
measure	Yes	No		_	2	3	4	sign off
Vegetation management								
Clearing limits and work boundaries are established and well defined								
Exclusion fencing around trees and sensitive areas is intact								
Clearing extent and total areas is within approved clearing								
Clearing works are undertaken in accordance with clearing protocols								
No visible weed infestation								
Equipment and vehicles arriving on site are clean (spot check)								
Sensitive area maps (showing clearing boundaries and exclusion zones) are available and accessible for all site staff								
Habitat features (e.g., fallen timber, hollow logs) from the development footprint have been relocated to adjacent retained vegetation								

Project No PS125032 Biodiversity Management Plan Jindabyne Education Campus School Infrastructure NSW

Biodiversity protection	Comp	liance	Compliance Description of action (if required)	Ac	tion ris	Action risk rating		Completion
measure	Yes No	No		_	2	ယ	4	sign off
Other observations					É			

# Action risk rating

Action rish rating	Action risk Risk level Priority rating	Priority	Examples
1	Extreme	Immediately – must be closed out on the day of	— Any actual or potential non-compliance with any environmental approval conditions
		inspection	— Adverse weather conditions are predicted that may result in above if controls are not adequate
2	High	Within 24 hrs	— Critical controls are damaged and need to be reinstated before a rain event
w	Medium	Within 3 working days	— Sensitive area mapping not accessible for site staff
4	Low	Within 5 working days	— Stockpiles need to be stabilised
			- Relocation of habitat features hasn't occurred

#### About Us

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A.11 Executive Summary from Preliminary Site Investigation (Contamination) Report



Colliers International Project Management Pty Ltd

29 July 2021

4 Parramatta Square, 12 Darcy Street, Parramatta NSW 2150

State Significant Development (SSD No 15788005): Hazardous materials survey of existing aboveground buildings.

To whom this may concern,

Please see attached Hazardous Materials Register and Asbestos Management Plan produced by Coffey (Project Ref: ENAURHOD06240AA), which accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) in support of an application for a State Significant Development (SSD No 15788005). The SSDA is for a new education campus at Jindabyne, comprising of a new primary and high school, located at the Jindabyne Sport and Recreation Centre (JSRC).

This report addresses the Secretary's Environmental Requirements (SEARs), notably:

Provide a hazardous materials survey of existing aboveground buildings that are proposed to be demolished or altered.

The attached document covers the entire Sport and Recreation Centre owned by the Office of Sport. For your reference, please note only cottages 4, 12 and 17 are located within the area subject to the EIS associated with SSD No 15788005, and therefore the only structures proposed to be demolished.

Sincerely,

David Carey **Project Director** 



#### A.12 SSDA Compliance Conditions

		Jindabyne Education Campus - SSD Conditio	ns Responsibility I	Matrix		
No.		Description	Responsibility	Discipline	Status	Comments
	ation to Minimise Harm to the Environment	Description	пезропающе	Discipline	Status	Comments
1		A1. In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and, if prevention is not reasonable and feasible, minimise any material harm to the environment that may result from the construction and operation of the development.	Contractor - during construction Principal - operation of the development		Open	Noted
Term	s of Consent	A2 The development was solving and			ı	
		A2. The development may only be carried out:  (a)in compliance with the conditions of this consent;  (b)in accordance with all written directions of the Planning Secretary;  (c)generally in accordance with the EIS and Response to Submissions;  (d)in accordance with the approved plans in the table below:  (table outlines design drawings submitted with SSDA)	Contractor		Open	Noted
2		A3. Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to:  (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary;  (b) any reports, reviews or audits commissioned by the Planning Secretary regarding compliance with this approval; and  (c) the implementation of any actions or measures contained in any such document referred to in (a) above.	Principal		Open	
		A4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.	Contractor		Open	Noted
Limit	s of Consent					
3		A5. This consent lapses five years after the date of consent unless work is physically commenced.	Principal		Open	
Preso	ribed Conditions					
4		A6. The Applicant must comply with all relevant prescribed conditions of development consent under Part 6, Division 8A of the EP&A Regulation.	Contractor		Open	Noted
5	ing Secretary as Moderator	A7. In the event of a dispute between the Applicant and a public authority, in relation to an applicable requirement in this approval or relevant matter relating to the Development, either party may refer the matter to the Planning Secretary for resolution. The Planning Secretary's resolution of the matter must be binding on the parties.	Principal		Open	
6 Stagi	nce of Consultation	A8. Where conditions of this consent require consultation with an identified party, the Applicant must: (a) consult with the relevant party prior to submitting the subject document for information or approval; and (b) provide details of the consultation undertaken including: (I) the outcome of that consultation, matters resolved and unresolved; and (ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.	Principal		Open	

		A9. The project may be constructed and operated in stages. Where compliance with conditions is required to be staged due to staged construction or operation, a Staging Report (for either or both construction and operation as the case may be) must be prepared and submitted to the satisfaction of the Planning Secretary. The Staging Report must be submitted to the Planning Secretary no later than one month before the commencement of construction of the first of the proposed stages of construction (or if only staged operation is proposed, one month before the commencement of operation of the first of the proposed stages of operation).	Contractor - during construction Principal - operation of the development	Open	Noted
7		A10. Any revised Staging Report prepared in accordance with condition A10 must:  (a) if staged construction is proposed, set out how the construction of the whole of the project will be staged, including details of work and other activities to be carried out in each stage and the general timing of when construction of each stage will commence and finish;  (b) if staged operation is proposed, set out how the operation of the whole of the project will be staged, including details of work and other activities to be carried out in each stage and the general timing of when operation of each stage will commence and finish (if relevant);  (c) specify how compliance with conditions will be achieved across and between each of the stages of the project; and  (d) set out mechanisms for managing any cumulative impacts arising from the proposed staging.	Contractor - during construction Principal - operation of the development	Open	Noted
		A11. Where a revised Staging Report is required, the project must be staged in accordance with the Staging Report, as approved by the Planning Secretary	Contractor - during construction Principal - operation of the development	Open	Noted
		A12. Where construction or operation is being staged in accordance with the Staging Report, in terms of this consent that apply or are relevant to the works or activities to be carried out in a specific stage must be compiled with at the relevant time for that stage as identified in the Staging Report	Contractor - during construction Principal - operation of the development	Open	Noted
Stagii	ng, Combining and Updating Strategies, Plans	or Programs			
		A13. The Applicant may:  (a)prepare and submit any strategy, plan (including management plan, architectural or design plan) or program required by this consent on a staged basis (if a clear description is provided as to the specific stage			
8		and scope of the development to which the strategy, plan (including management plan, architectural or design plan) or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan (including management plan, architectural or design plan) or program); (b) combine any strategy, plan (including management plan, architectural or design plan), or program required by this consent (if a clear relationship is demonstrated between the strategies, plans (including management plan, architectural or design plan) or programs that are proposed to be combined); and (c) update any strategy, plan (including management plan, architectural or design plan), or program required by this consent (to ensure the strategies, plans (including management plan, architectural or design plan), or programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).	Principal	Open	
8		and scope of the development to which the strategy, plan (including management plan, architectural or design plan) or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan (including management plan, architectural or design plan) or program); (b) combine any strategy, plan (including management plan, architectural or design plan), or program required by this consent (if a clear relationship is demonstrated between the strategies, plans (including management plan, architectural or design plan) or programs that are proposed to be combined); and (c) update any strategy, plan (including management plan, architectural or design plan), or program required by this consent (to ensure the strategies, plans (including management plan, architectural or design plan), or programs required under this consent are updated on a regular basis and incorporate	Principal Principal	Open	
8		and scope of the development to which the strategy, plan (including management plan, architectural or design plan) or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan (including management plan, architectural or design plan) or program); (b) combine any strategy, plan (including management plan, architectural or design plan), or program required by this consent (if a clear relationship is demonstrated between the strategies, plans (including management plan, architectural or design plan) or programs that are proposed to be combined); and (c) update any strategy, plan (including management plan, architectural or design plan), or program required by this consent (to ensure the strategies, plans (including management plan, architectural or design plan), or programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).  A14. Any strategy, plan or program prepared in accordance with condition A13, where previously approved by the Planning Secretary under this consent, must be submitted to the satisfaction of the Planning			

9 Exter	A17. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the BCA.  Note: Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 sets out the requirements for the certification of the development.  rnal Walls and Cladding  A18. The external walls of all buildings including additions to existing buildings must comply with the	Contractor	Northrop Structural Engineering, Austruss & Pedavoli Architects  Pedavoli Architects, Northrop	Open Open	
	relevant requirements of the BCA.		Structural Engineering & WSP	·	
11	A19. The external colours, materials and finishes of the buildings must be consistent with the approved plans referenced in Condition A2. Any minor changes to the colour/finish of approved external materials may be approved by the Certifier provided:  - the alternative colour/finish is of a similar tone/shade and finish to the approved external colours/building materials  - the quality and durability of any alternative material is the same standard as approved external building materials, and;  - a copy of any approved changes to the external colours and/or building materials by Certifier is provided to the Planning Secretary for information.	Contractor	Pedavoli Architects	Open	When required, to be approved by Group DLA.  Hansen Yuncken to send changes to Colliers.
D 0316	A20. New construction must comply with Sections 3 and 5 (BAL 12.5) Australian Standard AS3959-2009 Construction of buildings in bushfire-prone areas or NASH National Standard Steel Framed Construction in Bushfire Areas (as updated) as appropriate and section 7.5 of Planning for Bush Fire Protection 2019.	Contractor	Peterson Bushfire	Open	
	A21. The provision of water, electricity and gas must comply with Table 6.8c of Planning for Bush Fire Protection 2019.	Contractor	Peterson Bushfire & NDY	Open	
12	A22. From the commencement of building works and for the duration of the educational land-use, the entire leasehold area must be managed as an inner protection area in accordance with the following requirements of Appendix 4 of Planning for Bush Fire Protection 2019:  (a) tree canopy cover should be less than 15% at maturity; (b) trees at maturity should not touch or overhang the building; (c) lower limbs should be removed up to a height of 2 m above the ground; (d) tree canopies should be separated by 2 to 5 m; (e) preference should be given to smooth-barked and evergreen trees; (f) large discontinuities or gaps in the shrubs layer should be provided to slow down or break the progress of fire towards buildings; (g) shrubs should not be located under trees; (h) shrubs should not form more than 10% ground cover; (l) clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation; (j) grass should be kept mown (as a guide, grass should be kept to no more than 100mm in height); and (k) leaves and vegetation debris should be removed regularly. This must form part of a Landscaping Management Plan to ensure ongoing management of these APZs as required by condition D35.	Contractor - during construction Principal - operation of the development	A22a - A22i Taylor Brammer Landscape Architects A22j - A22k Principal	Open	TBLA and PA to ensure incorporation of ecological arborist report from December 2021 into their design.

	A23. Bush Fire Emergency Management and Evacuation Plan must be prepared consistent with the:  (a) NSW RFS document: A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan; and,  (b) NSW RFS Schools Program Guide and/or Australian Standard AS 3745:2010 Planning for emergencies in facilities.  The Bush Fire Emergency Management and Evacuation Plan should include planning for the early relocation of occupants.  Note: A copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee for its information prior to occupation of the development. An Emergency Planning Committee needs to be established to consult with residents (and their families in the case of schools) and staff in developing and implementing an Emergency Procedures Manual. Detailed plans of all emergency assembly areas including on-site and off-site arrangements as stated in AS 3745:-2010 are to be clearly displayed, and an annual emergency evacuation exercise is to be conducted.	Contractor	Peterson Bushfire	Open	
Applicability of Guidelines					
	A24. References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent.	Contractor		Open	Noted
13	A25. Consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.	Principal		Open	
Monitoring and Environmental Au	udits				
14 Access to Information	A26. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, noncompliance notification, Site audit report and independent auditing.  Note: For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.	Contractor		Open	Noted

(x) any other matter required by the Planning Secretary; and  (b) keep such information up to date, to the satisfaction of the Planning Secretary and publicly available for 12 months after commencement of operations.  Compliance  A28. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.  Incident Notification, Reporting and Response  A29. The Planning Secretary must be notified through the major projects portal immediately after the	15	A27. At least 48 hours before the commencement of construction until the completion of all works under this consent, or such other time as agreed by the Planning Secretary, the Applicant must:  (a) make the following information and documents (as they are obtained or approved) publicly available on its website:  (I) the documents referred to in condition A2 of this consent; (ii) all current statutory approvals for the development; (iii) all approved strategies, plans and programs required under the conditions of this consent; (iv) regular reporting on the environmental performance of the development in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent; (v) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs; (vi) a summary of the current stage and progress of the development; (vii) contact details to enquire about the development or to make a complaint; (viii) a complaints register, updated monthly; (ix) audit reports prepared as part of any independent audit of the development and the Applicant's	Contractor to provide all information to Principal Principal responsible for website	All Disciplines	Open	Noted
A28. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.  Incident Notification, Reporting and Response  A29. The Planning Secretary must be notified through the major projects portal immediately after the	Compliance	(b) keep such information up to date, to the satisfaction of the Planning Secretary and publicly available for				
A29. The Planning Secretary must be notified through the major projects portal immediately after the	16	aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.	Contractor		Open	Noted
development application number and the name of the development if it has one), and set out the location and nature of the incident.		A29. The Planning Secretary must be notified through the major projects portal immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one), and set out the location and nature of the incident.	Contractor		Open	Noted
A30. Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix 2.  Non-compliance Notification  Contractor  Open Noted	Non compliance Natification	The state of the s	Contractor		Open	Noted
A31. The Planning Secretary must be notified through the major projects portal within seven days after the Applicant becomes aware of any non-compliance. The Certifier must also notify the Planning Secretary through the major projects portal within seven days after they identify any non-compliance.  Contractor  Contractor  Open  Noted	Non-compliance Notification	Applicant becomes aware of any non-compliance. The Certifier must also notify the Planning Secretary	Contractor		Open	Noted
A32. The notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.  Contractor  Contractor	18	condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to	Contractor		Open	Noted
A33. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.  Contractor  Contractor  Open  Noted	Revision of Strategies, Plans and Programs	compliance.	Contractor		Open	Noted

