



Abel Bushfire

13 December 2022

(REVIEW OF ENVIRONMENTAL FACTORS)

Soil conservation works and construction of a new ancillary construction road, MORUYA

Introduction

This report supports a Review of Environmental Factors (REF) prepared for Health Infrastructure NSW pursuant to part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the undertaking of soil conservation works and the construction of a new ancillary construction road at Lot 2, DP 1281576, Princes Highway, Moruya.

Site Description

The site of the soil conservation works, and ancillary road works is located on the Princes Highway in the NSW south coast town of Moruya. The site is legally described as Lot 2, DP 1281576 and is a large vacant greenfield site. The soil conservation works will facilitate the ongoing management of the greenfield lot. To the west of the site is Moruya TAFE, and to the north is a small residential subdivision called Mynora Estate.

An aerial figure of the site is shown in Figure 1 below.



Figure 1. Proposed site location.

Proposed Works

The works proposed under this REF include the following:

1. Construction of three erosion and sediment basins, ranging between 507m² and 990m² in area, and
2. Construction of an ancillary road into the site to facilitate construction access into the site.

A further detailed description of the proposed works is contained in the Review of Environmental Factors report prepared by Ethos Urban.



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13 December 2022

RP Infrastructure
Level 19/9 Hunter Street,
Sydney NSW 2000

On behalf of – NSW Health Infrastructure

**RE: Proposed soil conservation works and the construction of a new ancillary construction road,
Lot 2, DP 1281576, Princes Highway, Moruya NSW 2537.**

Attention: Matthew Curnow, RP Infrastructure

Dear Matthew,

Abel Bushfire was engaged by NSW Health Infrastructure to make an assessment of compliance for the proposed soil conservation works and the construction of a new ancillary construction road against the requirements of the NSW RFS document 'Planning for Bushfire Protection 2019' (PBP 2019). The site of proposed works is Lot 2, DP 1281576, Princes Highway, Moruya NSW, approximately 2.3 km SE of Moruya CBD (Figure 1, Figure 2, and Figure 3). The site is identified as Bush Fire Prone Land under section 10.3 of the *Environmental Planning and Assessment Act 1979 (EP & A Act)* (Figure 4) and is therefore required to comply with PBP 2019 under section 4.14 of that Act. Compliance with PBP 2019 relies upon the proposal (Figure 5) meeting the general aim and objectives of PBP 2019 Chapter 1 and the specific objectives for Special Fire Protection Purpose (SFPP) development of PBP 2019 Chapter 6.

Abel Bushfire has relied upon the following references from the client:

1. Plans prepared by Meinhardt-Bonacci, Soil Conservation Works Princes HWY, Moruya NSW 2537, Site Works Plan, numbered ERH-HI-CV-DWG-DD-01-PW-0530, Revision B, dated: 6 DEC 2022 (Figure 5),
2. Plans prepared by Meinhardt-Bonacci, Soil Conservation Works Princes HWY, Moruya NSW 2537, Bulk Earthworks Plan, numbered ERH-HI-CV-DWG-DD-01-PW-0510, Revision B, dated: 6 DEC 2022 (Figure 6).



The Chapter 1 aim of PBP 2019 is to:

“provide for the protection of human life and minimise impacts on property from the threat of bush fire, while having due regard to development potential, site characteristics and protection of the environment.”

The general Chapter 1 objectives of PBP 2019 are to:

1. afford buildings and their occupants protection from exposure to a bush fire;
2. provide for a defendable space to be located around buildings;
3. provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;
4. ensure that appropriate operational access and egress for emergency service personnel and occupants is available;
5. provide for ongoing management and maintenance of Bushfire Protection Measures; and
6. ensure that utility services are adequate to meet the needs of firefighters.

With respect to soil conservation works, roads and other access infrastructure, PBP 2019 Objectives 1, 2, 3, and 5 are not applicable, as these relate specifically to buildings that give shelter to people. In this case, Objective 4 and Objective 6 are applicable to the proposed soil conservation works and road. The proposed works do meet the aim and objectives of PBP 2019 where the access infrastructure complies with the PBP 2019 performance criteria for SFPP developments.

