



Mundamia Residential Subdivision

*State Significant
Development
(SSD 7169)*



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Glossary

Abbreviation	Definition
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
BCA	Building Code of Australia
CIV	Capital Investment Value
Consent	Development Consent
Council	Shoalhaven City Council
Department	Department of Planning, Industry and Environment
DPI	Department of Primary industries
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPI	Environmental Planning Instrument
ESD	Ecologically Sustainable Development
LEP	Local Environmental Plan
Minister	Minister for Planning and Public Spaces
NSP	Neighbourhood Safer Place
OEH	Office of Environment and Heritage
RFS	NSW Rural Fire Service
RMS	Roads and Maritime Services
RtS	Response to Submissions
SEARs	Secretary's Environmental Assessment Requirements
Secretary	Secretary of the Department of Planning, Industry and Environment
SEPP	State Environmental Planning Policy
SRD SEPP	<i>State Environmental Planning Policy (State and Regional Development) 2011</i>
SSD	State Significant Development



Executive Summary

This report provides an assessment of a State significant development (SSD) application for a residential subdivision located approximately 2.5 kilometres west of Nowra, in the Shoalhaven local government area.

The proposal seeks approval to subdivide the subject site into 308 residential lots, one commercial lot, and five reserves for open space, drainage and conservation purposes. The proposal also includes remediation, earthworks and the installation of supporting infrastructure. The Applicant is Allen Price and Scarratts Pty Ltd, on behalf of Jemalong Mundamia Pty Ltd. The proposal has a capital investment value (CIV) of \$14.4 million and would generate 10 operational jobs and 10 construction jobs. The application is referred to the Independent Planning Commission (Commission) as the Applicant has declared a reportable political donation.

Engagement

The application was publicly exhibited between 8 May 2013 and 11 June 2013. The Department received a total of 12 submissions, comprising 10 submissions from government agencies, Shoalhaven City Council (Council), and one public submission of support. Seven additional submissions from government agencies and Council were received in response to the Applicant's Preferred Project Report (PPR) and supplementary information package.

Council supports the proposal as it would deliver new residential lots within the Mundamia Urban Release Area (URA). However, it raised concerns about the proposal's consistency with the Shoalhaven Development Control Plan (DCP), the design of drainage infrastructure, the proposed road layout and traffic management measures. Key issues raised by Stage agencies included bushfire management, groundwater and biodiversity impacts.

Assessment

The Department has carefully considered the issues raised in the submissions and the Applicant's response in its assessment. The Department also engaged independent experts to review the potential bushfire, hydrogeological, stormwater management and traffic impacts of the proposal. The Department is satisfied the proposal is acceptable for the following reasons:

The Proposal is consistent with the strategic planning framework established for the site

The proposal would facilitate the provision of additional housing in a high priority urban release area, consistent with the goals, directions and actions of the *Illawarra-Shoalhaven Regional Plan 2015*, the *Illawarra-Shoalhaven Urban Development Program Update 2016* and the *Nowra-Bomaderry Structure Plan 2008*.

The proposal is also consistent with the objectives of Council's Local Environment Plan 2014 (LEP) and DCP, as it would support the delivery of additional housing types and densities within the Shoalhaven LGA and appropriately minimise the risk of harm to the environment and the community, subject to conditions. Minor non-compliances with the DCP have been resolved via conditions requiring the Applicant to provide suitable landscape and vegetation management plans and to restrict vehicle access to the rear of Lots 106 to 108.

Bushfire impacts will be mitigated by a Neighbourhood Safer Place and a suite of bushfire protection measures

The site is surrounded by bushfire prone land and the subdivision relies on a single access / egress road (George Evans Road) which could be cut in the event of a bushfire. The Department engaged an independent expert to examine the bushfire risks associated with the proposal. The expert's review found that the access / egress roads could be subject to fire over-run, putting the safety of future residents and emergency service personnel at potential risk.

Planning for Bushfire Protection (PBP) 2006 recommends new subdivisions be provided with a safe, alternative access / egress road for residents and emergency service personnel. However, in this case, it would be difficult to provide an alternative access / egress road as the site is surrounded by bushfire prone land and other constraints, including the Shoalhaven River, Flat Rock Creek and Flat Rock Dam.

As an alternative solution, the Applicant proposes to construct a Neighbourhood Safer Place (NSP). This would act as a shelter for people who do not evacuate from the site early during a bushfire.

The Department is satisfied the NSP will provide an acceptable performance-based solution, given:

- it would not be feasible to provide an alternative access / egress given the constraints of the site
- the NSP would be constructed in accordance with the RFS requirements
- future residents would have two alternative evacuation options (i.e. early evacuation to West Nowra via existing roads, or evacuation to the NSP)
- the RFS supports the establishment of a NSP as an additional bushfire protection measure.

The Department has also recommended a suite of conditions to further improve bushfire safety. Subject to implementing the recommended conditions, the Department considers the proposal strikes a reasonable balance between mitigating bushfire impacts and providing housing in accordance with the long-term strategic planning framework established for the site.

Groundwater dependent ecosystems can be protected by a recharge and stormwater management system

The Department notes the site contains groundwater dependent ecosystems (GDEs) which may be impacted by changes to groundwater flows arising from the proposal. To maintain groundwater flows to the GDEs, the Applicant seeks to implement a recharge and stormwater management system which mimics existing water flow conditions on the site.

The Department engaged an independent expert to review the proposal. The review concluded that subject to conditions requiring additional ground water modelling to be undertaken, the proposed recharge and stormwater management system can be designed to mimic the hydrological conditions required to retain the Nowra Heath-Myrtle and Spring Tiny Greenhood Orchid species downstream of the site. Subject to the recommended conditions, the Department considers the proposed recharge and stormwater management system can be designed to appropriately mitigate and manage potential impacts on GDEs.

Biodiversity impacts will be appropriately offset

The proposal would require 10.46 hectares of native vegetation to be cleared from the site to establish the subdivision. The Department is satisfied the proposal is acceptable as the Nowra-Bomaderry Structure Plan contemplates the need for additional clearing to establish the residential zone. The Applicant has also provided a Biodiversity Offset Strategy (BOS) consistent with the requirements of the *NSW Biodiversity Offsets Policy for Major Projects* and the Framework for Biodiversity Assessment, to offset the impacts of the proposal. The Department has recommended conditions of consent, consistent with the advice of the Department's Environment, Energy and Science Group (formerly Office of Environment and Heritage) (EESG), to facilitate the Applicant's BOS.

Traffic impacts will be addressed by road upgrades and the provision of additional roundabouts

The Department considers the potential impacts on the external road network can be managed by the road upgrades identified in Council's Contributions Plan. To ensure these upgrades are delivered, the Department has recommended conditions of consent requiring the Applicant to provide a monetary contribution toward the road projects identified in Council's Contributions Plan.

In terms of the traffic impacts within the subdivision, the Department recommends two additional roundabouts should be provided, beyond those identified in Council's Contributions Plan, to manage vehicle speeds, reduce

vehicle conflicts and optimise road safety. Subject to the recommended conditions, the Department is satisfied the proposal would not result in any adverse traffic impacts.

Conclusion

The Department's assessment concludes the proposal is acceptable as it would deliver 308 new residential lots and open space in accordance with the statutory and strategic planning framework established for the site. To manage the potential bushfire, hydrological, biodiversity and traffic impacts of the proposal, the Department has recommended conditions of consent requiring the Applicant to:

- provide further details about the design, location, size and operation of the NSP, prepare a suite of bushfire management plans and make changes to the subdivision design and APZs to improve bushfire safety
- undertake additional groundwater modelling to determine the recharge requirements for GDEs located downstream of the site and revise the Stormwater Management Strategy for the proposal based on the recommendations of the revised Hydrogeological Assessment
- provide 544 ecosystem credits and 4,995 species credits to offset the biodiversity impacts of the proposal as identified in the Applicant's BOS
- enter into a Voluntary Planning Agreement with Council for the NSP and the construction of the roundabouts identified by the independent traffic expert.

The Department's assessment concludes the proposal is approvable, subject to conditions. This assessment report is hereby presented to the Commission for determination.



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1. Background

1.1 Introduction

This report provides an assessment of a State significant development (SSD 7169) for a residential subdivision at Lot 30 in DP 1198692, George Evans and Jonsson Roads at Mundamia.

The application seeks approval to subdivide the site into 308 residential allotments, one commercial allotment, and five reserves for open space, drainage and conservation uses.

The proposal has been lodged by Allen Price & Scarratts Pty Ltd, on behalf of Jemalong Mundamia Pty Ltd (the Applicant).

1.2 The Site

The site is located approximately 2.5 kilometres (km) west of the Nowra town centre, 1.5 km west of the suburb of West Nowra, and 300 m south of the Shoalhaven River (see **Figure 1**). The site comprises approximately 41.3 ha of residential and environmental conservation zoned land.

The site forms part of the Mundamia Urban Release Area (URA). The Mundamia URA comprises approximately 53 ha of land and is intended to provide up to 720 new homes for approximately 1,800 residents within the Nowra-Bomaderry region. The proposal will create the first residential lots within the URA.



Figure 1 | Location of Mundamia URA (Source: Google Maps)

Council and the Nowra Local Aboriginal Land Council (NLALC) own other large land parcels within the Mundamia URA, directly to the west of the site. In April 2013, a State significant development application (SSD 7128) was lodged seeking approval for the subdivision of land immediately west of the site into 105 residential lots,

neighbourhood shops and a community facility. The application was subsequently withdrawn in 2015. The timing for the redevelopment of that site is unknown.

The site contains one dwelling with associated out-buildings and has historically been used for pastoral grazing. Remnant vegetation exists along the northern and eastern site boundaries. A small un-named tributary of Flat Rock Creek also traverses the northern part of the site. The topography of the site ranges in height from between approximately 46 m (AHD) near its north-eastern corner, to approximately 70 m (AHD) near its south-western corner.

The surrounding landscape is gently undulating and vegetated with tall forest, heathland and wetland plant communities. The site adjoins bushfire prone land on all boundaries and access and egress to the URA is achieved via a single road (George Evans Road).

Prominent features in the surrounding landscape include the Shoalhaven River, Flat Rock Creek and Thompson's Point to the north, Flat Rock Dam to the south-east, and the Shoalhaven State Forest and the Triplarina Nature Reserve on the southern side of Yalwal Road.

Surrounding land uses include:

- existing residential dwellings to the north
- an existing residential dwelling to the east
- undeveloped Crown lands to the south
- two residential dwellings and the residual URA lands to the west
- the University of Wollongong, Shoalhaven Campus approximately 250 m to the south-west
- the Nowra Tip and the RSPCA animal shelter approximately 6 km west of the site

Surrounding land uses and prominent features are shown in **Figure 2**.



Figure 2 | Site and Site Context (Base Source: Google Earth)

1.4 Planning History

Nowra-Bomaderry Structure Plan

In October 2006, Council adopted the Nowra-Bomaderry Structure Plan (NBSP) to identify strategic land release areas around the Nowra township and assist with the preparation of its Comprehensive Local Environmental Plan (LEP).

The NBSP seeks to maintain and enhance Nowra as a major sub-regional centre by expanding existing residential, commercial, retail and industrial uses, whilst balancing the needs of the community and the environment. It sets out future land use, transport and infrastructure requirements to provide for the sustainable growth of the area.

One of the key outcomes of the NBSP was the identification of nine future living areas to provide a secure supply of residential land to 2036. The NBSP also established planning and design principles to inform the development of planning controls for each release area. In addition, it included a staging plan to ensure land release aligns with the construction of new services and infrastructure.

The NBSP identifies the subject site as a 'future living area' suitable for early release due to its proximity to the Nowra Town Centre and Wollongong University's Shoalhaven Campus (see **Figure 3**). In addition, the NBSP recommended future proposals on the site:

- provide a balance between urban development and the protection of environmentally significant land
- retain threatened species and ecological communities via appropriate land use zones and drainage and stormwater management controls
- enhance the character of the area by retaining existing vegetation in open space, road reserves and on individual lots and by planting native species within the public domain
- provide vehicle access via George Evans Road with an entry statement that creates a sense of arrival
- provide a permeable and legible grid-based street layout that maximises the number of north/south orientated lots and incorporates suitable pedestrian and cycle connections
- address the relevant planning requirements for coastal land, threatened species and potential natural hazards.

Mundamia Masterplan and Site Rezoning

Following the adoption of the NBSP, Council and the Applicant prepared a Masterplan comprising a conceptual subdivision layout and Planning Principles to support the rezoning of Mundamia for residential and conservation uses. The Masterplan and Planning Principles were adopted by Council on 22 July 2008 (see **Figure 4**).

The site was subsequently identified as an urban release area and rezoned R1 General Residential and E2 Environmental Protection in the Shoalhaven LEP 2014 (LEP 2014) (see **Figure 5**). A site-specific DCP for the site was also adopted in October 2014.

In November 2015, the *Illawarra Shoalhaven Regional Plan* re-confirmed the strategic importance of the site as a regionally significant release area suitable for providing greenfield housing.

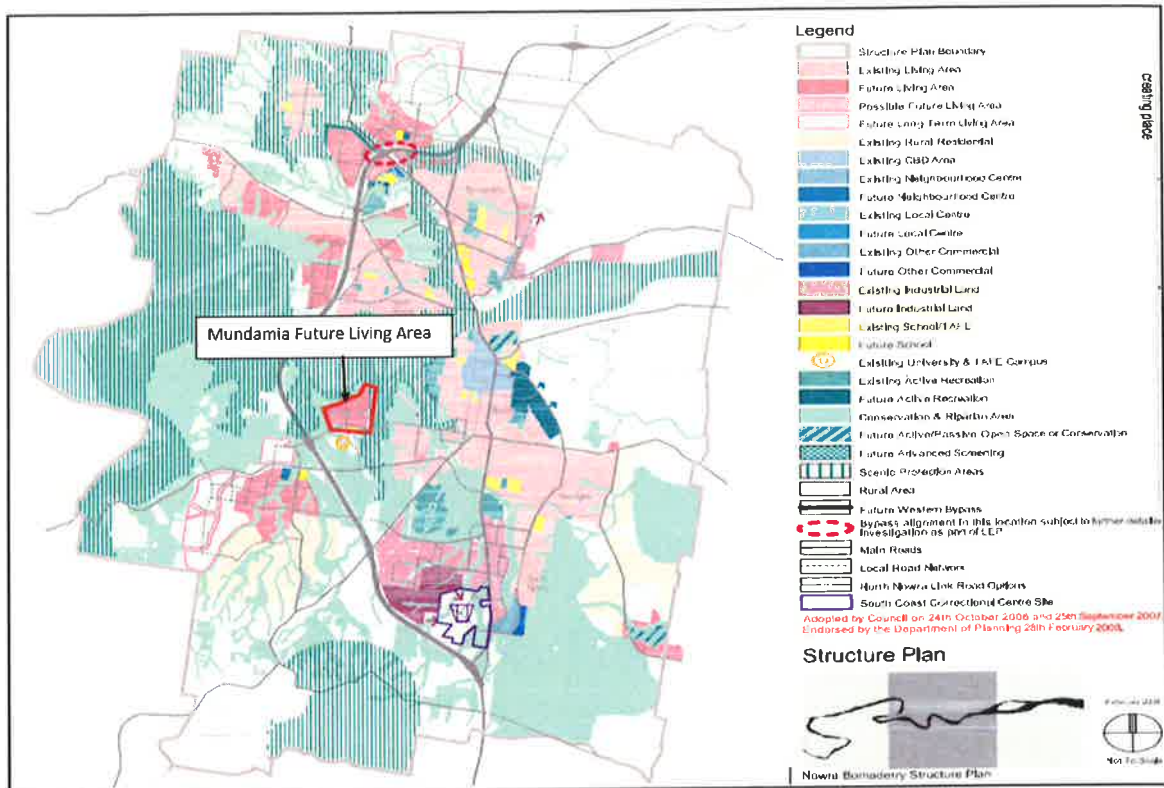


Figure 3 | Mundamia Future Living Area (Base Source: Nowra Bomaderry Structure Plan)