19		A34. Within three months of  (a) the submission of a compliance report under condition A31; (b) the submission of an incident report under condition A30; (c) the submission of an Independent Audit under condition C41 or C42; (d) the approval of any modification of the conditions of this consent; or (e) the issue of a direction of the Planning Secretary under condition A2 which requires a review, the strategies, plans and programs required under this consent must be reviewed, and the Planning Secretary and the Certifier must be notified in writing that a review is being carried out.	Principal	Open	
		A35. If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans, programs or drawings required under this consent must be revised, to the satisfaction of the Certifier. Where revisions are required, the revised document must be submitted to the Certifier for information within six weeks of the review.  Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.	Principal	Open	
Biodi <sup>1</sup>	versity Development Assessment Report	A36. Prior to the commencement of works, the Biodiversity Development Assessment Report (BDAR), prepared by WSP Australia Pty Ltd dated July 2022, must be updated with the offset credits for Mauve Burrdaisy, Silky Swainsona-pea, and Tarengo Leek Orchid to be calculated with a polygon of 0.8ha rather than the 0.46ha as currently utilised in the BDAR. The updated BDAR must be submitted to the satisfaction of the Certifier. A copy of the approved updated BDAR and a copy of the documentation given to the Certifier must be provided to the Planning Secretary for information within seven days of the Certifier approving the BDAR.	Principal	Open	

		Jindabyne Education Campus - SSD Condit	ions Responsibilit	y Matrix		
No.		Description	Responsibility	Discipline	Status	Comments
Notic	ce of Commencement					
		B1. The Applicant must notify the Planning Secretary in writing of the dates of the intended commencement of construction and operation at least 48 hours before those dates.	Contractor	Hansen Yuncken (HY)	Open	
1		B2. If the construction or operation of the development is to be staged, the Planning Secretary must be notified in writing at least 48 hours before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.	Contractor	Hansen Yuncken (HY)	Open	
Certif	fied Drawings					
2		B3. Prior to the commencement of construction, the Applicant must submit to the satisfaction of the Certifier structural drawings prepared and signed by a suitably qualified practising Structural Engineer that demonstrates compliance with this development consent.	Contractor	Northrop Structural Engineering	Open	Submit structural drawings relevant to CC1 approval, as advised by Group DLA.
Exter	nal Walls and Cladding					
3		B4. Prior to the commencement of construction of external walls and cladding, the Applicant must provide the Certifier with documented evidence that the products and systems proposed for use or used in the construction of external walls, including finishes and claddings such as synthetic or aluminium composite panels, comply with the requirements of the BCA. The Applicant must provide a copy of the documentation given to the Certifier to the Planning Secretary within seven days after the Certifier accepts it.	Contractor	Pedavoli Architects	Open	External wall and cladding design to be reviewed and approved by façade consultant WSP.  CC2
Pre-C	Construction Dilapidation Report - Protection o	f Public Infrastructure				
4		B5. Prior to the commencement of construction, the Applicant must:  (a) consult with the relevant owner and provider of services that are likely to be affected by the development to make suitable arrangements for access to, diversion, protection and support of the affected infrastructure; (b) prepare a pre-construction dilapidation report identifying the condition of all public (non-residential) infrastructure in the vicinity of the site (including roads, gutters and footpaths) that have potential to be affected; and  (c) submit a copy of the pre-construction dilapidation report to the Planning Secretary when requested.	Contractor	Hansen Yuncken (HY)	Open	CC1
Pre-C	Construction Survey - Adjoining Properties					
		B6. Prior to the commencement of any construction, the Applicant must offer a pre-construction survey to owners of residential and heritage listed buildings that are likely to be impacted by the development.	Principal		Open	
5		B7. Where the offer for a pre-construction survey is accepted (as required by condition B6), the Applicant must arrange for a survey to be undertaken by a suitably qualified and experienced expert prior to the commencement of vibration generating works that could impact on the identified buildings.	Principal		Open	
	munity Communication Strategy	B8. Prior to the commencement of any vibration generating works that could impact on the buildings surveyed as required by condition B7, the Applicant must:  (a) provide a copy of the relevant survey to the owner of each residential building surveyed in the form of a Pre-Construction Survey Report;  (b) submit a copy of the Pre-Construction Survey Report to the Certifier; and  (c) provide a copy of the Pre-Construction Survey Report to the Planning Secretary when requested.	Principal		Open	CC1

No.	Description	Responsibility	Discipline	Status	Comments
6	B9. No later than 48 hours before the commencement of construction, a Community Communication Strategy must be submitted to the Planning Secretary for information. The Community Communication Strategy must provide mechanisms to facilitate communication between the Applicant, the relevant Council and the community (including adjoining affected landowners and businesses, and others directly impacted by the development), during the design and construction of the development and for a minimum of 12 months following the completion of construction.  The Community Communication Strategy must:  (a) identify people to be consulted during the design and construction phases; (b) set out procedures and mechanisms for the regular distribution of accessible information about or relevant to the development; (c) provide for the formation of community-based forums, if required, that focus on key environmental management issues for the development; (d) set out procedures and mechanisms: (I) through which the community can discuss or provide feedback to the Applicant; (ii) through which the Applicant will respond to enquiries or feedback from the community; and (iii) to resolve any issues and mediate any disputes that may arise in relation to construction and operation of	Principal		Open	
Ecologically Sustainable Development	the development, including disputes regarding rectification or compensation.  (e) include any specific requirements around traffic, noise and vibration, visual impacts, amenity, flora and fauna, soil and water, contamination, heritage.  B10. Prior to the commencement of construction, unless otherwise agreed by the Planning Secretary, the				
7 Head Contractor	Applicant must demonstrate that ESD is being achieved by either:  (a) registering for a minimum 4 star Green Star rating with the Green Building Council Australia and submit evidence of registration to the Certifier; or  (b) seeking approval from the Planning Secretary for an alternative certification process.	Principal		Open	CC1
Outdoor Lighting					
8	B11. Prior to commencement of lighting installation, evidence must be submitted to the satisfaction of the Certifier that all outdoor lighting within the site has been designed to comply with AS 1158.3.1:2005 Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements and AS 4282-2019 Control of the obtrusive effects of outdoor lighting.	Contractor	NDY	Open	CC2
Architectural					
Demolition  9  Existing Airport / Helicopter Operations During Co	B12. Prior to the commencement demolition in each stage, demolition work plans required by AS 2601-2001 The demolition of structures (Standards Australia, 2001) must be accompanied by a written statement from a suitably qualified person that the proposals contained in the work plan comply with the safety requirements of the Standard. The work plans and the statement of compliance must be submitted to the Certifier and Planning Secretary.	Contractor	Pedavoli Architects	Open	CC1
g importy ricincopter operations burning co	B13. Prior to the commencement of cranage works, helicopter and aeroclub operations at the Jindabyne				
10	Aeroclub are to be reviewed by a suitably qualified and experienced aviation professional in consultation with relevant stakeholders including the Jindabyne Aeroclub. The review must consider the proposed construction methodology including plant and equipment to be used (including lighting and cranes) and recommend changes to the construction methodology and / or flight paths where required to ensure safe ongoing helicopter operations at the site as set out in the Aviation Assessment prepared by SLR Consulting Australia Pty Ltd dated 16 December 2021. A report summarising the outcome of the review must be submitted to the Certifier.	Contractor	Hansen Yuncken (HY)	Open	CC1
Environmental Management Plan Requirements					

No.	Description	Responsibility	Discipline	Status	Comments
11  Construction Environmental Management Plan	B14. Management plans required under this consent must be prepared having regard to the relevant guidelines, including but not limited to the Environmental Management Plan Guideline: Guideline for Infrastructure Projects (DPIE April 2020).  Notes:  The Environmental Management Plan Guideline is available on the Planning Portal at: https://www.planningportal.nsw.gov.au/major-projects/assessment/post-approval  The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.	Contractor	Hansen Yuncken (HY)	Open	CC1
	B15. Prior to the commencement of construction, the Applicant must submit a Construction Environmental Management Plan (CEMP) to the Certifier and provide a copy to the Planning Secretary for information. The CEMP must include, but not be limited to, the following:  (a) Details of: (I) hours of work; (ii) 24-hour contact details of site manager; (iii) management of dust and odour to protect the amenity of the neighbourhood; (iv) external lighting in compliance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting; (v) measures to be in place to address aviation operations in accordance with condition B13 (vi) community consultation and complaints handling as set out in the Community Communication Strategy required by condition B9; (b) an unexpected finds protocol for contamination and associated communications procedure to ensure that potentially contaminated material is appropriately managed; (c) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure; (d) mitigation measures in accordance with: (I) Construction Traffic and Pedestrian Management Sub-Plan (see condition B16); (ii) Construction Noise and Vibration Management Sub-Plan (see condition B17); (iii) Construction Waste Management Sub-Plan (see condition B19); (v) Aboriginal Cultural Heritage Management Sub-Plan (see condition B20); (vi) Biodiversity Management Sub-Plan (see condition B21).	Contractor	Hansen Yuncken (HY)	Open	CC1
	B16. The Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) must be prepared to achieve the objective of ensuring safety and efficiency of the road network and address, but not be limited to, the following:  (a) be prepared by a suitably qualified and experienced person(s); (b) be prepared in consultation with Council and TfNSW; (c) detail:  (I) measures to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services; (ii) measures to ensure the safety of vehicles and pedestrians accessing adjoining properties where shared vehicle and pedestrian access occurs; (iii) heavy vehicle routes, access and parking arrangements; (iv) the swept path of the longest construction vehicle entering and exiting the site in association with the new work, as well as manoeuvrability through the site, in accordance with the latest version of AS 2890.2; and (v) arrangements to ensure that construction vehicles enter and leave the site in a forward direction unless in specific exceptional circumstances under the supervision of accredited traffic controller(s).	Contractor	ARC	Open	CC1

No.	Description	Responsibility	Discipline	Status	Comments
12	B17. The Construction Noise and Vibration Management Sub-Plan must address, but not be limited to, the following:  (a) be prepared by a suitably qualified and experienced noise expert;  (b) describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009);  (c) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;  (d) include strategies that have been developed with the community for managing high noise generating works;  (e) describe the community consultation undertaken to develop the strategies in condition B17(d);  (f) include a complaints management system that would be implemented for the duration of the construction; and  (g) include a program to monitor and report on the impacts and environmental performance of the development and the effectiveness of the implemented management measures in accordance with the requirements of condition B15.	Contractor	White Noise Acoustics	Open	CC1
	B18. The Construction Waste Management Sub-Plan (CWMSP) must address, but not be limited to, the procedures for the management of waste including the following:  (a) the recording of quantities, classification (for materials to be removed) and validation (for materials to remain) of each type of waste generated during construction and proposed use for materials to remain;  (b) information regarding the recycling and disposal locations; and  (c) confirmation of the contamination status of the development areas of the site based on the validation results.	Contractor	Hansen Yuncken (HY)	Open	CC1
	B19. The Applicant must prepare a Construction Soil and Water Management Sub-Plan (CSWMSP) and the plan must address, but not be limited to the following:  (a) be prepared by a suitably qualified expert, in consultation with Council;  (b) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;  (c) describe all erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book';  (d) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site);  (e) detail all off-site flows from the site; and	Contractor	Northrop Civil Engineering	Open	CC1
	B20. The Aboriginal Cultural Heritage Management Sub-Plan (ACHMSP) must address, but not be limited to, the following:  (a) be prepared by a suitably qualified and experienced expert in consultation with the Registered Aboriginal Parties;  (b) describe the measures to protect the known artefact Jindabyne Campus AFT 2 in perpetuity;  (c) implement recommendations made in the Aboriginal Cultural Heritage Assessment for Jindabyne Education Campus dated 23 May 2022 prepared by NGH Pty Ltd	Contractor	NGH Consulting	Open	CC1
	B21. The Biodiversity Management Sub-Plan (BMSP) must address, but not be limited to, the following:  (a) be prepared by a suitably qualified and experienced person/s;  (b) identify areas of land where impacts on biodiversity are to be avoided as outlined in the biodiversity development assessment report prepared by WSP Australia Pty Ltd and dated July 2022 and set out how these areas will be protected from construction impacts;  (c) set out the measures identified in the Biodiversity Development Assessment Report to minimise, mitigate and manage impacts on biodiversity, including timing and responsibility for delivery of the measures.	Contractor	WSP	Open	CC1
	B22. A Driver Code of Conduct must be prepared and communicated by the Applicant to heavy vehicle drivers and must address the following:  (a) minimise the impacts of earthworks and construction on the local and regional road network;  (b) minimise conflicts with other road users;  (c) minimise road traffic noise; and  (d) ensure truck drivers use specified routes.	Contractor	ARC	Open	CC1

No.		Description	Responsibility	Discipline	Status	Comments		
Consti	Construction Parking							
13		B23. Prior to the commencement of construction, the Applicant must provide sufficient parking, facilities on- site, including for heavy vehicles and for site personnel to ensure that construction traffic associated with the development does not utilise public and residential streets or public parking facilities.	Contractor	Hansen Yuncken (HY)	Open			
Opera	Operational Noise – Design of Mechanical Plant and Equipment							
14		B24. Prior to installation of mechanical plant and equipment:  (a) a detailed assessment of mechanical plant and equipment with compliance with the relevant project noise trigger levels as recommended in the Jindabyne Primary and High Schools SSDA Acoustic Report dated 3  December 2021 and prepared by SLR Consulting Australia Pty Ltd must be undertaken by a suitably qualified person; and  (b) evidence must be submitted to the Certifier that any noise mitigation recommendations identified in the assessment carried out under (a) have been incorporated into the design to ensure the development will not exceed the project noise trigger levels as identified in the Jindabyne Primary and High Schools SSDA Acoustic Report dated 3 December 2021 and prepared by SLR Consulting Australia Pty Ltd	Contractor	NDY & White Noise Acoustics	Open	CC1		
Biodiv		B25. Prior to the commencement of construction, the number and classes of ecosystem credits and species		I				
		credits (like-for-like) set out in the Biodiversity Development Assessment Report prepared in accordance with condition A36.	Principal		Open			
15		B26. The requirement to retire like-for-like ecosystem credits and species credits in condition B25 may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the number and classes of ecosystem credits and species credits.	Principal		Open			
15		B27. Where evidence of compliance with the Ancillary rules: Reasonable steps to seek like-for-like biodiversity credits for the purpose of applying the variation rules has been provided to the Planning Secretary, variation rules may be applied to retire the relevant ecosystem credits and species credits as set out in the BAM Biodiversity Credit Report.	Principal		Open			
		B28. Evidence of the retirement of credits in satisfaction of condition B25 must be provided to the Planning Secretary prior to commencement of construction.	Principal		Open			
Opera	tional Waste Storage and Processing							
16		B29. Prior to the commencement of construction of the waste storage areas, the Applicant must obtain agreement from Council for the design of the operational waste storage area (where waste removal will be undertaken by Council). Where waste removal will be undertaken by a third party, evidence must be provided to the Certifier that the design of the waste storage area:  (a) is constructed using solid non-combustible materials;  (b) includes a cold water supply with a hose through a centralised mixing valve; and  (c) is naturally ventilated or an air handling exhaust system must be in place.	Contractor	Hansen Yuncken (HY)	Open	CC1		
Works	s within road reserve							
17		B30. Prior to the commencement of works within the road reserve, the Applicant must submit plans and technical specifications under section 138 of the Roads Act 1993, to the relevant roads authority, for the following works:  (a) Connection of internal access road to Barry Way  (b) Tree removal within the road reserve  Notes:  • Approval must be obtained for roadworks under section 138 of the Roads Act 1993.  • All costs associated with the proposed road upgrade works must be borne by the Applicant.  • In accordance with Section 4.42 of the Environmental Planning and Assessment Act 1979, an approval under Section of the 138 Roads Act 1993 cannot be refused if it is necessary for carrying out state significant development that is authorised by a development consent and is substantially consistent with the consent.	Contractor (pending PPO 1 instruction to proceed)	Northrop Civil Engineering & Hansen Yuncken (HY)	Open	CC1		
Intern	al Road and Parking Design							
18		B31. Prior to commencement of construction works, documentation must be submitted to the satisfaction of the Certifier demonstrating that the following works associated with the development are in accordance with relevant Australian Standards:  (a) Internal access road and vehicle circulation areas  (b) Bus bay  (c) Car Park  (d) Pedestrian areas	Contractor	Northrop Civil Engineering, ARC & Pedavoli Architects	Open	CC1		

