STRATEGIC BUSHFIRE STUDY

REZONING FOR
RESIDENTIAL SUBDIVISION

CENTRAL COAST HIGHWAY

FORRESTERS BEACH

FEBRUARY 2022
REF: 22007

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Conacher Consulting Pty Ltd

Environmental and Land Management Consultants

PO Box 4082, East Gosford NSW
Phone: 02 4324 7888
conacherconsulting@gmail.com

PREFACE

This document provides an assessment of the bushfire attack potential and the necessary bushfire protection strategies for a proposed rezoning of land for a future residential subdivision at Forresters Beach. Aspects considered in relation to the Strategic Bushfire Study include; vegetation type, slopes, water supplies, entry and egress access, provision of asset protection zone defendable space and construction standards for any future dwellings. The Aims and Objectives of Planning for Bushfire Protection (RFS 2019) are also addressed.

Report Prepared by:

PHILLIP ANTHONY CONACHER B.Sc.(Hons), Dip.Urb Reg Planning, M.Nat.Res.
Project Director
Conacher Consulting Pty Ltd

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1. INTRODUCTION

1.1 Background

This Strategic Bushfire Study has been prepared by *Conacher Consulting* for a proposed rezoning of land for a residential development of land at Forresters Beach. The Rural Fire Service have requested that a Strategic Bushfire Study be undertaken for the proposal to address the requirements of Section 4.2 and Table 4.2.1 of Planning for Bushfire Protection (RFS 2019). Sections 2-7 of this Report follow the order of the issues to be addressed in a Strategic Bushfire Study as identified in Table 4.2.1. of RFS 2019.

The objectives of this Report are to:

i) Identify any Planning Directions (Section 9.1 EPA Act) relating to bushfire assessment matters;
ii) Address the relevant requirements of Planning for Bushfire Protection (Rural Fire Service, 2019);
iii) Identify if the development complies with the aims and objectives of Planning for Bushfire Protection (RFS, 2019);
iv) Prepare a Report that supplies the relevant information for consideration by the RFS as a rezoning proposal.
v) Identify the acceptable solutions identified in Chapter 5 of RFS (2019) for any future development proposal.

The following figures and plans have been incorporated to supplement eh text and information provided in this report:

Figure 1 Location and Topographic Details (Extract of the 1:25000 topographic map)

Figure 2 Bushfire Prone Land Map (Extract from Council Maps)

Figure 3 Local Area Vegetation (Ariel photograph showing site and nearby natural vegetation)

Figure 4 Local Area Zoning and Land Use (Extract from Council Maps)

Figure 5 Rezoning Proposal (Aerial photograph showing areas of rezoning and adjoining residential areas)

Figure 6 Lot layout for Stages 1,2, 3.

1.2 Site Details

The planning and cadastral details of the subject site are provided in Table 1.1. The location of the site is shown in Figure 1. Figure 3 shows the details of the site, aerial view and relevant lot boundaries.

TABLE 1.1
SITE DETAILS

Location (Subject site)	Lot 522 DP 1077907, Lot 3 DP 101694 Central Coast Highway & Lots 1-4 DP 1000694 Bakali Road, Forresters Beach, plus lots on the Central Coast Highway.
Area	Approximately 12.3 hectares
Local Government Area	Central Coast Council
Existing Land Use	Rural residential / Vacant land and residential dwellings

The area of proposed rezoning also includes the 32 small lots (most with dwellings) located along the western side of the Central Coast Highway. These lots are currently zoned as 'Deferred Matter' and Council have requested that they be included in the planning components of the rezoning proposal. These lots were not previously subjected to bushfire assessments as they are already connected to services and almost all lots contain existing dwellings.

1.3 Planning Proposal

The proposed development following rezoning of parts of the site is a residential subdivision, with lots to be developed in stages.

The planning proposal assessed in this report is the rezoning of the subject site to enable future residential development. The planning proposal will result in the retention and management of an area of native vegetation within the north-west and southern section of the site under an environmental conservation zoning.

The future land-uses within the site will incorporate both development areas (residential lots) and conservation areas of maintained, managed and improved vegetation. These outcomes are summarised below.

Development Outcomes

- Residential lots, residential dwellings, roads, drainage infrastructure and urban services.
- Residential developments are planned to be undertaken in separate stages (Stages 1-6).
- Staged development will be dependent on the timing by each land holder and future approvals by Council.
- Stages 1, 2, 3 will cover Lot 522, Lot 3 DP 101649 and Lot 4.
- Stage 4 will cover Lot 3 DP 1000694.
- Stage 5 will cover Lot 2.
- Stage 6 will cover Lot 1.
- The timing of development stages will be subject to future planning considerations by Council (eg Development Control Plans, Voluntary Planning Agreements etc).

Detailed plans of the proposal have been provided as separate documentation to this report.

The rezoning proposal covers future land uses and zones such as:

- Environmental Protection
- Drainage Reserves
- Open Space Area
- Residential lots
- Roads

1.4 Bushfire Assessment and Rezoning Proposals

The main objective of this Strategic Bushfire Study is to provide background and site specific information on bushfire matters relevant to consideration of a planning proposal (rezoning) for the subject land to be rezoned to Residential (R2) and Environmental Conservation (C2).

The EP&A Act Section 9.1(2) identifies directions issued by the Minister are to be incorporated into the considerations and consultations undertaken by the relevant planning

authority during the rezoning process. In this particular proposal Local Planning Direction 4.4 Planning for Bushfire Protection is relevant. This Planning Direction identified that a planning proposal must have regard to Planning for Bushfire Protection paragraph (5) 2019.