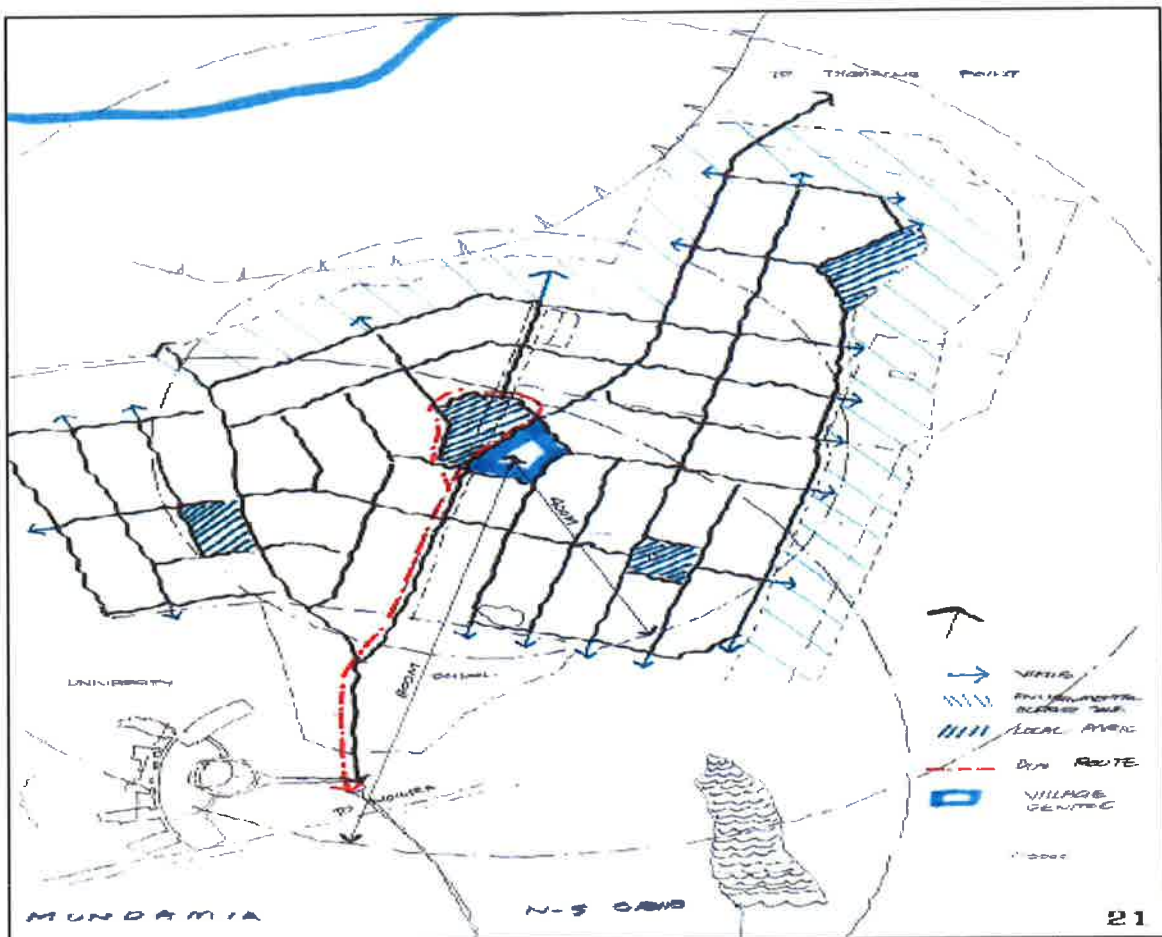
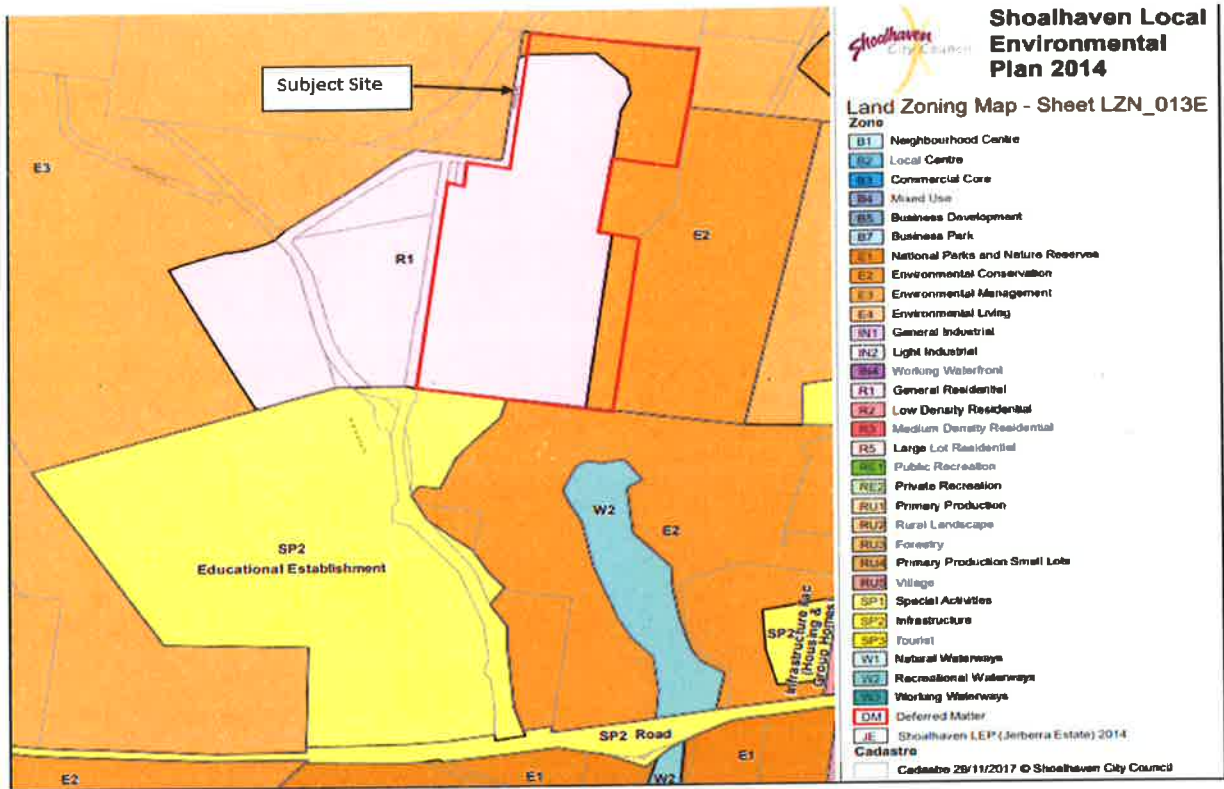


Figure 4 | Mundamia Masterplan (Base Source: Applicant's Environmental Assessment)





2. Description of Proposal

2.1 Description of proposal

The proposal, as originally submitted, sought approval to subdivide the subject site into 312 residential lots, one rural residential lot, three public open space reserves and two environmental reserves.

As part of its PPR and supplementary information package, the Applicant amended the proposal to respond to concerns raised by the Department, Council, EESG, RFS and DPI. Key amendments included:

- revisions to the lot layout and development footprint to improve connectivity with the remainder of the URA and reduce the extent of vegetation clearing on-site
- the provision of a Neighborhood Safer Place to act as a bushfire shelter for residents who do not evacuate early from the site in the case of a bushfire
- revisions to the APZs and perimeter road system to address the requirements of PBP 2006
- revisions to the stormwater management system to address the potential hydrogeological impacts of the proposal
- the introduction of a new reserve to accommodate Shoalhaven Water's infrastructure requirements
- the provision of a Biodiversity Offset Strategy proposing the retirement of 544 of ecosystem and 4,980 species credits to offset the loss of vegetation and habitat on-site.

The key components and features of the amended proposal are provided in **Table 1** and are shown in **Figure 6**.

Table 1 | Main Components of the Project

Component	Description
Development Application (DA) Summary	<ul style="list-style-type: none">• Subdivision works including demolition of existing dwellings and outbuildings, site remediation, and construction of estate wide civil infrastructure and landscaping.
Proposed Uses	<ul style="list-style-type: none">• residential, commercial, recreation, infrastructure (sewerage pumping station) and biodiversity conservation.
Site Area	<ul style="list-style-type: none">• 41.39 ha.
Subdivision	<ul style="list-style-type: none">• subdivision of the site into 308 residential lots, with subdivision works proposed over 11 stages.
Neighborhood Safer Place	<ul style="list-style-type: none">• provision of a neighbourhood safer place (NSP) to act as a bushfire shelter for people located within 100 m of the bushfire hazard. The NSP would be constructed as a part of the first stage of the subdivision.
Site Preparation Works	<ul style="list-style-type: none">• remediation works in accordance with a proposed Remedial Action Plan (RAP).
Access	<ul style="list-style-type: none">• construction of internal estate roads.
Infrastructure	<ul style="list-style-type: none">• Construction of estate wide services and infrastructure including:<ul style="list-style-type: none">○ reticulated sewer, water, electrical and telecommunications infrastructure

	<ul style="list-style-type: none"> ○ four stormwater detention basins.
Biodiversity	<ul style="list-style-type: none"> ● removal of 10.46 ha of native vegetation ● retirement of 544 ecosystem credits and 4,980 species credits to offset the loss of vegetation.
Landscaping	<ul style="list-style-type: none"> ● Landscaping within the site comprising: <ul style="list-style-type: none"> ○ public open space treatments ○ street tree planting ○ swale landscaping.
Capital Investment Value	<ul style="list-style-type: none"> ● \$14.4 million.
Employment	<ul style="list-style-type: none"> ● 10 construction jobs and 10 operational jobs.

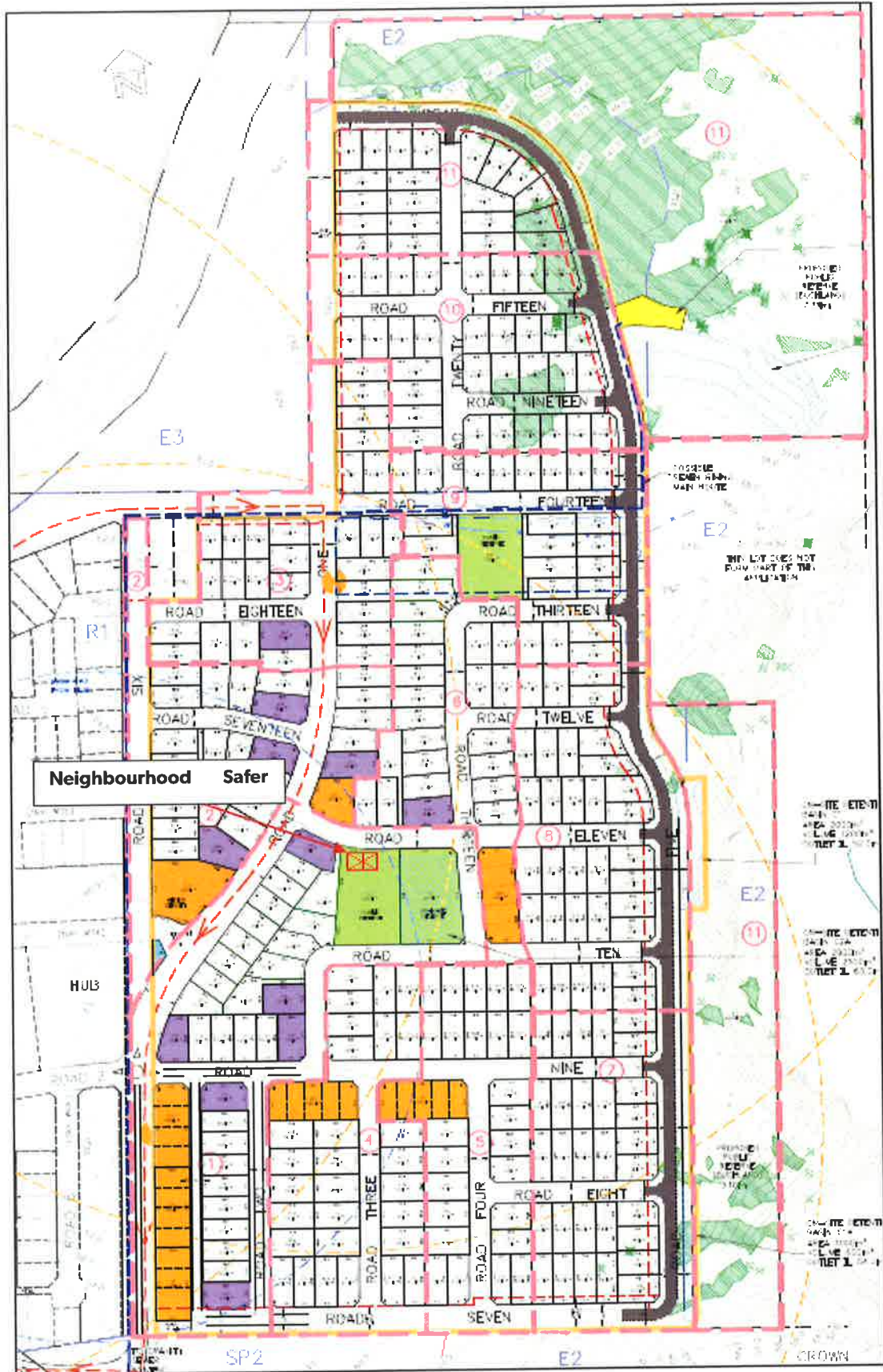


Figure 6 | Proposed Plan of Subdivision (Base Source: Applicant's Supplementary Information Package)



3. Strategic Context

Based on the findings of the *Illawarra-Shoalhaven Urban Development Program Update 2016* (UDP Update), approximately 77 % of new lots within the Shoalhaven LGA will be delivered in the release areas identified in the NBSP. Further, as the Mundamia URA is zoned, service ready, and located within 2 km of the Nowra Town Centre, the UDP Update identifies it as suitable for release in the short-term to support the growth and function of Nowra as a major city.

The Applicant has advised the proposal is consistent with the strategic planning framework for the area for the following reasons:

- the site is located within an existing urban release area which has been identified as a high priority for urban development in the NBSP and the *South Coast Regional Strategy 2006*
- the subdivision has been designed to implement the planning and design principles identified for the site in the NBSP. In addition, the proposed subdivision layout has been designed to respond to the site's ecological constraints and the planning principles identified in the Mundamia Masterplan and Council's DCP
- the proposed subdivision would assist Council achieve its housing target of 26,300 new dwellings by 2036
- the relevant service agencies have planned for development consistent with the growth strategies applicable to the site.

The Department notes several plans and studies have been prepared to inform strategic planning within the Shoalhaven LGA, including the *South Coast Regional Strategy 2006*, the NBSP 2008, the *Illawarra Shoalhaven Regional Plan 2015* (Regional Plan), and the UDP Update 2016. Importantly, these plans and studies all identify the need to provide additional housing in the Mundamia URA because the site is close to established and growing population and employment centres, with suitable access to services and infrastructure.

The Department's assessment of the proposal against the current strategic plans applicable to the site is provided below.

Illawarra Shoalhaven Regional Plan

The Shoalhaven LGA is located within the Illawarra Shoalhaven Subregion and development within the LGA is guided by the Regional Plan, which seeks to provide for long-term prosperity in the region, by ensuring:

- future developments provide a variety of housing choice to meet the needs and lifestyles of local communities
- communities are strong, healthy and well connected
- the region makes appropriate use of its agricultural and resource lands
- the natural environment is enhanced and protected.

The Department considers the proposal is consistent with the goals, directions and actions of the Regional Plan as it would:

- facilitate the creation of 308 residential lots within a regionally significant release area to ensure the supply of new residential lots meets market demand (Goal 2, Direction 2.1)
- identify lots that are suitable for future single, dual occupancy and multi-dwelling developments to meet the needs and lifestyles of the local community and respond to changing household demographics in and around Nowra (Goal 2, Direction 2.1)
- provide a framework for delivering a variety of housing types and a mechanism to secure biodiversity credits to offset the ecological impacts of development within the Mundamia URA (Goal 2, Directions 2.3 and 2.4)
- facilitate the collection of developer contributions to fund the infrastructure required to service the Mundamia URA (Goal 2, Action 2.3.1)

- provide a built environment that integrates with the existing landscape, open space and public transport networks, and the walking and cycle paths identified for the URA to encourage healthy living and community interaction (Goal 3)
- improve access to jobs, goods, services, and recreation areas by extending the existing bus route between the Nowra Town Centre and the Mundamia URA (Goal 3, Directions 3.2 and 3.3).

Illawarra Regional Transport Plan

The Illawarra Regional Transport Plan (Regional Transport Plan) details the goals and actions for transport improvements within the Illawarra-Shoalhaven region. Specifically, the Regional Transport Plan seeks to improve public transport services and walking and cycling opportunities within Nowra-Bomaderry.

The Department has reviewed the proposal against the Regional Transport Plan and has concluded it is consistent with the Plan as it would:

- improve public transport linkages within Nowra-Bomaderry by extending the existing bus route between the university and the Nowra town centre
- provide new walking and cycling facilities to link developments within the URA to the university, the Thompson's Point Reserve and the Shoalhaven River.

Based on the above, the Department has concluded the proposal is consistent with the strategic framework applicable to the site.



4. Statutory Context

4.1 State Significant Development

The proposal was previously a Transitional Part 3A project under Schedule 6A of the EP&A Act, as it satisfied the requirements of clause 1(1)(j)(i), Schedule 2 of the then *State Environmental Planning Policy (Major Projects) 2005*, being the subdivision of land that is not in the metropolitan coastal zone, into more than 25 residential lots.

As the project was not determined prior to Part 3A being wound up, it was declared a State significant development and transitioned into the Government's new State significant development assessment framework on 12 January 2015. As such, the Minister for Planning is the consent authority for the proposal.

4.2 Consent Authority

In accordance with the Minister's delegation, the proposal can be determined by the Commission as the Applicant has made a reportable political donation.

4.3 Permissibility

The site is zoned R1 General Residential and E2 Environmental Conservation under the Shoalhaven LEP 2014. The application seeks approval to subdivide the site to create dual occupancy, multi dwelling and commercial lots, as well as drainage and recreation reserves and public roads. It also proposes environmental protection works, including the construction of a drainage basin within the E2 zone to preserve water quality downstream of the site. The proposed works are permissible with consent and are consistent with the objectives of both zones.

4.4 Other Approvals

Under section 4.41 of the EP&A Act, several other approvals are integrated into the State significant development approval process, and consequently are not required to be obtained separately.

Under section 4.42 of the EP&A Act, several further approvals are required, but must be substantially consistent with any development consent for the proposal (i.e. approvals for works under the Roads Act 1993).

The Department has consulted with the relevant government agencies responsible for integrated and other approvals, considered their advice in the assessment of the proposal, and included suitable conditions in the recommended conditions of consent (see **Appendix G**).

4.5 Mandatory Matters for Consideration

Environmental Planning Instruments

Under section 4.15 of the EP&A Act, the consent authority is required to take into consideration any environmental planning instrument (EPI) relevant to the proposed development. The Department has considered the EPIs that substantially govern the proposal and has concluded the following EPIs apply to the assessment of the proposal:

- *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP)
- *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP)
- *State Environmental Planning Policy No. 44 Koala Habitat Protection* (SEPP 44)
- *State Environmental Planning Policy No. 55 – Remediation of Land* (SEPP 55)
- *State Environmental Planning Policy No. 71 – Coastal Protection* (SEPP 71)
- *State Environmental Planning Policy (Coastal Management) 2018*

- Shoalhaven Local Environmental Plan 2014.

The Department has undertaken a detailed assessment of these EPLs in **Appendix D** and is satisfied the application is consistent with the requirements of these EPLs.

Objects of the EP&A Act

The objects of the EP&A Act underpin the principles upon which the assessment is conducted. The statutory powers in the EP&A Act (such as, the power to grant consent/approval) are to be understood as powers to advance the objects of the legislation, and limits on those powers are set by reference to those objects. Therefore, in making an assessment, the objects should be considered to the extent they are relevant. A response to the objects of the EP&A Act is provided in **Table 2**.

Table 2 | Response to the objects of section 1.3 of the EP&A Act

Objects of the EP&A Act	Consideration
(a) <i>to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,</i>	<ul style="list-style-type: none"> • The proposal involves the subdivision of the site into 308 residential lots, one commercial lot and six reserves for open space, conservation and drainage uses to provide for the future needs of residents within the Mundamia URA. The proposal would also provide additional housing and some additional employment opportunities, resulting in improved social and economic benefits in the locality. • The proposal would also facilitate the long-term management of E2 zoned lands, consistent with the objects of the EP&A Act, subject to conditions of approval requiring the Applicant to prepare a Landscape and Vegetation Management Plan.
(b) <i>to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment</i>	<ul style="list-style-type: none"> • The proposal includes the following mechanisms to implement ecologically sustainable development: <ul style="list-style-type: none"> ▪ the retirement of 544 ecosystem credits and 4,980 species credits to offset the loss of 10.46 ha of native vegetation on site; ▪ the preparation of a vegetation management plan to ensure the long-term protection of the vegetation within the proposed conservation reserves; and ▪ the implementation of a stormwater recharge and management system, including the installation of 3 KL water tanks on each lot, to maintain water quality and ground and surface water flows to significant vegetation downstream of the site. • The Department has recommended conditions of consent to ensure the biodiversity impacts of the proposal are offset, and the stormwater recharge and management system is designed to maintain hydrological flows to threatened species downstream of the site.
(c) <i>to promote the orderly and economic use and development of land,</i>	<ul style="list-style-type: none"> • The proposal will promote the orderly and economic use and development of land as it provides for the creation of new residential lots, public open space and servicing infrastructure generally consistent with the development controls applicable within the Mundamia URA.

