



BUSHFIRE THREAT ASSESSMENT

FOR

A PROPOSED POULTRY BROILER FARM

AT

2432 OXLEY HIGHWAY, BECTIVE

NSW 2340

Prepared by:

Firebird ecoSultants Pty Ltd

ABN – 16 105 985 993

PO Box 354

Newcastle NSW 2300

Mob: 0414 465 990

Ph: 02 4910 3939

Fax: 02 4929 2727

Email: sarah@firebirdeco.com.au



Site Details:	2432 Oxley Highway, Bective NSW 2340
Prepared by:	<i>Sarah Jones B.Env.Sc.,G.Dip.DBPA (Design in Bushfire Prone Areas)</i> <i>Firebird ecoSultants Pty Ltd</i> ABN – 16 105 985 993 PO Box 354, Newcastle NSW 2300 M: 0414 465 990 Email: sarah@firebirdeco.com.au T: 02 4910 3939 Fax: 02 4929 2727
Prepared for:	PSA Consulting on behalf of AAM Investment Group
Reference No.	Bective – AAM Investment Group – January 2025
Document Status & Date:	06/01/2025
Author:	Azmina Shafie
First Reviewer:	Liv Page
Second Reviewer:	Sarah Jones

Disclaimer

Notwithstanding the precautions adopted within this report, it should always be remembered that bushfires burn under a wide range of conditions. An element of risk, no matter how small always remains, and although the standard is designed to improve the performance of such buildings, there can be no guarantee, because of the variable nature of bushfires, that any one building will withstand bushfire attack on every occasion.



Executive Summary

A Bushfire Threat Assessment Report (BTA) has been prepared by Firebird ecoSultants Pty Ltd prepared for PSA Consulting on behalf of AAM Investment Group for a proposed poultry broiler farm, ancillary buildings and two caretaker residences at 2432 Oxley Highway, Bective NSW 2340. The report forms part of the supporting documentation for an Environmental Impact Statement (EIS) to be submitted to Tamworth Regional Council (TRC).

This BTA has been undertaken in accordance with the Planning Secretary's Environmental Assessment Requirements (SEARs) Consultation - SEAR-1890 – 2432 Oxley Highway Bective Poultry Farm from the NSW Department of Planning and Environment dated the 20th May 2024 that in line with development occurring on bushfire prone land, must provide an assessment of the risk of bushfire. This includes addressing the requirements of Planning for Bushfire Protection 2019 (NSW, RFS). Any proposed Asset Protection Zones must not adversely affect environmental objectives.

The proposal is classified as Designated Development under the Environmental Planning and Assessment Act (EP&A). Designated Development projects are exempt from requiring a Bush Fire Safety Authority (BFSa) under the EP&A Act s4.14 in accordance with Planning for Bushfire Protection 2019 (NSW RFS, 2019) and the consent authority for this application is Tamworth Regional Council (TRC).

The proposal involving the poultry sheds is classified as "Other Development" in accordance with Planning for Bushfire Protection (PBP) 2019. All development on bushfire prone land should consider and comply with PBP. Intensive livestock agriculture developments have considerable flexibility to meet PBP under the requirements of Chapter 8 - Other Development. This type of development will demonstrate compliance with the aims and objectives of Chapter 1 in PBP 2019 (NSW RFS, 2019).

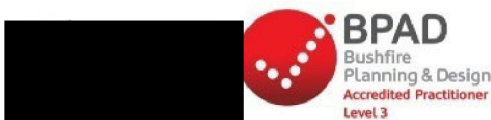
The proposal involving ancillary buildings are classified as "Infill Development" in accordance with PBP 2019 as they are residential developments on bushfire prone land. This type of development will demonstrate compliance with the provisions of Chapter 7 in PBP 2019 (NSW RFS, 2019).

This assessment aims to consider and assess the bushfire hazard and associated potential threats relevant to the proposal. Recommendations are provided with regard to fuel management, access, provision of emergency services, building protection and construction standards to facilitate an acceptable level of bushfire protection.