Section 4.2 of Planning for Bushfire Protection (RFS 2019) requires that a Strategic Bushfire Study be completed during the preparation of rezoning proposals. The matters to be covered in a Strategic Bushfire Study are identified in Table 4.2.1 of RFS (2019) and are addressed in this Report.

Development Category
The proposed development following rezoning is classified as a 'residential subdivision' under Chapter 2 of Planning for Bushfire Protection (RFS, 2019) and is therefore 'integrated development' when a development application for subdivision is lodged.

Planning for Bushfire Protection (RFS, 2019)
Due to the presence of Category 1 vegetation on the site, as shown on the Bushfire Prone Land Map, any planning proposal for rezoning or subdivision is required to include a Strategic Bushfire Study prepared in accordance with the requirements of Planning for Bushfire Protection (RFS, 2019).

State Legislation
This development following rezoning is an integrated development and is therefore subject to Section 4.46 of the EP&A Act. Section 100 of the Rural Fires Act also applies to the proposed development as it will be a subdivision of land. Section 4.14 of the EP&A Act applies to any future dwellings to be constructed on the approved lots. The planning proposal for rezoning is subject to the requirements of Planning Direction 4.4 Planning for Bushfire Protection under Section 9.1(2) of the EP&A Act.

2 BUSHFIRE LANDSCAPE ASSESSMENT

Climate and Bush Fire Season
The following details are provided in BCC (2011) for the local area:
"The typical/average climate in Gosford BFMC area is temperate with predominately summer rainfall and the bush fire season runs from October to March.
Prevailing weather conditions associated with the bush fire season in the Gosford BFMC area are north-weatherly winds accompanied by high day-time temperatures and low relative humidity. There are also occasional dry lightning storms occurring during the bush fire season."

A review of the climate records for the local area that the average maximum temperature between November to March is between 25°C to 27°C. Temperatures above 40°C have been recorded in each of these months. Rainfall is summer dominant with an annual average of 1328mm.

Topography
The site consists of the gently sloping land (0-5% gradient) located on the edge of a large wetland area. The topographical details of the area are shown in Figure 1.The site is situated on the Central Coast Lowlands between the more elevated dune areas of Forresters Beach (east) and the undulating to rolling hills of the Tumbi Umbi Lisarow area.

Bushfire Prone Land Map
Council's Bushfire Prone Land Map (Figure 2) shows the subject site mapped as Buffer to Category 1 Vegetation and Category 1 Vegetation. The site is adjoined to the east, south and west by Category 1 forest vegetation.

Forest Fire Danger Index
The subject site is located within the Central Coast Council Local Government Area in the Greater Sydney Region. The Forest Fire Danger Index for the Greater Sydney Region is rated at 100 for use in determining asset protection zone requirements and categories for bushfire attack.

Vegetation Classification
The principal vegetation types affecting the bushfire hazard located within 140 metres of the proposed lots are outlined below:

North – Cleared land containing residential buildings drainage basins and reserve managed as asset protection zone.

South – Forest and managed land in residential lots.

East – Forest and managed land in residential lots.

West – Forest and managed land in rural residential lots.

North-west Forest vegetation to be retained (within site) in Environmental Conservation Zone.

The extent of vegetation within 600-800 metres of the site is shown in Figure 3.

Potential Bushfire Behaviour
The principle area of potential bushfire hazard affecting the site is the vegetated forest area to the west (off-site) and in the north-west of the site.

The Bushfire Risk Management Plan (BCC 2011) has identified the Bakali Road area as being a human settlement asset (N°270) with a low level of bushfire risk. This area has been assessed as 'unlikely' to be affected by bushfire with a moderate consequence of impact from a bushfire.

An analysis of the potential bushfire spread and intensity under various weather scenarios has not been completed at this early stage of assessment. This analysis would be more appropriate when determining a performance based solution for future bushfire protection measures if required with a future subdivision application.

3 LAND USE ASSESSMENT

Land Rezoning Proposal

The rezoning proposal is predominately for rezoning the majority of the site to residential for single lot residential dwellings. Areas of proposed environmental conservation and public recreation are proposed in the north-west of the site. No industrial, commercial or special fire protection purpose development is proposed.

The areas of proposed residential lots have been considered through the planning analysis completed to ne the areas most suited for residential lots and future dwellings.

Bushfire Asset Protection Zone Assessment

A preliminary assessment of the asset protection zone requirements and bushfire attack in relation to the adjoining lands, vegetation and slope gradients for the site is provided in Table 3.1.

TABLE 3.1
ASSET PROTECTION ZONE ASSESSMENT
(from Table A1.12.2 of RFS 2019)

Direction	Vegetation Classification (within 140m)	Effective Slope (within 100m)	Recommended APZ Distance from Bushfire Hazard (metres)
North	Reduced Vegetation	Upslope	NR
South	Forest	0-5^{o} downslope	29
East	Reduced Vegetation (Central Coast Highway)	Upslope	NR- >50 metres cleared land present
West	Forest/Reduced Vegetation	0-5^{o} downslope	29

NR = No Requirements as no hazard present

Provision of Asset Protection Zones

All future lots will contain managed gardens/lawns which are effectively low hazard areas.

To achieve a desired maximum BAL 29 construction standard for future dwellings an APZ of at least 29 metres will be required from the adjoining bushfire hazard in the west.