Objects of the EP&A Act	Consideration
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,	<ul style="list-style-type: none"> Subject to the recommended conditions of consent, the proposal incorporates suitable measures to maintain ground and surface water flows and water quality on land supporting GDEs. In addition, the proposal seeks to offset the loss of vegetation and habitat on-site by retiring 544 of ecosystem and 4,980 species credits, consistent with the requirements of the <i>NSW Biodiversity Offset Policy Major Projects</i> and the FBA.
(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	<ul style="list-style-type: none"> The site does not contain any buildings with European cultural heritage values. In addition, the site does not contain any registered Aboriginal cultural heritage sites. However, as there are potential artefacts in undisturbed areas of the site, subdivision works will be managed in accordance with the recommendations of an Aboriginal Cultural Heritage Management Plan.
(g) to promote good design and amenity of the built environment,	<ul style="list-style-type: none"> Subject to the recommended conditions of consent, the subdivision layout is generally consistent with the design principles outlined in the development controls applicable to the Mundamia URA (see Section 6).
(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,	<ul style="list-style-type: none"> The Department publicly exhibited the proposal (Section 5), which included consultation with Council, and other government agencies and consideration of their responses (see Sections 5 and 6).
(j) to provide increased opportunity for community participation in environmental planning and assessment.	<ul style="list-style-type: none"> The Department publicly exhibited the proposal (see Section 5), which included notifying surrounding landowners and placing a notice in newspapers and displaying the proposal on the Department's website and at Council's offices during the exhibition period.

Ecologically Sustainable Development (ESD)

The EP&A Act adopts the definition of ESD found in the *Protection of the Environment Administration Act 1991* (POEA Act). Section 6(2) of that POEA Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

- the precautionary principle
- inter-generational equity
- conservation of biological diversity and ecological integrity
- improved valuation, pricing and incentive mechanisms.

The Department has assessed the proposed development against the ESD principles outlined in the POEA Act, and has formed the following conclusions:

Precautionary Principle – the proposed development would not result in any serious or irreversible environmental damage, subject to the recommended conditions of consent which would require the Applicant to:

- retire biodiversity credits to offset the clearing of vegetation on-site

- prepare and implement a Landscape and Vegetation Management Plan to provide for the long-term management of the vegetation within the E2 zone
- undertake supplementary groundwater monitoring and modelling to ensure the proposed recharge and stormwater management system is designed to maintain hydrological flows to significant vegetation downstream of the site.

Inter-Generational Equity – the proposal would not result in any adverse impacts on the environment for future generations, subject to the implementation of the recommended conditions of consent.

Biodiversity Principle – the application proposes to maintain water quality and ground and surface water flows to protected vegetation downstream of the site. This commitment will be implemented via the recommended conditions of consent which will ensure the Applicant is required to offset the removal of significant vegetation on site.

Valuation Principle – the application seeks approval to purchase and retire 544 ecosystem credits and 4,980 species credits to offset the removal of 10.46 ha of native vegetation, as per the requirements of the NSW *Biodiversity Offset Policy Major Projects* and the FBA. In addition, the proposal has been designed to maximise the number of north facing lots, incorporate facilities for walking and cycling, and provide 3 KL water tanks on each lot to reduce energy and water consumption on-site. Therefore, the Department concludes the proposal is consistent with ESD principles, in accordance with the objects of the EP&A Act.

Environmental Planning and Assessment Regulation 2000 (EP&A Regulation)

Subject to any other references to compliance with the EP&A Regulation cited in this report, the requirements for notification and fees have been complied with.

Planning Secretary’s Environmental Assessment Requirements

On 20 October 2010, the Department notified the Applicant of the Director-General’s Environmental Assessment Requirements (DGEARs) (now Secretary’s Environmental Assessment Requirements (SEARs)) for the application. The Department is satisfied the Environmental Assessment, PPR and supplementary information adequately address the SEARs to enable the assessment and determination of the application.

Section 4.15(1) Matters for Consideration

Table 3 identifies the matters for consideration under section 4.15 of the EP&A Act that apply to SSD in accordance with section 4.40 of the EP&A Act. The Table represents a summary for which additional information and consideration is provided in **Section 6** and relevant appendices, or other sections of this report, as referenced in the table.

Table 3 | Section 4.15(1) Matters for Consideration

Section 4.15(1) Evaluation	Consideration
(a)(i) any environmental planning instrument	Satisfactorily complies. The Department’s consideration of the relevant EPIs is provided in Appendix D of this report.
(a)(ii) any proposed instrument	Not applicable.
(a)(iii) any development control plan	Under clause 11 of the SRD SEPP, development control plans (DCPs) do not apply to SSD. Notwithstanding, consideration has been given to relevant DCPs in Section 6 .

Section 4.15(1) Evaluation	Consideration
(a)(iia) any planning agreement, or any draft planning agreement	<p>The application includes a letter of offer to Council to facilitate the provision of intersection upgrades required in addition to those identified in Council's Development Contributions Plan. The offer was accepted by Council on 18 September 2018 (see Appendix I).</p> <p>The Department is satisfied the proposed upgrades are sufficient to mitigate the traffic impacts of the proposal. To secure these contributions, the Department has recommended a condition of consent requiring the Applicant to execute a Planning Agreement (PA) prior to the issue of the first Construction Certificate.</p>
(a)(iv) the regulations	<p>The application was originally lodged and exhibited under the now repealed provisions of sections 75E, and 75H of the EP&A Act. These steps were accredited prior to the application being declared a State significant development.</p> <p>The Department concludes the proposal is consistent with the current requirements of the EP&A Regulation, including the procedures relating to applications (Part 6 of the EP&A Regulation), public participation procedures for SSD and Schedule 2 of the EP&A Regulation relating to EIS.</p>
(b) the likely impacts of that development including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,	<p>The Department has undertaken a detailed assessment of the proposal in Section 6 of this report and considers the proposal is acceptable and any residual impacts can be appropriately managed or mitigated subject to conditions.</p>
(c) the suitability of the site for the development	<p>The site is suitable for the development as discussed in Sections 3 and 6 of this report.</p>
(d) any submissions	<p>Consideration has been given to the submissions received during the exhibition period. See Sections 5 and 6 of this report.</p>
(e) the public interest	<p>Refer to Section 6 of this report.</p>

4.5 Environment Protection and Biodiversity Conservation Act 1999

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), assessment and approval are required from the Commonwealth Government if a development is likely to impact on a matter of national environmental significance (MNES).

The proposal seeks consent to remove 0.945 ha of Nowra Heath-myrtle. In addition, it has potential to impact on the local Grey-headed Flying Fox population and the Spring Tiny Greenhood Orchid, both of which are listed as threatened species under the EPBC Act. Accordingly, the proposal has the potential to impacts on MNES.

The Applicant referred the application to the Commonwealth Government for its consideration on 26 March 2012. On 26 April 2012, the Commonwealth Government confirmed that the application is not a 'controlled action' and therefore does not require assessment and approval under the EPBC Act.

4.6 Biodiversity Conservation Act 2016

The proposal is defined as a 'pending or interim planning application' under the Biodiversity Conservation (Savings and Transitional) Regulation 2017, as the application was made prior to the commencement of the

Biodiversity Conservation Act 2016, but not determined prior to the commencement of the new Act. Accordingly, pursuant to Part 7, clause 28 of the *Biodiversity Conservation (Savings and Transitional Regulation) 2017*, the relevant provisions of the *Threatened Species Conservation Act 1995* (TSC Act) continue to apply to the assessment of the proposal.

5. Engagement

5.1 Department's Engagement

The application was exhibited between 8 May and 11 June 2013. The application was exhibited on the Department's website, at its Information Centre, and at Shoalhaven Council's offices and the Nowra Library. The Department also placed a public exhibition notice in the Nowra South Coast Register and the Nowra Shoalhaven News and notified adjoining landholders and relevant State government agencies and Council in writing. Department officers have undertaken several site inspections to provide an informed assessment of the proposal.

The Department received a total of 12 submissions, comprising 10 submissions from government agencies, Council, and one public submission. A summary of the issues raised in the submissions is provided in **Section 5.2** below. Copies of the submissions are provided at **Appendix E**.

Following the exhibition of the application, the Department placed copies of all submissions received on its website and requested the Applicant to provide a response to the issues raised in the submissions. In January 2015, the Applicant provided a Preferred Project Report (PPR) which responded to the issues raised in the agency and public submissions and included the following changes to the development:

- increased the number of residential lots from 314 lots to 320 lots comprised of:
 - 305 single residential lots;
 - 9 dual occupancy lots; and
 - 6 multi dwelling lots;
- reduced the proposed area of public open space from 5,442 m² to 4,607 m²
- increased the area of the proposed bushland reserves from 9.492 ha to 10.49 ha.

In addition, the PPR included revised stormwater, bushfire, flora and fauna, acid sulfate soils and Aboriginal cultural heritage assessments, and identified erosion and sediment controls and interim bushfire protection measures for the lots proposed within Stage 1 of the development. A copy of the PPR is provided at **Appendix F**.

In June 2015, the Applicant provided an assessment of the application against the provisions of the former Section 79C of the EP&A Act. This assessment was provided to address statutory requirements arising from the development being transitioned into Part 4.

The PPR and Section 79C assessments were made publicly visible on the Department's website in August 2015 and were referred to Council and the government agencies who raised concerns with the proposal. The Department received comments from Council and each agency notified of the exhibition. No public submissions were received. The agency comments are summarised in **Section 5.2** below.

5.2 Summary of Submissions

Government Agency Submissions

A summary of the government agency submissions provided in response to the Applicant's EA and PPR is provided in **Table 4** below and copies of the submissions are available at **Appendix E**.

Table 4 | Summary of public agency submissions provided in response to the exhibition of the Applicant's EA and PPR

Summary of Agency Comments

Council

EA Comments:

Council did not object to the proposal. However, it raised concerns with the following aspects of the proposal:

- the suitability of measures proposed to manage and/or mitigate the biodiversity and groundwater impacts of the proposal
- the impacts of the proposed APZs on the biodiversity values of the site
- the need for a VPA to identify the intersection upgrades required to offset the traffic impacts of the proposal and secure contributions for additional open space and community facilities within the Mundamia URA
- the suitability of the proposed road layout, particularly in relation to its integration with the potential east-west road identified in the NBSP
- compliance with the subdivision design, public and active transport, open space, environmental management, stormwater management and staging provisions of Council's draft Development Control Plan (DCP).

PPR Comments:

Council did not object to the development identified in the PPR. However, it raised the following residual concerns with the proposal:

- the suitability of the Flora and Fauna Assessment and the proposed biodiversity offsets package
- the suitability of the on-site detention basins given the geotechnical constraints of the site and the potential costs associated with maintaining the proposed recharge and stormwater management system
- erosion and sediment controls should be identified for stages 2 to 11 of the development
- the subdivision layout should be refined to ensure all perimeter lots do not exceed a bushfire attack level (BAL) of 29
- staging plans(s) should be provided to identify all permanent and temporary APZs and fire trails required to comply with the provisions of PBP 2006
- inconsistencies with the neighbourhood design, movement and access, entrance gateway, environmental, landscaping and staging requirements outlined in Council's Development Control Plan.

In addition, Council requested the recommendations contained in the archaeological, aircraft and noise intrusion reports are implemented via conditions of consent. The Department has recommended conditions of consent to ensure this occurs.

Environment, Energy and Science Group of the Department (ESSG)

EA Comments:

EESG did not object to the proposal. However, it provided comments and raised concerns about the following aspects of the proposal:

- the suitability of the stormwater management system to maintain water quality to the Nowra Heath-myrtle populations downstream of the development
- the proposed APZ management measures are inconsistent with the Recovery Plan for the Nowra Heath-myrtle

- the suitability of the proposed biodiversity offsets package and the use of nest boxes on site
- the Aboriginal Heritage Assessment should be updated to address the information contained in the Aboriginal Heritage Information Management System (AHIMS)
- the Applicant should prepare an Aboriginal Cultural Heritage Management Plan prior to the commencement of works.

PPR Comments:

EESG reiterated its concerns about the biodiversity impacts of the proposal and recommended the Applicant:

- revise the development footprint to reduce the extent of vegetation clearing; or
- undertake a BioBanking Assessment to determine a suitable biodiversity offset package for the proposal.

In addition, the EESG recommended conditions of consent requiring the Applicant to develop and implement an Aboriginal Cultural Heritage Management Plan prior to the commencement of works on site. The Department has recommended a condition of consent to ensure this occurs.

RFS

EA Comments:

The RFS did not object to the application, however it advised:

- additional information is required to determine whether each stage of the development complies with the site and property access, APZ and site servicing requirements of PBP 2006
- the application should identify whether any hazard management measures are required for land within the E2 zone.

PPR Comments:

RFS advised the revised Bushfire Protection Assessment was inadequate and requested the Applicant:

- provide additional details on the slope analysis used to calculate the APZs for the development
- revise the APZs to ensure future dwellings can achieve a maximum BAL of 29.

Department of Primary Industries (DPI)

EA Comments:

DPI did not object to the proposal, however, it raised the following concerns:

- a small un-named tributary of Flat Rock Creek traverses the north-eastern corner of the site. This tributary is a Category 2 watercourse and conveys runoff through the site and should be protected and rehabilitated for its full length
- all groundwater dependent vegetation located on-site should be conserved and protected
- the groundwater seepage area identified in the Applicant's geotechnical assessment should be conserved and protected from development
- the proposed stormwater recharge structures require assessment against the provisions of the Aquifer Interference Policy (AIP)
- the environmental protection measures outlined in the EA should be incorporated as conditions of consent and implemented over the life of the project
- the subject site includes a Crown road reserve, which should be transferred to Council prior to the commencement of development.

PPR Comments:

DPI did not object to the proposal, however it raised the following concerns:

- GDEs are located on-site and the proposal would result in significant adverse impacts the shallow surficial aquifer. These impacts must be assessed against the AIP
- excavation beneath the groundwater table should not be permitted until a revised hydrogeological assessment is provided. This assessment should be based on a monitoring program that includes baseline monitoring of vegetation that is partially dependent on groundwater, including the Swamp Paperbark community, small moss gardens and the Nowra Heath-myrtle
- a management plan is required to specify the volume of water intercepted, describe the impacts on GDEs and the shallow aquifer, and identify suitable mitigation measures to address potential impacts
- stormwater and discharge to the Flat Rock Creek tributary should be managed to minimise downstream water quality and geomorphology impacts.

The Department has recommended conditions of consent to address DPI's residual concerns with the proposal.

Transport for NSW (Roads and Maritime Services) (former Roads and Maritime Service) (TfNSW(RMS))**EA Comments:**

TFNSW(RMS) objected to the proposal and provided the following comments:

- the Transport Report understates the potential traffic impacts of the proposal and revised SIDRA modelling is required to identify the cumulative impacts of development within the Mundamia URA
- the PPR should identify the infrastructure upgrades required to ameliorate the traffic and road safety impacts of the proposal, and the proposed mechanisms to fund these upgrades.

PPR Comments:

TFNSW(RMS) raised no objection to the PPR and noted Council's Contributions Plan requires the Applicant to contribute toward the construction of traffic signals at the intersection of Albatross and Yalwal Roads.

Shoalhaven Water**EA Comments:**

Raised no objection to the proposal and requested conditions to ensure the Applicant:

- provides land to accommodate the construction of a sewerage pumping station
- pays a section 64 contribution to facilitate the provision of sewerage and water infrastructure on-site.

The Department has recommended conditions of consent to address Shoalhaven Water's requirements.

Shoalhaven Water did not provide any comments in response to the PPR.

Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS)**EA Comments:**

Raised no objection and advised the site is located within 1 km of an identified clay-shale resource (Flat Rock Quarry).

The Department is satisfied the proposal will not impact on this resource.

Department of Education and Communities (DEC)**EA Comments:**

Raised no objection and advised there is sufficient capacity at Nowra Public School and Nowra High School to accommodate students from the proposed development.

Environment Protection Authority (EPA)

Raised no objection and advised the application does not require an Environment Protection Licence.

University of Wollongong

Raised no objection and advised it supports the proposed development.

Department of Defence (Defence)

EA Comments:

Raised no objection and provided the following comments:

- the site is in the bird strike buffer area for HMAS Albatross, and the use of artificial water bodies needs to be controlled to manage the potential for bird strike
- all outdoor lighting for the proposed subdivision must comply with the requirements of the *Civil Aviation Safety Authority (CASA) Manual of Standards Part 139 Aerodromes*
- future developments that exceed the height controls for HMAS Albatross should be referred to Defence for comment.

PPR Comments:

Defence reiterated its original concerns with the proposal. The Department has recommended conditions of consent to address the issues raised by Defence. The Department's assessment of these issues is provided in detail in **Section 6** of this report.

Public Submissions

One public submission was received during the exhibition period. The submission did not object to the proposal, however, it requested site access to 42 Jonsson Road is maintained over the life of the development.

The Department notes the Applicant addressed the access arrangements for 42 Jonsson Road in its PPR. The Department has recommended conditions of consent to ensure temporary and permanent access is provided at 42 Jonsson Road for the life of the development.

5.3 Applicant's Supplementary Information Package

The Applicant undertook additional consultation with the Department, Council, the EESG and the RFS to address the residual issues identified during the notification of the PPR. In addition, the Applicant provided the following supplementary information to address these residual issues:

- revisions to the subdivision layout to decrease the number of residential lots from 320 to 308, increase the amount of public open space from 4,607 m² to 6,438 m² and address Council's concerns in relation to the design of the stormwater management system and compliance with the Shoalhaven DCP
- a BOS to ensure the biodiversity impacts of the proposal are offset via the retirement of 544 ecosystem credits and 4,980 species credits
- additional slope modelling to confirm the adequacy of the proposed APZs, and modifications to the subdivision layout to ensure all lots achieve a BAL of 29 or lower, and access and egress arrangements are consistent with the requirements of PBP 2006
- a letter of offer to secure the road upgrades recommended by the Department's independent traffic expert.

The supplementary information was referred to Council, the EESG and RFS for comment. Both the EESG and RFS advised the revised proposal is acceptable subject to conditions of consent requiring the staged retirement of the species and ecosystem credits identified in the BOS, and the provision of perimeter roads and APZs, consistent with the requirements of PBP 2006.

However, Council advised it had residual concerns about:

- consistency with the density targets, bus and cycle routes, public open space, landscaping, environmental management and staging provisions of its DCP
- compliance with the access and egress provisions identified in PBP 2006
- the design and performance of the proposed recharge and stormwater management system
- the potential traffic impacts associated with the design of proposed Road 1.

The Department has reviewed the final plan of subdivision and has concluded that subject to the design revisions outlined in **Section 6** of this report, the proposed subdivision layout is generally consistent with the requirements of Council's DCP.

Given the technical nature of Council's concerns with the proposed recharge and stormwater management system and traffic impacts of the proposal, the Department engaged technical experts to review the hydrological, and traffic impacts of the proposal.

The Department also raised concerns about the subdivision relying on a single access/egress road, which could potentially be cut during a bushfire. In response the Applicant proposes to construct a Neighbourhood Safer Place, to act as a shelter in the event of a bushfire. The Department engaged a bushfire expert to provide advice on this issue. The Department has undertaken a detailed assessment of all remaining issues in **Section 6** of the report.



6. Assessment

The Department has considered the EA, the issues raised in submissions and the Applicant's PPR and supplementary information in its assessment of the proposal. The Department considers the key issues associated with the proposal are:

- subdivision design
- bushfire
- biodiversity
- hydrology and stormwater management
- traffic.

Each of these issues is discussed in the following sections of this report. All other issues taken into consideration during the assessment of the application are discussed in **Section 6.6** of this report.

6.1 Subdivision Design

The application seeks approval to subdivide the site into 308 residential lots ranging in size between 511 m² and 2,167 m², one commercial allotment of 167 m², and five reserves for drainage, open space and conservation purposes. The Department notes the proposed lot sizes exceed the minimum lot size requirement (500 m²) of the Shoalhaven LEP 2014.