In summary, the following is recommended to enable the proposal to meet the relevant legislative requirements:

- The proposed poultry broiler farm consisting of 18 poultry sheds must comply with the following objectives of Chapter 1 in Planning for Bushfire Protection 2019:
 - › Afford buildings and their occupants protection from exposure to a

- bushfire;
 - › Provide for a defensible space to be located around buildings - *defensible space areas for each laying shed, services buildings and water tanks are provided at minimum 10m*
 - › Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;
 - › Ensure that appropriate operational access and egress for emergency service personnel and occupants is available – *consider the preparation of a bushfire emergency management and evacuation plan to support the safe operation of the facility;*
 - › Provide for ongoing management and maintenance of BPMs; and
 - › Ensure that utility services are adequate to meet the needs of firefighters
- The proposed caretaker's residences must show compliance with the objectives of Chapter 7 in Planning for Bushfire Protection 2019 including:
 - › The caretaker's residences are to comply with the Bushfire Attack Level (BAL) of **BAL-LOW** and the 50m APZ provisions of this assessment. Its Asset Protection Zone is to be maintained in a low fuel condition (grass height not exceeding 10cm) all year round and in perpetuity.
 - › Direct access/egress to the proposed entrance road from Soldiers Settlement Road.
 - › Static water supply for the facility meets the following recommendations of this assessment:
 - a) 10m defensible space area is provided around each tank;
 - b) Each steel tank is to facilitate fire appliance access by providing an outlet within 4m of the standing position of a Category 1 tanker, which is likely to pull up on the central access road. The outlet is to be fitted with a 65mm metal Storz outlet with gate or ball valve;
 - c) The tanks are to be topped up to full capacity at the start of each regulated fire season and water levels observed throughout each fire season to ensure sufficient firefighting capacity is maintained for the duration of the season;
 - d) Ensure the fire safety provisions of the NCC are implemented and consider the ability for firefighting equipment provided on site to protect the entirety of each building (i.e. hoses are located and can stretch the perimeter around buildings, etc).



Sarah Jones

B.Env.Sc., G.Dip.DBPA (Design for Bushfire Prone Areas)

FPA BPAD-A Certified Practitioner (Certification Number BPD-26512)

Ecologist / Bushfire Planner



Terms & Abbreviations

Abbreviation	Meaning
APZ	Asset Protection Zone
AS2419 -2017	Australian Standard – Fire Hydrant Installations
AS3959-2018	Australian Standard – Construction of Buildings in Bush Fire Prone Areas
BCA	Building Code of Australia
BPA	Bush Fire Prone Area (Also Bushfire Prone Land)
BFPL Map	Bush Fire Prone Land Map
BPMs	Bush Fire Protection Measures
BFSA	Bush Fire Safety Authority
CC	Construction Certificate
<i>EPA Act</i>	<i>NSW Environmental Planning and Assessment Act 1979</i>
FFDI	Forest Fire Danger Index
FMP	Fuel Management Plan
ha	hectare
IPA	Inner Protection Area
LGA	Local Government Area
PBP	Planning for Bushfire Protection 2019
PoM	Plan of Management
OPA	Outer Protection Area
RF Act	Rural Fires Act 1997
RF Regulation	Rural Fires Regulation
TRC	Tamworth Regional Council



CONTENTS

1	INTRODUCTION	7
1.1	Site Particulars	7
1.2	Description of the Proposal	9
1.3	Bushfire Prone Land	11
2	ASSESSMENT METHODOLOGY	12
2.1	Vegetation Assessment	12
2.2	Slope Assessment	12
2.3	Fire Weather	12
3	SITE ASSESSMENT	13
3.1	Vegetation & Slope Assessment	13
4	BUSHFIRE PROTECTION ASSESSMENT	15
4.1	Asset Protection Zones (APZ)	15
5	ACCESS	18
6	EMERGENCY AND EVACUATION	19
7	WATER SUPPLY AND UTILITIES	20
8	COMPLIANCE WITH AIMS AND OBJECTIVES OF CHAPTER 1 OF PBP	21
9	COMPLIANCE WITH CHAPTER 7 OF PBP 2019	23
10	CONCLUSION & RECOMMENDATIONS	28
11	BIBLIOGRAPHY	30
APPENDIX A	PROPOSED SITE PLANS	A-1
APPENDIX B	ASSET PROTECTION ZONES	B-1