No.		Description	Responsibility	Discipline	Status	Comments
		B32. Prior to the commencement of construction, the Applicant must submit design plans to the Certifier which demonstrate that the proposed internal roads comply with Table 6.8b of Planning for Bush Fire Protection 2019.	Contractor	ARC & Peterson Bushfire	Open	CC1
Opera	itional Access, Car Parking and Service Vehicle	Arrangements				
19		B33. Prior to the commencement of construction of operational parking and access facilities, evidence of compliance of the design of operational parking and access arrangements with the following requirements must be submitted to the Certifier:  (a) a minimum of 58 on-site car parking spaces for use during operation of the development and designed in accordance with the latest versions of AS 2890.1 and AS 2890.6; and  (b) the swept path of the largest service vehicle entering and exiting the Site in association with the new work, as well as manoeuvrability through the site, must be in accordance with the latest version of AS 2890.2.	Contractor	ARC & Northrop Civil Engineering	Open	
Public	Domain Works					
20		B34. Prior to the commencement of any footpath or public domain works, the Applicant must consult with Council and demonstrate to the Certifier that the streetscape design and treatment meets the requirements of Council, including addressing pedestrian management. The Applicant must submit documentation of approval for each stage from Council to the Certifier.	Contractor (pending PPO 2 instruction to proceed)	Northrop Civil Engineering	Open	
Retair	ning Walls					
21		B35. Where a retaining wall exceeds 600mm in height, the wall shall be designed by a practicing structural engineer in accordance with the relevant requirements of the BCA and Australian Standards.	Contractor	Northrop Structural Engineering	Open	
21		B36. Prior to commencement of works related to construction of retaining walls, documentation demonstrating compliance with B35, as relevant, must be submitted to the to the satisfaction of the Certifier.	Contractor	Northrop Structural Engineering	Open	
Crime	Prevention Through Environmental Design					
22		B37. Prior to the commencement of construction, the Applicant must submit to the satisfaction of the Certifier evidence that the recommendations of the Crime Prevention Through Environmental Design (CPTED) Report prepared by Mecone dated June 2022 have been incorporated into the design of the development.	Contractor	NDY & Pedavoli Architects	Open	CC1
Biodiv	versity Management Plan					
23		B38. Prior to the commencement of operation, the Applicant must prepare an Biodiversity Management Plan in accordance with the mitigation measures of the Biodiversity Development Assessment Report prepared by WSP Australia Pty Ltd dated July 2022 and submit the plan to the certifier for approval. The plan must:  (a) be prepared by a suitable qualified person  (b) outline processes to be implemented to implement and achieve the mitigation measures.	Principal		Open	CC1
Pylon	Sign					
24		B39. Prior to commencement of construction, the Applicant must consult with Council about the location and approval pathway for the pylon sign within the road reserve. The sign is not approved as part of this development consent.	Principal		Open	CC1

	Jindabyne Education Campus - SSD Conditions Responsibility Matrix						
No.			Responsibility	Discipline	Status	Comments	
1	C1. A site notice(s) must be prominently displayed at the boundari purpose of informing the public of project details and must satisfy (a) minimum dimensions of the notice must measure 841 mm x 59 be a minimum of 30-point type size; (b) the site notice(s) must be durable and weatherproof and must period; (c) the approved hours of work, the name of the builder, Certifier, manager, the responsible managing company (if any), its address a any inquiries, including construction/ noise complaint must be displayed.  (d) the site notice(s) must be mounted at eye level on the perimetrunauthorised entry to the site is not permitted.	the following requirements: 94 mm (A1) with any text on the notice to be displayed throughout the works structural engineer, site/ project and 24-hour contact phone number for played on the site notice(s); and	Contractor	Hansen Yuncken (HY)	Open	CC1	
2	C2. All construction plant and equipment used on site must be mai condition and operated in a proper and efficient manner.	intained in a proper and efficient	Contractor	Hansen Yuncken (HY)	Open	CC1	
3	C3. Demolition work must comply with the demolition work plans 2001 The demolition of structures (Standards Australia, 2001) and as required by condition B12.	· · · · · · · · · · · · · · · · · · ·	Contractor	Hansen Yuncken (HY) & Demolition Contractor	Open	CC1	
Consi	C4. Construction, including the delivery of materials to and from the following hours:  (a) between 7am and 6pm, Mondays to Fridays inclusive; and (b) between 8am and 1pm, Saturdays.  No work may be carried out on Sundays or public holidays.	he site, may only be carried out between	Contractor	Hansen Yuncken (HY)	Open	CC1	
	C5. Notwithstanding condition C4, provided noise levels do not exceptus 5dB, works may be undertaken during the following hours:  (a)between 6pm and 7pm, Monday to Friday inclusive; and (b)between 1pm and 4pm Saturdays	ceed the existing background noise level	Contractor	Hansen Yuncken (HY)	Open	CC1	
4	C6. Construction activities may be undertaken outside of the hours (a) by the Police or a public authority for the delivery of vehicles, p (b) in an emergency to avoid the loss of life, damage to property o (c) where the works are inaudible at the nearest sensitive receiver (d) for the delivery, set-up and removal of construction cranes, w provided to the Planning Secretary and affected residents at least (e) where a variation is approved in advance in writing by the appropriate justification is provided for the works.	olant or materials; or or to prevent environmental harm; or	Contractor	Hansen Yuncken (HY)	Open	If required.	
	C7. Notification of such construction activities as referenced in corresidents before undertaking the activities or as soon as is practical	_	Contractor	Hansen Yuncken (HY)	Open	CC1	
Imple	C8. Rock breaking, rock hammering, sheet piling, pile driving and s between the following hours:  (a) 9am to 12pm, Monday to Friday;  (b) 2pm to 5pm Monday to Friday; and  (c) 9am to 12pm, Saturday.		Contractor	Hansen Yuncken (HY)	Open	CC1	

No.	Description	Responsibility	Discipline	Status	Comments
5	C9. The Applicant must carry out the construction of the development in accordance with the most recent version of the approved CEMP (including Sub-Plans).	Contractor	Hansen Yuncken (HY)	Open	Noted
6	C10. All construction vehicles are to be contained wholly within the site, except if located in an approved or street work zone, and vehicles must enter the site or an approved on-street work zone before stopping.	Contractor	Hansen Yuncken (HY)	Open	Noted
7	C11. The following hoarding requirements must be complied with:  (a) no third-party advertising is permitted to be displayed on the subject hoarding/ fencing; and  (b) the construction site manager must be responsible for the removal of all graffiti from any construction hoardings or the like within the construction area within 48 hours of its application.	Contractor	Hansen Yuncken (HY)	Open	Noted
8	C12. The public way (outside of any approved construction works zone) must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances.	Contractor	Hansen Yuncken (HY)	Open	Noted
	C13. The development must be constructed to achieve the construction noise management levels detailed in the Interim Construction Noise Guideline (DECC, 2009). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures identified in the approved Construction Noise and Vibration Management Plan.	Contractor	Pulse White Noise Acoustics & Hansen Yuncken (HY)	Open	
9	C14. The Applicant must ensure construction vehicles (including concrete agitator trucks) do not arrive at the site outside of the construction hours of work outlined under condition C4.	Contractor	Pulse White Noise Acoustics & Hansen Yuncken (HY)	Open	Noted
	C15. The Applicant must implement, where practicable and without compromising the safety of construction staff or members of the public, the use of 'quackers' to ensure noise impacts on surrounding noise sensitive receivers are minimised.	Contractor	Pulse White Noise Acoustics & Hansen Yuncken (HY)	Open	
Vibrati	on Criteria	1			
10	C16. Vibration caused by construction at any residence or structure outside the site must be limited to: (a) for structural damage, the latest version of DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures (German Institute for Standardisation, 1999); and (b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: a technical guideline (DEC, 2006) (as may be updated or replaced from time to time).	Contractor	Pulse White Noise Acoustics & Hansen Yuncken (HY)	Open	
	C17. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition C16.	Contractor	Pulse White Noise Acoustics & Hansen Yuncken (HY)	Open	
	C18. The limits in conditions C16 and C17 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition B17 of this consent.	Contractor	Pulse White Noise Acoustics & Hansen Yuncken (HY)	Open	
Tree Pr	rotection				

No.	Description	Responsibility	Discipline	Status	Comments
11	(a)street trees must not be trimmed or removed unless it forms a part of this development consent or prior written approval from Council is obtained or is required in an emergency to avoid the loss of life or damage to property; (b)all street trees immediately adjacent to the approved disturbance area, not approved for removal, must be protected at all times during construction in accordance with Council's tree protection requirements. Any street tree, which is damaged or removed during construction due to an emergency, must be replaced, to the satisfaction of Council; (c)all trees on the site that are not approved for removal must be suitably protected during construction as per the recommendations of the Arboricultural Impact Assessment prepared by Eco Logical Pty Ltd dated 10 December 2021. (d)if access to the area within any protective barrier is required during the works, it must be carried out under the supervision of a qualified arborist. Alternative tree protection measures must be installed, as required. The removal of tree protection measures, following completion of the works, must be carried out under the supervision of a qualified arborist and must avoid both direct mechanical injury to the structure of the tree and soil compaction within the canopy or the limit of the former protective fencing, whichever is the greater.	Contractor	Pedavoli Architects & Hansen Yuncken	Open	
Air Quality	C20. The Applicant must take all reasonable stone to minimize dust an exited during all wards could be a				
	C20. The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.	Contractor	Hansen Yuncken	Open	
12	C21. During construction, the Applicant must ensure that:  (a) activities are carried out in a manner that minimises dust including emission of windblown or traffic generated dust;  (b) all trucks entering or leaving the site with loads have their loads covered;  (c) trucks associated with the development do not track dirt onto the public road network;  (d) public roads used by these trucks are kept clean from any dust emissions associated with the project; and  (e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.	Contractor	Hansen Yuncken & Civil Contractor	Open	
Soil and Water	C22 All presion and addingent control recognized most be effectively implemented and reciptained at an		1		
13	C22. All erosion and sediment control measures must be effectively implemented and maintained at or above design capacity for the duration of the construction works and until such time as all ground disturbed by the works have been stabilised and rehabilitated so that it no longer acts as a source of sediment. Erosion and sediment control techniques, as a minimum, are to be in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom, 2004) commonly referred to as the 'Blue Book'.	Contractor	Civil Subcontractor	Open	
Imported Fill					
14  Diamond of Council and Charmy value	C23. The Applicant must:  (a) ensure that only VENM, ENM, or other material that meets the requirements of a relevant order and exemption issued by the EPA, is brought onto the site;  (b) keep accurate records of the volume and type of fill to be used; and  (c) make these records available to the Certifier upon request.	Contractor	Hansen Yuncken & Civil Contractor	Open	
Disposal of Seepage and Stormwater	C24. Adequate provisions must be made to collect and discharge stormwater drainage during construction				
15	to the satisfaction of Certifier.	Contractor	Hansen Yuncken	Open	
Emergency Management					
16	C25. The Applicant must prepare and implement awareness training for employees and contractors, including locations of the assembly points and evacuation routes, for the duration of construction.	Contractor	Hansen Yuncken	Open	
Stormwater Management System					