The RFS (2019) have identified that when establishing and maintaining an inner protection area for an APZ the following requirements apply:

- tree canopy cover should be less than 15% at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2m above the ground;
- tree canopies should be separated by 2 to 5m;
- preference should be given to smooth barked and evergreen trees;
- large discontinuities or gaps in vegetation should be provided to slow down or break the progress of fire towards buildings;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover; and

- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.
- grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- leaves and vegetation debris should be removed

Building Construction Requirements and Bushfire Attack Level Determination

The asset protection zones applying to the future subdivision following rezoning have been determined using the APZ assessment criteria from Table A1.12.2 of Planning for Bushfire Protection (RFS 2019). However for any future dwellings to be located within the future allotments determination of the Bushfire Attack Level for each lot in accordance with Table A1.12.5 of RFS (2019) is required at a later stage when an application for a dwelling on the lots is made.

All dwellings to be located within 100 metres of the mapped bushfire prone vegetation will require construction standards to meet the bushfire attack levels as per the requirements as identified in Table A1.12.5 of RFS (2019). There are no specific construction requirements in relation to RFS (2019) for dwellings located beyond 100 metres from the identified bushfire hazards.

An initial assessment for the BAL determinations based on Table A1.12.5 of RFS (2019) has identified the following BAL's for the site, as measured from the nearby forest vegetation (0 – 5^{o} downslope):

BAL 40	-	22 - 29 metres
BAL 29	-	29 - 40 metres
BAL 19	-	40 - 54 metres
BAL 12.5	-	54 – 100 metres
BAL LOW	-	>100 metres (no specific construction levels)

The final BAL determinations are to be assessed in the future Bushfire Assessment Report prepared at the residential subdivision stage following rezoning.

4 ACCESS AND EGRESS

Road Network

The existing local road system is shown in Figure4. The site adjoins Central Coast Highway (east and Bakali Road (west). A detailed Traffic Impact Assessment Report for the rezoning proposal has been prepared by traffic engineering consultants, Barker Ryan Stewart. This traffic assessment report identifies that:

i Northern access/egress for the future developed site will be via a new road connected to the Central Coast Highway via traffic signals in the north
ii Southern (Bakali Road) access/egress for the site will be via a left in/left out provision on the western side of the Central Coast Highway
iii The new subdivision road will be a through road, from Central Coast Highway and Bakali Road
iv Bakalii Road will be upgraded
v Lots along Central Coast Highway will have either direct access to the Highway or directly access the existing service road on the western side of the Central Coast Highway
vi Central Coast Highway (Wamberal to Bateau Bay section) is to be upgraded as part of the NSW Government Road Improvement Program. Planning for this upgrade is currently underway. This will include two vehicle travel lanes in both directions.

The Traffic Impact Assessment Report has concluded that the subdivision access roads, intersections and additional traffic generated by the proposed subdivision of the rezoning land will not have a significant impact on the safety and efficiency of the existing road network.

Section 5.3.2 of PBP (RFS 2019) outlines the requirements for public roads within a future residential subdivision. The intent of the public road system in a bushfire emergency is stated in PBP (RFS 2019) as: "*To provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area".*

As summarised by the Rural Fires Service future access roads must comply with the following general requirements of Table 5.3b of Planning for Bush Fire Protection 2019 and the following:

- subdivisions of three or more allotments have more than one access in and out of the development;
- traffic management devices are constructed to not prohibit access by emergency services vehicles;
- maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient;
- all roads are through roads;
- dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end;
- where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road; where access/egress can only be achieved through forest, woodland and heath vegetation, secondary access shall be provided to an alternate point on the existing public road system;
- one way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression;

- the capacity of perimeter and non-perimeter road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges/causeways are to clearly indicate load rating;
- hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression;
- hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005 - Fire hydrant installations System design, installation and commissioning; and
- there is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.

Perimeter roads must comply with the general requirements of Table 5.3b of Planning for Bush Fire Protection (RFS 2019) and the following:

- are two-way sealed roads;
- minimum 8m carriageway width kerb to kerb;
- parking is provided outside of the carriageway width;
- hydrants are located clear of parking areas;
- are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
- curves of roads have a minimum inner radius of 6m;
- the maximum grade road is 15 degrees and average grade of not more than 10 degrees;
- the road crossfall does not exceed 3 degrees; and
- a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

Non-perimeter roads must comply with the general requirements of Table 5.3b of Planning for Bush Fire Protection (RFS 2019) and the following:

- minimum 5.5m carriageway width kerb to kerb;
- parking is provided outside of the carriageway width;
- hydrants are located clear of parking areas;
- roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
- curves of roads have a minimum inner radius of 6m;
- the road crossfall does not exceed 3 degrees; and
- a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

5. EMERGENCY SERVICES

All emergency services have access to the site due to its location along on the major connective roads on the Central Coast. The availability of these emergency services during the period of a major local bushfire event scenario has not been experienced and cannot be determined at this stage.

The nearest local depots or stations for the various emergency services are provided below:

Rural Fire Service
Brigade Station, Tumbi Road Wamberal
Travel Time: 10 minutes

Fire and Rescue NSW
Station, Central Coast Highway Bateau Bay
Travel Time: 5 minutes

Ambulance NSW
Station, Duffy Road Terrigal
Travel Time 15 minutes

Police
Station, Denning Street The Entrance
Travel Time 15 minutes

State Emergency Service
Depot, Poleman Avenue Erina
Travel Time 30 minutes

All of these emergency services are based within the increasing population areas of the Central Coast.
The mechanisms and planning procedures for providing ongoing resources for the operation and expansion of emergency services is integrated into the compulsory financial contributions from future development applications and services planning implemented by Central Coast Council and the emergency services in coordination with each other.