However, the proposal includes minor variations to the density targets, bus and cycle routes, public open space and landscaping provisions of the Shoalhaven DCP. Whilst DCPs do not apply to State significant development, the Department has considered the application against the Shoalhaven DCP below.

Neighbourhood Design and Density Targets

To provide housing choice and affordability, and to ensure Council achieves its LGA wide density targets, the DCP recommends 20 % of housing stock within the Mundamia URA should comprise medium density dwellings, with the preferred dwelling mix comprising:

- medium density dwellings at 20 dwellings/ha, with 5 % of single residential lots capable of accommodating dual occupancy developments
- detached residential dwellings at 12 dwellings/ha.

The proposal exceeds the density target for medium density dwellings (26.08 dwellings/ha) however, it seeks a minor variation to Council's 5 % requirement for dual occupancy lots. The proposal seeks approval for 12 dual occupancy lots which is less than the 15 lots required under the Shoalhaven DCP. However, as four additional lots (Lots 816, 228, 303 and 304) meet the locational and minimum site area requirements (700 m²) for dual occupancy development, the Department is satisfied the proposal can provide additional dual occupancy lots, if there is additional demand for this form of development in the future.

The Department also notes the proposal seeks a minor variation to the density target for detached dwellings (12 dwellings/ha recommended, 10.35 dwellings/ha proposed). To offset the proposed variation, the Applicant has increased the number of medium density lots to achieve an overall density of 11.5 dwellings/ha. The Department supports this approach as it will offset the minor (13.75 %) variation to the detached dwelling density target.

Given the above, the Department is satisfied the density of the proposed subdivision responds to the site's context and will provide a suitable range of housing types to improve housing choice and affordability within the

Shoalhaven LGA. As such, the Department supports the minor departures from the dwelling density targets in this instance.

Road Layout and Movement Network

The Shoalhaven DCP seeks to create a pedestrian dominated environment to encourage walking, cycling and the use of public transport. To implement these objectives, the DCP recommends new developments provide a legible street hierarchy comprised of a main north-south spine road, major and minor residential streets and perimeter roads for access and bushfire protection. The Department notes Council raised concerns with the proposed road layout, bus and cycle routes and pedestrian safety. These issues are discussed below.

Proposed Road Layout

Council raised concern about the potential for direct vehicular access being provided to lots fronting the main spine road (Road 1) in areas where rear service lanes are encouraged.

The Department has assessed the proposed road layout and is satisfied the proposal would create a legible street hierarchy comprised of a main spine road, collector roads and access streets, consistent with the intent of Council's DCP. To address Council's concerns about the proposed medium density lots gaining access from Road 1, the Department has recommended a condition restricting vehicle access to the rear of the lots along Road 1, south of Road 9. The Department has also recommended a condition requiring a perimeter access road to be provided along the western boundary of the site.

Subject to the recommended conditions of consent, the Department is satisfied the proposal will provide a legible and permeable road network, with high levels of amenity to encourage pedestrian activity within the URA, as per the intent of Council's DCP.

Proposed Bus Route

Council raised concern about the proposed bus and cycle routes being inconsistent with the trunk routes identified in its DCP. To justify the proposed variation to the bus route identified in the DCP, the Applicant provided supplementary information advising the proposal has been designed to provide a clockwise route, consistent with current industry requirements. Further, the proposed route has been designed to ensure all lots are located within 500 m of a bus stop to maximise accessibility for future residents (see **Figure 7**).

Council reviewed the Applicant's supplementary information and advised the proposed bus route will encourage public transport use within the URA, consistent with the intent of the Shoalhaven DCP. However, it advised the bus route may need further refinement as the residual lands within the URA are developed.

The Department has reviewed the Applicant's supplementary information and agrees the proposed bus route will ensure new homes within the URA are located within walking distance of a bus stop (see **Figure 8**). Further, the proposed route will ensure a bus stop is located within walking distance of the neighbourhood hub, as per the intent of the DCP. As such, the Department supports the proposed variation to the bus route identified in the DCP.

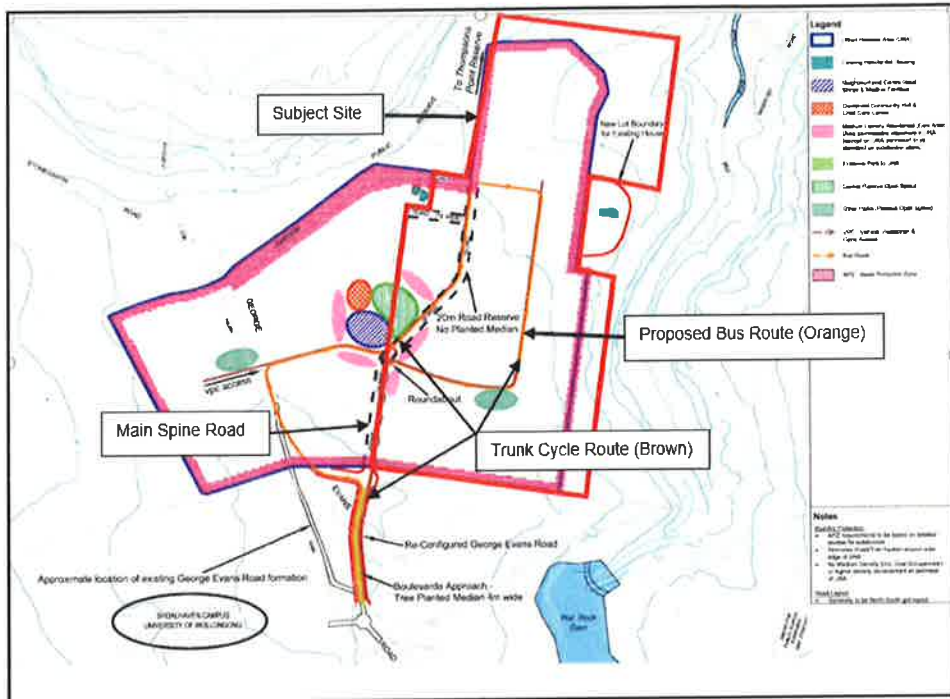


Figure 7 | Mundamia Development Control Plan Map

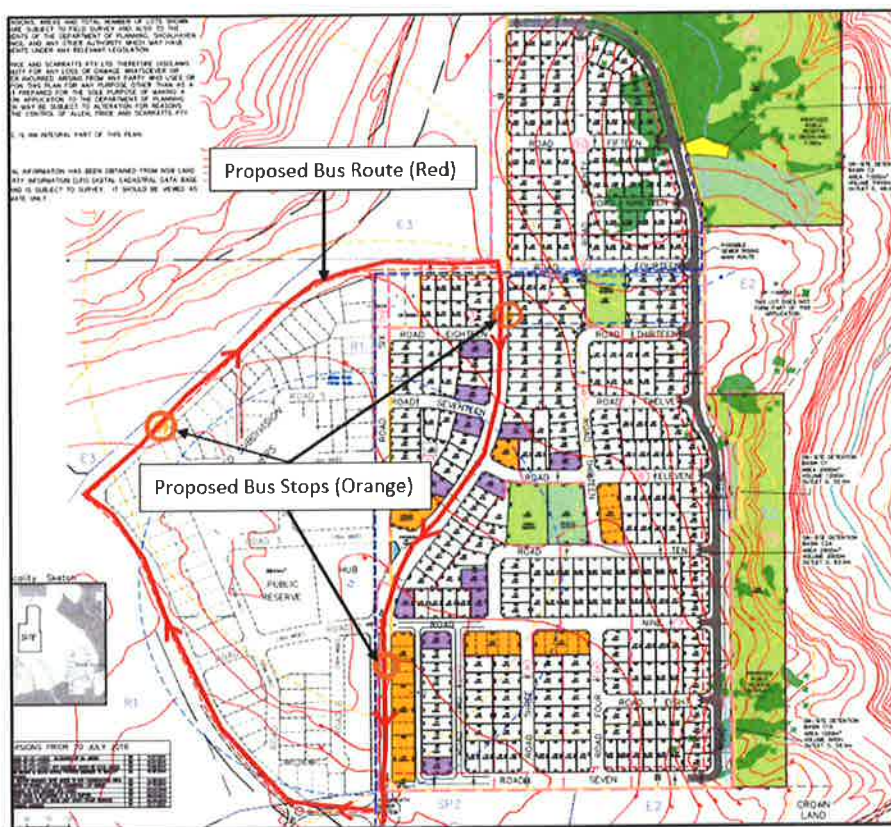


Figure 8 | Proposed bus route and bus stops

Shared Paths and Cycle Routes

Council raised concern about the safety of the shared path on proposed Road 5. Council recommended that the shared path should be relocated to provide a safer path of travel for pedestrians and cyclists.

To address Council’s concerns, the Applicant provided a revised footpath and cycleway concept. The revised concept relocates sections of the shared paths on Road 5 and Road 7 to provide a safer path of travel for pedestrians and cyclists.

The Department notes Council supports the revised footpath and cycle concept on the basis it minimises the number of crossovers on Roads 5 and 7 and would provide a safer environment for pedestrians and cyclists. The Department has reviewed the conceptual footpath and cycle concepts and agrees the revised designs will provide a safe path of travel for pedestrian and cyclists and will encourage active transport within the URA. As the proposed designs are conceptual only, the Department has recommended a condition of consent requiring the Applicant to provide detailed designs for the shared path(s) to Council prior the issue of a Construction Certificate for each stage of the development.

Public Open Space and Landscaping

The Department notes Council raised the following concerns with the open space and landscaping components of the proposal:

- the quantum, location and design of the local open space is inconsistent with the requirements of the Shoalhaven DCP
- no funding mechanisms have been identified for the long-term management of the proposed bushland reserves
- the verges adjacent to the proposed bushland reserves should be redesigned to incorporate permanent landscape features to prevent vegetation creep
- revised landscape plans should be provided to identify public domain treatments, access arrangements, and fencing designs for the proposed public reserves, and incorporate the gateway treatments identified in the DCP.

The Applicant's supplementary information package increased the amount of public open space from 5,442 m² to 6,438 m² and proposes to fund the long-term conservation and management of the bushland reserves via a BioBanking Agreement. In addition, the supplementary information package includes a conceptual street tree and bioswale planting scheme to address Council's residual concerns with the proposed landscape treatments.

The Department notes Council recently repealed the Local Open Space Plan referenced in its DCP and replaced it with a Community Infrastructure Strategic Plan (CISP). The CISP included a strategic review of the open space requirements across the Shoalhaven LGA and recommended a reduction in the rate of local open space provision from 12 m²/person to 5 m²/person as there is a surplus of local and district open space in the LGA. Whilst the DCP has not been updated to require new subdivisions to comply with the requirements of the CISP, the Department considers it is appropriate to assess the open space requirements against the rates identified in the CISP as it is based on a contemporary analysis of the open space needs of the area. A comparison of the open space rates in the repealed Local Open Space Plan with the CISP is provided in **Table 5** below.

Table 5 | Comparison of the Open Space Rates outlined in the Local Open Space Plan and the CISP

Open Space Type	DCP ¹	CISP	Proposed
Local Open Space ¹	12 m ² /person	0.5 ha/1000 persons	N/A
Total Required²	10,380 m²	4,325 m²	6,438 m²

Note! The Applicant's supplementary information package assumes 346 dwellings will be delivered with an occupancy rate of 2.5 persons/dwelling

As indicated in the above table, the proposal exceeds the minimum open space requirement by approximately 2,100 m² and complies with Council's minimum area and dimensions for local parks. Further, the Department has concluded the proposed plan of subdivision ensures local open space is highly accessible, with all lots located within 300 m of a local park. Subject to conditions of consent requiring the Applicant to provide detailed landscape plans for the proposed parks, the Department has concluded the proposal will provide high quality, accessible open space that will meet the needs of future residents as per the intent of the DCP.

In terms of the proposed bushland reserves, the Department notes the Applicant has lodged a BioBanking proposal with the EESG to fund the long-term conservation and management of these lands. Further, it has offered to enter into a Voluntary Planning Agreement (VPA) to facilitate the transfer of the proposed environmental reserves to Council following the registration of the BioBanking Agreement.

The Department has reviewed the land ownership arrangements for the proposed bushland reserves and agrees a BioBanking proposal will ensure suitable funding arrangements are in place to provide for their long-term management. However, as the EESG has not finalised its assessment of the BioBanking Agreement, the Department has recommended conditions of consent requiring the Applicant to manage the proposed conservation reserves in accordance with a landscape and vegetation management plan in-perpetuity, unless the reserves are transferred into public ownership. Subject to the above condition, the Department has concluded the proposal will ensure suitable measures are in place to fund the long-term conservation and management of the proposed bushland reserves.

In terms of the estate landscaping, the Department notes the supplementary information package did not include detailed landscaping plans. To ensure the landscape treatments identified in the DCP are implemented, the Department has recommended conditions of consent requiring the Applicant to prepare and submit:

- a master landscape and vegetation management plan to Council prior to the issue of the first Construction Certificate
- detailed landscape and vegetation management plans prior to the issue of each Construction Certificate for subdivision works within Stages 1 to 11 of the development.

Subject to these conditions, the Department is satisfied the proposal will incorporate landscape treatments consistent with the intent of Council's DCP.

6.2 Bushfire Impacts

Bushfire risk is a key issue associated with the proposal, given the site is surrounded by bushfire prone land and access / egress to the site is achieved via a single road (George Evans Road). The Department has therefore carefully assessed the suitability of the proposed access arrangements and APZs to ensure the potential bushfire risks associated with the proposal are appropriately mitigated and managed.

Access and Egress

The Department raised concerns about the proposal as it relies on a single access road, which could be cut in the event of a bushfire. PBP 2006 recommends that at least one alternative property access road be provided for dwellings that are located more than 200 m from a public through road.

The Applicant's Bushfire Assessment (BA) identifies Johnson Road and the northern section of George Evans Road and Jonsson Road as an alternative road network (see **Figure 9**). However, these roads ultimately lead into the southern part of George Evans Road, which provides the sole access point into the subdivision (shown red in **Figure 9**).

The Department raised concerns with the findings of the Applicant's BA as it did not examine the bushfire risks to the southern section of George Evans Road. As such, the Department sought further advice from the RFS to confirm if the proposed site access arrangements would be acceptable in the event of a bushfire emergency.



Figure 9 | Proposed Site Egress Arrangements (Base Source: Applicant's Supplementary Information Package)

The RFS advised that the proposed subdivision can be designed to provide suitable bushfire protection measures for the following reasons:

- a future east-west road is identified in the NBSP and once constructed, will provide an alternative access/egress route to the site (see **Figure 10**). However, the RFS notes the proposed east-west road will traverse sections of bushfire prone land similar to the existing eastern access option
- the proposal will create a significant area of managed land that will provide shelter if residents decide to stay and defend their properties during a bushfire

- the conditions of consent recommended by the RFS will ensure all boundaries adjoining a potential bushfire hazard are provided with an 8 m wide perimeter road, which is the preferred option to separate bushland from urban areas. Perimeter roads will also form part of the APZs and provide a clear control line to conduct hazard reduction or defensive activities.

The RFS also advised the Department could undertake a strategic traffic assessment to determine whether additional road upgrades could be implemented to improve egress in a bushfire emergency.

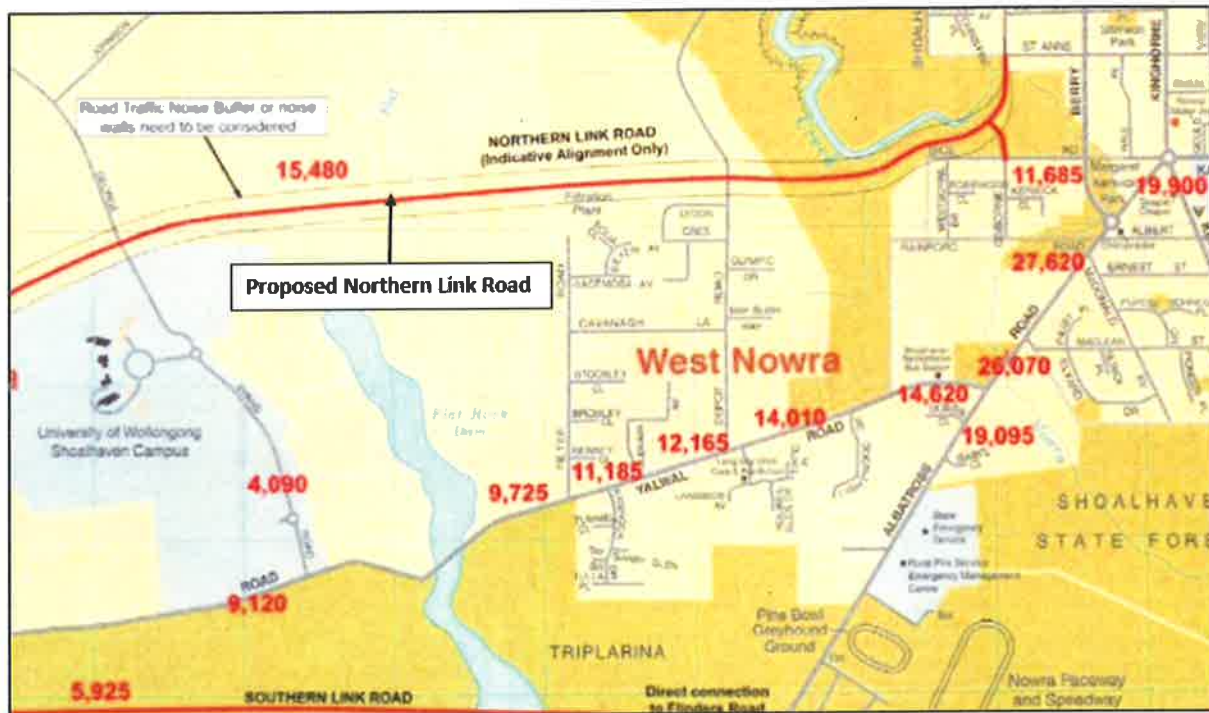


Figure 10 | Proposed East-West Bypass (Source: Council's EA Submission)

Independent Traffic Review

In accordance with RFS's suggestion, the Department engaged an independent traffic expert (Stantec, formerly TDG) to review the capacity of the road network and evacuation timeframes in the event of a bushfire emergency.

This review concluded that the proposal when considered in isolation:

- could be evacuated within 30 minutes during a daytime bushfire emergency and 15 minutes during a night time emergency
- would not require any additional road upgrades to accommodate a 30-minute evacuation time.

The review also concluded at full development, the Mundamia URA could be evacuated in 45 to 60 minutes during a daytime bushfire emergency and 30 minutes during a nighttime emergency. To reduce the evacuation time for the full URA to 30 minutes during the day and evening periods, additional south bound lanes could be provided by prohibiting car parking on Road 1, south of Road 9 and widening the shoulder on the eastern side of George Evans Road. In addition, the northern side shoulder of Yalwal Road could be widened to provide two eastbound traffic lanes.

The review also noted that if Yalwal Road is operating at full capacity it is anticipated that an evacuation time of 60 minutes is likely once vehicles enter Yalwal Road. To reduce this evacuation time, a second west bound lane could be provided between George Evans Road and Filter Street, including the widening of the bridge over Flat Rock Dam. A copy of the report can be found at **Appendix J**.