No.	Description	Responsibility	Discipline	Status	Comments
17	C26. Within three months of the commencement of construction, the Applicant must design an operational stormwater management system for the development and submit it to the satisfaction of the Certifier. The system must:  (a) be designed by a suitably qualified and experienced person(s);  (b) be generally in accordance with the conceptual design in the EIS  (c) be in accordance with applicable Australian Standards; and  (d) ensure that the system capacity has been designed in accordance with Australian Rainfall and Runoff (Engineers Australia, 2016) and Managing Urban Stormwater: Council Handbook (EPA, 1997) guidelines;  (e) demonstrate measures to be implemented to maintain water quality for water discharged to Lees Creek;  (f) ensure that all stormwater from the agricultural plot is appropriately treated to remove pollutants prior to entering the broader stormwater network.	Contractor	Northrop Civil	Open	
Aborig	zinal Cultural Heritage C27. Construction must be undertaken in accordance with the recommendations of the Aboriginal Cultural				
	Heritage Assessment Report prepared by NGH Pty Ltd dated 23 May 2022.	Contractor	Hansen Yuncken	Open	
18	C28. A representative of the Local Aboriginal Land Council must be invited to observe works associated with condition B20 undertaken on the site. Any invitation must be provided at least 14 days prior to the works occurring and reasonable arrangements agreed for the observation of the works where an invitation is accepted. In the event that any unexpected finds are discovered, any direction from the Local Aboriginal Land Council representative and the procedures outlined in condition C29 must be followed.	Contractor	Hansen Yuncken & NGH	Open	
Unexp	pected Finds Protocol – Aboriginal Heritage	I	I	I	
19	C29. In the event that surface disturbance identifies a new Aboriginal object:  (a)all works must halt in the immediate area to prevent any further impacts to the object(s);  (b) a suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of the objects;  (c) the site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) which is managed by Heritage NSW under Department of Premier and Cabinet and the management outcome for the site included in the information provided to AHIMS;  (d) the Applicant must consult with the Aboriginal community representatives, the archaeologists and Heritage NSW to develop and implement management strategies for all objects/sites; and  (e)works may only recommence with the written approval of the Planning Secretary.	Contractor	Hansen Yuncken & NGH	Open	
Unexp	pected Finds Protocol – Historic Heritage				
20	C30. If any unexpected archaeological relics are uncovered during the work, then:  (a) all works must cease immediately in that area and notice is to be given to Heritage NSW and the Planning Secretary;  (b) depending on the possible significance of the relics, an archaeological assessment and management strategy may be required before further works can continue in that area as determined in consultation with Heritage NSW; and  (c)works may only recommence with the written approval of the Planning Secretary.	Contractor	Hansen Yuncken & NGH	Open	
waste	e Storage & Processing				
	C31. All waste generated during construction must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.	Contractor	Waste Audit & Hansen Yuncken	Open	
	C32. All waste generated during construction must be assessed, classified and managed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014)	Contractor	Waste Audit & Hansen Yuncken	Open	
21	C33. The Applicant must ensure that concrete waste and rinse water are not disposed of on the site and are prevented from entering any natural or artificial watercourse	Contractor	Waste Audit & Hansen Yuncken	Open	
	C34. The Applicant must record the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations for the duration of construction.	Contractor	Waste Audit & Hansen Yuncken	Open	

No.	Description	Responsibility	Discipline	Status	Comments
	C35. The Applicant must ensure that the removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility is in accordance with the requirements of the relevant legislation, codes, standards and guidelines.	Contractor	Waste Audit & Hansen Yuncken	Open	
Outdoor Lighting					
22	C36. The Applicant must ensure that all external lighting is constructed and maintained in accordance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting.	Contractor	Hansen Yuncken	Open	
Site Contamination					
	C37. Remediation of the site must be carried out in accordance with the Remedial Action Plan prepared by Douglas Partners and dated 1 December 2021 and any variations to the Remedial Action Plan approved by an NSW EPA-accredited Site Auditor) or the unexpected finds protocol prepared in accordance with condition B15(c).	Contractor	Hygienist & Civil Contractor	Open	
23	C38. If work is to be carried out / completed in stages, a NSW EPA-accredited Site Auditor must confirm satisfactory completion of each stage by the issuance of Interim Audit Advice(s).	Contractor	Hygienist & Civil Contractor	Open	
	C39. The Applicant must ensure the proposed development does not result in a change of risk in relation to any pre-existing contamination on the site that would result in significant contamination	Contractor	Hygienist & Civil Contractor	Open	
Independent Environmental Audit					
	C40. Proposed independent auditors must be agreed to in writing by the Planning Secretary prior to the commencement of an Independent Audit.	Principal		Open	
	C41. Independent Audits of the development must be conducted and carried out in accordance with the Independent Audit Post Approval Requirements.	Principal		Open	
	C42. The Planning Secretary may require the initial and subsequent Independent Audits to be undertaken at different times to those specified above, upon giving at least four weeks notice to the Applicant of the date upon which the audit must be commenced.	Principal		Open	
24	C43. In accordance with the specific requirements in the Independent Audit Post Approval Requirements, the Applicant must:  (a)review and respond to each Independent Audit Report prepared under condition C40 of this consent, or condition C42 where notice is given;  (b)submit the response to the Planning Secretary; and  (c) make each Independent Audit Report and response to it publicly available within 60 days after submission to the Planning Secretary.	Principal / Contractor	Hansen Yuncken (HY) - A ONLY	Open	A - Contractor B & C - Principal
	C44. Independent Audit Reports and the Applicant/proponents response to audit findings must be submitted to the Planning Secretary within two months of undertaking the independent audit site inspection as outlined in the Independent Audit Post Approval Requirements unless otherwise agreed by the Planning Secretary.	Principal		Open	
On antional Readings Made	C45. Notwithstanding the requirements of the Independent Audit Post Approval Requirements, the Planning Secretary may approve a request for ongoing independent operational audits to be ceased, where it has been demonstrated to the Planning Secretary's satisfaction that an audit has demonstrated operational compliance.	Principal		Open	
Operational Readiness Work					

No.	Description	Responsibilit	y Discipline	Status	Comments
25	C46. Operational readiness work must not commence on submitted to the Certifier:  (a) a plan and description of the area(s) of the site to be us pedestrian access) and areas still under construction (including (b) the maximum number of staff to be involved in operationa (c) arrangements to ensure the safety of school staff on the sit (I) areas to be used for operational readiness work will be cle the site still under construction;  (ii) pedestrian access to and within the site will be managed to movements; and  (d) access and parking arrangements to minimise impacts on to number of staff involved in operational readiness wo arrangements for construction workers on site.	ed for operational readiness work (including construction access); I readiness work on site at any one time; e, including how: arly and securely separated from the areas of Principal of ensure no conflict with construction vehicle the surrounding street network having regard		Open	
	C47. Operational readiness work must only be undertaken in condition C46 and the following requirements:  (a)no students or parents are permitted; and (b)the Applicant has implemented appropriate arrangements to	Principal		Open	

	Jindabyne Education Campus - SSD Conditions Responsibility Matrix					
No.		Description	Responsibility	Discipline	Status	Comments
1	of the development must be no development is to be staged, th	commencement of operation, the date of commencement of the operation tified to the Planning Secretary in writing. If the operation of the e Planning Secretary must be notified in writing at least one month before ge, of the date of commencement and the development to be carried out in	Contractor	Hansen Yuncken (HY)	Open	
2	D2. Prior to commencement of evidence that the products and	operation, the Applicant must provide the Certifier with documented systems used in the construction of external walls including finishes and luminium composite panels comply with the requirements of the BCA.	Contractor	Hansen Yuncken (HY) & Pedavoli Architects	Open	
	D3. The Applicant must provide Secretary within seven days after	a copy of the documentation given to the Certifier to the Planning er the Certifier accepts it.	Contractor	Hansen Yuncken (HY)	Open	
3	demonstrating that the stormw approved, must be submitted to	t of operation, works-as-executed drawings signed by a registered surveyor ater drainage and finished ground levels have been constructed as the Certifier.	Contractor	Hansen Yuncken (HY)	Open	
Warm 4	Act 2010) must comply with the if a Performance-based water c	ter systems and water cooling systems (as defined under the Public Health Public Health Act 2010, Public Health Regulation 2012 and Part 1 (or Part 3 poling system) of AS/NZS 3666.2:2011 Air handling and water systems of Operation and maintenance and the NSW Health Code of Practice for the st.	Contractor	Hansen Yuncken (HY) & Subcontractor	Open	
5	practitioner to the Certifier the achieves the objective of minime (a) complies with the latest veo (Standards Australia, 1997); and (b) has been mounted, screen surrounding properties or the position of th	ned and directed in such a manner that it does not create a nuisance to	Contractor	Hansen Yuncken (HY) & NDY	Open	
Mecha 6	Certifier that the installation an	operation, the Applicant must provide evidence to the satisfaction of the d performance of the mechanical ventilation systems complies with: r-conditioning in buildings – Mechanical ventilation in buildings and other Fire and Rescue NSW.	Contractor	Hansen Yuncken (HY) & NDY	Open	
Operat	tional Noise - Design of Mechanical Plant and Equipment					
7	noise mitigation recommendati incorporated into the design of exceed the project noise trigger Acoustic Report dated 3 Decem	t of operation, the Applicant must submit evidence to the Certifier that the ons in the assessment undertaken under condition B24 have been mechanical plant and equipment to ensure the development will not levels as identified in the Jindabyne Primary and High Schools SSDA ber 2021 and prepared by SLR Consulting Australia Pty Ltd.	Contractor	White Noise & NDY	Open	
Fire Sa	Fire or Other Safety Measures	occupation, a Fire Safety Certificate must be obtained for all the Essential forming part of this consent. A copy of the Fire Safety Certificate must be prity and Council. The Fire Safety Certificate must be prominently displayed	Contractor	Credwell & Subcontractors	Open	

No.	nspection Certificate	Description	Responsibility	Discipline	Status	Comments
9	D10 Stru Cer spe (a) to c (b)	O. Prior to the commencement of occupation of the relevant parts of any new or refurbished buildings, a uctural Inspection Certificate or a Compliance Certificate must be submitted to the satisfaction of the relicities. A copy of the Certificate with an electronic set of final drawings (contact approval authority for ecific electronic format) must be submitted to the Planning Secretary and the Council after:  the site has been periodically inspected and the Certifier is satisfied that the structural works is deemed comply with the final design drawings; and  the drawings listed on the Inspection Certificate have been checked with those listed on the final sign Certificate/s.	Contractor	Northrop	Open	
Compliance	with Food Code					
10	qua fitte evic	1. Prior to the commencement of operation, the Applicant is to obtain a certificate from a suitably alified tradesperson, certifying that the kitchen, food storage and food preparation areas have been ed in accordance with the AS 4674 Design, construction and fit-out of food premises and provide dence of receipt of the certificate to the satisfaction of the Certifier.	Contractor	Cini Little	Open	
11	exp (a)a com Rep (b)h con infr (c)b	2. Prior to the commencement of operation, the Applicant must engage a suitably qualified and perienced expert to prepare a Post-Construction Dilapidation Report. This Report must: ascertain whether the construction works created any structural damage to public infrastructure by imparing the results of the Post-Construction Dilapidation Report with the Pre-Construction Dilapidation port required by condition B5 of this consent; have, if it is decided that there is no structural damage to public infrastructure, the written infirmation from the relevant public authority that there is no adverse structural damage to their restructure (including roads). The submitted to the Certifier; be forwarded to Council for information; and the provided to the Planning Secretary when requested.	Contractor	Hansen Yuncken (HY)	Open	
Repair of Pul	ublic Infrastructure					
12	(a)r carı (b)r a re (c)p	3. Unless the Applicant and the relevant public authority agree otherwise, the Applicant must: repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by rying out the construction works; and/or relocate, or pay the full costs associated with relocating any infrastructure that needs to be relocated as esult of the development; and/or pay compensation for the damage as agreed with the owner of the public infrastructure.  te: This condition does not apply to any damage to roads caused as a result of general road usage or nerwise addressed by contributions of this consent.	Contractor	Hansen Yuncken (HY)	Open	Depending on state of infrastructure, post dilap report.
Post-Constru	uction Survey – Adjoining Properties					
13	com und (a)c to a con (b)b (c)b	4. Where a pre-construction survey has been undertaken in accordance with condition B7, prior to the immencement of operation the Applicant must engage a suitably qualified and experienced expert to dertake a post-construction survey and prepare a Post-Construction Survey Report. This Report must: document the results of the post-construction survey and compare it with the pre-construction survey ascertain whether the construction works caused any damage to buildings surveyed in accordance with addition B7; be provided to the owner of the relevant buildings surveyed; be provided to the Certifier; and be provided to the Planning Secretary when requested.	Contractor	Surveyor & Hansen Yuncken (HY)	Open	
Roadworks	occ with pro agre	5. Where the Post-Construction Survey Report determines that damage to the identified property curred as a result of the construction works, the Applicant must repair, or pay the full costs associated the repairing the damaged buildings, within an agreed timeline between the owner of the identified operty and the Planning Secretary. Alternatively, the Applicant may pay compensation for the damage as reed with the property owner.	Contractor	Surveyor & Hansen Yuncken (HY)	Open	

No.	Description	Responsibility	Discipline	Status	Comments
14 Car P	D16. Prior to the commencement of operation, the following road upgrade works must be completed to the satisfaction of the relevant roads authority:  a)Intersection treatments on Barry Way to the proposed internal access road.  arking Arrangements	Contractor (pending PPO 1 instruction to proceed)	Public Domain Contractor & Hansen Yuncken (HY)	Open	Sign off from council required.
15	D17. Prior to the commencement of operation or other timeframe agreed in writing by the Plannin Secretary, evidence must be submitted to the Certifier that demonstrates that:  (a) construction works associated with the proposed construction of the education campus, as propose under SSD 15788005, have been completed and that the expanded car parking facility is operational; and (b) works associated with the construction of the carpark to create 58 car parking spaces have been completed.	ed Contractor	Group DLA, Hansen Yuncken (HY) and Civil Contractor	Open	
Bicyc	e Parking and End-of-Trip Facilities			1	
16	D18. Prior to the commencement of operation, compliance with the following requirements for seculo bicycle parking and end-of-trip facilities must be submitted to the Certifier:  (a) the provision of a minimum 50 student/staff bicycle parking spaces;  (b) the layout, design and security of bicycle facilities must comply with the minimum requirements of the latest version of AS 2890.3:2015 Parking facilities - Bicycle parking, and be located in easy to access, well-areas that incorporate passive surveillance;  (c) the provision of end-of-trip facilities for staff; and  (d) appropriate pedestrian and cyclist advisory signs are to be provided.  Note: All works/regulatory signposting associated with the proposed development shall be at no cost to the relevant roads authority.	ne lit Contractor	Group DLA, Hansen Yuncken (HY), Pedavoili Architects, Signage Subcontractor and Civil Contractor	Open	Potentially FFE Installer or whichever contractor will be installing bike racks.
	D19. Prior to commencement of operation, school/pedestrian crossings must be installed on the intern access road in accordance with the relevant design standards and warrants to the satisfaction of the certifier.	•	Civil Subcontractor	Open	
17	D20. Prior to commencement of operation, the pedestrian pathway from the School to the Jindabyne tow centre must be operational to enable pedestrian access to the site. The pedestrian pathway shall be agreed with Council and be generally in accordance with the following pedestrian paths as outlined in Table 8.1 the Transport Impact Assessment prepared by Aurecon Australasia Pty Ltd dated 03 December 2021:  (a)Item 2: Pedestrian and Cycling Bridge  (b)Item 3: Shared Path from Sports and Recreation Centre into the School  (c)Item 4: Shared Path Route B1 and C1	ed	Civil Subcontractor	Open	Sign off from council required.
Signa	ge				
18	D21. Prior to the commencement of operation, way-finding signage and signage identifying the location staff car parking must be installed.	of Contractor	Signage Subcontractor	Open	Install Cert from Signage Subcontractor to be given to Group DLA
16	D22. Prior to the commencement of operation, bicycle way-finding signage must be installed within the si to direct cyclists from footpaths to designated bicycle parking areas.	Contractor	Signage Subcontractor	Open	Install Cert from Signage Subcontractor to be given to Group DLA
Schoo	l Zones			1	
19	D23. Prior to the commencement of operation, all required School Zone signage, speed management signage and associated pavement markings along Barry Way must be installed, inspected by TfNSW and handed over to TfNSW.  Note: Any required approvals for altering public road speed limits, design and signage are required to be obtained from the relevant consent authority.	Contractor	Civil Contractor	Open	Sign off from council or TfNSW required.
	D24. The Applicant must maintain records of all dates in relation to installing, altering and removing traffic control devices related to speed.	Contractor	Hansen Yuncken & Civil Contractor	Open	
Schoo	ol Transport Plan				
20	D25. Prior to the commencement of operation, a School Transport Plan (STP), must be submitted to the satisfaction of the Planning Secretary. The plan must:	Principal		Open	
Easer	nents				