6. INFRASTRUCTURE

6.1 Water Supply

The existing urban development in the local area has reticulated water mains. The future development will extend the existing water reticulation from the surrounding infrastructure therefore a supplementary form of water supply will not be necessary for fire fighting purposes. This water supply arrangement is to be in compliance with Section 5.3.3 of 'Planning for Bushfire Protection, (RFS 2019).

A Water and Sewer Analysis Report (Cardno, 2020) has been prepared for the rezoning proposal.

Cardno (2020) identify that it is proposed to construct a new DN150 Watermain into the site from the existing DN300 Watermain near the intersection of Forresters Beach Road and Central Coast Highway. This will travel along the proposed internal road reserve and connect to the existing DN100 Watermain from Bakali Road.

The lots along the western side of Central Coast Highway are already supplied with reticulated water from the DN100 Watermain.

Cardno (2020) have recommended the approval of the rezoning based on the following outcome recommendation that

> *"The proposed provision of a DN150 Watermain extension to the existing DN100 Watermain will provide the capacity to service the proposed development with potable water"(*Page 11 Section 4.2*).*

6.2 Power

The future lots will be supplied with underground power from the existing power. There are no high voltage powerlines affecting the subject site.

6.3 Gas Supply

The future lots will be supplied with underground gas supply from the existing gas supply network along the western side of Central Coast Highway. There are no high pressure gas pipelines affecting the subject site.

6.4 Communications

The future lots will be connected to the underground fibre network. Mobile telephone coverage is available via the local communications network.

The reticulated water supply, fire hydrant spacing, sizing and pressure is to comply with the requirements of AS2419.1 – 2005. A certification or test report from the Water Supply Authority demonstrates that the requirements of AS2419.1-2005 can be achieved during a bushfire event.

As summarised by the RFS the intent of water and utility services is to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.

The provision of water, electricity and gas must comply with the following in accordance with Table 5.3c of Planning for Bush Fire Protection (RFS 2019):

- reticulated water is to be provided to the development where available;

- fire hydrant, spacing, design and sizing complies with the relevant clauses of Australian Standard AS2419;
- hydrants are and not located within any road carriageway;
- reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads;
- fire hydrant flows and pressures comply with the relevant clauses of AS 2419;
- all above-ground water service pipes are metal, including and up to any taps;
- where practicable, electrical transmission lines are underground;
- where overhead, electrical transmission lines are proposed as follows:
- lines are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas;
- no part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines.
- reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used;
- reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 - The storage and handling of LP Gas, the requirements of relevant authorities, and metal piping is used;
- all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;
- connections to and from gas cylinders are metal; polymer-sheathed flexible gas supply lines are not used; and
- above-ground gas service pipes are metal, including and up to any outlets.

7. ADJOINING LAND

The adjoining land use and zoning is shown in Figure 4 and 5. The local road network is shown in Figure 5. The internal road system for Stages 1,2,3 is shown in Figure 6.

The surrounding land uses are:

North - Developed residential land.

South - Developed residential land and undeveloped bushland (forest).

East - Developed residential land.

West - Undeveloped bushland (forest) and rural residential lots.

The principle direction of potential bushfire impact is from the forest vegetation to the west and the retained forest in the north-west part of the site. There are no requirements to be imposed on adjoining landowners to increase the level of bushfire protection measures on their land to decrease the bushfire risk to the future lots.

All future bushfire protection measures will be implemented within the subject site. These include:

- provision of appropriate asset protection zones
- construction of future swellings to appropriate bushfire attack levels to BAL 29 or lower
- provision of roads and water supply to meet the requirements of RFS (2019) as previously documented in this report.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Aim and Objectives of Planning for Bushfire Protection

"*The aim of Planning for Bushfire Protection is to provide for the protection of human life and minimise impacts on property form the threat of bushfire, while having due regard to development potential, site characteristics and protection of the environment" (RFS 2019 pg 10).*

The preparation of this Strategic Bushfire Study and subsequent assessment by Council and the Rural Fire Service ensures compliance with the aim of Planning for Bushfire Protection.

The following comments are provided in relation to satisfying the objectives of PBP.

Objective 1
(i) afford buildings and their occupants protection from exposure to a bush fire;

Construction of dwellings to meet the requirements of the specific bushfire attack levels (BAL) for each lot, and the provision of the APZ, will ensure that adequate protection is provided to dwellings and occupants of any future dwelling in the event of a bushfire.

Objective 2
(ii) provide for a defendable space to be located around buildings;

The establishment and maintenance of the completed subdivision and asset protection zones will provide a defendable space located around buildings.

Objective 3
(iii) provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to building;

The asset protection zones to be provided shows that dwellings are not to be constructed within the flame zone for any lot. The management of the APZ's as an inner protection area is designed to prevent the spread of fire to future dwellings.

Objective 4
(iv) ensure that appropriate operational access and egress for emergency service personnel and occupants is available;

The existing road system and proposed extension of this road system constructed to the width requirements of Section 5.3.2 of RFS (2019) will ensure safe operational ingress for emergency services and also simultaneous safe egress for residents during a bushfire emergency within the local area.