The review was referred to RFS for comment. The RFS advised it supports the road safety improvements identified by the independent traffic expert, however, as the field of bushfire traffic modelling is a developing area and is not

based on widely accepted science or validated criteria, the evacuation times identified by the independent traffic expert should be assessed in the context of the bushfire protection measures previously recommended by the RFS.

Independent Bushfire Review

The Department continued to raise concerns with the proposal, as the proposed northern link road is unlikely to be built in the short term and the conditions recommended by RFS did not specifically address the issue of access / egress being provided by a single road. Further, the review of evacuation times did not provide any clear evidence that the subdivision would be adequately serviced by a single road.

To assist the Department with its assessment, it engaged a bushfire expert to examine the bushfire risks to the access / egress roads. The review examined the topography, gradients and vegetation within the site and surrounding area. It then undertook a risk assessment which examined the likely fire paths which could impact on the subdivision and access roads.

In summary the review found that:

- the subdivision and access roads would be subject to an extreme level of bushfire risk and the road providing access into and out of the site would be impacted by fire over-run during major fire events which would pose an extreme level of risk to the public and emergency service personnel
- the Applicant's BA identifies Jonsson Road and the northern portion of George Evans Road as an alternative road network. The site inspection confirmed that these roads are not through roads, will be impacted by fire over-run and do not provide a safe alternative means of egress
- the subdivision layout does not comply with the PBP 2006 acceptable solution for public roads or provide a safe alternative means of egress for residents and emergency service personnel
- resolution of the safe access/egress for the subdivision of the land into multi-lot residential development should have been addressed as part of the rezoning of the land and not left, to the Development Application Stage.

A copy of the report is provided at **Appendix K**.

Neighbourhood Safer Place (NSP)

The Department requested the Applicant to provide a response to the concerns raised in the independent bushfire review. In response, the Applicant proposes to construct a NSP (see **Figure 7**) in lieu of an alternative egress. This would act as a shelter for evacuees located within 100 m of the bushfire hazard and be constructed as a part of Stage 1 of the proposal.

In summary, the Applicant's bushfire consultant argues that the provision of an NSP would result in a lower risk than requiring two alternative access routes, as:

- it avoids the risk associated with relying on off-site evacuation only and in so doing has a lower residual risk than providing two alternative egress routes which would be at risk of being cut simultaneously by a rapid on-set bushfire
- 'staying in place' significantly lowers the risk of residents feeling compelled to evacuate off site at an unsafe time, or inappropriately judging the risks at the time of using the roads
- the standard of protection achieved under PBP 2006 combined with the provision of an NSP would provide a lower level of residual risk than requiring two alternative egress routes.

The Applicant also argues that the construction of the proposed Nowra West by-pass, located further to the West of the site, would reduce the likelihood of bushfire impacts on the site. A copy of the Applicant's response can be found at **Appendix L**.

The Department referred the amended proposal to the independent bushfire expert and RFS for comment. The independent bushfire expert advised that the proposed NSP would help mitigate the risk of not providing a safe alternative access to the site, however some risk would remain. The RFS advised that it supports the establishment of an NSP as an additional bushfire protection measure, subject to conditions requiring the NSP to comply with its relevant guidelines.

Department's Consideration

The Department has carefully considered the advice of the RFS and the independent bushfire expert and considers that the proposed NSP would provide an acceptable performance-based solution, in this instance.

The Department considers it would be more feasible to provide an NSP than an alternative egress, given the constraints of the site. The Department notes that PBP 2006 requires a safe alternative means of egress to be provided for dwellings located more than 200 m from a public through road. However, in this case, any alternative egress from the proposed subdivision would need to pass through bushfire prone land. This means both the primary and alternative egress points would be compromised and at risk of being cut at the same time in the event of a major bushfire event. Further, the Department notes it would be difficult to provide an alternative egress from the site, as the surrounding area is constrained by several natural features, including the Shoalhaven River and adjoining cliffs to the north, Flat Rock Creek and Dam to the east, and bushfire prone land to the west. Therefore, the Department considers that it would be more feasible to provide an NSP than an alternative egress, in this instance.

The Department considers the proposed NSP would provide an acceptable evacuation point for future residents. The Department notes the NSP would be located outside the 10kW/m² radiant heat exposure area and built to comply with the RFS's requirements. Further, the NSP would be constructed as a part of the first stage of the proposal, meaning all future residents would have access to two alternative evacuation points (i.e. early evacuation to West Nowra via existing roads, or evacuation to the NSP). The Department, therefore, considers the NSP would provide an acceptable evacuation point for future residents.

Importantly, the Department notes the RFS supports the establishment of an NSP as an additional bushfire protection measure and Council has indicated it will accept ownership and responsibility for its ongoing maintenance and operation via a VPA. The Department also notes the independent bushfire expert advised the proposed NSP would help mitigate the risk of not providing a safe alternative access to the site.

The Department has also included a suite of conditions recommended by the RFS and the Department's independent bushfire and traffic experts in the instrument of approval, to further improve bushfire safety. This includes requirements to:

- submit further details about the design, location, operation and capacity of the NSP
- demonstrate the NSP would comply with the RFS's relevant requirements
- provide safe access to the NSP from all perimeter lots adjacent to the bushfire hazard
- prepare a Bushfire Emergency and Evacuation Plan and a Bushfire Traffic Management Plan
- provide perimeter roads adjacent to all residential lots and construct roads in accordance with PBP 2006
- prohibit car parking on the eastern side of Road 1, south of Road 9 and the perimeter roads to improve road capacity and design roundabouts so they can be mounted by emergency service vehicles.

The Department also notes the independent traffic expert made several recommendations which could be implemented to reduce evacuation timeframes when the URA is fully developed, including widening the shoulders of George Evans Road, providing an additional left turn lane from George Evans Road onto Yalwal Road (included in Council's Contribution Plan) and providing a second west bound lane between the intersection of George

Evans/Yalwal Roads and Filter Street. However, the Department considers the provision of a NSP and the recommended road upgrades, outlined earlier, would adequately service the proposal. Any additional upgrades to reduce evacuation times for the broader URA would need to be considered on their merits, prior to the determination of future development applications by Council.

Overall, the Department is satisfied that the proposed NSP will provide an acceptable performance-based solution, in this instance. The NSP will be constructed in accordance with the RFS's requirements and provide future residents with two evacuation options (i.e. West Nowra and the NSP). Importantly, the Department notes the RFS support the establishment of an NSP as an additional bushfire protection measure and Council has confirmed it will accept ownership and responsibility for its ongoing operation via a VPA. The Department is therefore satisfied the proposed NSP would appropriately mitigate the risk of not providing an alternative access/egress, in this instance.

Asset Protection Zones

The Applicant's BA used a performance-based approach to determine APZs. It recommends 20 m wide APZs where the bushfire hazard is upslope of the development, and 25 to 33 m wide APZs where the hazard is downslope of the development.

The Department notes the RFS raised concern about the proposed APZs as the Applicant's BA incorrectly identified the slopes on the adjoining land. To address this issue, the Applicant provided a revised slope analysis in its supplementary information package. The RFS reviewed the revised slope analysis and continued to raise concerns about the proposal. The RFS recommended that:

- the land adjacent to the north-eastern boundary should be characterized as 0 to 5° downslope, rather than 0 to 5° upslope
- the Applicant should recalculate the APZs adjacent to proposed lots 1101 to 1104 and lots 1113 to 1116 based on the correct slopes (0 to 5° downslope), and demonstrate the affected lots will not be exposed to radiant heat levels greater than 29kW/m² as required in PBP 2006.

The Department also sought advice from its independent bushfire expert about the suitability of the proposed APZs for the site. The bushfire expert recommended that:

- a 100 m wide, temporary APZ be provided along the western boundary of the site as a part of Stage 1 of the proposal
- APZs should be provided around the entire perimeter of the subdivision in accordance with Table A 2.4 of PBP 2006 (including consideration of a dynamic bushfire event)
- all future dwellings should achieve a Bushfire Attack Level (BAL) of 29 or lower
- the Applicant prepare an APZ management plan and a bushfire fuel management plan.

The Department has considered the advice received from the RFS and the independent bushfire expert. The Department agrees that a 100 m wide temporary APZ should be provided along the western boundary of the site as a part of Stage 1 of the proposal. This would ensure the subdivision, including most of the medium density lots located along the western boundary, are protected from the main westerly fire path, until the adjoining, Council owned land to the west is developed.

The Department also agrees that the APZs should be provided in accordance with Table A 2.4 of PBP 2006, rather than using performance-based approach. This would increase the width of the APZs and improve the level of protection afforded to future dwellings. It would also resolve the issues raised by RFS about the errors in the Applicant's slope analysis.

The Department has also recommended conditions requiring:

- dwellings to achieve a BAL of 29 or lower

- the applicant to prepare an APZ and bushfire fuel management plan
- the applicant to provide evidence that Council will be responsible for the ongoing ownership and management of the APZs and implementation of the management plans in perpetuity.

Subject to the recommended conditions, the Department is satisfied that sufficient APZs will be provided in accordance with the requirements of PBP 2006.

Conclusion

The Department has carefully considered the suitability of the proposed access arrangements and APZs to ensure the potential bushfire risks associated with the proposal are appropriately mitigated and managed. Overall, the Department considers the provision of an NSP, increased APZs and a suite of recommended conditions, strike a reasonable balance between mitigating potential bushfire impacts and providing housing in accordance with the long-term strategic planning framework established for the site.

6.3 Recharge and Stormwater Management Systems

The proposed subdivision works may affect ground and surface water flows to the Nowra Heath-myrtle vegetation and potential Spring Tiny Greenhood Habitat located downstream of the development footprint. Both species are groundwater or partially groundwater dependent ecosystems (GDEs) and are protected under the TSC Act and EPBC Act.

To retain water supply to these species, the application seeks consent to implement a recharge and stormwater management system that mimics existing flow and water quality conditions on-site.

Existing Nowra Heath-myrtle populations and Kunzea Shrublands, which are an indicator species for Spring Tiny Greenhood Orchid habitat, are located within and downstream of the development footprint. In addition, known populations of Spring Tiny Greenhood Orchid are located immediately south of the site (see **Figures 11** and **12**). Both species are groundwater or partially groundwater dependent ecosystems (GDEs) and are protected under the EPBC and TSC Act.

The EA includes a Hydrological Assessment which assesses the impacts of altering the existing hydrogeological conditions on the Nowra Heath-myrtle and the Spring Tiny Greenhood Orchid. It also includes a Water Cycle Management Report, which seeks approval to implement the following stormwater management measures:

- construction of 5,000 m² of drainage swales, including a bioretention trench along the northern boundary of the development footprint to maintain wet habitats downstream of the development
- on-site stormwater treatment to ensure off-site discharge meets best practice pollutant reduction guidelines
- erosion and sediment controls during the construction phase of the proposal
- on-lot stormwater management comprising rainwater tanks and on-lot infiltration pits.

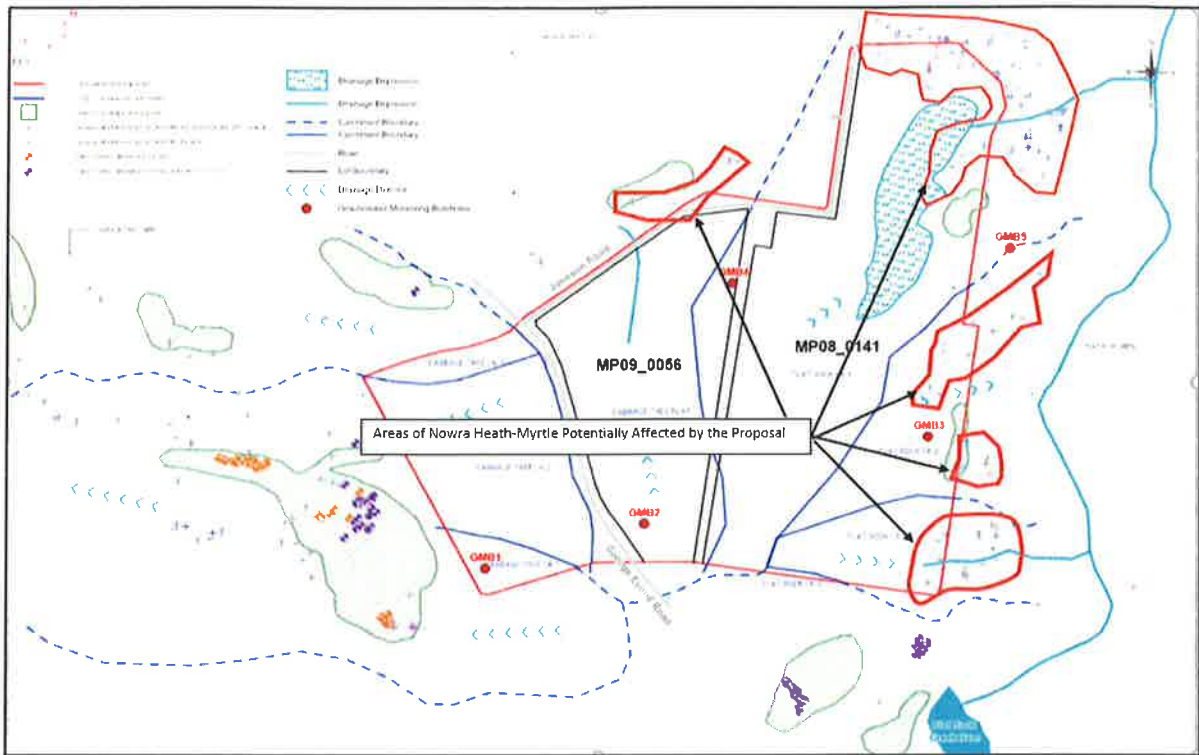


Figure 11 | Location of Nowra Heath-myrtle Vegetation (Base Source: Evans & Peck Peer Review)

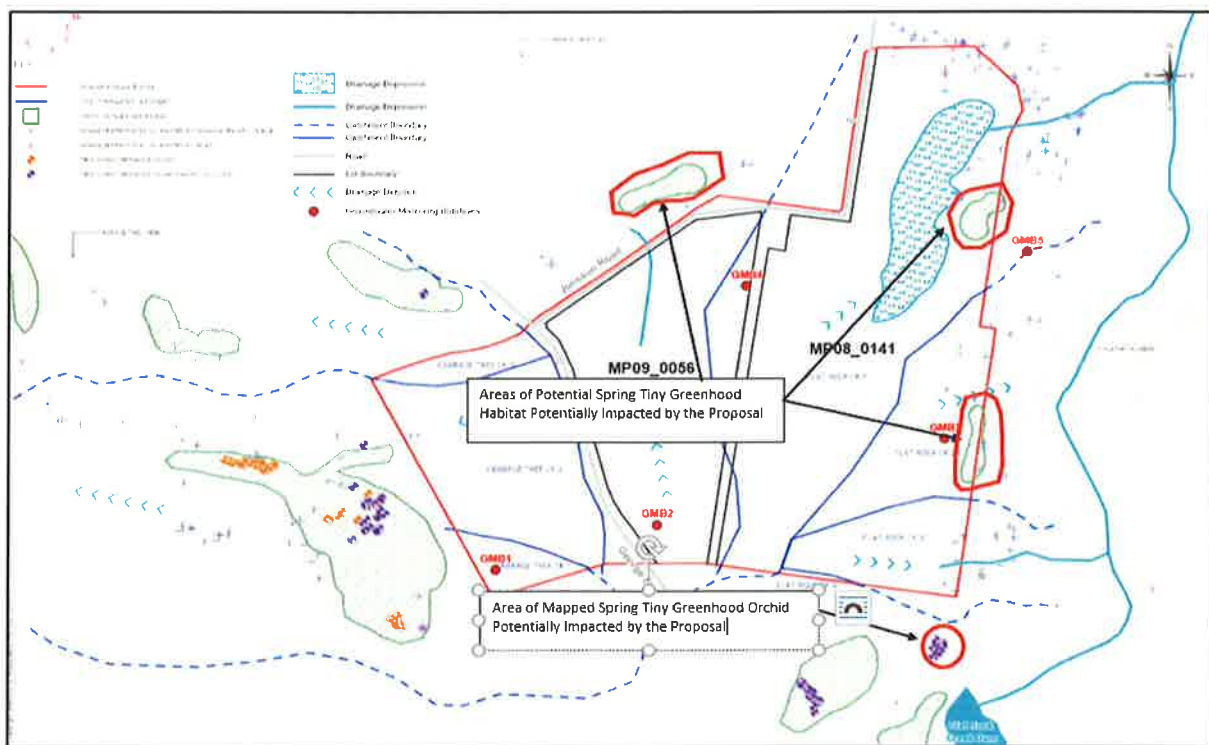


Figure 12 | Spring Tiny Greenhood Orchid Specimens and Potential Habitat (Source: Evans & Peck Peer Review)

The Department notes DPI advised the Hydrogeological Assessment and Water Cycle Management Report did not adequately consider the requirements of the Aquifer Interference Policy (AIP). In addition, DPI recommended the Applicant redesign the subdivision to retain the un-named tributary of Flat Rock Creek and the groundwater seepage areas, to protect GDEs within and downstream of the proposal. Further, DPI advised the final recharge/stormwater management strategy be approved by the Office of Water, and a comprehensive monitoring and management program be prepared to ensure there are no adverse impacts on GDEs.

The Department also notes Council raised concerns with the proposed overland flow paths, the design of the pipe and outlet structures, and the use of rain gardens on residential lots. In addition, Council requested the Applicant clarify whether on-site detention is required to maintain flows to GDEs and provide an erosion and sediment control plan to manage the potential impacts of construction on GDEs.

The Department engaged Evans and Peck to undertake an independent review of the Applicant's Hydrogeological Assessment and Water Cycle Management reports. This review identified technical issues with the Applicant's groundwater model and concluded that it does not represent the soil and groundwater processes on-site. As such, the model does not provide a reliable basis to determine the recharge requirements for the GDEs within and downstream of the development. A copy of the Evans And Peck Review is provided at **Appendix M**.

The Applicant's PPR included a revised Stormwater Management Assessment (SMA) in response to the issues identified in the Evans and Peck review. The SMA proposed the following changes to the recharge and stormwater management systems:

- removal of on-lot bioretention devices
- provision of on-site detention (OSD) basins with level spreaders and energy dissipators to replicate existing flow conditions
- revised engineering measures to reduce impedances to shallow groundwater flows.

The Department referred the SMA to Council and DPI for comment. In summary, Council and DPI raised the following concerns with the revised SMA:

- a revised hydrogeological assessment is required to assess the impacts of the proposal against the provisions of the AIP. This assessment should be provided prior to any excavation below the existing groundwater table
- a management and monitoring plan has not been provided
- the suitability of the detention basins and on-street bioswales
- potential disruption to groundwater flows associated with road pavements and underground drainage lines
- locating drainage basins adjacent to significant environmental features
- future maintenance requirements for Council.

In addition, Council's submission recommended the use of an alternative stormwater management system comprising a single, linear bio-retention swale along the eastern edge of the development footprint.