No.	Description	Responsibility	Discipline	Status	Comments
21	D26. Prior to the commencement of operation, an easement under section 88A and/or restriction or public positive covenant under section 88E of the Conveyancing Act 1919 naming the Council as the prescribed authority, which can only be revoked, varied or modified with the consent of the Council must be registered on title of Lot 101 DP1019527 for the new alignment of the sewer main. The easement must be of a form to the satisfaction of the Council as the sewer authority.	Contractor	Civil Contractor	Open	
Utilities and S	Services	I	1		
22	D27. Prior to commencement of operation, a compliance certificate under the section 307 of the Water Management Act 2000 must be obtained from Council and submitted to the Certifier.	Contractor	Hydraulic Contractor	Open	
Stormwater (	Operation and Management Plan				
23	D28. Prior to the commencement of operation, a Stormwater Operation and Maintenance Plan (SOMP) is to be submitted to the Certifier. The SOMP must ensure the proposed stormwater quality measures remain effective and contain the following:  (a)maintenance schedule of all stormwater quality treatment devices;  (b)record and reporting details;  (c)relevant contact information; and  (d)Work Health and Safety requirements.	•	Civil Contractor	Open	
Operational \	Waste Management Plan				
24	D29. Prior to the commencement of operation, the Applicant must prepare a Waste Management Plan for the development and submit it to the Certifier. The Waste Management Plan must:  (a)detail the type and quantity of waste to be generated during operation of the development;  (b) describe the handling, storage and disposal of all waste streams generated on site, consistent with the Protection of the Environment Operations Act 1997, Protection of the Environment Operations (Waste) Regulation 2014 and the Waste Classification Guideline (Department of Environment, Climate Change and Water, 2009);  (c)detail the materials to be reused or recycled, either on or off site; and  (d) include the Management and Mitigation Measures included in the EIS and Draft Operational Waste Management Plan prepared by Elephants Foot Recycling Solutions dated 9 November 2021.	Principal		Open	
Site Contami	ination				
25	D30. Prior to commencement of operation, the Applicant must submit a Validation Report for the development to the Certifier. The Validation Report must:  (a) be prepared, or reviewed and approved, by consultants certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contate Assessment and Management (CPSS CSAM) scheme;  (b) be prepared in accordance with the relevant guidelines made or approved by the EPA under section 105 of the Contaminated Land Management Act 1997;  (c)include, but not be limited to:  (I)comment on the extent and nature of the remediation undertaken;  (ii) if material is to remain in-situ and capped, describe the location, nature and extent of any remaining contamination on site as well as any ongoing management requirements;  (iii)sampling and analysis plan and sampling methodology undertaken as part of the remediation;  (iv) if treated material is to remain on the subject site, results of sampling of treated material, compared with the treatment criteria in the most updated RAP;  (v)results of any validation sampling, compared to relevant guidelines/criteria;  (vi)comment on the suitability of the area for the intended land use; and  (d)be submitted to the Planning Secretary for information.	Principal / Contractor	Hygienist & Hansen Yuncken	Open	If hygienist is engaged by HY - If not, principal required
	D31. Prior to commencement of operation, the Applicant must obtain confirmation from the Certifier in writing that the requirements of condition D31 have been met.	Contractor	Group DLA	Open	

No.	Description	Responsibility	Discipline	Status	Comments
	D32. Where changes are made to the Remedial Action Plan, prepared by Douglas Partners and dated 1 December 2021, under Condition C37, prior to the commencement of operation the Applicant must submit a Section A1 Site Audit Statement or a Section A2 Site Audit Statement accompanied by an Environmenta Management Plan prepared by a NSW EPA accredited Site Auditor. The Section A1 or A2 Site Audit Statement must verify the relevant part of the site is suitable for the intended land use and be provided along with any Environmental Management Plan to the Planning Secretary and the Certifier.	Principal		Open	
Lands	caping				
	D33. Prior to the commencement of operation, landscaping of the site must be completed in accordance with landscape plans listed in condition A2(d).	Contractor	Taylor Brammer Landscape Architects & Landscape Subcontractor	Open	
26	D34. Prior to the commencement of operation, the Applicant must prepare a Landscape Management Plan to manage the revegetation and landscaping on-site and submit it to the Certifier. The plan must: a)describe the ongoing monitoring and maintenance measures to manage revegetation and landscaping; and b)describe the measures to ensure the site is managed as an Inner Protection Area in accordance with the Bushfire Report in the EIS, prepared by BlackAsh Bushfire Consulting dated 11 January 2021; and c)be consistent with the Applicant's Management and Mitigation Measures at Section 9 Table 9-2 in the EIS; d)address the requirements of condition A23 e)be consistent with condition B40	Contractor	Taylor Brammer Landscape Architects & Landscape Subcontractor	Open	To be issued to Group DLA
Asset	Protection Zones				
27	D35. Prior to the commencement of operation or other timeframe agreed by the Planning Secretary, landscaping of the site must be completed in accordance with landscape plan(s) listed in condition A2(d) and the property must be managed in accordance with the requirements in condition A23.	Contractor	Taylor Brammer Landscape Architects & Landscape Subcontractor	Open	
Consu	ltation with Aeroclub				
28	D36. Prior to commencement of operation, the Applicant is to consult with Jindabyne Aeroclub, particularly regarding runway 09/27. The consultation must:  (a)be undertaken by a suitably qualified person;  (b)report details of consultation with the Jindabyne Aeroclub; and  (c)report the details in a document of how any issues of the co-operation of the two land uses has been addressed.  The document as identified in D36(c) is to be submitted to the certifier and the Planning Secretary for information.	Contractor	Aviation Consultant	Open	To be issued to Group DLA
Signa	ge on Barry Way				
29	D37. Prior to the commencement of operation, the Applicant must consult with the road authority whether it is necessary to install no-stopping signage along Barry Way for the length of the development site. If required by the road authority, the required signage must be installed prior to operation.	Principal		Open	

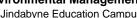
	Jindabyne Education Campus - SSD Conditions Responsibility Matrix						
No.		Description	Responsibility	Discipline	Status	Comments	
Out o	f Hours Event Management Plan (For Schoo	E1. Prior to the commencement of the first out of hours events (School Use) run by the school that involve 100 or more people, the Applicant is to prepare an Out of Hours Event Management Plan (School Use) in consultation with Council and submit it to the Council and Planning Secretary for information. The plan must include the following:  (a) the number of attendees, time and duration; (b) arrival and departure times and modes of transport; (c) where relevant, a schedule of all annual events; (d) measures to encourage non-vehicular travel to the school and promote and support the use of alternate travel modes (i.e. public transport); (e) details of the use of the school hall, where applicable, restricting use before 8am and after 10pm; (f) measures to minimise localised traffic and parking impacts; and (g) include measures to minimise noise impacts on any sensitive residential receivers, including the preparation of acoustic management plan.	Principal		Open		
		E2. The Out of Hours Event Management Plan (School Use) must be implemented by the Applicant for the duration of the identified events or use.	Principal		Open		
1	E3. Prior to the commencement of out of hours events (Community Use) run by the external parties that involve 100 or more people, the Applicant is to prepare an Out of Hours Event Management Plan (Community Use) in consultation with Council and submit it to the Council and Planning Secretary for information. The plan must include the following:  (a) the number of attendees, time and duration;  (b) arrival and departure times and modes of transport;  (c) where relevant, a schedule of all annual events;  (d) measures to encourage non-vehicular travel to the school and promote and support the use of alternate travel modes (i.e. public transport);  (e) details of the use of the school hall, where applicable, restricting use before 8am and after 10pm;  (f) measures to minimise localised traffic and parking impacts; and  (g) measures to minimise noise impacts on any sensitive residential receivers, including the preparation of	E3. Prior to the commencement of out of hours events (Community Use) run by the external parties that involve 100 or more people, the Applicant is to prepare an Out of Hours Event Management Plan (Community Use) in consultation with Council and submit it to the Council and Planning Secretary for information. The plan must include the following:  (a) the number of attendees, time and duration;  (b) arrival and departure times and modes of transport;  (c) where relevant, a schedule of all annual events;  (d) measures to encourage non-vehicular travel to the school and promote and support the use of alternate travel modes (i.e. public transport);  (e) details of the use of the school hall, where applicable, restricting use before 8am and after 10pm;  (f) measures to minimise localised traffic and parking impacts; and	Principal		Open		
		E4. The Out of Hours Event Management Plan (Community Use) must be implemented by the Applicant for the duration of the identified community event or use.	Principal		Open		
2	ation on Plant and Equipment  Nater Systems and Cooling Systems	E5. All plant and equipment used on site must be maintained in a proper and efficient condition operated in a proper and efficient manner.	Principal		Open		
3		E6. The operation and maintenance of warm water systems and water cooling systems (as defined under the Public Health Act 2010) must comply with the Public Health Act 2010, Public Health Regulation 2012 and Part 2 (or Part 3 if a Performance-based water cooling system) of AS/NZS 3666.2:2011 Air handling and water systems of buildings – Microbial control – Operation and maintenance and the NSW Health Code of Practice for the Control of Legionnaires' Disease.	Principal		Open		
4	nunity Communications Strategy	E7. The Community Communication Strategy, as submitted to the Certifier, must be implemented for a minimum of 12 months following the completion of construction.	Principal		Open		
5	ational Noise Limits  structed Driveways and Parking Areas	E8. The Applicant must ensure that noise generated by operation of the development does not exceed the noise limits in Jindabyne Primary and High Schools SSDA Acoustic Report prepared by SLR Consulting Australia Pty Ltd dated 3 December 2021.	Principal		Open		

No.	Description	Responsibility	Discipline	Status	Comments
6	E9. All driveways, footways and parking areas must be unobstructed at all times. Driveways, footways and car spaces must not be used for the manufacture, storage or display of goods, materials, refuse, skips or any other equipment and must be used solely for vehicular and/or pedestrian access and for the parking of vehicles associated with the use of the premises.	Principal		Open	
School Transport Plan					
7	E10. The School Transport Plan required by condition D26 of this consent must be updated annually and implemented unless otherwise agreed by the Planning Secretary.	Principal		Open	
<b>Ecologically Sustainable Developme</b>	ent				
8	E11. Unless otherwise agreed by the Planning Secretary, within 12 months of commencement of operation, Green Star certification must be obtained demonstrating the development achieves a minimum 4-star Green Star Design & As Built rating. If required to be obtained, evidence of the certification must be provided to the Certifier and the Planning Secretary. If an alternative certification process has been agreed to by the Planning Secretary under condition B10, evidence of compliance of implementation must be provided to the Planning Secretary and Certifier.	Contractor	Northrop	Open	To be issued to Group DLA
Outdoor Lighting					
9	E12. Notwithstanding condition D6, should outdoor lighting result in any residual impacts on the amenity of surrounding sensitive receivers, the Applicant must provide mitigation measures in consultation with affected landowners to reduce the impacts to an acceptable level.	Principal		Open	
Landscaping					
10	E13. The Applicant must maintain the landscaping and vegetation on the site in accordance with the approved Landscape Management Plan required by condition D35 for the duration of occupation of the development.	Principal		Open	
Stormwater					
11	E14. All stormwater from the agricultural plot is to be adequately diverted and treated prior to entering the broader stormwater network.	Principal		Open	

	Jindabyne Education Campus - SSD Condition	ons Responsibility	Matrix		
No.	Description	Responsibility	Discipline	Status	Comments
General 1	AN 1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this consent removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.	Principal / Contractor	Noted	Open	
Long Service Levy 2	AN 2. For work costing \$25,000 or more, a Long Service Levy must be paid. For further information please contact the Long Service Payments Corporation Helpline on 131 441.	Contractor	Hansen Yuncken (HY)	Open	
Legal Notices 3	AN 3. Any advice or notice to the consent authority must be served on the Planning Secretary.	Principal / Contractor	Noted	Open	
Access for People wih Disabilities  4	AN 4. The works that are the subject of this application must be designed and constructed to provide access and facilities for people with a disability in accordance with the BCA. Prior to the commencement of construction, the Certifier must ensure that evidence of compliance with this condition from an appropriately qualified person is provided and that the requirements are referenced on any certified plans.	Principal / Contractor	Noted	Open	
Utilities and Services 5	AN 5. Prior to the construction of any utility works associated with the development, the Applicant must obtain relevant approvals from service providers.	Contractor	Noted	Open	
Utilities and Services  6	AN 6. Prior to the commencement of above ground works written advice must be obtained from the electricity supply authority, an approved telecommunications carrier and an approved gas carrier (where relevant) stating that satisfactory arrangements have been made to ensure provisions of adequate services.	Contractor	Noted	Open	
Road Design and Traffic Facilities					
7	AN 7. All roads and traffic facilities must be designed to meet the requirements of Council or TfNSW (whichever is applicable). The necessary permits and approvals from the relevant road authority must be obtained prior to the commencement of road or pavement construction works.	Contractor (for PPO 1 & PPO 2 pending instruction)	Noted	Open	
Road Occupancy Licence  8	AN 8. A Road Occupancy Licence must be obtained from the relevant road authority for any works that impact on traffic flows during construction activities.	Contractor (for PPO 1 & PPO 2 pending instruction)	Noted	Open	
SafeWork Requirements 9	AN 9. To protect the safety of work personnel and the public, the work site must be adequately secured to prevent access by unauthorised personnel, and work must be conducted at all times in accordance with relevant SafeWork requirements.	Contractor	Hansen Yuncken (HY)	Open	
Hoarding Requirements  10	AN 10. The Applicant must submit a hoarding application to Council for the installation of any hoardings over Council footways or road reserve.	Contractor	Noted	Open	If hoarding is desired by site team, an applictaion will be need to be submitted to Council by HY
Handling of Asbestos  11  Speed Limit Authorisation	AN 11. The Applicant must consult with SafeWork NSW concerning the handling of any asbestos waste that may be encountered during construction. The requirements of the Protection of the Environment Operations (Waste) Regulation 2014 with particular reference to Part 7 – 'Transportation and management of asbestos waste' must also be complied with.	Contractor	Noted	Open	