TABLES

Table 3-1: Vegetation Classification	13
Table 3-2: Vegetation Classification	13
Table 4-1: APZs for Proposed Poultry Sheds	15
Table 4-2: APZs for the Proposed Manager's Residences	16
Table 8-1: Proposed Poultry Broiler Farm Sheds Compliance with Chapter 1 of PBP 2019	21
Table 9-1: Proposed Dwelling Compliance with Development Standards	23

FIGURES

Figure 1-1: Site Location	8
Figure 1-2: Proposal Location	10
Figure 1-3: Bushfire Prone Land Map	11



Figure 3-1: Vegetation Map

14

Figure 4-1: APZ map

17



I INTRODUCTION

A Bushfire Threat Assessment Report (BTA) has been prepared by Firebird ecoSultants Pty Ltd at the request of PSA Consulting on behalf of AAM Investment Group for a proposed poultry broiler farm, ancillary buildings and two caretaker's residences at 2432 Oxley Highway, Bective NSW 2340, hereafter referred to as the "site" (refer to Figure 1-1 for site locality). Refer to Appendix A for Proposed Site Plans.

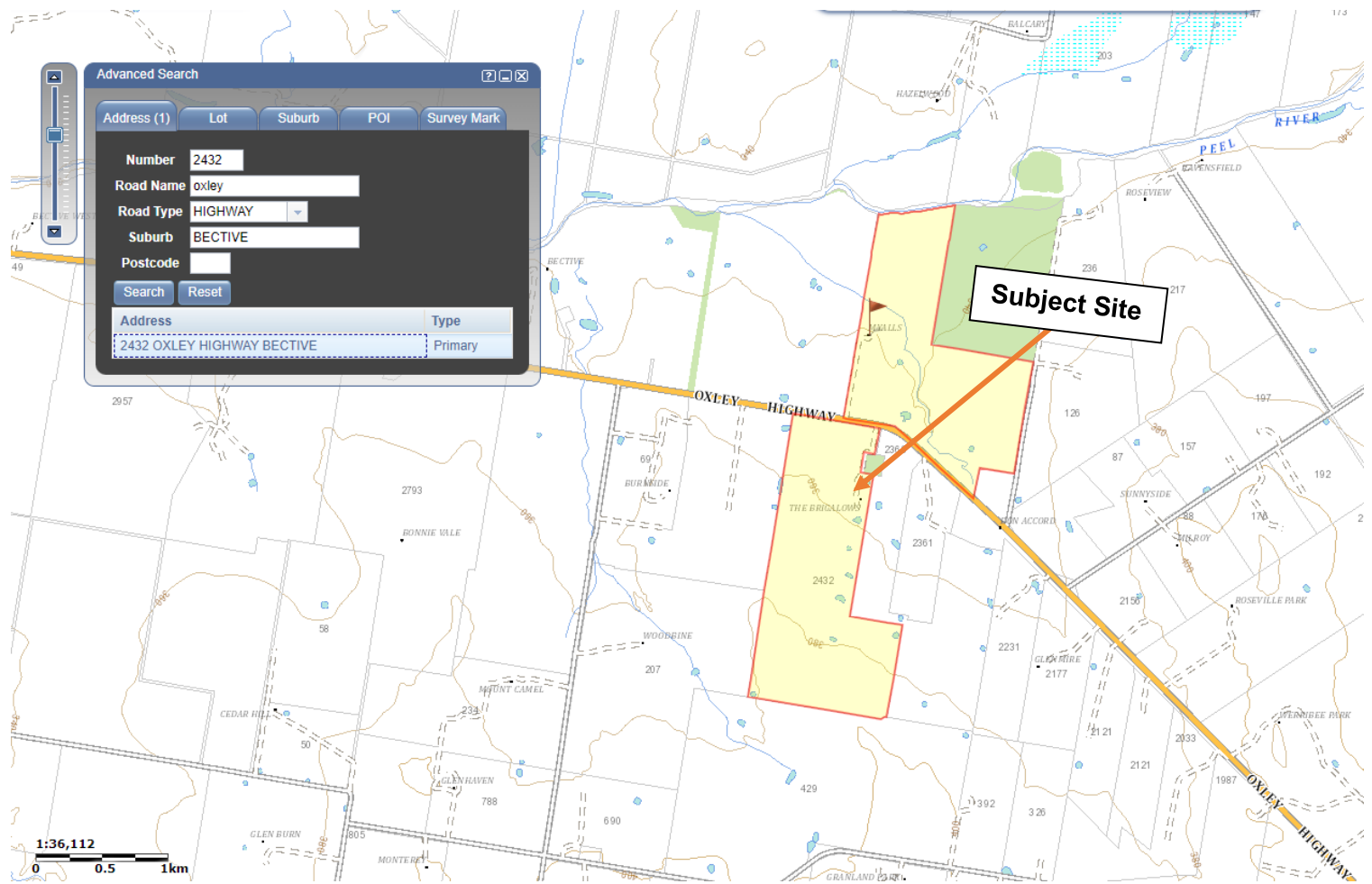
This BTA is suitable for submission as part of an Environmental Impact Statement (EIS) and provides information on measures that will enable the development to comply with 'Planning for Bushfire Protection' (NSW RFS, 2019), hereafter referred to as PBP (RFS, 2019).