The specific objectives and performance criteria for SFPP developments are specified in PBP 2019 Chapter 6. SFPP developments often provide for occupants that are more vulnerable than the general population. Consequently, there is more reliance upon provision of relatively wide and unrestricted access and emergency management arrangements for proposed roads. Note additional Bushfire Protection Measures (BMPs) not mentioned apply to other building types under SFPP developments.

PBP 2019 section 6.2 outlines the specific objectives for SFPP developments, being:

- a) minimise levels of radiant heat, localised smoke and ember attack through increased APZ, building design and siting;
- b) provide an appropriate operational environment for emergency service personnel during firefighting and emergency management;
- c) ensure the capacity of existing infrastructure (such as roads and utilities) can accommodate the increase in demand during emergencies as a result of the development;
- d) ensure emergency evacuation procedures and management which provides for the special characteristics and needs of occupants.



Whilst Specific Objectives (a) and (d) are not directly applicable to soil conservation works and road infrastructure, objectives (b) and (c) are relevant. Meeting these objectives is contingent upon compliance with the relevant performance criteria and acceptable solutions for 'Access' detailed in PBP 2019 Tables 6.8b. The proposal must meet these requirements (refer to Table 1 below).

Table 1. Relevant performance criteria and acceptable solutions of PBP 2019 Table 6.8b for SFPP development. (Adapted from PBP 2019)

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	COMPLIANCE of proposed soil conservation and road
The intent may be achieved for access requirements where:		
firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.	<ul style="list-style-type: none"> SFPP access roads are two-wheel drive, all-weather roads 	Complies. The roads are two-wheel drive, all weather roads;
	<ul style="list-style-type: none"> access is provided to all structures 	Complies.
	<ul style="list-style-type: none"> traffic management devices are constructed not to prohibit access by emergency services vehicles 	Must comply.
	<ul style="list-style-type: none"> access roads must provide suitable turning areas in accordance with PBP Appendix 3 	Must comply.
	<ul style="list-style-type: none"> one way public access roads are no less than 3 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression 	N/A. No one way public access roads are proposed.
the capacity of access roads is adequate for firefighting vehicles	<ul style="list-style-type: none"> the capacity of 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 	Must comply. It is assumed that all new roadways are sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes). Any bridges or causeways must clearly indicate load rating.
there is appropriate access to water supply.	<ul style="list-style-type: none"> Hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression 	Must comply.
	<ul style="list-style-type: none"> Hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005 	Must comply.
	<ul style="list-style-type: none"> there is suitable access for a Category 1 fire appliance to within 	Must comply.



PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	COMPLIANCE of proposed soil conservation and road
	4m of the static water supply where no reticulated supply is available.	
Perimeter Roads access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface.	<ul style="list-style-type: none"> are two-way sealed roads; 	Complies.
	<ul style="list-style-type: none"> minimum 8m carriageway width kerb to kerb; 	Complies. The minimum proposed width of the road is eight (8) metres.
	<ul style="list-style-type: none"> parking is provided outside of the carriageway width; 	Must comply.
	<ul style="list-style-type: none"> hydrants are located clear of parking areas; 	Must comply.
	<ul style="list-style-type: none"> are through roads, and these are linked to the internal road system at an interval of no greater than 500m; 	Can comply with access to Albert Street road corridor and Caswell Street on the north site boundary. There is existing emergency access via Caswell Street / Albert Street road corridor not shown on proposal plans.
	<ul style="list-style-type: none"> curves of roads have a minimum inner radius of 6m; 	Must comply.
	<ul style="list-style-type: none"> the maximum grade road is 15 degrees and average grade of not more than 10 degrees; 	Complies. The land on which the road is to be constructed has slope of no more than 5.1 degrees.
	<ul style="list-style-type: none"> the road crossfall does not exceed 3 degrees; 	Must comply. The crossfall is not to exceed 3 degrees.
Non-perimeter Roads access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating.	<ul style="list-style-type: none"> minimum 5.5m carriageway width kerb to kerb; 	Complies. The road proposal will meet the more stringent requirements for perimeter roads (above).
	<ul style="list-style-type: none"> parking is provided outside of the carriageway width; 	
	<ul style="list-style-type: none"> hydrants are located clear of parking areas; 	
	<ul style="list-style-type: none"> roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m; 	
	<ul style="list-style-type: none"> curves of roads have a minimum inner radius of 6m; the road crossfall does not exceed 3 degrees; 	
	<ul style="list-style-type: none"> minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided. 	