No.		Description	Responsibility	Discipline	Status	Comments
12		AN 12. At least eight weeks prior to the commencement of operation, the Applicant must submit the following details to TfNSW and obtain authorisation to install School Zone signs and associated pavement markings, and / or removal / relocation of any existing Speed Limit signs:  (a) a copy of the conditions of consent;  (b) the proposed school commencement/opening date;  (c) two sets of detailed design plans showing the following:  (i) accurate Site boundaries;  (ii) details of all road reserves, adjacent to the Site boundaries;  (iii) all proposed access points from the Site to the public road network and any additional conditions imposed/proposed on their use;  (iv) all existing and proposed pedestrian crossing facilities on the adjacent road network;  (v) all existing and proposed traffic control devices and pavement markings on the adjacent road network (including School Zone signs and pavement markings); and  (vi) all existing and proposed street furniture and street trees.	Contractor	Hansen Yuncken (HY)	Open	
Fire	Safety Certificate					
13		AN 13. The owner must submit to Council an Annual Fire Safety Statement, each 12 months after the final Safety Certificate is issued. The certificate must be on, or to the effect of, Council's Fire Safety Statement.	Principal		Open	

# Construction Environmental Management Plan (CEMP) Jindabyne Education Campus SSD 15788005





A.13 **External Lighting Compliance** 



# **DESIGN CERTIFICATE**

Rev. 1.0

Project: Jindabyne Education Campus

Date: 1 December 2022

# JINDABYNE EDUCATION CAMPUS – CROWN CERTIFICATE 2 COMPLIANCE CERTIFICATE

NDY have carried out the Design Documentation of the following services:

Electrical Services

NDY confirm that our above-mentioned design documentation is in accordance with the following relevant CC2 Requirements as outlined below:

SSDA Ref. No.	SSDA Condition	Comment
	Electrical Services	
B11	Outdoor Lighting Prior to commencement of lighting installation, evidence must be submitted to the satisfaction of the Certifier that all outdoor lighting to be installed within the site has been designed to comply with:  AS 1158.3.1:2005 Lighting for roads and public spaces — Pedestrian area (Category P) lighting — Performance and design requirements.  AS 4282-2019 Control of the obtrusive effects of outdoor lighting.	NDY's design is in accordance with the referenced standards.



The drawings and specifications applicable to this certificate are:

Document Ref.	Title	Description	Revision
EL-00-00-01	ELECTRICAL SERVICES - COVER SHEET	Issue for CC2 Approval	01
EL-00-00-02	ELECTRICAL SERVICES – DRAWING LIST	Issue for CC2 Approval	01
EL-00L-00-01	ELECTRICAL SERVICES - LEGEND AND LUMINAIRE SCHEDULE	Issue for CC2 Approval	01
EL-10-00-01	ELECTRICAL SERVICES - SITE PLAN — OVERALL PROPOSED	Issue for CC2 Approval	02
EL-10-00-02	ELECTRICAL SERVICES - SITE PLAN ZONE 1 LAYOUT	Issue for CC2 Approval	02
EL-10-00-03	ELECTRICAL SERVICES - SITE PLAN ZONE 2 LAYOUT	Issue for CC2 Approval	01
EL-10-00-04	ELECTRICAL SERVICES - SITE PLAN ZONE 3 LAYOUT	Issue for CC2 Approval	01
EL-10-00-05	ELECTRICAL SERVICES - SITE PLAN ZONE 4 LAYOUT	Issue for CC2 Approval	02
EL-10-00-06	ELECTRICAL SERVICES - SITE PLAN ZONE 5 LAYOUT	Issue for CC2 Approval	01
EL-10-00-07	ELECTRICAL SERVICES - SITE PLAN ZONE 6 LAYOUT	Issue for CC2 Approval	02
EL-10-00-08	ELECTRICAL SERVICES - SITE PLAN ZONE 7 LAYOUT	Issue for CC2 Approval	01

The above certification applies to this project only and to the extent described above.

#### **NORMAN DISNEY & YOUNG**

Laurent Laberibe | Director l.laberibe@ndy.com

MIEAust, CPEng, Fellow of Engineers Australia, EURING Certified, NER

## **TECHNICAL ENDORSEMENT**

fain

I have reviewed the design documentation applicable to this design certificate and confirm that they are in line with the codes and standards nominated in this letter

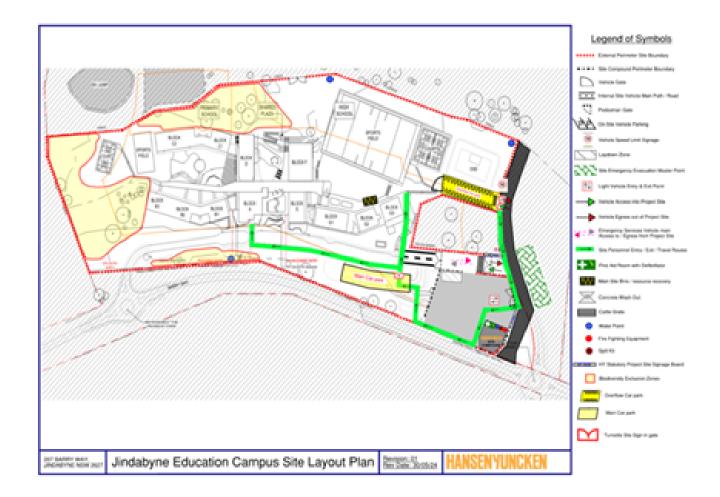
Jarrad Underwood | Associate Director

j.underwood@ndy.com

MIEAust CPEng NER (ELEC) EA ID: 5359514



# A.14 Site Layout Plan





A.15 Aviation Safe guarding Report – Design Compliance Statement



#### 1 December 2022

610.30436-R03-v1.0 Design Compliance Statement re Condition B13 20221201.docx

Hansen Yuncken Building 1, Level 3 75-85 O'Riordan Street ALEXANDRIA NSW 2015

Attention: Ms Emily Dzinkic

Dear Emily

Offer of Services New Education Campus at Jindabyne Aviation Safeguarding Design Compliance Statement - Condition B13

As you are aware, SLR prepared the original Aviation Safeguarding report as part of the Development Application for the then-proposed New Education Campus at Jindabyne.

The approved project now requires a Design Compliance Statement in relation to Aviation Safeguarding – refer Condition B13 (Section 1).

We are familiar with the recommendations made in the original report and provide the enclosed Design Compliance Statement covering Condition B13.

In summary, we find the project as currently designed will satisfy all of the recommendations set out in the original Aviation Safeguarding report.

Please do not hesitate to contact me on 0421 915 597 with any gueries related to the enclosed.

Yours sincerely

DR PETER GEORGIOU Technical Director

(Call at any time on 0421 915 597)

Submission Details

Proposal: As addressed Reviewed by: NAK Reviewed date: 01/12/22

# 1 Background to this Design Compliance Statement

SLR Report 610.30436-R02-v2.0 Aviation Safeguarding (16 December 2021) assessed compliance of the then-proposed New Education Centre at Jindabyne with respect to the NASF (National Airports Safeguarding Framework) Guidelines set out in Table 1.

Table 1 NASF Guidelines Assessed in SLR Report 610.30436-R02-v2.0

Guideline	Description	THIS Report Reference
NASF-A	Measures for Managing Impacts of Aircraft Noise	note 1
NASF-B	Managing the Risk of Building Generated Windshear and Turbulence at Airports	Section 2
NASF-C	Managing the Risk of Wildlife Strikes in the Vicinity of Airports	Section 3
NASF-D	Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation	note 2
NASF-E	Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports	Section 4
NASF-F	Managing the Risk of Intrusions into the Protected Airspace of Airports	Section 5
NASF-G	Protecting Aviation Facilities – Communication, Navigation and Surveillance (CNS)	Section 6
NASF-H	Protecting Strategically Important Helicopter Landing Sites (HLS)	Section 7
NASF-I	Managing the Risk of Public Safety Areas at the Ends of Runways	Section 8

Note 1 Aircraft Noise was covered separately

Note 2 NOT RELEVANT: no wind turbines planned as part of the project

The recommendations made in SLR Report 610.30436-R02-v2.0 Aviation Safeguarding (December, 2021) have been included in Appendix A.

It is understood that Hansen Yuncken requires a Design Compliance Statement addressing the following:

"Prior to the commencement of cranage works, helicopter and aeroclub operations at the Jindabyne Aeroclub are to be reviewed by a suitably qualified and experienced aviation professional in consultation with relevant stakeholders including the Jindabyne Aeroclub. The review must consider the proposed construction methodology including plant and equipment to be used (including lighting and cranes) and recommend changes to the construction methodology and / or flight paths where required to ensure safe ongoing helicopter operations at the site as set out in the Aviation Assessment prepared by SLR Consulting Australia Pty Ltd dated 16 December 2021. A report summarising the outcome of the review must be submitted to the Certifier."

The following sections detail the required Design Compliance Statement, which has been set out via individual NASF Guideline sections (following the detailing of the relevant recommendations in Appendix A).



# 1.1 Information Relied Upon for this Compliance Statement

The information relied upon for the present compliance assessment are:

- Latest project drawings refer Pedavoli Architects Drawings dated 16 November 2022
- Latest electrical drawings refer NDY Drawings dated 25 November 2022
- Construction Waste Management Sub-Plan
- Meeting Minutes: Hansen Yuncken & Jindabyne Aero Club (24/11/22) refer Appendix B
- Manufacturer Datasheet: Liebherr Mobile Crane LTM 1055-3.2



# 2 Design Compliance: NASF-B (2018)

The previous Aviation Safeguarding assessment found that:

- On the basis of the NASF-B (2018) "1:35" rule, the present assessment has shown that the proposal satisfies NASF-B (2018) and NO further assessment is required for acceptance of the proposal (in relation to all NASF-B considerations) for Runway 12/30.
- Similarly, on this basis of the NASF-B (2018) "1:35" rule, the present assessment has shown that the proposal satisfies NASF-B (2018) and NO further assessment is required for acceptance of the proposal (in relation to all NASF-B considerations) for Runway 09/27.

### **Design Compliance**

SLR has reviewed the current project drawings and confirms that the building positioning relative to Runways 12/30 and 09/27, maximum building heights and overall building dimensions are essentially the same as those previously assessed.

Accordingly, the development as currently designed will satisfy NASF-B (2018).

NO further assessment is required for acceptance of the current design with respect to potential windshear and wake-induced turbulence.



# 3 Design Compliance: NASF-C (2014)

The previous Aviation Safeguarding assessment found the following:

- On the basis of the Arboricultural and BDAR Reports carried out for the development application, the
  proposal would appear highly unlikely to result in any noticeable displacement of wildlife from the site
  and closer to Jindabyne Airstrip. Accordingly, there would be no impact from the proposed development
  in relation to NASF-C with respect to wildlife displacement issues.
- It was also noted that commitments were made within the development application Arboricultural and BDAR studies in relation to monitoring that would confirm the absence of any noticeable and large-scale displacement of wildlife.

### **Design Compliance**

In addition to a review of the latest project drawings, SLR has sighted the following document relevant to NASF-C (2014):

• Waste Audit & Consultancy Services (Aust) Pty Ltd, Jindabyne Education Facility – Construction Waste Management Sub-Plan", (19 October 2022).

Noting the above, SLR can confirm the following:

- The project as currently designed does not contain facilities involved in activities that would be likely to attract wildlife from further afield and potentially closer to Jindabyne Airstrip, eg food garbage disposal, sewage treatment and disposal, abattoirs and freezing works, fish processing plants, etc.
- The project's Construction Waste Management Sub-Plan will assist in ensuring that wildlife populations are not inadvertently attracted to the site and hence closer to Jindabyne Airstrip operations.

Noting all of the above, including Arboricultural and BDAR-related commitments covering future wildlife monitoring, the development as currently designed will satisfy NASF-C (2014).

NO further assessment is required for acceptance of the current design with respect to potential wildlife strike issues.



# 4 Design Compliance: NASF-E (2014)

The previous Aviation Safeguarding assessment found the following:

- Jindabyne Airstrip currently has NO runway lighting that would enable night-time operations for Jindabyne Aero Club. There are, however, potential masterplanning activities leading to airstrip operation expansions with the potential (albeit low) for night-time operations.
- The airstrip is currently used for emergency purposes by helicopter operations (eg Rural Fire Service for fire-fighting and rescue flights) which might be required to operate at night in emergency circumstances.

Noting the above, a project commitment was made to continue communication with Jindabyne Aero Club in relation to future airstrip masterplanning with respect to NASF-E objectives.

### **Design Compliance**

SLR is aware of the following:

- Hansen Yuncken (HY) has had ongoing engagement with Jindabyne Aero Club (JAC), with the most recent communication being an on-site catch-up with HY personnel, Daniel Spirit-Jones and Josh Hersani, and JAC's Steve Kaposi (24 November 2022). At the 24/11/22 meeting, a commitment was made to provide advance warning as to where and when mobile cranes would be used on-site.
- The project's Electrical Consultant NDY will be designing lighting throughout the site to comply with AS1158.3.1:2005 Lighting for Roads and Public Spaces – Pedestrian Area (Category P) Lighting – Performance and Design Requirements, and AS4282-2019 Control of the Obtrusive Effects of Outdoor Lighting. This will ensure that security/night-time lighting used at the site (eg Staff Car Park) will not be intrusive with respect to airstrip night-time operations (in the event these occur).
- There will be no "high tower" flood lighting for the project Sports Field (no events held at night-time)

Noting all of the above, the development as currently designed will satisfy NASF-E (2014).