Given the residual concerns raised by Council and DPI, the Department engaged Advisian (formerly Evans and Peck) to undertake a review of the revised SMA, the final plan of subdivision and Council's alternative stormwater management proposal (see **Appendix M**). This review noted the SMA is not based on the results of additional hydrogeological modelling, or the outcomes of revised ecological investigations as recommended in the Evans and Peck Review.

In addition, Advisian provided the following comments on the revised SMA:

- the proposed recharge system does not consider the natural topography or drainage patterns on-site. Further, it may deliver too much water to the GDEs, and no long-term monitoring or management measures are proposed to ensure it would deliver the required flow rates
- only Basin C1A is located appropriately to provide recharge to the GDEs. Further, the residual basins do not appear to provide recharge to the Nowra Heath-myrtle vegetation adjacent to the northern and western boundaries of the development footprint
- the major and minor drainage systems have not been modelled in DRAINS and concept designs identifying the layout, sizing and configuration of the stormwater system have not been provided

- the MUSIC modelling demonstrates the surface water management system would comply with the water quality targets identified in Council's DCP. However, no specific water quality targets are identified to provide for the long-term protection of the GDEs affected by the proposal
- the recharge system has been designed to remove all on-lot bioretention structures (rain gardens) and incorporates suitable engineering measures to ensure built structures will not impede shallow groundwater flows.

Whilst Advisian accepted the revised SMA partially addressed the recommendations outlined in the Evans and Peck Review, it concluded additional modelling is required to determine the design requirements for the recharge and stormwater management system. To ensure a suitable recharge system is provided, Advisian recommended conditions of consent requiring the Applicant to:

- undertake additional hydrogeological modelling, prior to the issue of any Construction Certificate, to characterise the existing hydrogeological conditions and the requirements of GDEs located downstream of the proposal. The results of the modelling must be used to identify an appropriate recharge regime for the site
- submit the final design of the recharge system for approval prior to the issue of any Construction Certificate. This system should mimic, as closely as practicable, the existing hydrologic and water quality regime for the GDEs downstream of the proposal
- submit a concept design for the stormwater management system prior to the issue of the first Construction Certificate. The concept design must be supported by revised MUSIC and DRAINS modelling
- submit a detailed monitoring program, including a minimum of 12 months of baseline monitoring, prior to the issue of the first Construction Certificate.

The Department has considered the findings and recommendations of the independent reviews and the comments provided by DPI and Council. The Department is satisfied that an appropriate recharge and stormwater management system can be provided to maintain pre-development flows and water quality to the GDEs located downstream of the development. However, this system must be designed based on the outcomes of revised hydrogeological modelling and additional investigations to confirm the growing conditions of the Nowra Heath-myrtle and Spring Tiny Greenhood Orchid.

To ensure the final recharge and stormwater management system is designed to provide flow and water quality conditions to sustain the Nowra Heath-myrtle and conserve potential habitat for the Spring Tiny Greenhood Orchid, the Department has recommended conditions of consent requiring the Applicant to:

- submit final designs of the recharge and stormwater management system to the Secretary for approval prior to the issue of any Construction Certificate. The final designs must be based on revised hydrogeological modelling that considers the growing conditions of the GDEs downstream of the development footprint, and responds to the natural topography and drainage patterns of the site
- prepare, submit and implement a monitoring program, GDE management plan, and contingency strategy over the life of the development to ensure the long-term protection of the Nowra Heath-myrtle and potential Spring Tiny Greenhood Orchid habitat affected by the proposal.

The Department also notes the final design of the SMA may affect the proposed subdivision layout as the size and location of the recharge devices cannot be confirmed until revised hydrogeological modelling is provided. To enable minor changes to the subdivision layout that may need to occur to implement the final SMA, the Department has recommended conditions of consent requiring the Applicant to submit a final plan of subdivision to the Secretary's approval prior to the issue of any Construction Certificate. Subject to the recommended conditions, the Department is satisfied the proposed recharge and stormwater management system can be designed to mimic the hydrological conditions required to retain the Nowra Heath-Myrtle and Spring Tiny Greenhood Orchid species downstream of the site.

6.4 Biodiversity

The proposal requires the removal of 10.46 ha of native vegetation. The Applicant's EA included an assessment of the flora and fauna impacts of the proposal. Additional flora and fauna assessments were also provided in the Applicant's PPR and supplementary information package to address the residual concerns of EESG and Council.

The revised assessments included additional targeted field surveys, consideration of the proposal under the now repealed provisions of section 5A of the EP&A Act, and the requirements of the *NSW Biodiversity Offsets Policy for Major Projects* and the FBA. The flora and fauna assessments provided by the Applicant include:

- Flora and Fauna Issues and Assessment Report November 2012
- Flora and Fauna Assessment Report June 2015
- Biodiversity Offset Strategy April 2017

The proposal is a 'pending or interim planning approval' under the *Biodiversity Conservation (Savings and Transitional) Regulation 2017* (Biodiversity Conservation Reg), and pursuant to clause 28 of the Biodiversity Conservation Reg, the provisions of the TSC Act continue to apply to the assessment of the proposal. The Department's assessment of the biodiversity impacts of the proposal is provided below.

Existing Flora and Fauna

The Flora and Fauna Assessment 2012, identified four vegetation communities on the site, including one flora species (Nowra Heath-myrtle) listed under the TSC Act. This assessment was updated in the PPR to include the results of additional survey work undertaken in 2013 and 2014, in response to issues raised by the Department, Council and the EESG.

A BOS was also included in the Applicant's supplementary information package. The BOS amended the vegetation community types identified in the revised Flora and Fauna assessment to reflect the biometric plant community types (PCTs) identified in the FBA. Based on the information contained in the BOS, the site contains four PCTs, including:

- Grey Gum – Blue-leaved Stringybark open forest on gorge slopes
- Red Bloodwood – Scribbly Gum heathy woodland on sandstone plateaux
- Swamp mahogany swamp sclerophyll forest on coastal lowlands
- Hairpin Banksia – Kunzea ambigua – Allocasuarina distyla heath on coastal sandstone plateaux.

The BOS also confirms the Nowra Heath-myrtle, which is listed as a threatened species under the EPBC Act, was recorded on the site. Further, it confirms no threatened ecological communities were recorded on site.

The revised flora and fauna assessment notes 120 native fauna species have been recorded on site, including 78 birds, 25 mammals, 7 amphibians, and 8 reptiles, 9 of which are listed as threatened or vulnerable under the TSC Act or EPBC Act

Potential Impacts of the Proposal

The extent of vegetation clearing required by the proposal was confirmed in the BOS and is summarised in **Table 6** below.

Table 6: Summary of Proposed Vegetation Clearing

Native Vegetation Community	Disturbance Area (ha)
SR549: Grey Gum – Blue-leaved Stringybark open forest on gorge slopes	4.27
SR595: Red Bloodwood – Scribbly Gum heathy woodland on sandstone plateaux	3.16
SR648: Swamp mahogany swamp sclerophyll forest on coastal lowlands	0.74

Native Vegetation Community	Disturbance Area (ha)
SR556: Hairpin Banksia – Kunzea ambigua – Allocasuarina distyle heath on coastal sandstone plateaux	2.29
Total	10.46

In addition, the proposal requires the clearing of 332 Nowra Heath-myrtle ramlets and 37 hollow bearing trees.

Four bird and four threatened mammal species have been recorded on, or near the site (see **Table 7**).

Table 7: Summary of Threatened Species Recorded on, or Near the Site

Species	TSC Listing	EPBC Listing
Square-tailed Kite	Vulnerable	N/A
Gang-gang Cockatoo	Vulnerable	N/A
Glossy Black-cockatoo	Vulnerable	N/A
Powerful Owl	Vulnerable	N/A
Yellow-bellied Glider	Vulnerable	N/A
Grey-headed Flying Fox	Vulnerable	Vulnerable
East-coast Free-tail Bat	Vulnerable	N/A
Common Bent-wing Bat	Vulnerable	N/A

The BOS concludes the Yellow-bellied Glider is likely to be a long-term resident of the site and surrounding lands. However, the remaining mammal species are likely to be highly mobile and wide ranging, although some bats could reside on-site. Notwithstanding, as at least one habitat component for the affected species occurs on-site (breeding, foraging or shelter), the BOS has adopted a conservative approach and assumes all of the above species are located on-site.

It should also be noted that the Applicant amended the proposal to ensure the proposed APZs are located within the R1 Zone to minimise the clearing of high value vegetation within the E2 Zone.

Department's Consideration

The Department reviewed the biodiversity impacts of the proposal in consultation with the EESG and Council and considers clearing can be undertaken in the R1 Zone as the NBSP contemplates additional clearing to facilitate the residential development, subject to the provision of a suitable offset package. To offset the residual biodiversity impacts of clearing within the R1 Zone, the Applicant provided a BOS seeking to implement the following offset package:

- the establishment of a BioBanking Agreement on the E2 Zone on the eastern boundary of the site to generate ecosystem and species credits to offset the clearing of 10.46 ha of vegetation on-site (see **Figure 13**)
- the staged retirement of ecosystem and species credits, commensurate with the extent of clearing in each stage of the development. Offsets are proposed to be secured prior to the commencement of construction works, however, where this is not possible, the Applicant proposes the use of a PA to secure the credits
- the submission of an expression of interest for the remaining ecosystem credits and where credits are unavailable, the Applicant will provide a monetary contribution equivalent to the residual credits.

Based on the EESG's BioBanking Assessment Methodology, a total of 544 ecosystem and 4,995 Nowra Heath Myrtle species credits would be required to offset the proposal. The Department notes the land the subject of the proposed BioBanking Agreement would generate 77 ecosystem credits and 7,718 species credits, with 467 ecosystems credits required to be sourced off-site.

The Department notes the EESG has reviewed the Applicant's BOS and confirmed that, subject to a condition requiring the Applicant to increase the species credits from 4,980 to 4,995 credits, it correctly identifies the potential biodiversity impacts of the proposal. In addition, the Department notes the EESG supports the

implementation of offset 'option 4', subject to conditions of consent specifying the ecosystem and species credits to be retired prior to the commencement of works within Stages 1, 4 and 7 of the proposal.



Figure 13 | Proposed BioBank Site (Source: Applicant's BOS)

As the Biobanking proposal is currently with the ESG for assessment, the Department has concluded the number of potential on-site credits has not been confirmed and the Applicant may need to source additional credits off-site, or pay a monetary contribution to the Biodiversity Conservation Fund. To ensure suitable offsets are provided for each stage of the development, the Department has recommended conditions requiring the Applicant to stage the retirement of the biodiversity credits as follows:

- 60 ecosystem credits and 4,995 *Triplarina nowraensis* (Nowra Heath-myrtle) credits prior to the commencement of development within Stage 1
- 242 ecosystem credits prior to development commencing in Stage 4
- 242 ecosystem credits prior to development commencing in Stage 7.

Further, the Department notes the proposed BioBank site contains 332 ramlets of Nowra Heath-myrtle and a small area of potential Spring Tiny Greenhood Orchid habitat, which may be impacted by the proposal if the recharge and stormwater management systems do not function as intended. To ensure the long-term protection of the Nowra Heath-myrtle and potential Spring Tiny Greenhood Orchid habitat within the proposed BioBank site, the Department has recommended conditions of consent requiring the Applicant to prepare a Contingency Strategy outlining the measures that will be implemented if there is a significant reduction in the number of Nowra Heath-myrtle ramlets, or potential Spring Tiny Greenhood Orchid habitat within the BioBank area.

The Department is therefore satisfied the BOS identifies suitable offsets, consistent with the requirements of the *NSW Biodiversity Offsets Policy for Major Projects* and the FBA, to mitigate the impacts of clearing 10.46 ha of vegetation on-site. Further, the Department has included the conditions of consent recommended by the EESG and DPI to ensure the biodiversity impacts of the proposal are offset prior to works occurring in Stages 1, 4 and 7 of the proposal, and managed over the life of the development.

6.5 Traffic Impacts

The creation of 308 residential lots within the Mundamia URA will generate additional vehicle movements on the local road network. The EA is supported by a Transport Report which considers the traffic and transport impacts of the proposal.

The road network servicing the site comprises Albatross Road, Yalwal Road, George Evans Road, and Jonsson Road (see **Figure 14**). Site access is proposed via the realignment and construction of George Evans Road to the southern boundary of the site.

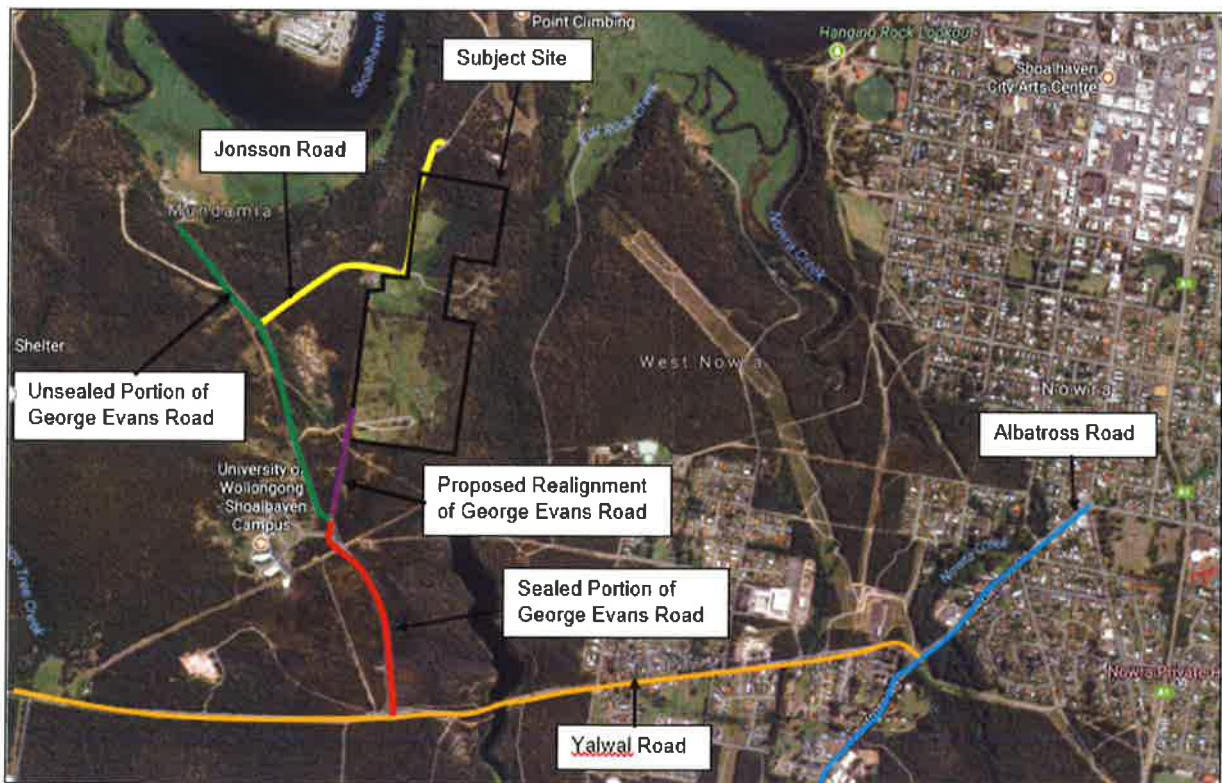


Figure 14 | Existing Site Access Arrangements (Base Source: Google Maps)

Traffic Impacts

Based on the traffic generation rates identified in Council's DCP, the Applicant's Transport Report concludes the proposed development would generate between 310 and 330 two-way vehicle trips per hour during the morning and afternoon peak periods. Of these trips, 70 % are predicted to be outbound in the morning peak, with the reverse applying in the afternoon peak (70 inbound).

The Transport Report includes an assessment of the current and future performance of the intersections at Albatross/Yalwal Roads, Yalwal Road/George Evans Roads and George Evans Road and the university access road. This assessment concludes all three intersections will operate with acceptable levels of service (LOS 'A' to 'B/C'), subject to separate left and right turn lanes being marked from Yalwal Road onto Albatross Road (see **Table 8**).

Table 8 | Summary of Intersection Performance

Intersection	AM		PM	
	Del secs	LoS	Del secs	LoS
T-Junction				
Albatross Rd with Yalwal Rd				
With Subdivision	14.5	A/B	17.3	B
Existing + Subdivision in Holiday period			28.1	B/C
Existing + Subdivision + 10 Years	20.8	B	32.9	C
Existing + Subdivision + 10 Years with improvements	19.1	B	24.6	B
Yalwal Rd with George Evans Rd				
Existing		A		A
With Subdivision	12.7	A	12.7	A
Roundabout				
George Evans Rd with University Access				
With Subdivision	10.5	A	11.1	A
D average delay per vehicle (secs) of all movements		LoS Level of Service		

The Department notes Council and TFNSW(RMS) initially advised the Applicant's Transport Report does not assess the cumulative impacts of development within the URA or model the impact of holiday traffic. Further, both agencies raised concern that no contributions plan was in place for developments within the Mundamia URA and all road upgrades would need to be secured via a PA.

In addition, Council requested the Department undertake an independent review of the developments proposed within the URA (SSD 7169 and SSD 7128) to identify the upgrades required to manage the traffic impacts of the proposals and determine the cost apportionment arrangements.

To address the concerns raised by Council and TFNSW(RMS), the Department engaged an independent traffic expert to review the traffic impacts of all proposals within the Mundamia URA. This review concluded the methodology used to determine the trip generation rates for the proposal were acceptable, however, an assessment of the mid-block capacity of George Evans Road, Yalwal Road and Albatross Road should be undertaken to determine existing and future traffic conditions along these roads.

In addition, the review concluded development within the URA would affect the operation of the intersection of proposed Road 1 and the realigned George Evans Road, as well as the intersections of George Evans/Yalwal, Yalwal/Albatross Roads and Berry Street/Albatross Road. To address these impacts, the review recommended the Applicant prepare a PA to contribute toward local road upgrades.

The Department notes that following the exhibition of the proposal, Council updated its Contributions Plan to require developments within the Mundamia URA to contribute toward road upgrades within and external to the site.

In its PPR the Applicant responded to the recommendations of the independent traffic review and the advice provided by Council and TFNSW(RMS) and concluded the road upgrades identified in Council's Contribution Plan were sufficient to manage the potential traffic impacts of the proposal.

TFNSW(RMS) and Council reviewed the PPR, with TFNSW(RMS) confirming the proposal would not generate any adverse traffic impacts on the regional road network, subject to the completion of the road upgrade works identified in Council's Contributions Plan. In addition, Council recommended conditions of consent requiring the Applicant to contribute toward the road upgrades identified in its Contributions Plan and advised an additional roundabout should be provided at the intersections of George Evans Road and proposed Road 1 as per the requirements of its DCP.

As the roundabout at Road 1 and George Evans Road is not included in Council's Contributions Plan, the Department engaged an independent traffic expert (TDG) to confirm whether additional traffic calming measures are required to manage the impacts of the proposal. The review initially concluded the Road 1/George Evans Road and Road 1/Road 9 intersections would function at LOS A when the URA is fully developed and, as such, a roundabout is not required at this intersection.