Objective 5
(v) provide for ongoing management and maintenance of bushfire protection measures,

The APZ within the future lots and the roadways is to be managed as an inner protection zone during the development and occupation of the site.

Objective 6
(vi) ensure that utility services are adequate to meet the needs of firefighters

The adequacy of utility services such as water supply is discussed in Section 6 of this document. The utility services are to be adequate to meet the needs of firefighters (and others assisting in bush fire fighting).

8.2 Recommendations

The following recommendations are provided in relation to the requirements of RFS (2019).

i. Management of the areas identified as asset protection zones to the standards of an inner protection area as outlined in Appendix 4 of RFS (2019).

ii. Construction of future roads to meet the requirements of Section 5.3.2 of RFS (2019)

iii. Provision of water and services to be in accordance with Section 5.3.3 of RFS (2019).

iv. Construction of future dwellings to meet the bushfire attack levels as determined from the distance to the remaining bushfire hazard as identified in Section 2.3 of this Report.

8.3 Concluding Comments

The proposed rezoning for future residential development has been assessed for its compliance with the accepted solutions for bushfire protection measures and the Aims and Objectives of Planning for Bushfire Protection. With the implementation of the combination of measures recommended, and outlined in Sections 2 and 3 of this report, the overall aims and objectives of Planning for Bushfire Protection (RFS 2019) can be achieved for the proposed development.

REFERENCES

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Councils of Standards Australia AS3959 (2018) – Australian Standard Construction of buildings in bush fire-prone areas.

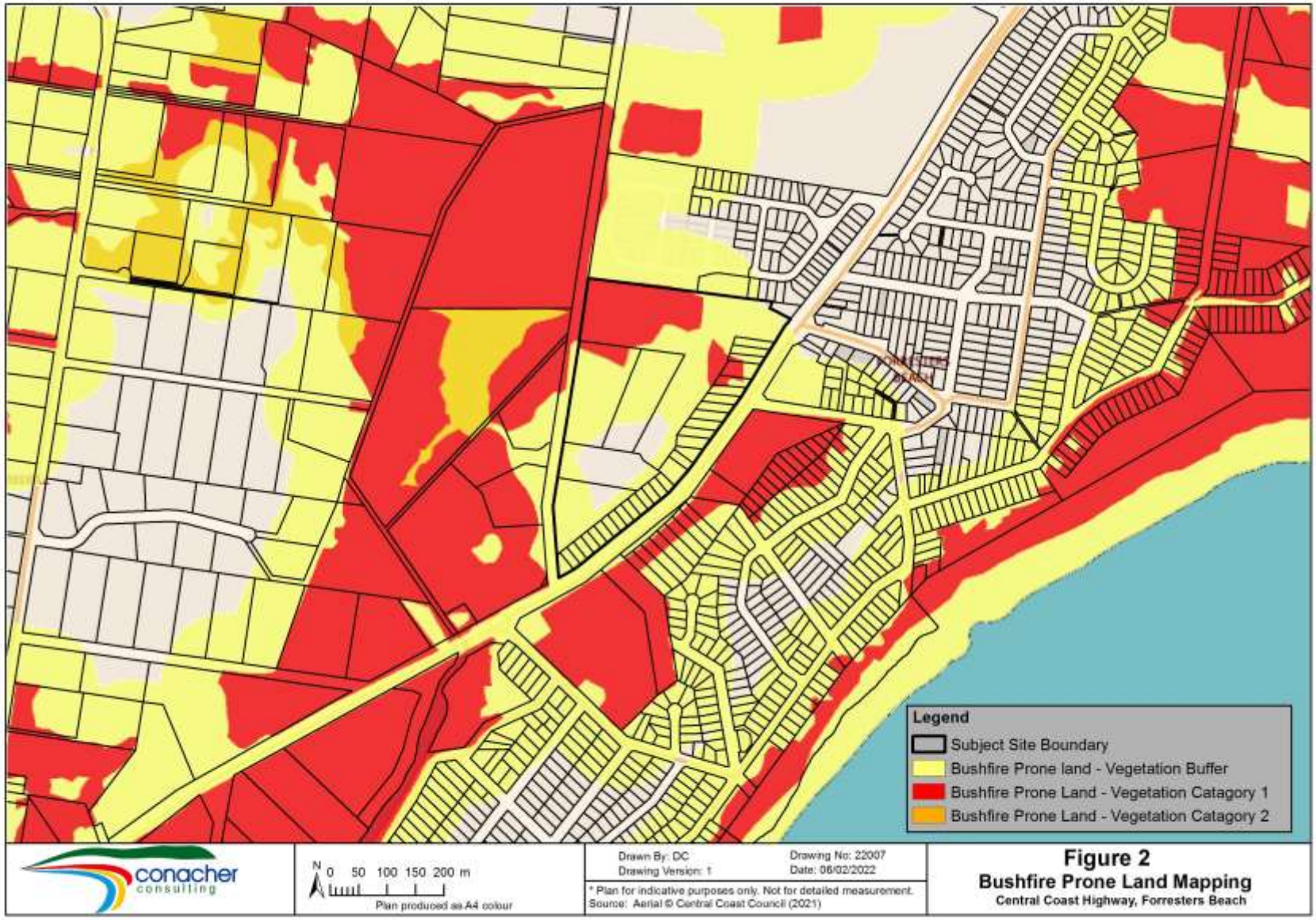
NSW Rural Fire Service (2019) - *'Planning for Bush Fire Protection - A Guide for Councils, Planners, Fire Authorities and Developers*. NSW Rural Fire Service.