# 5 Design Compliance: NASF-F (2012)

The previous Aviation Safeguarding assessment found the following:

#### **Development Buildings**

• NO building element of the proposal would penetrate Jindabyne Airstrip's OLS and no further action would be mandated under NASF-F (2012).

## **Lighting Luminaires**

 Standard luminaires would be used for night-time/security lighting around all buildings and the Staff Car Park. Such standard lighting luminaires would almost certainly be less than 25 m in height and hence would NOT penetrate the Jindabyne Airstrip OLS - no further action mandated.

#### Sports Field Lighting

- It was noted that non-standard luminaries might be used for the proposal's Sports Field, if the field was to be used for night-time activities.
- If the Sports Field lighting was less than or equal to 50 m in height above ground, it would NOT penetrate the penetrate the Jindabyne Airstrip OLS no further action mandated.
- If the Sports Field lighting was greater than 50 m in height above ground, Australia's Manual of Standards Part 139 Aerodromes: Chapter 9 Visual Aids Provided by Aerodrome Lighting would apply and medium intensity obstacle lights would need to be installed either alone or in combination with low intensity lights.

#### **Construction Cranes**

- If the maximum crane height used on site was less than 38 m, cranes would not penetrate the Jindabyne Airstrip OLS no further action mandated.
- If the maximum crane height used on site was less than 38 m, the proponent would need to inform both the Jindabyne Airstrip Operator and the relevant planning authority that there is potential for a proposed construction crane to infringe the airstrip's OLS. A determination would then need to be made, through stakeholder engagement, as to any conditions that should be imposed on the proposed development to reduce any potential risk to acceptable levels, without affecting the regularity or efficiency of airstrip operations. Given that Jindabyne Airstrip is not used for night-time operations, conditions would cover crane marking, ie distinctive colouring to make any tall cranes visible to surrounding aircraft.

In light of the above, the following project commitments were recommended:

- As soon as practicable, the maximum height of Sports Field lighting and Construction Cranes to be used should be determined.
- Consultation should occur with Jindabyne Aero Club regarding potential future operations at the airstrip, and recommendations reviewed regarding potential obstacle marking and/or lighting requirements in light of expected airstrip operations.



## **Design Compliance**

SLR is aware of the following.

### **Development Buildings**

• SLR's review of the latest project drawings indicates that NO building element of the proposal will penetrate Jindabyne Airstrip's OLS. This complies with NASF-F (2012).

# **Lighting Luminaires**

• SLR's review of the latest project drawings confirms that all luminaires used for night-time/security lighting around all buildings and the Staff Car Park will be less than 25 m in height and hence would NOT penetrate the Jindabyne Airstrip OLS. This complies with NASF-F (2012).

### Sports Field Lighting

- SLR's review of operations at the new education facility with the Hansen Yuncken Project Team indicates that there will NOT be any non-standard luminaries surrounding the Sports Field. Only standard night-time security lighting along pathways etc will be used.
- Accordingly, all Sports Field lighting will NOT penetrate the penetrate the Jindabyne Airstrip OLS. This complies with NASF-F (2012).

#### **Construction Cranes**

SLR understands that the likely choice of construction crane for the project is:

LIEBHERR Mobile Crane – LTM 1055-3.2 – refer Figure 1. The maximum height of the crane at its fully
extended position is 40 m. It is noted that this is marginally above the 38 m limit recommended in the
previous Aviation Safeguarding assessment, based on a worst-case scenario with the crane positioned
in a far west position within the site.

#### SLR notes the following:

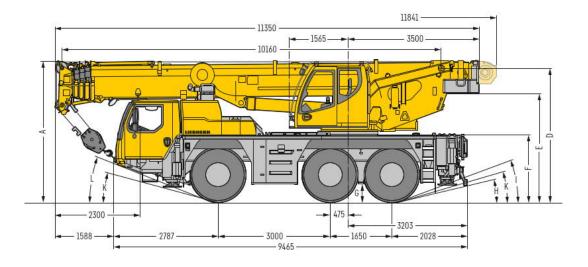
- For almost the entire site, the crane fully extended would remain under the Jindabyne Airstrip OLS. Exceedance would ONLY occur (a) along the western perimeter of the construction site, AND (b) if the crane was fully extended.
- Discussion with the Hansen Yuncken Project Team indicates that the crane will NOT be required to operate in a fully extended position and that a maximum extended height of 38 m can be imposed during construction.
- It has already been noted that Hansen Yuncken (HY) has had recent engagement with Jindabyne Aero Club (JAC), 24 November 2022, where a commitment was made to provide advance warning as to where and when mobile cranes would be used on-site.

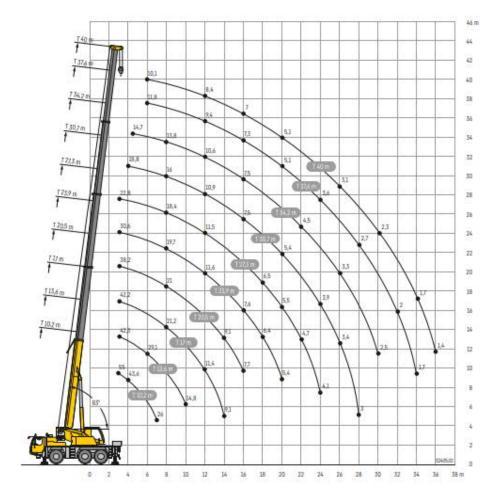
SLR therefore concludes that, in light of the recent engagement with JAC, compliance with NASF-E (2012) can be assured ...

- IF ... a maximum extended height of 38 m can be imposed during construction for the chosen Liebherr Crane;
- AND ... if crane booms are not left in an extended mode during night-time.



Figure 1 Representative Photographs of the Liebherr Mobile Crane Designated for the Project







# 6 Design Compliance: NASF-H (2018)

The previous Aviation Safeguarding assessment found the following:

- The helicopter operations at Jindabyne Airstrip are considered to constitute an SHLS (Strategic Helicopter Landing Site), given the operations of the local Rural Fire Service at the airstrip.
- In relation to cranes, NASF-H (2018) states that any development proposal located within/beneath the flight path to an HLS/SLHS must be required to indicate: (i) whether a crane is to be erected during the construction of that development, (ii) the maximum height of the crane, (iii) the height and swing radius of the crane with the jib stowed when not in operation, and (iv) the period in which the crane is anticipated to remain on site.
- At night, and in periods of poor visibility during the day, pilots rely on the particular pattern of the
  aeronautical ground lighting to assist in aligning themselves with the correct touchdown point. It is
  therefore important that lighting in the vicinity of an HLS/SHLS is not configured or is of such a pattern
  that pilots could either be distracted or mistake such lighting as being ground lighting from the HLS/SHLS.
- Helicopter operations at Jindabyne Airstrip overwhelmingly involve landings and take-offs close to the WESTERN end of Runway 09/27.
- Helicopters are not constrained by prevailing wind directions in the same way that aircraft are, ie landings and take-offs generally into the wind. Moreover, helicopters have much greater flexibility in terms of landing glide paths and take-off routes.
- Helicopter landings and take-offs at Jindabyne Airstrip would be able to utilise flight paths which would not be located anywhere close to the site of the proposed New Education Campus.
- Accordingly, the previous Aviation Safeguarding assessment found that any conceivable helicopterrelated OLS at Jindabyne Airstrip would NOT be co-located with the project site and hence intrusion into any helicopter OLS at the airstrip can be completely avoided.
- On this basis, there should be no impact from the proposed development in relation to NASF-H.
- Nevertheless, in line with the consultative approach contained in NASF-H (2018), it was recommended that communication with JAC be made in relation to the siting and maximum height of the construction cranes to be used for the proposal, once these details are known.

### **Design Compliance**

SLR is aware of the following:

- No material changes have occurred with respect to helicopters at Jindabyne Airstrip.
- It is therefore again concluded that intrusion by the project into any helicopter OLS at the airstrip can be completely avoided.
- As noted already, Hansen Yuncken (HY) has had recent engagement with Jindabyne Aero Club (JAC), 24 November 2022, where a commitment was made to provide advance warning as to where and when mobile cranes would be used on-site.

Noting the above, the development as currently designed will satisfy NASF-H (2018).



# 7 Design Compliance: NASF-I (2018)

The previous Aviation Safeguarding assessment found the following:

- The proposal lies under the extended centreline extension of Runway 09/27, with the nearest building approximately 620 m from the end of runway.
- The proposal involves a new education facility, implying a large increase of people (students, teachers, etc) located beneath the Runway 27 approach flight path.
- While the application of NASF-I (2018) to "ALAs" (aircraft landing areas) is not an automatic (mandatory) requirement, the issue of the potential population at risk suggests it should at least be considered.
- Usage of Runway 09/27 is minimal the ratio of aircraft movements on Runway 09/27 versus Runway 12/30 for example has been estimated at 3% compared to 97%.
- The nearest proposal building to the site is approximately 620 m from the southeast end of Runway 09/27.
- There is no history of an aircraft-related fatality at the airstrip, although "incidents" have been reported.
- There is a well-publicised and well-understood risk profile at the airstrip refer Section 3 for various risk advisories through eNOTAMS, ERSA notice, JAC's website, etc.
- Circuits for ALL runways at the airstrip are TO THE NORTH. Take-offs on Runway 09 therefore should have little difficulty in avoiding passing directly over the proposal site.
- Potential risk levels associated with the proposal would reflect the daily routine of school timetables, with higher potential relative exposure during standard school hours and working week days, ie Monday to Friday. Risk levels outside of these days/hours would be reduced, eg the potential risk level for say early morning and late afternoon on a Sunday would be significantly lower. Any potential risk during school vacation periods would similarly be significantly reduced.
- In terms of potential FUTURE operations, the only increase to operations envisaged at the airstrip is to Runway 30, where no public safety risk to the proposal exists.

### Taking all of the above into account:

- The previous Aviation Safeguarding assessment concluded that an ALARP approach involving collaboration between the proposal proponent and the airstrip Operator would be deemed an appropriate response in relation to achieving compliance with NASF-I (2018).
- The above resulted in a project commitment recommending communication with JAC to ensure that the objectives of NASF-I (2018) can be addressed. This would include consideration of airstrip operational management options regarding the use of Runway 09/27. For example, the current (minimalist) usage of Runway 09/27 for grass landing and "go around" training could be scheduled during "low" risk periods, eg school vacation periods, early morning or late afternoon Sundays, etc.



# **Design Compliance**

## SLR is aware of the following:

- No material changes have occurred relevant to the risk profile of the project in relation to the centreline extension of Runway 09/27, ie building positioning, building heights, etc.
- As noted already, Hansen Yuncken (HY) has had ongoing engagement with Jindabyne Aero Club (JAC regarding relevant elements of the project construction and operation.
- The project commitment related to usage of Runway 09/27 remains. As previously recommended, the current (minimalist) usage of Runway 09/27 for grass landing and "go around" training could be scheduled during "low" risk periods, eg school vacation periods, early morning or late afternoon Sundays, etc.

Noting the above, the development as currently designed will satisfy NASF-I (2018).



# 8 Summary

SLR has reviewed the current design and planned construction elements of the approved New Education Campus at Jindabyne in relation to the following NASF Guidelines:

NASF-B	Managing the Risk of Building Generated Windshear and Turbulence at Airports
NASF-C	Managing the Risk of Wildlife Strikes in the Vicinity of Airports
NASF-E	Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports
NASF-F	Managing the Risk of Intrusions into the Protected Airspace of Airports
NASF-G	Protecting Aviation Facilities – Communication, Navigation and Surveillance (CNS)
NASF-H	Protecting Strategically Important Helicopter Landing Sites (HLS)
NASF-I	Managing the Risk of Public Safety Areas at the Ends of Runways

The information relied upon for the above assessment are:

- Latest project drawings refer Pedavoli Architects Drawings dated 16 November 2022
- Latest electrical drawings refer NDY Drawings dated 25 November 2022
- Construction Waste Management Sub-Plan
- Manufacturer Datasheet: Liebherr Mobile Crane LTM 1055-3.2
- Meeting Minutes: Hansen Yuncken & Jindabyne Aero Club (24/11/22)

Our review concludes that the development as currently designed will satisfy all of the above NASF Guidelines when taking into account the various Project Commitments detailed above.



# APPENDIX A

Summary Recommendations from SLR Report 610.30436-R02-v2.0 Aviation Safeguarding.pdf

# NASF-B (2018): Managing the Risk of Building Generated Windshear and Turbulence at Airports

#### Runway 12/30

• On the basis of the NASF-B (2018) "1:35" rule, the present assessment has shown that the proposal satisfies NASF-B (2018) and NO further assessment is required for acceptance of the proposal (in relation to all NASF-B considerations) for Runway 12/30.

### Runway 09/27

• Similarly, on this basis of the NASF-B (2018) "1:35" rule, the present assessment has shown that the proposal satisfies NASF-B (2018) and NO further assessment is required for acceptance of the proposal (in relation to all NASF-B considerations) for Runway 09/27.

Wind Tunnel Testing studies were reviewed to provide further support for the above, given that position of the development's High School precinct Building HS-C relative to the centreline projection of Runway 09/27.

This review confirms that any potential disturbance to winds by the development would not extend to the Runway 09/27 glide path extending to the southeast.

#### NASF-C (2014): Managing the Risk of Wildlife Strikes in the Vicinity of Airports

The present assessment has reviewed the following detailed studies relevant to NASF-C (2014) which have been undertaken to support the SSDA for the proposal:

- ECOLOGICAL 21CAN-18872, "Monaro Cluster Jindabyne Site Arboricultural Impact Assessment" (May 2021).
- WSP PS125302-ECO-REP-001, Rev.A, "Jindabyne Education Campus Biodiversity Development Assessment Report" (June 2021).

On the basis of the Arboricultural and BDAR Reports:

• The proposal appears highly unlikely to result in any noticeable displacement of wildlife from the site and closer to Jindabyne Airstrip.

Accordingly, there would be no impact from the proposed development in relation to NASF-C with respect to wildlife displacement issues.

With regard to wildlife attraction issues:

- The proposal does not contain facilities involved in activities that would be likely to attract wildlife from further afield and potentially closer to Jindabyne Airstrip, eg food garbage disposal, sewage treatment and disposal, abattoirs and freezing works, fish processing plants, etc.
- It is assumed that the proposal's Waste Management Plan will also assist in ensuring that wildlife populations are not inadvertently attracted to the site and hence closer to Jindabyne Airstrip operations.