In conclusion, the proposed soil conservation works and road can meet the aim and relevant objectives of PBP 2019 Chapter 1 and the specific access performance criteria and acceptable solutions of PBP 2019 Table 6.8b for SFPP developments. Abel Bushfire certifies the proposal plans provided and referenced here are compliant with all relevant performance criteria of PBP 2019, and recommends consent be given for the construction of proposed works assessed here.

Yours faithfully,

A handwritten signature in black ink that reads "Mark Mackinnon". The signature is written in a cursive, flowing style.

Mark Mackinnon

Senior Bushfire Scientist

B. Env. Sci (Hons), Grad. Dip. Bushfire Protection



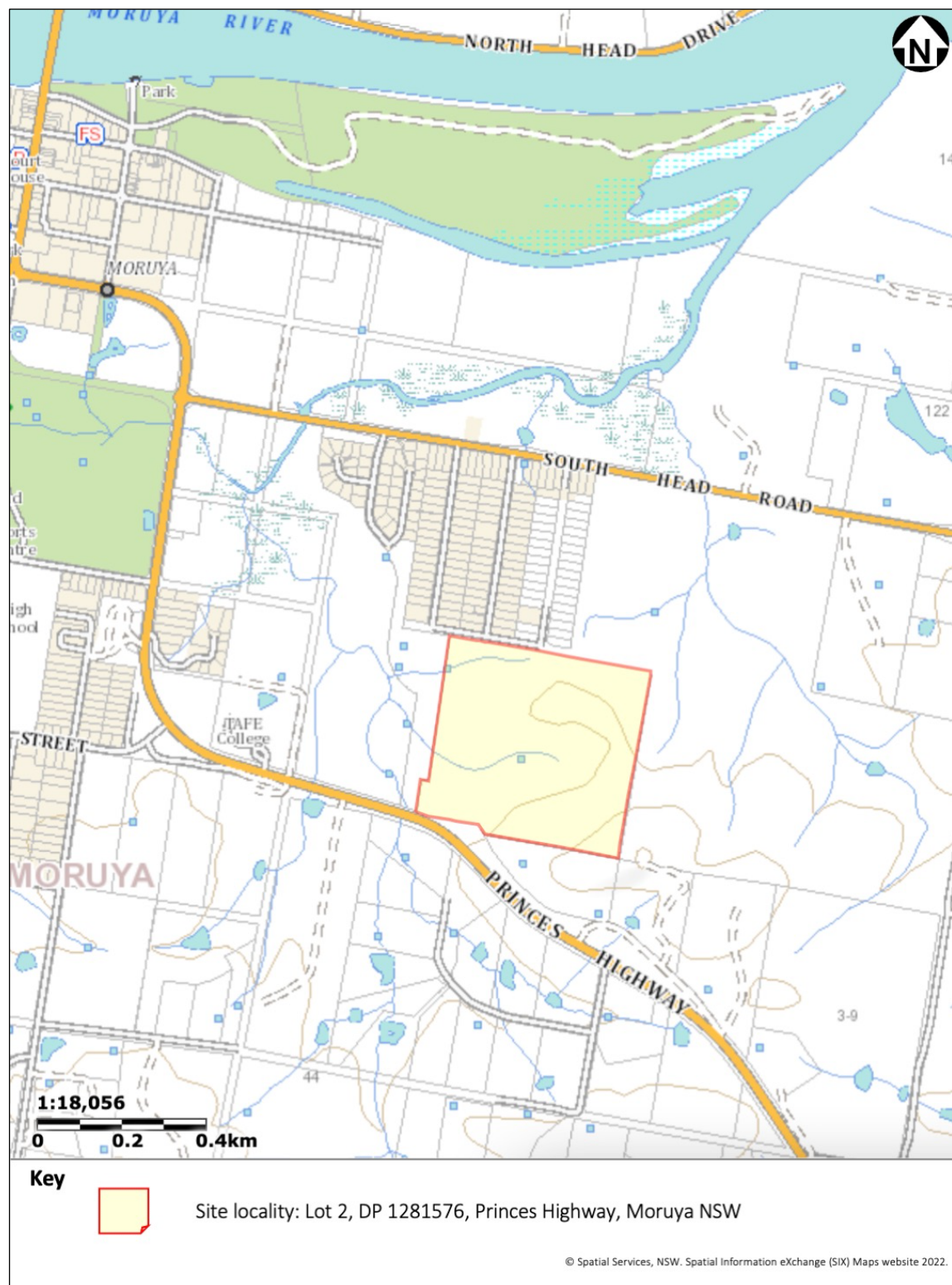


Figure 1. Site locality map.