NSW Rural Fire Service (2019) Comprehensive Vegetation Fuel Loads (Fact Sheet).

SAI Global (2005) Australian Standard 2419.1 Fire hydrant installations- system design, installation and commissioning.

FIGURES


tennis courts
TUMBI ROAD RESERVE
SWINGERS GOLF RANGE
15 mini golf
ALBATROSS PARK
JOAN ST
ALISTAIR AV
FORRESTERS BEACH
WARRAMBOOL RD
MAAS RD
blockage
THE ENTRANCE ROAD
BAKALI RD
BOOS RD
HENRYS RD
PACIFIC VIEW STREET RESERVE
SCENIC RD
Wyrrabalong
60r
Forresters Beach
CARBEEN RD
CARBEEN ROAD RESERVE
CENTRAL SCHOOL WAMBERAL
ARCHIBOLD PARK
tidal limit
CRYSTAL STREET
NOORONG AV
BLUE WAVE CR
toilets
lookout
Legend
BF_Subject_Site_Boundary
conacher consulting
N 0 100 200 300 400 m
Plan produced as A4 colour
Drawn By: DC
Drawing Version: 1
Drawing No: 22007
Date: 06/02/2022
* Plan for indicative purposes only. Not for detailed measurement.
Source: Aerial © NSW Gov. (2021)
Figure 1
Location and Topographic Features
Central Coast Highway, Forresters Beach


Legend
Subject Site Boundary
Bushfire Prone land - Vegetation Buffer
Bushfire Prone Land - Vegetation Catagory 1
Bushfire Prone Land - Vegetation Catagory 2
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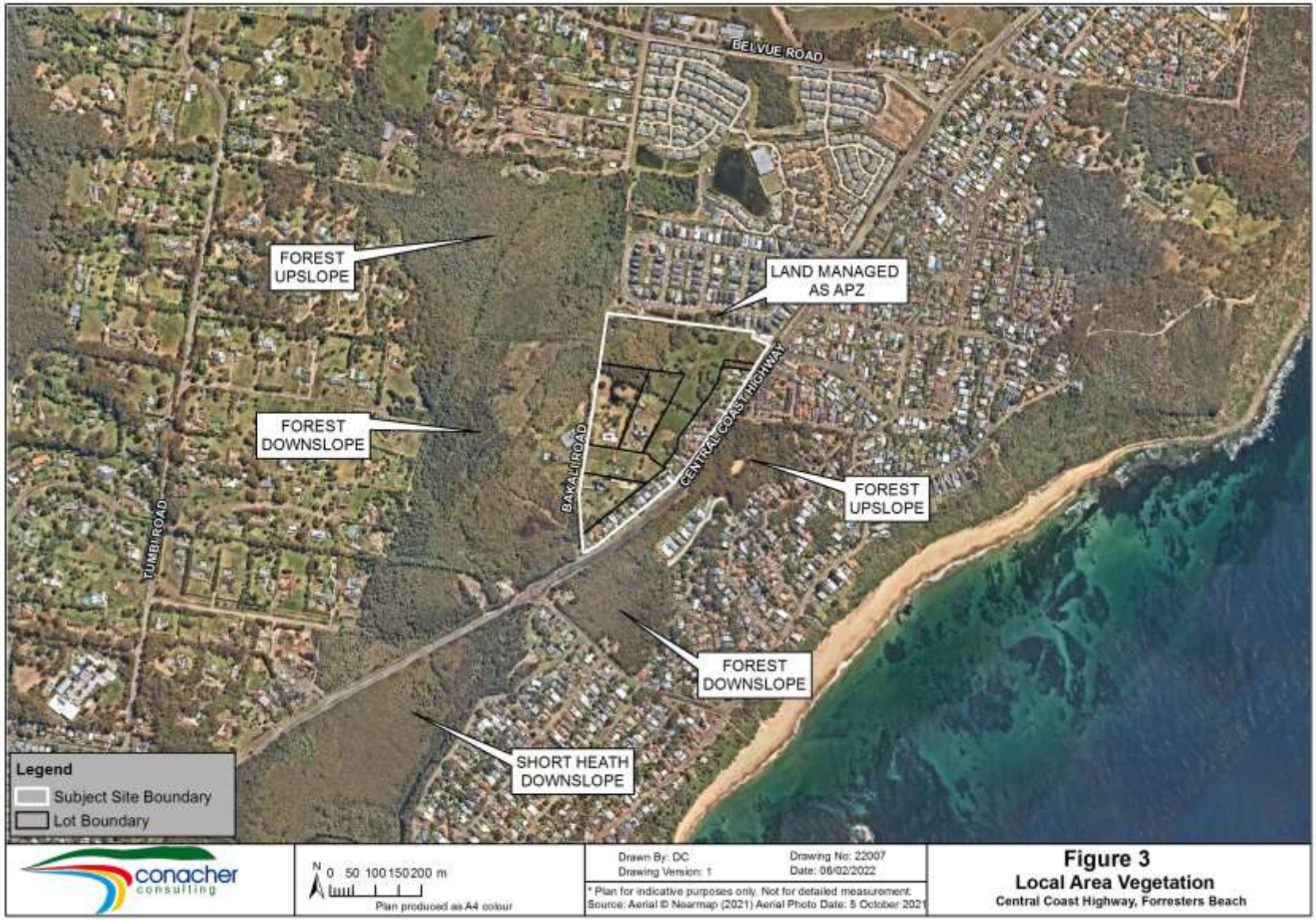
Drawing Version: 1
Drawing No: 22007
Date: 06/02/2022
* Plan for indicative purposes only. Not for detailed measurement.
Source: Aerial © Central Coast Council (2021)
Figure 2
Bushfire Prone Land Mapping
Central Coast Highway, Forresters Beach