The WSP BDAR observations are in line with the history of the proposal site. The proposal is located in a previously disturbed area. A substantial portion of the subject land was formerly a golf course (it is understood that the fairways and greens can be seen in historical aerial photos). Parts of the subject land formerly contained buildings which have been demolished. Similarly, parts of the subject land contain houses that are currently occupied by Sports and Recreation Staff. Most importantly, the proposal is not located in an area of undisturbed or intact habitat.



## **Project Commitment:**

Commitments have already been made within the SSDA Arboricultural and BDAR studies in relation to
monitoring that would confirm the absence of any noticeable and large-scale displacement of wildlife
closer to Jindabyne Airstrip.

## NASF-E (2014): Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports

In relation to the proposal, the following elements are noted being relevant to NASF-E (2014):

- Security/night-time lighting throughout the site, including the proposal's staff car park;
- Potential flood lighting for the proposal Sports Field; and
- Construction lighting, in particular associated with construction cranes.

According to the feedback received from the Jindabyne Aero Club (interview with Secretary, Mr Martin Hughes):

• Jindabyne Airstrip currently has NO runway lighting that would enable night-time operations

On this basis, there would be no impact from the proposed development in relation to NASF-E (2014). However, the present assessment has noted the following:

- Communication with Jindabyne Aero Club (interview with Secretary, Mr Martin Hughes) has revealed potential masterplanning activities leading to airstrip operation expansions. It is not known if this would entail night-time operations.
- The airstrip is currently used for emergency purposes by helicopter operations (eg Rural Fire Service for fire-fighting and rescue flights).

In light of the above, it is considered prudent to assess the Lighting Design of the proposed development once detailed design commences to ensure that NASF-E (2014) lighting recommendations can be made IF it is confirmed with the Jindabyne Aero Club that expansion of the airstrip will be sought and this will involve night-time operations.

#### **Project Commitment:**

• It is recommended that communication with JAC be continued in relation to any future airstrip masterplanning to ensure that the objectives of NASF-E (2014) are addressed IF relevant.

### NASF-F (2012): Managing the Risk of Intrusions into the Protected Operational Airspace of Airports

The navigation airspace of airports is the airspace above a set of imaginary surfaces, the design of which is determined by criteria established by the International Civil Aviation Organisation (ICAO). These surfaces, known as the OLS (Obstacle Limitation Surfaces), are established with the aim of protecting aircraft from obstacles or activities that could be a potential threat to safety.

The OLS also help to protect aerodromes from becoming unusable in the future through the growth of obstacles around the aerodromes. If obstacles penetrating the OLS are not regulated, the relevant airspace safety regulator may have to mitigate the accompanying risks by placing restrictions on operations at the affected aerodrome.

The present assessment has assessed the OLS for the Jindabyne Airstrip (including both runways).



#### **Proposal Buildings**

No building element of the proposal would penetrate Jindabyne Airstrip's OLS.

#### **Lighting Towers**

The lighting towers to be used throughout the proposal will likely fall into two categories:

- Standard luminaires used for night-time/security lighting around all buildings and staff car park; and
- Non-standard luminaries that could potentially be used for the proposal's Sports Field, located in the central eastern portion of the site, if the field is to be used for night-time activities.

The standard lighting luminaires likely to be used for the proposal staff car park will almost certainly be less than 25 m in height and would hence comply with NASF-F (2012).

Scenario 1: Sports Field flood lighting is less than or equal to 50 m.

• In this instance, the lighting will not penetrate the Jindabyne Airstrip's OLS and no further action is mandated under NASF-F (2012).

Scenario 2: Sports Field flood lighting is greater than 50 m.

Australia's Manual of Standards Part 139 – Aerodromes: Chapter 9 Visual Aids Provided by Aerodrome Lighting contains the following (ICAO-compliant) requirement which would apply:

• Medium intensity obstacle lights are to be used either alone or in combination with low intensity lights where the top of the object is 45 m or more above the surrounding ground, where the object of concern constitute an "obstacle" relative to the aerodrome OLS.

#### **Construction Cranes**

As soon as practicable, the maximum height of cranes to be used for the proposal should be determined.

Scenario 1: Maximum Crane Height is less than 38 m.

• In this instance, the proposal's construction cranes will not penetrate the Jindabyne Airstrip's OLS and no further action is mandated.

Scenario 2: Maximum Crane Height is greater than 38 m.

- The proponent should inform both the Jindabyne Airstrip Operator and the relevant planning authority that there is potential for a proposed construction crane to infringe the airstrip's OLS.
- If it is confirmed that the proposed structure (ie crane) is likely to infringe the OLS, the planning authority will seek advice from the aerodrome operator. The aerodrome operator will also refer any proposed structure to CASA if it becomes aware that it is likely to infringe the OLS surface.
- A determination will then need to be made as to any conditions that should be imposed on the proposed development to reduce the risk from the proposed structure to acceptable levels, without affecting the regularity or efficiency of airstrip operations.
- Such conditions almost always result in advice on marking and/or lighting of the proposed structure, ie the construction cranes.



- In the present instance, given that Jindabyne Airstrip is not used for night-time operations, conditions would cover crane marking, ie distinctive colouring to make any tall cranes visible to surrounding aircraft.
- In light of the above potential scenario, a planning authority should consider approving the proposal with conditions, on the assumption that, although the structure may constitute a hazardous object, the risk can be mitigated, without affecting aerodrome operations in any way, by imposing conditions such as requirements for lighting and/or marking.
- It is also open to planning authorities to approve proposals if it is able to establish through a safety study that the hazard from a proposal can be mitigated such that the safety and operating efficiency of the aerodrome is not affected. If that proves to be the case, then the mitigation measures identified should be conditions of the proposal's approval.

Under Scenario 2, Australia's Manual of Standards Part 139 – Aerodromes: Chapter 9 Visual Aids Provided by Aerodrome Lighting would apply with the following (ICAO-compliant) requirement:

- Low intensity obstacle lights are steady red lights and are to be used on non-extensive objects whose height above the surrounding ground is less than 45 m, where such objects constitute "obstacles" relative to the aerodrome OLS.
- Medium intensity obstacle lights are to be used either alone or in combination with low intensity lights where the top of the object is 45 m or more above the surrounding ground, where the object of concern constitute an "obstacle" relative to the aerodrome OLS.

In light of Jindabyne's CURRENT daytime-only "normal" operations, the above NASF-F (2012) related recommendations are conservative.

They do however allow for the possibility of future airstrip expansion involving night-time operations and for any current emergency helicopter-related flights occurring at night-time, eg round-the-clock fire-fighting and rescue.

### **Project Commitment:**

- As soon as practicable, the maximum height of cranes to be used for the proposal and the maximum height of Sports Field flood lighting should be determined.
- Following consultation with Jindabyne Aero club regarding potential future operations at the airstrip, the above recommendations should be reviewed as to any potential obstacle marking and/or lighting requirements for the proposal construction cranes and Sports Field flood lighting.

### NASF-G (2016): Protecting Aviation Facilities - Communication, Navigation and Surveillance (CNS)

According to the feedback received from the Jindabyne Aero Club (interview with Secretary, Mr Martin Hughes):

• Jindabyne Airstrip currently has NO CNS (Communication, Navigation & Surveillance) facilities.

Accordingly, there would be no impact from the proposed development in relation to NASF-G.

### **Project Commitment:**

• It is recommended that communication with JAC be continued in relation to any future airstrip masterplanning to ensure that the objectives of NASF-G (2016) continue to be addressed.



# NASF-H (2018): Protecting Strategically Important Helicopter Landing Sites (HLSs)

NASF-H (2018) pays particular attention to "strategically important" HLSs, "SHLSs", which include:

- an HLS associated with a hospital; or
- an elevated (eg on top of a building) HLS, located within a populated area; or
- an HLS subject to instrument flight procedures; or
- any other facility identified as strategic by State/Territory or Commonwealth government/authorities.

The helicopter operations at Jindabyne Airstrip are considered to constitute an SHLS, given the operations of the local Rural Fire Service at the airstrip.

#### Considerations Related to Cranes

NASF-H (2018) states that any development proposal located within/beneath the flight path to an HLS must be required to indicate:

- whether a crane is to be erected during the construction of that development;
- the maximum height of the crane;
- the height and swing radius of the crane with the jib stowed when not in operation; and
- the period in which the crane is anticipated to remain on site.

At night, and in periods of poor visibility during the day pilots rely on the particular pattern of the aeronautical ground lighting to assist in aligning themselves with the correct touchdown point. It is therefore important that lighting in the vicinity of an HLS is not configured or is of such a pattern that pilots could either be distracted or mistake such lighting as being ground lighting from the HLS.

According to the feedback received from the Jindabyne Aero Club (interview with Secretary, Mr Martin Hughes):

 Helicopter operations at Jindabyne Airstrip overwhelmingly involve landings and take-offs close to the WESTERN end of Runway 09/27.

The following has also been noted:

- Helicopters are not constrained by prevailing wind directions in the same way that aircraft are, ie landings and take-offs generally into the wind.
- Helicopters have much greater flexibility in terms of landing glide paths and take-off routes.
- Helicopter landings and take-offs are able to utilise flight paths which would not be located anywhere close to the site of the proposed New Education Campus.

Accordingly, it is considered that any conceivable helicopter-related OLS at Jindabyne Airstrip (refer Figure 10 and Figure 11) would NOT be co-located (in plan view) with the proposal site and hence intrusion into the helicopter OLS at Jindabyne can be completely avoided.

Accordingly, there should be no impact from the proposed development in relation to NASF-H.



## **Project Commitment:**

• As suggested in NASF-H (2018), it is recommended that communication with JAC be made in relation to the siting and maximum height of the construction cranes to be used for the proposal, once these details are known.

## NASF-I (2018): Managing the Risk in Public Safety Areas at the Ends of Runways

NASF-I (2018) has been developed to provide guidance in relation to the potential increases in risk associated with new developments located in areas near the end of an airport runway, specifically through the specification of so-called Public Safety Areas (PSAs).

Considerations in Relation to NASF-I (2018)

NASF-I (2018) was developed with the objective of ensuring that there is no increase in public safety risk from new development. This objective needs to be balanced with broader public interest issue, eg the need to support regional economic growth. The assumed risk from an aviation incident is therefore just one element of an overall public safety risk assessment that may be considered as part of the planning process for a new development.

- All leased federal airports will be expected to consider public safety risk on airports.
- It is up to each state/territory and local government to decide how best to implement the NASF-I into their planning schemes.
- A PSA will not necessarily be introduced at all airports.

To SLR's knowledge, application of the relatively new NASF-I (2018) Guideline to Jindabyne Airstrip has not formally been undertaken in relation to any surrounding developments.

The following factors have been identified in relation to the proposed New Education Campus and the relevance of NASF-I (2018):

- The proposal lies under the extended centreline extension of Runway 09/27, with the nearest building approximately 620 m from the end of runway.
- The proposal involves a new education facility, implying a large increase of people (students, teachers, etc) located beneath the Runway 27 approach flight path.
- While the application of NASF-I (2018) to "ALAs" (aircraft landing areas) is not an automatic (mandatory) requirement, the issue of the potential population at risk suggests it should at least be considered.
- Usage of Runway 09/27 is minimal the ratio of aircraft movements on Runway 09/27 versus Runway 12/30 for example has been estimated at 3% compared to 97%.
- The nearest proposal building to the site (refer "HSC-S" in Error! Reference source not found.) is approximately 620 m from the southeast end of Runway 09/27.
- There is no history of an aircraft-related fatality at the airstrip, although "incidents" have been reported.
- There is a well-publicised and well-understood risk profile at the airstrip refer Section 3 for various risk advisories through eNOTAMS, ERSA notice, JAC's website, etc.
- Circuits for ALL runways at the airstrip are TO THE NORTH. Take-offs on Runway 09 therefore should have little difficulty in avoiding passing directly over the proposal site.



- Potential risk levels associated with the proposal would reflect the daily routine of school timetables, with higher potential relative exposure during standard school hours and working week days, ie Monday to Friday. Risk levels outside of these days/hours would be reduced, eg the potential risk level for say early morning and late afternoon on a Sunday would be significantly lower. Any potential risk during school vacation periods would similarly be significantly reduced.
- In terms of potential FUTURE operations, the only increase to operations envisaged at the airstrip is to Runway 30, where no public safety risk to the proposal exists.

Taking all of the above into account, an ALARP approach involving collaboration between the proposal proponent and the airstrip Operator is deemed the appropriate response to achieving compliance with NASF-I (2018). This approach is outlined below.

### **Project Commitment:**

• It is recommended that communication with JAC be made to ensure that the objectives of NASF-I (2018) can be addressed. This would include consideration of airstrip operational management options regarding the use of Runway 09/27. For example, the current (minimalist) usage of Runway 09/27 for grass landing and "go around" training could be scheduled during "low" risk periods, eg school vacation periods, early morning or late afternoon Sundays, etc.



# **APPENDIX B**

Record of Minutes Meeting between Hansen Yuncken and Jindabyne Aero Club



# **HANSENYUNCKEN**

# **MEETING MINUTES**

Jindabyne Education Campus | SN105

**Aviation Assessment: Onsite Catch Up** 

Date:	Time:		Location/venue:
24/11/2022	13:30		207 Barry Way, Jindabyne
Attendees:			
Daniel Spirit-Jones		HY	
Josh Hersant		HY	
Steve Kaposi		Jindabyne Aeroclub	
Apologies:			

Item no.	Item / minute	To action	Date
1	Aviation Assessment		
1.1	Aviation Assessment Review		
	Notice of use of crane  Alert Steve via email with as much notice as possible of days where mobile crane will be used.  This provides notice to put alert to incoming planes	нү	As required.
2	General Comments		
2.1	General		
	Advise of any issues directly to HY staff, regarding any issues with Contractors, parking, noise, etc.	Aeroclub	As required.
	Drone Flights  Give Steve a call before flight to advise Aeroclub and other pilots of drone use in the area.	НҮ	As required.
	Rural Fire Service  Be mindful of bush fire season and sudden movements that may come from that.	HY	As required.

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Item no.	Item / minute	To action	Date
3	Next Meeting		
3.1	-		

Meeting closed: 00.00am.

Minutes taken by: Josh Hersant

Attachments: Nil

+

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