The review was provided to Council and the Applicant for comment. Council raised concern about the assumptions used to assess existing background traffic generated by the Thompsons Point rock climbing area, and compliance with the traffic calming measures outlined in TFNSW(RMS) and AustRoads guidelines. Following further consultation with Council, the review was updated to assess the impacts of existing background traffic and address the relevant requirements of TFNSW(RMS) and AustRoads Guidelines. As a result of this additional analysis, TDG concluded:

- at full completion of the URA, the desirable environmental goal would not be exceeded along proposed Road 1, north of Road 9
- the maximum environmental capacity threshold would be exceeded along Road 1, south of Road 9 during the morning and evening peak hours on weekdays and weekends
- roundabouts are not required to address traffic capacity issues. However, additional roundabouts should be provided at the intersections of Road 1/George Evans Road and Road 1/14 to reduce vehicle speeds within the URA
- a roundabout is not required at the intersection of Road 1/Road 16, however a raised entry threshold could be provided at this location to reduce vehicle speeds north of the site
- the development in isolation does not generate the need for the additional roundabout treatments at the intersections of Road 1/George Evans Road and Road 1/Road 14, therefore a monetary contribution should be provided toward the construction of these roundabouts. The contribution should be proportionate with the traffic demand generated by the development (42 % of the development at the intersection of Road 1/George Evans Road and 82 % at the intersection of Road 1/Road 14).

The final intersection upgrades recommended by TDG are identified in **Figure 15** below.



Figure 15 | Location of Traffic Management Devices Identified in TDG’s Supplementary Report

The Department has reviewed the comments provided by Council and TFNSW(RMS) and the recommendations of the independent traffic expert and has concluded the impacts of the proposal on the external road network can be managed via the implementation of the road upgrades identified in Council’s Contributions Plan. To ensure these upgrades are delivered, the Department has recommended conditions of consent requiring the Applicant to provide a monetary contribution toward the road projects identified in Council’s Contributions Plan.

In terms of the traffic impacts internal to the site, the Department has concluded two additional roundabouts are required beyond those identified in Council’s Contributions Plan to manage vehicle speeds, reduce the potential for conflicting vehicle movements and optimise road safety. The Department has concluded the cost of constructing the additional roundabouts should be apportioned between the developments either side of proposed Road 1. The Department notes Council accepted a letter of offer, to facilitate the construction of the intersection treatments recommended by TDG. To ensure these intersection treatments are implemented, the Department has recommended a condition of consent requiring the Applicant to execute a VPA prior to the issue of the first Construction Certificate for the proposal. Subject to the recommended conditions, the Department is satisfied the proposal would not result in any significant traffic impacts.

6.6 Other Issues

The Department's consideration of other issues is summarised in **Table 9**.

Table 9 | Other Issues

Issue	Findings	Recommendation
Geotechnical Conditions	<ul style="list-style-type: none"> • The application proposes earthworks to facilitate the construction of estate roads and other supporting infrastructure. • The EA included a Preliminary Geotechnical and Constraints Assessment which assessed the general sub-surface conditions of the site. This assessment concluded the site has shallow groundwater, poor drainage conditions, and deep soil profiles that are of low bearing strength and erodibility. However, despite these constraints, the site can accommodate residential development provided: <ul style="list-style-type: none"> ○ all earthworks are undertaken in accordance with AS 3798 Guidelines on earthworks for commercial and residential developments ○ temporary batters are used during soil excavation, and batters are used without shoring to a depth of 1.5 m where sandstone is proposed for excavation. Deeper cuts must be designed by a geotechnical engineer or engineering geologist ○ footings for all permanent buildings are taken to weathered sandstone where possible, and all foundations are designed by a suitably qualified structural or geotechnical engineer. • The Department reviewed the preliminary assessment and concluded more detailed analysis was required to address the impacts of footings and slabs on natural groundwater flows. The Applicant provided a revised Stormwater Management Assessment which proposes the use of raft slabs and drainage blankets to manage water flows, protect road pavements, and provide suitable foundations for building construction. • The Department's hydrology expert reviewed the proposed footing and slab design and confirmed the implementation of the revised measures would aid the retention of flows through the development. The Department has recommended conditions of consent to ensure future road and building slabs and footings are designed to maintain groundwater flows. • Subject to the recommended conditions, the Department is satisfied the proposal would not result in any significant geotechnical impacts. 	<p>The Department has recommended conditions requiring the Applicant to: ensure roads are designed to limit changes to groundwater flows; and prepare a Section 88B Instrument to advise future landowner's footings and slabs must be constructed in accordance with the geotechnical requirements outlined in the Revised Stormwater Management Assessment.</p>
Contamination	<ul style="list-style-type: none"> • The EIS included Stage 1 and Stage 2 contamination assessments which concluded: 	<p>The Department has recommended conditions requiring the</p>

	<ul style="list-style-type: none"> ○ there is potential for soil and water contamination associated with past agricultural land uses ○ soil sampling of 14 areas of potential environmental concern confirmed there is no asbestos on site. However, Area B (located to the south-east of the northern most dwelling on site) contained total recoverable hydrocarbons (TRH) (C10 – C36) above the soil investigation levels recommended for residential use ○ Area B requires remediation to make it suitable for residential use, as per the requirements of <i>State Environmental Planning Policy No. 55 - Remediation of Land</i>. 	<p>Applicant prepare and submit a Site Audit Summary Report, Site Audit Statement, and Validation Report to the Council and the PCA prior to the issue of each Subdivision Certificate.</p>
	<ul style="list-style-type: none"> ● The Applicant prepared a Remedial Action Plan (RAP) to demonstrate the site can be made suitable for residential use. The RAP recommends the removal of soils containing all TRH to an approved waste facility. The RAP also identifies management controls and reporting criteria that need to be implemented during remediation works, as well as validation criteria that must be satisfied prior to the issue of a Site Audit Statement. ● The Department has reviewed the application against the requirements of SEPP 55 (see Appendix D) and has concluded that subject to the implementation of the RAP, the site can be made suitable for residential and commercial uses. ● The Department has recommended conditions of consent to ensure the site is remediated prior to the issue of each Subdivision Certificate. 	
<p>Acid Sulfate Soils</p>	<ul style="list-style-type: none"> ● The Applicant's PPR included a Preliminary Acid Sulfate Soils Assessment which confirmed the presence of Actual Acid Sulfate Soils (AASS) and Potential Acid Sulfate Soils (PASS) on-site. ● The Department has recommended a condition of consent to ensure an Acid Sulfate Soils Management Plan is provided prior to excavation works in any areas containing PASS or ASS. 	<p>The Department has recommended a condition requiring the Applicant to prepare and submit an Acid Sulfate Soils Management Plan</p>
<p>Aboriginal Cultural Heritage</p>	<ul style="list-style-type: none"> ● The EIS included an Aboriginal Heritage Assessment which assessed the potential impacts of the development on Aboriginal cultural heritage. ● The assessment concluded the site does not contain any Aboriginal heritage sites, cultural evidence, or values listed on any heritage registers, or in any EPIs. Further, no new sites, cultural evidence, or values have been identified during site investigations. ● The Department reviewed the Aboriginal Heritage Assessment in consultation with the EESG and noted the assessment was based on outdated guidelines. The Applicant's PPR included a supplementary Aboriginal Heritage Assessment which 	<p>The Department has recommended conditions requiring the Applicant to prepare and implement an Aboriginal Cultural Heritage Management Plan; and cease works and notify the EESG and the Nowra Aboriginal Land Council if any new Aboriginal objects are discovered during construction.</p>

concluded the predictive archaeological model and the findings and recommendations of the original assessment remained valid.

- The Department has reviewed the revised assessment in consultation with the EESG and concluded the potential Aboriginal cultural heritage impacts of the proposal can be managed via conditions requiring:
 - the preparation and implementation of an Aboriginal Cultural Heritage Management Plan
 - the use of a 'stop work' protocol if any new Aboriginal objects are discovered during construction works.
- These conditions have been included in the recommended development consent.

Development Contributions

- Clause 6.1 of the Shoalhaven LEP 2014 requires satisfactory arrangements to be made for the provision of designated State infrastructure prior to the subdivision of land in an urban release area.
- On 7 August 2016, the Chief Financial and Operating Officer, as the Secretary's delegate, issued a Satisfactory Arrangements Certificate for the proposed development (see **Appendix H**).
- The Shoalhaven Contributions Plan 2010 applies to the development. Based on a proposed yield of 308 residential and one commercial lot, the proposed development would generate a developer contribution of approximately \$4.93 million.
- The Department has recommended conditions of consent to ensure the Applicant pays a Section 7.11 contribution prior to the issue of each Subdivision Certificate.

The Department has recommended a condition requiring the payment of Section 7.11 development contributions prior to the issue of each Subdivision Certificate.

Noise

- The EA and PPR included an assessment of the potential road and aircraft noise affecting future residential dwellings, as well as noise associated with the operation of the Bamarang Power Station. These assessments concluded:
 - acoustic treatments would be required at future dwellings to ensure bedrooms and habitable rooms comply with the night time noise criteria identified in clause 102 of *State Environmental Planning Policy (Infrastructure) 2007*
 - the site is located outside the HMAS Albatross Military Airfield Buffer Area and the site is not affected by the ANEF contours for this airfield
 - the site is located 4.5 km north-east of the Bamarang Power Station and is located outside the noise exposure contours prepared to support the expansion of this facility
- The Department reviewed the Applicant's revised Acoustic Assessment concluded:

The Department has recommended a condition requiring the Applicant to register a Section 88B Instrument on all Certificates of Title advising prospective purchasers that windows to all habitable rooms and bedrooms must be fitted with 6 mm glazing and acoustic seals to manage noise associated with the operation of HMAS Albatross.

- noise levels in living rooms and bedrooms of future dwellings would exceed the L_{Aeq} noise criteria outlined in the *Development Near Rail Corridors and Busy Roads Guideline* (40dB(A), with a $L_{eq,15}$ minute noise level of 57 dBA, and a night time L_{eq} (9 hours) noise level of 52dBA predicted)
 - the Acoustic Reports do not consider the assessment procedures for developments outside the ANEF 20 contour, as outlined in AS 2021:2000. Based on the analysis of aircraft noise undertaken in the Noise Assessment for SSD 7128 on the western side of proposed Road 1 (now withdrawn), secondary building controls (6 mm glazing with acoustic seals) would be required to manage noise associated with the operation of HMAS Albatross
 - the site would not be impacted by noise associated with the operation of the Bamarang Power Station.
- The Department notes the measures required to mitigate aircraft noise are more stringent than the road noise mitigation measures recommended by the Applicant. The Department has recommended conditions of consent to ensure prospective purchasers are made aware of the acoustic treatments that must be installed to manage noise associated with the operation of HMAS Albatross.

Construction Management

- The application seeks approval to construct the development in 11 stages subject to market demand. Stage 1 will commence on land adjacent to the southern boundary of the site, consistent with the staging arrangements outlined in Chapter NB1 of the Shoalhaven DCP.
- The subdivision works have the potential to generate dust, noise, water quality, traffic, waste and ecological impacts.
- The Department has recommended conditions of consent to ensure the Applicant prepares and implements a Construction Management Plan (CMP) and Waste Management Plan (WMP) to manage the potential dust, noise, water, air quality and traffic impacts of the proposal.
- The Department has also recommended a condition requiring a 100 m wide temporary APZ be provided along the western boundary of the subdivision be provided as a part of the first Stage of the development to ensure future residents are protected from the main westerly fire path, until the land to the west is redeveloped.
- The Department has also recommended conditions of consent to ensure suitable erosion and sediment, wildlife protection measures are implemented during the construction works.

The Department has recommended conditions requiring the Applicant to:

- prepare and implement a CMP and WMP for the duration of construction works
- implement and maintain suitable erosion and sediment control measures
- undertake construction works during standard construction hours
- construct and maintain temporary bushfire egress and APZs for the duration of the construction works.

Aviation

- Subject to the recommended conditions, the Department is satisfied the construction impacts of the proposal can be managed and/or mitigated.
- The subject site is located approximately 5 km to the north-west of HMAS Albatross and is outside the HMAS Albatross Military Airfield Buffer and ANEF 20 contour. However, Defence has advised the site is located within the bird strike Group B 8 km Buffer Area and the use of on-site detention basins may increase the potential for bird strike within the buffer area. In addition, Defence advised light spill associated with streetlighting may be a potential hazard for aircraft.
- To manage the potential bird strike and light spill impacts of the development, Defence recommended conditions of consent requiring the Applicant is design all drainage basins to discourage the creation of new bird or bat habitat, and all outdoor lighting is designed in accordance with the *Civil Aviation Safety Authority Manual of Standards Part 139 Aerodromes*.
- The Department has considered the comments provided by Defence and has concluded all drainage basins and lighting should be designed and installed to minimise impacts on the operation of HMAS Albatross. The Department has recommended conditions of consent to ensure all street lighting and drainage basins are designed to minimise light spill and avoid the creation of new bird or bat habitat within the development footprint.

The Department has recommended conditions requiring the Applicant to:

- prepare and submit stage specific landscape plans to Council for approval prior to the issue of a Construction Certificate for each stage of the development
- design and construct outdoor lighting in accordance with the requirements of *the Civil Aviation Safety Authority Manual of Standards Part 139 Aerodromes*.



7. Conclusion

The Department has undertaken a detailed merit assessment of the proposal, in consultation with Council, State government agencies and independent experts. The key issues associated with the assessment of the proposal relate to subdivision layout and design, bushfire, hydrology and stormwater management, biodiversity and traffic.

The Department's assessment concludes the proposal is acceptable as it is consistent with the statutory and strategic planning framework established for the site. The proposal would also facilitate the delivery of new residential lots in a priority land release area within the Shoalhaven LGA. Minor non-compliances with the DCP can be resolved by recommended conditions of approval.

With regards to bushfire impacts, the Department is satisfied that the proposed NSP will provide an acceptable performance-based solution, in this instance. The NSP will be constructed in accordance with the RFS requirements and provide future residents with two reasonable evacuation options (i.e. early evacuation to West Nowra via existing roads, or evacuation to the NSP). Importantly, the RFS support the establishment of an NSP as an additional bushfire protection measure and Council has confirmed it will accept ownership and responsibility for its ongoing operation. The Department considers the provision of an NSP together with a suite of recommended conditions strike a reasonable balance between mitigating bushfire impacts and providing housing in accordance with the strategic planning framework established for the site.

The Department is satisfied biodiversity impacts would be appropriately offset in accordance with the requirements of the *NSW Biodiversity Offsets Policy for Major Projects* and the proposed stormwater management system can be designed to mimic the hydrological conditions required to retain the Nowra Heath-myrtle and Spring Tiny Greenhood Orchid species downstream of the site.

In terms of the traffic impacts, the Department is satisfied offsite traffic impacts would be appropriately managed by the upgrades required under Councils' Section 94 Plan and the provision of two additional roundabouts within the site would optimise traffic safety.

To manage the residual impacts of the proposal, the Department has recommended strict conditions of consent requiring the Applicant to:

- update the Plan of Subdivision and provide detailed public domain and landscaping plans to provide consistency with the requirements of Council's DCP
- provide further details about the design location, size, operation and capacity of the NSP, prepare a suite of bushfire related management plans and make changes to the subdivision design and APZs to improve bushfire safety
- undertake additional groundwater modeling to determine the recharge requirements for GDEs located downstream of the site and revise the Stormwater Management Strategy for the development based on the recommendations of the revised Hydrogeological Assessment
- provide 544 ecosystem credits and 4,995 species credits to offset the biodiversity impacts of the proposal as identified in the Applicant's BOS.
- enter into a PA with Council for the NSP and to facilitate the construction of the additional roundabouts identified by the independent traffic expert.

The Department's assessment therefore concludes the impacts of the proposed development are acceptable and can be appropriately mitigated and/or managed through the implementation of the recommended conditions of

consent. Consequently, the Department considers the development is in the public interest and is approvable. The application is hereby presented to the IPC for determination.

Recommended by:



Anthea Sargeant 17/7/19

Executive Director

Compliance, Key Sites and Industry Assessments



Appendices

Appendix A – List of Documents

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7169

Appendix B – Applicant's Environmental Assessment

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7169

Appendix C – Applicant's Supplementary Information

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7169

Appendix D - Statutory Considerations

ENVIRONMENTAL PLANNING INSTRUMENTS (EPIs)

To satisfy the requirements of section 4.15(a)(i) of the EP&A Act, this report includes references to the provisions of the EPIs that govern the carrying out of the project and have been taken into consideration in the Department's environmental assessment. Controls considered as part of the assessment of the proposal are:

- *State Environmental Planning Policy (State & Regional Development) 2011*
- *State Environmental Planning Policy (Infrastructure) 2007*
- *State Environmental Planning Policy No. 55 – Remediation of Land*
- *State Environmental Planning Policy No. 44 Koala Habitat Protection*
- *State Environmental Planning Policy No. 71 – Coastal Protection*
- *State Environmental Planning Policy (Coastal Management) 2018*
- *Shoalhaven Local Environmental Plan 2014 (Shoalhaven LEP).*

COMPLIANCE WITH CONTROLS

State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP)

Table 1: SRD SEPP Compliance Table

Relevant Sections	Consideration and Comments	Complies?
<p>3 Aims of Policy The aims of this Policy are as follows:</p> <p>(a) to identify development that is State significant development,</p>	The application was declared a State significant development under clause 6 of Schedule 6A of the EP&A Act on 12 January 2015.	N/A
<p>8 Declaration of State significant development: section 4.36</p> <p>(1) Development is declared to be State significant development for the purposes of the Act if:</p> <p>(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and</p> <p>(b) the development is specified in Schedule 1 or 2.</p>	The application was declared a State significant development under clause 6 of Schedule 6A of the EP&A Act on 12 January 2015.	N/A
<p>10 Subdivision certificates for State significant development</p> <p>A subdivision certificate may be issued by an accredited certifier for a subdivision that is State significant development in accordance with section 6.5 (3) (a) of the Act.</p>	The recommended conditions of consent enable an accredited certifier to issue Subdivision Certificates for the proposal.	Yes

State Environmental Planning Policy (Infrastructure) 2007

The Infrastructure SEPP (ISEPP) aims to facilitate the effective delivery of infrastructure across the State by improving regulatory certainty and efficiency, identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure development, and providing for consultation with relevant public authorities about certain development during the assessment process.

The development constitutes traffic generating development in accordance with clause 104 of the ISEPP as it proposes the creation of more than 200 residential allotments on a new public road. The ISEPP requires traffic generating development to be referred to TFNSW(RMS) for comment.

The EA and PPR were referred to TFNSW(RMS) for comment in accordance with the ISEPP. TFNSW(RMS) raised no objection to the revised proposal and supports the use of section 94 contributions to secure the upgrades required to offset the traffic impacts of the proposal. The proposal is therefore consistent with the ISEPP.

State Environmental Planning Policy No. 55 - Remediation of Land (SEPP 55)

SEPP 55 aims to ensure that potential contamination issues are considered in the determination of a development application.

The EIS includes a Phase 1 and Phase 2 contamination assessment. The Phase 2 assessment concludes the south east corner of Lot 3 DP 568613 contains potential contaminants above the concentration health investigation levels for residential development. Accordingly, a remedial action plan (RAP) will be required to ensure the site is made suitable for residential use.

The Applicant has provided a RAP and the Department is satisfied that subject to the implementation of the proposed RAP, the site can be made suitable for residential use.