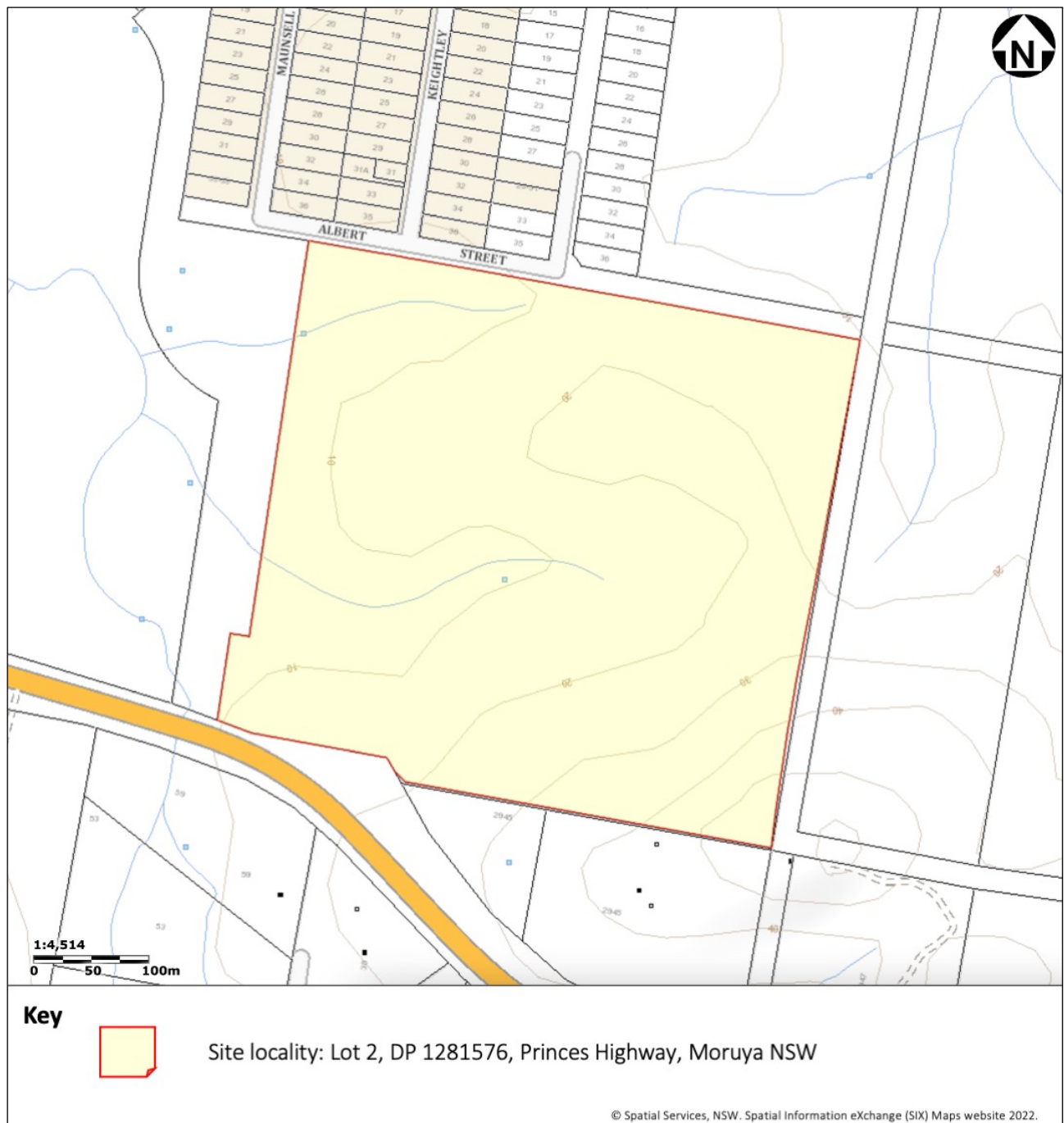


Figure 2. Topographic map for site and affected area.