BELVUE ROAD
FOREST UPSLOPE
LAND MANAGED AS APZ
FOREST DOWNSLOPE
BAKALI ROAD
CENTRAL COAST HIGHWAY
FOREST UPSLOPE
TUMBI ROAD
FOREST DOWNSLOPE
SHORT HEATH DOWNSLOPE
Legend
Subject Site Boundary
Lot Boundary
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Drawing No: 22007
Date: 06/02/2022
* Plan for indicative purposes only. Not for detailed measurement.
Source: Aerial © Nearmap (2021) Aerial Photo Date: 5 October 2021
Figure 3
Local Area Vegetation
Central Coast Highway, Forresters Beach


MISTVIEW CIRCUIT
SHOREVIEW AVENUE
LEWIS CRESCENT
AUSTAIR AVENUE
DUNLOP ROAD
FORRESTERS BEACH ROAD
CENTRAL COAST HIGHWAY
NORTH SCENIC ROAD
BOOS ROAD
HENRYS ROAD
BLUEWAZ
THE ENTRANCE ROAD
RAY BAKALI ROAD
RE1
C2
B1
DM
Legend
Lot Boundary
Subject Site Boundary
B1 - Neighbourhood Centre
C2 - Environmental
R1 - General Residential
RE1 - Public Recreation
DM - Deferred Matter
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Plan produced as A4 colour
Drawn By: DC
Drawing Version: 1
Drawing No: 22007
Date: 06/02/2022
* Plan for indicative purposes only. Not for detailed measurement.
Source: Aerial © Central Coast Council (2021)
Figure 4
Local Area Zoning and Land Use
Central Coast Highway, Forresters Beach