As the land identified as requiring remediation works is located within the coastal zone, the proposed works are categorised as 'Category 1' remediation works pursuant to clause 9 of SEPP 55. As such, development consent is required for these works. The recommended development consent permits the proposed remediation works and requires the Applicant to ensure the remediation works are validated by an EPA accredited Site Auditor prior to the release of each Subdivision Certificate.

State Environmental Planning Policy No. 44 Koala Habitat (SEPP 44)

SEPP 44 aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline by:

- requiring the preparation of plans of management before development consent can be granted in relation to areas of core koala habitat
- encouraging the identification of areas of core koala habitat
- encouraging the inclusion of areas of core koala habitat in environment protection zones.

The subject site contains one species of feed tree (Grey Gum *Eucalyptus punctata*) which is listed under Schedule 2 of SEPP 44. However, this species does not that comprise more than 15% of the tree species comprising the forested parts of the site. Further, no resident Koalas have been recorded on site. Accordingly, the Department is satisfied proposed development does not contain any areas of core or potential Koala habitat and the provisions of SEPP 44 do not apply to the assessment of the proposal.

State Environmental Planning Policy No. 71 – Coastal Protection (SEPP 71)

The provisions of SEPP 71 apply to land within the coastal zone to provide a consistent approach to planning within this area. Clause 8 identifies additional matters for consideration where SEPP 71 applies which are to be assessed by an authority when it determines developments to be carried out on lands within the Coastal Zone. The site is located within the Coastal Zone and is subject to these additional considerations. **Table 2** below addresses these requirements:

Table 2: SEPP 71 Compliance Table

Relevant Sections	Consideration and Comments	Complies?
(a) The aims of this Policy set out in clause 2.	The proposal is considered to comply with the aims of the SEPP as subject to the recommended conditions of consent, it will respond to the ecological and social constraints of the site and its surrounds.	Yes
(b) Existing public access to and along the coastal foreshore for pedestrians or persons with a disability should be retained and, where possible, public access to and along the coastal foreshore for pedestrians or persons with a disability should be improved.	Although the site is located within the coastal zone, it does not have direct frontage or access to the coastal foreshore.	N/A
(c) Opportunities to provide new public access to and along the coastal foreshore for pedestrians or persons with a disability.	The site is within the coastal zone as it is located within 1km of the Shoalhaven River, however, its relationship with the River is limited due to local topography which does not permit access. Consequently, no impacts are expected.	Yes
(d) The suitability of development given its type, location and design and its relationship with the surrounding area	Subject to the recommended conditions of consent, the subdivision design responds to the environmental constraints of the site. Further, the Department notes the proposal is consistent with the strategic vision for the site and responds to the design controls identified in Council's LEP and DCP.	Yes
(e) Any detrimental impact that development may have on the amenity of the coastal foreshore, including any significant overshadowing of the coastal foreshore and any significant loss of views from a public place to the coastal foreshore.	Due to the location of the site, there will be no impacts on the coastal foreshore. Further, the Applicant's EA, PPR and supplementary information demonstrate the proposal would not result in any view loss or overshadowing.	Yes
(f) The scenic qualities of the New South Wales coast and means to protect and improve these qualities.	As outlined above, the subject site is setback from the Shoalhaven River. As such, direct scenic impacts have been avoided.	Yes
(g) Measures to conserve animals (within the meaning of the <i>Threatened Species Conservation Act 1995</i>) and plants (within the meaning of that Act), and their habitats.	The biodiversity impacts of the proposal have been offset in accordance with the requirements of the FBA. Further, the Department has recommended conditions of consent to ensure vegetation clearing is managed to minimise impacts on fauna.	Yes
(h) Measures to conserve fish (within the meaning of Part 7A of the Fisheries Management Act 1994) and marine vegetation (within the meaning of that Part), and their habitats.	The Department notes DPI has advised no impacts are anticipated on local fish populations.	N/A

(i) Existing wildlife corridors and the impact of development on these corridors.	The proposal will facilitate the long-term protection of vegetation within the E2 zone to maintain the site's connectivity to surrounding bushland.	Yes
(j) The likely impact of coastal processes and coastal hazards on development and any likely impacts of development on coastal processes and coastal hazards.	The site, due to its location, is not subject to coastal hazards or processes such as flooding, tidal inundation or shoreline erosion.	Yes
(k) Measures to reduce the potential for conflict between land-based and water based coastal activities.	While the site is located within the coastal zone, it is not directly adjacent to a coastal foreshore area and as such, conflict between land and water based coastal activities are unlikely.	Yes
(l) Measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals.	The Applicant's supplementary information package includes a revised Aboriginal Cultural Heritage Management Plan and the Department has recommended the following conditions of consent to manage potential impacts on Aboriginal cultural heritage: <ul style="list-style-type: none"> ▪ the preparation and implementation of an Aboriginal Cultural Heritage Management Plan ▪ the use of a 'stop work' protocol if any new Aboriginal objects are discovered during construction works 	Yes
(m) Likely impacts of development on the water quality of coastal waterbodies.	The Department has recommended conditions of consent to ensure the final recharge and stormwater management system is designed to provide a neutral or beneficial impact on surrounding water bodies.	Yes
(n) The conservation and preservation of items of heritage, archaeological or historic significance.	The site does not contain any items of European cultural heritage. In addition, the Applicant's supplementary information package includes a revised Aboriginal Cultural Heritage Management Plan and the Department has recommended the following conditions of consent to manage potential impacts on Aboriginal cultural heritage: <ul style="list-style-type: none"> ▪ the preparation and implementation of an Aboriginal Cultural Heritage Management Plan ▪ the use of a 'stop work' protocol if any new Aboriginal objects are discovered during construction works 	Yes
(p) Only in cases in which a development application in relation to proposal is determined: (i) The cumulative impacts of the proposal on the environment.	The Department has assessed the cumulative impacts of the proposal and is satisfied that subject to the recommended conditions of consent, the cumulative impacts can be managed and/or mitigated. Further, the Department is satisfied the proposed subdivision has been designed to minimise energy use (via appropriate lot orientation) and	Yes

(ii) Measures to ensure that water and energy usage by the proposal is efficient.	provide opportunities for on-site water re-use via the provision of 3 KL on-lot water storage tanks.	
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State Environmental Planning Policy (Coastal Management) 2018 (Coastal Management SEPP)

The Coastal Management SEPP promotes an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the Coastal Management Act 2016. The Coastal Management SEPP replaces the requirements of the now repealed provisions of SEPP 71. However, as the application was lodged and undetermined prior to the gazettal of the Coastal Management SEPP, the provisions of clause 21 of the Coastal Management SEPP apply. In this regard, clause 21 states the provisions of the Coastal Management SEPP do not apply to the assessment of the proposed development, and the provisions of SEPP 71 continue to apply.

Shoalhaven LEP 2014

The Shoalhaven LEP 2014 aims to encourage the proper management, development and conservation of natural and man-made resources. In addition, the LEP also aims to:

- facilitate the social and economic wellbeing of the community
- ensure suitable land is available for beneficial and appropriate uses
- manage the provision of essential public services, infrastructure and amenities
- minimise the risk of harm to the community through the management of development and land use.

The Department has consulted with Council throughout the assessment process and has considered all relevant provisions of the Shoalhaven LEP 2014 and those matters raised by Council in its assessment of the development (refer to **Table 2** below and **Section 6** of this report). Based on these assessments, the Department concludes the development is consistent with the relevant provisions of the Shoalhaven LEP 2014.

Table 2: Shoalhaven LEP 2014 Compliance Table

Clause	Comment	Complies
Zone R1 General Residential Objectives of zone	<p>The proposed development is located in an urban release area and incorporates a range of lot sizes to facilitate the provision of a range of housing types and densities, consistent with the requirements of the LEP.</p> <p>Land uses have been identified for the neighbourhood hub immediately west of the site to ensure the needs of future residents are met.</p>	Yes
4.1 Minimum subdivision lot size <ul style="list-style-type: none"> • subdivision layouts are compatible with the subdivision pattern and character of an area • minimise impacts of subdivision and development on the amenity of neighbouring properties 	<p>The proposed development is the first in the Mundamia URA and is generally consistent with the conceptual subdivision layout identified in the Mundamia DCP.</p> <p>The subdivision layout integrates the two residential lots on the north western boundary of the site.</p> <p>The application is consistent with the minimum lot size requirements identified in the Minimum Lot Size Map (500 m² permitted, 511 m²</p>	Yes

<ul style="list-style-type: none"> lot sizes and dimensions can accommodate development consistent with relevant development controls. applications comply with the sizes identified in the Minimum Lot Size Map. 	<p>proposed). In addition, the lot sizes and dimensions are capable of accommodating dwellings consistent with the relevant development controls outlined in the Mundamia DCP.</p>	
<p>4.2C Subdivision of land fronting a watercourse</p> <ul style="list-style-type: none"> limit the creation of additional entitlements for water take due to the subdivision of land fronting a watercourse on E2 zoned land consider whether development will create additional lots that front a watercourse consider whether reticulated water will be supplied to the proposed lots. 	<p>The application proposes the creation of two environmental reserves within the E2 zone.</p> <p>The northern environmental reserve contains an unnamed tributary of Flat Rock Creek which is identified as a category 2 watercourse in the Shoalhaven LEP 2014.</p> <p>The application proposes the retention of the lower parts of this tributary within the conservation reserve and will not create additional water take entitlements on E2 zoned land fronting a water course.</p>	Yes
<p>5.10 Heritage conservation</p> <ul style="list-style-type: none"> conserve Aboriginal objects and Aboriginal places of heritage significance consider the effect of development on the heritage significance of a place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent. 	<p>The Aboriginal Heritage Assessment and supplementary information contained in the Applicant's PPR confirm:</p> <ul style="list-style-type: none"> the site does not contain any Aboriginal heritage sites, cultural evidence, or values listed on any heritage registers, or in any EPI. Further, no new sites, cultural evidence, or values have been identified during site investigations a very low distribution of artefacts may occur in undisturbed areas, however the potential for sub-surface deposits is very low the on-going management of Aboriginal cultural heritage can be addressed by including standard management requirements in an Environmental/Construction Management Plan. <p>The Application was referred to the Nowra Local Aboriginal Land Company (NLALC) and the EESG for comment. Whilst the NALALC has not provided comments, the EESG has confirmed it supports the conclusions and recommendations of the Applicant's supplementary Aboriginal Heritage Assessment.</p>	Yes

	Accordingly, the Department has concluded the application satisfies the objectives of clause 5.10.	
<p>6.1 Arrangements for designated State public infrastructure</p> <ul style="list-style-type: none"> prior to the determination of any development application for subdivision works, the Director-General of the Department of Planning must certify in writing that satisfactory arrangements have been made to contribute to the provision of designated State public infrastructure. 	<p>A Satisfactory Arrangements Certificate was issued for the proposed development on 7 August 2016 (see Appendix D).</p>	Yes
<p>6.2 Public utility infrastructure</p> <ul style="list-style-type: none"> development consent must not be granted for development on land in an urban release area unless the Council is satisfied that any public utility infrastructure that is essential for the proposed development is available, or that adequate arrangements have been made to make that infrastructure available when it is required. 	<p>Council/Shoalhaven Water advised the following public utility infrastructure is required to service the development:</p> <ul style="list-style-type: none"> 908 m² of land is required within the proposed conservation reserve to accommodate the sewerage pumping station identified in the Shoalhaven Development Servicing Plan. This land must be provided free of cost to Council prior to the issue of the first Subdivision Certificate Contributions are required to facilitate the headworks covered under its Development Servicing Plan. <p>To satisfy the requirements of clause 6.2 of the LEP, the Department has recommended conditions of consent to ensure the Applicant:</p> <ul style="list-style-type: none"> transfers the land required for the sewerage pumping station to Council free of cost pays a Section 64 contribution to Council. 	Yes – subject to conditions
<p>6.3 Development control plan</p> <ul style="list-style-type: none"> development consent must not be granted for development on land in an urban release area unless a development control plan has been prepared for the land. 	<p>The Shoalhaven Development Control Plan 2014 was updated to include controls for the Mundamia URA on 14 October 2014.</p>	Yes
<p>7.1 Acid sulfate soils</p> <ul style="list-style-type: none"> Development consent is required for works on class 5 land located within 500 m of class 1 to 4 land that is below 5 m 	<p>The subject site contains class 5 acid sulfate soils. The Applicant's PPR included a Preliminary Acid Sulfate Soils Assessment which confirmed the presence of actual and potential acid sulfate soils on-site. Despite the location of potential and</p>	Yes – subject to conditions

<p>AHD and the proposed works are likely to lower the water table below 1 m AHD on class 1 to 4 land.</p> <ul style="list-style-type: none"> • Development consent must not be granted under this clause for the carrying out of works unless an acid sulfate soils management plan has been prepared for the proposed works in accordance with the Acid Sulfate Soils Manual • Despite the above, development consent is not required under this clause for the carrying out of works if: <ul style="list-style-type: none"> ▪ a preliminary assessment of the proposed works prepared in accordance with the Acid Sulfate Soils Manual indicates that an acid sulfate soils management plan is not required for the works, and ▪ the preliminary assessment has been provided to the consent authority and the consent authority has confirmed the assessment by notice in writing to the person proposing to carry out the works. 	<p>actual acid sulfate soils the Preliminary Acid Sulfate Soils assessment concluded:</p> <ul style="list-style-type: none"> • these soils are residual and overlay sandstone and the origin of the soil acidity is likely due to the underlying geology • these soils are in the aerobic zone and disturbance of these soils is unlikely to result in any impacts, therefore an acid sulfate soils management plan is not required. <p>As the site contains class 5 acid sulfate soils, and test bores on site have confirmed the presence of actual and potential acid sulfate soils, the Department has recommended a condition of consent requiring the Applicant to prepare an Acid Sulfate Soils Management Plan for Council's approval prior to the commencement of any excavation works where potential or actual acid sulfate soils were identified in the Applicant's Preliminary Acid Sulfate Soils Assessment.</p>	
<p>7.6 Riparian land and watercourses</p> <p>For land identified as a category 1 to 3 water course the consent authority must consider:</p> <p>(a) whether or not the development is likely to have any adverse impact on the following:</p> <p>(i) the water quality and flows within the watercourse,</p> <p>(ii) aquatic and riparian species, habitats and ecosystems of the watercourse,</p> <p>(iii) the stability of the bed and banks of the watercourse,</p> <p>(iv) the free passage of fish and other aquatic organisms within or along the watercourse,</p> <p>(v) any future rehabilitation of the watercourse and its riparian areas, and</p> <p>(b) whether or not the development is likely to increase water extraction from the watercourse, and</p>	<p>The subject site contains an unnamed tributary of Flat Rock Creek which is identified as a category 2 watercourse in the Shoalhaven LEP 2014.</p> <p>As identified in Section 6 of this report, the Department is satisfied that subject to the implementation of the following conditions of consent, the proposed development will not have any adverse impacts on the matters identified in clause 7.6 of Council's LEP:</p> <ul style="list-style-type: none"> • quantify the volume of groundwater intercepted as a result of the development • provide a thorough and detailed analysis of the hydrogeological conditions and the requirements of the survival of the threatened species within proximity of the site • identify an appropriate recharge regime based on the growing condition for the Spring Tiny Greenhood Orchid, the Nowra Heath-myrtle, the Swamp Paperbark 	<p>Yes – subject to conditions</p>

<p>(c) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.</p> <p>The consent authority must also be satisfied that:</p> <p>the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or</p> <p>if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or</p> <p>if that impact cannot be minimised—the development will be managed to mitigate that impact.</p>	<p>community and small moss gardens located on surrounding sites</p> <ul style="list-style-type: none"> identify site specific water quality and flow regime targets for the local conditions and protection of the Nowra Heath-myrtle and Spring Tiny Greenhood Orchid based on the collection of a minimum of 12 months of baseline data. 	
<p>7.8 Scenic protection</p> <p>In deciding whether to grant development consent for development on land to which this clause applies, the consent authority must:</p> <p>(a) consider the visual impact of the development when viewed from a public place and be satisfied that the development will involve the taking of measures that will minimise any detrimental visual impact, and</p> <p>(b) consider the number, type and location of existing trees and shrubs that are to be retained and the extent of landscaping to be carried out on the site, and</p> <p>(c) consider the siting of the proposed buildings.</p>	<p>The subject site is identified as “Scenic Protection” on the Scenic Protection Area Map of Council’s LEP.</p> <p>The Applicant’s visual impact assessment demonstrates at three of the four vantage points located to the northeast and north west of the site the proposed development will not be visible due to the site topography and the existing vegetation located along the northern and eastern boundaries of the site (i.e. Shoalhaven River, the public reserve located at the western end of Yarunga Drive, and the Shoalhaven Golf Course).</p> <p>However, future development along the southern boundary of the site will be visible from the public reserve Yarunga Drive to the north-east of the site. Notwithstanding, due to the proximity of the vantage point and the heavy vegetation cover on site, the proposed development will not result in any adverse or obtrusive visual impacts at this location.</p> <p>The Department has reviewed the Applicant’s visual impact assessment and agrees the proposed development will not result in any adverse or unreasonable visual impacts.</p>	Yes
<p>11 Essential services</p> <p>Development consent must not be granted for development unless the consent authority</p>	<p>Shoalhaven Water has confirmed reticulated water and sewerage can be provided to service the site.</p>	Yes

<p>is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required:</p> <ul style="list-style-type: none"> (a) the supply of water, (b) the supply of electricity, (c) the disposal and management of sewage. 	<p>In addition, the Applicant's Utilities Investigation Report states Endeavour Energy has confirmed there is capacity in the existing 11kV network to supply the proposed subdivision.</p> <p>The Department has recommended conditions of consent to ensure reticulated water, sewer and power is provided to each lot prior to the issue of any Subdivision Certificate.</p>	
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Appendix E – Submissions

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7169

Appendix F – Preferred Project Report

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7169

Appendix G – Recommended Conditions of Consent

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7169

Appendix H – Satisfactory Arrangements Certificate



15/05/16

Secretary's Certificate

Satisfactory Arrangements for designated State public Infrastructure

Development Application SSD 7169

In accordance with the provisions of Clause 6.1 of the *Shoalhaven Local Environmental Plan 2014*, I, Brendan Nelson, Deputy Secretary, Growth, Design and Programs, as delegate for the Secretary of the Department of Planning and Environment, certify that satisfactory arrangements have been made to contribute to the provision of designated State public infrastructure in relation to:

Development application number: SSD 7169
Development application description: The subdivision of land into 320 residential lots.
Map at Attachment A: Yes
Relevant Planning Agreement: N/A


Brendan Nelson
Deputy Secretary
Growth, Design and Programs
(as delegate for the Secretary)

Date: 7/5/16

**This satisfactory arrangements certificate is being issued in relation to the above development application only and any future development application to subdivide the subject land will require a separate satisfactory arrangements certificate*

Appendix I – Letter of Offer to Council

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7169

Appendix J – Stantec traffic review

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7169

Appendix K – ABPP Assessment of Bushfire impacts

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7169

Appendix L – Eco Logical Australia response to ABPP bushfire assessment

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7169

Appendix M – Evans and Peck and Advisian Peer Reviews

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7169

Appendix N – TDG traffic report

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7169