Figure 3. Aerial view of the subject site and affected area.

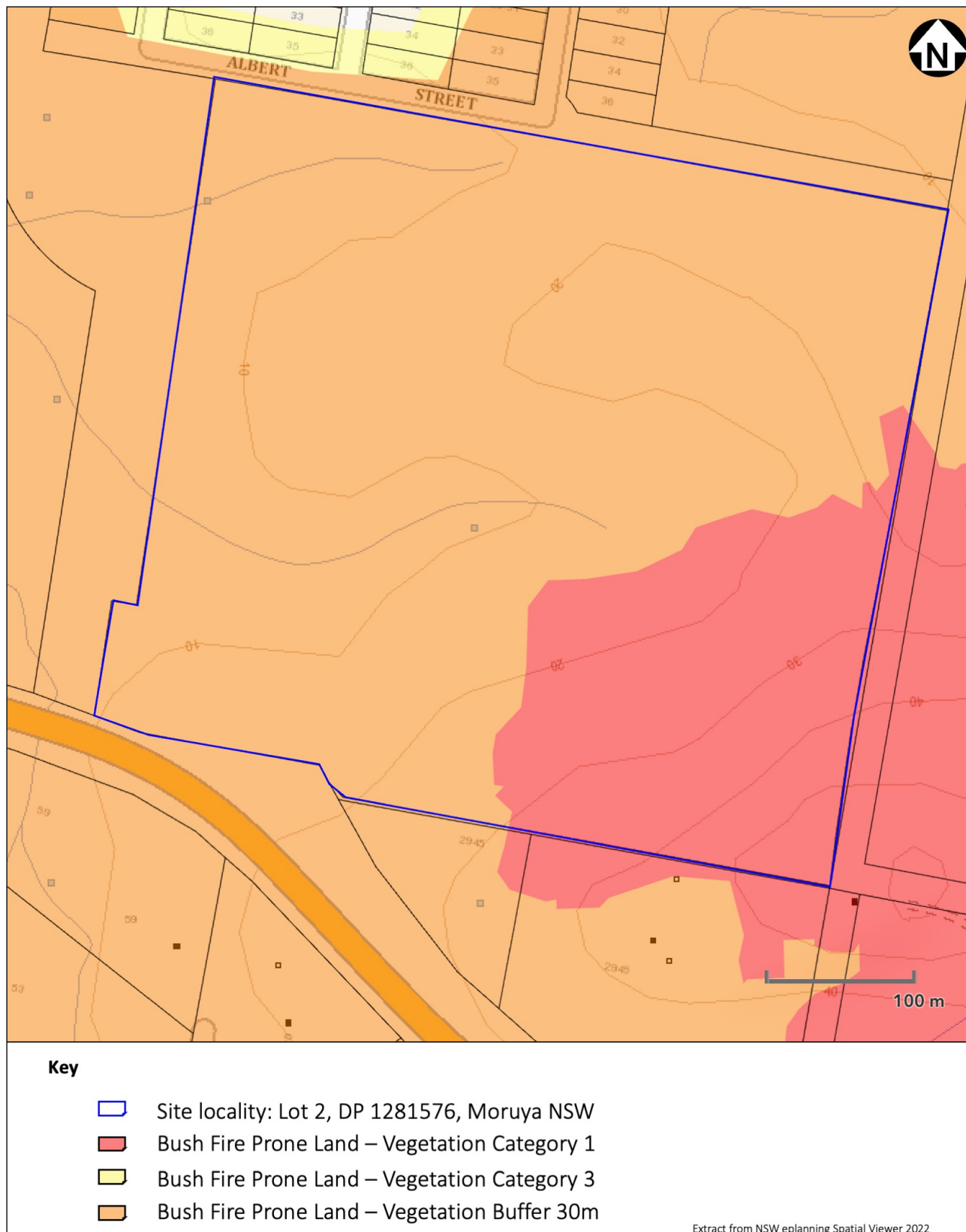


Figure 4. Bushfire Prone Land Map and the site locality.