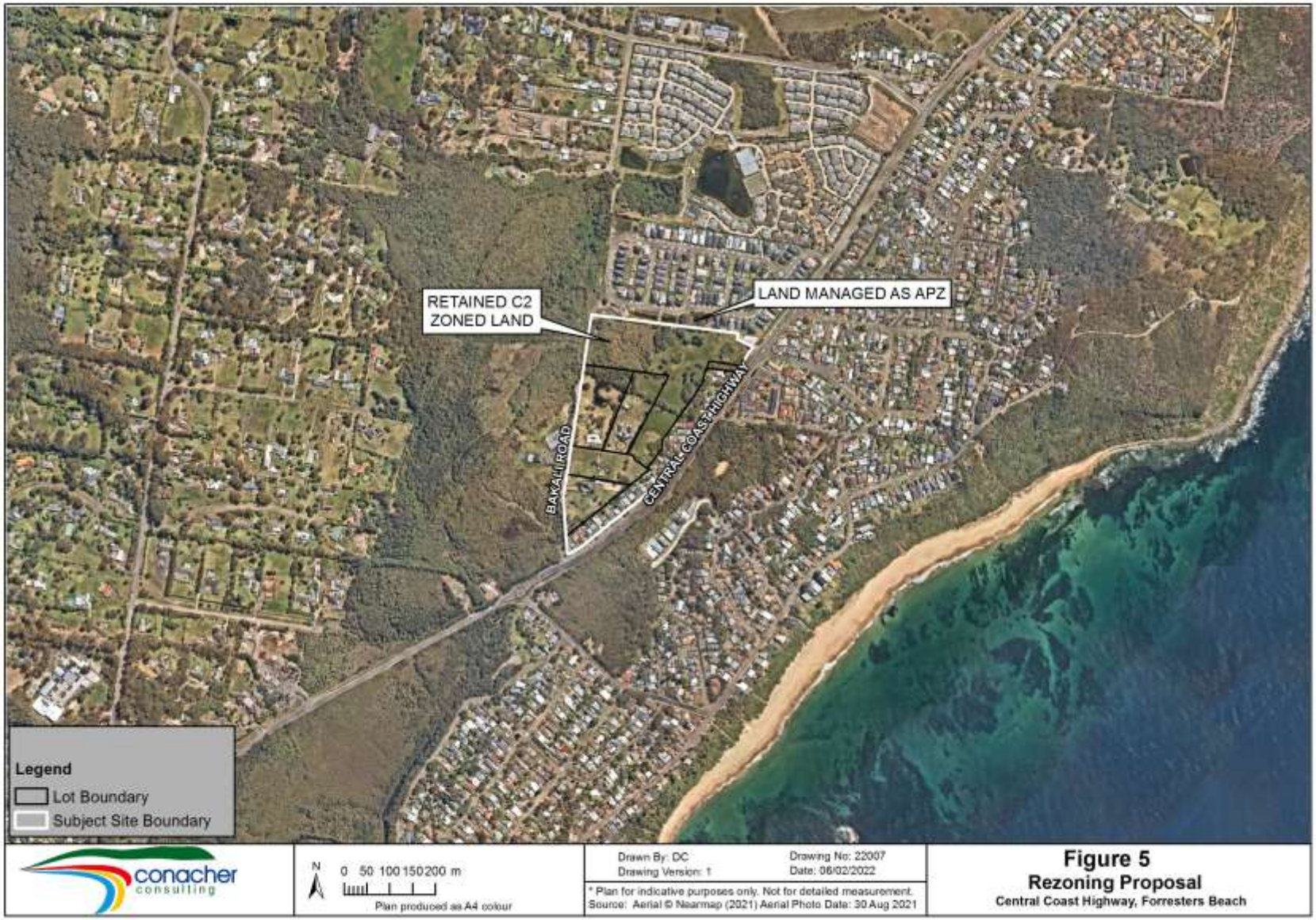
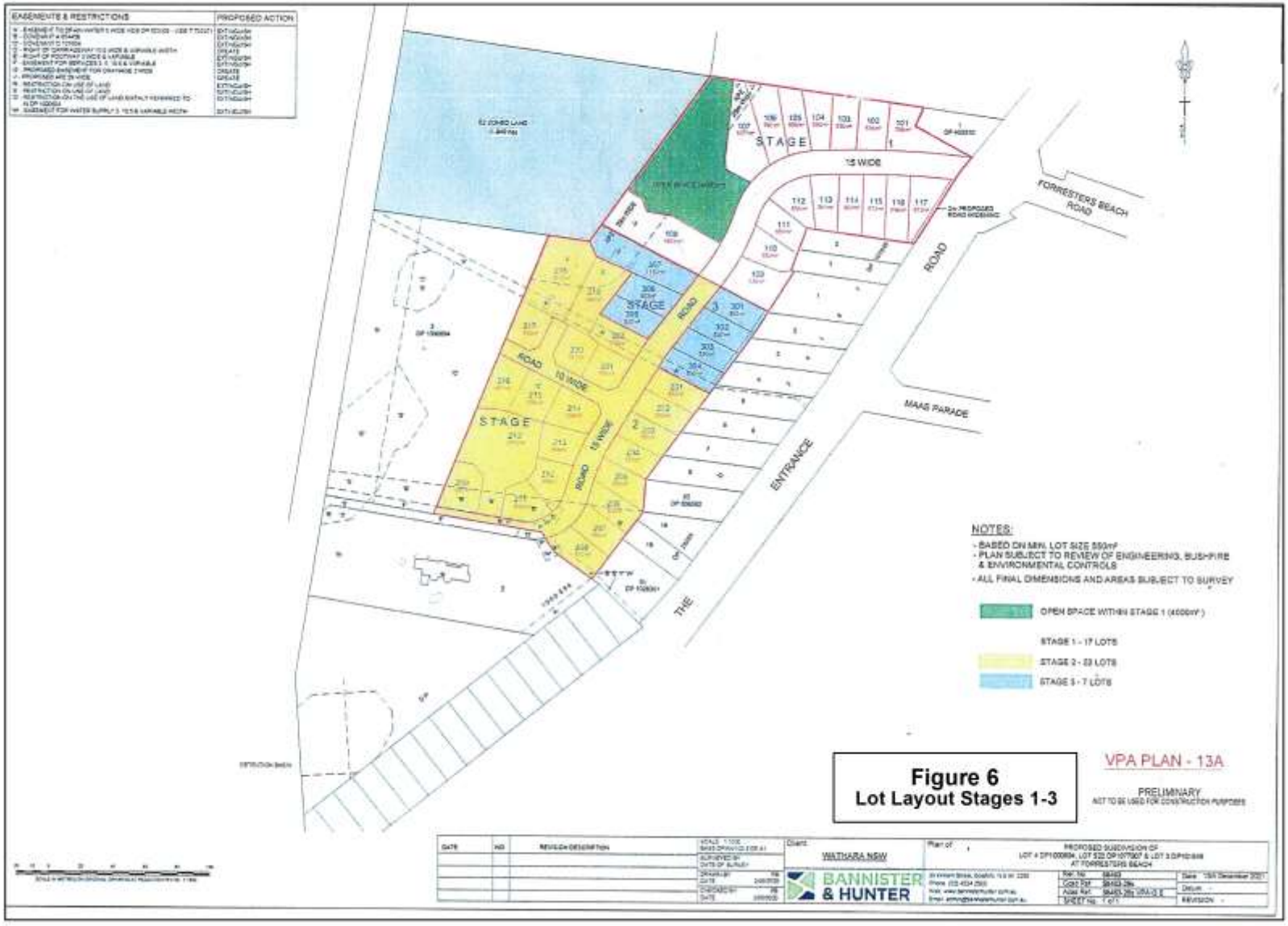


Figure 5
Rezoning Proposal
Central Coast Highway, Forresters Beach


EASEMENTS & RESTRICTIONS
PROPOSED ACTION
STAGE
15 WIDE
ROAD
FORRESTERS BEACH ROAD
MAAS PARADE
ENTRANCE
NOTES:
- BASED ON MIN. LOT SIZE 550m²
- PLAN SUBJECT TO REVIEW OF ENGINEERING, BUSHFIRE & ENVIRONMENTAL CONTROLS
- ALL FINAL DIMENSIONS AND AREAS SUBJECT TO SURVEY
OPEN SPACE WITHIN STAGE 1 (4000m²)
STAGE 1 - 17 LOTS
STAGE 2 - 23 LOTS
STAGE 3 - 7 LOTS
Figure 6
Lot Layout Stages 1-3
VPA PLAN - 13A
PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
WATHARA NSW
BANNISTER & HUNTER