This assessment aims to consider and assess the bushfire hazard and associated potential threats relevant to such a proposal, and to outline the minimum mitigative measures which would be required in accordance with the provisions of the Environmental Planning and Assessment Amendment (Planning for Bushfire Protection) Regulation 2007 and the Rural Fires Amendment Regulation 2007 (RF Amendment Regulation 2007).

I.1 Site Particulars

Locality:	2432 Oxley Highway, Bective NSW 2340
LGA:	Tamworth Regional Council
Current Land Use:	RU1: Primary Production – Surrounding rural properties, agricultural activities and intensive livestock production
Forest Danger Index:	80 FFDI

Figure 1-1: Site Location



I.2 Description of the Proposal


AAM Investment Group are seeking development consent under *Part 4 of the Environmental Planning and Assessment Act 1979* to develop a new poultry broiler farm at 2432 Oxley Highway, Bective NSW 2340 (Figure 1-1). AAM is a large-scale, wholly Australian owned operator and provider of strategic investment, asset management and operational management services to Australia's agricultural industry. AAM will function as a contract farmer with Baiada Pty Ltd to supply meat chickens to the Oakburn Processing Facility in Tamworth (PSA Consulting SEARs Request).

The proposal involves the establishment of 18 x poultry sheds with each shed to accommodate maximum 68,675 birds and a total maximum handling capacity of 1,236,150 birds as well as supporting infrastructure including staff amenities and two caretaker's residences. (Refer to Figure 1-2).

Access servicing the farm is proposed from Soldiers Settlement Road to the South with an entrance road extending 1.6km to the position of the poultry farm. This entrance road will also service access to the proposed location of residential dwellings approx. 1.3km from Soldiers Settlement Road.

The proposed development is for the establishment of poultry farm sheds, ancillary buildings and two caretaker's residences wholly classified as Designated Development in accordance with Planning Secretary's Environmental Assessment Requirements (SEARs) in which an EIS must include an assessment of all potential impacts and develop appropriate measures to avoid, minimise, mitigate and/or manage these potential impacts. A Bushfire Assessment has been requested as part of the SEARs addressing the provisions of Planning for Bushfire Protection 2019 (RFS, 2019).

Legend

 Subject Site

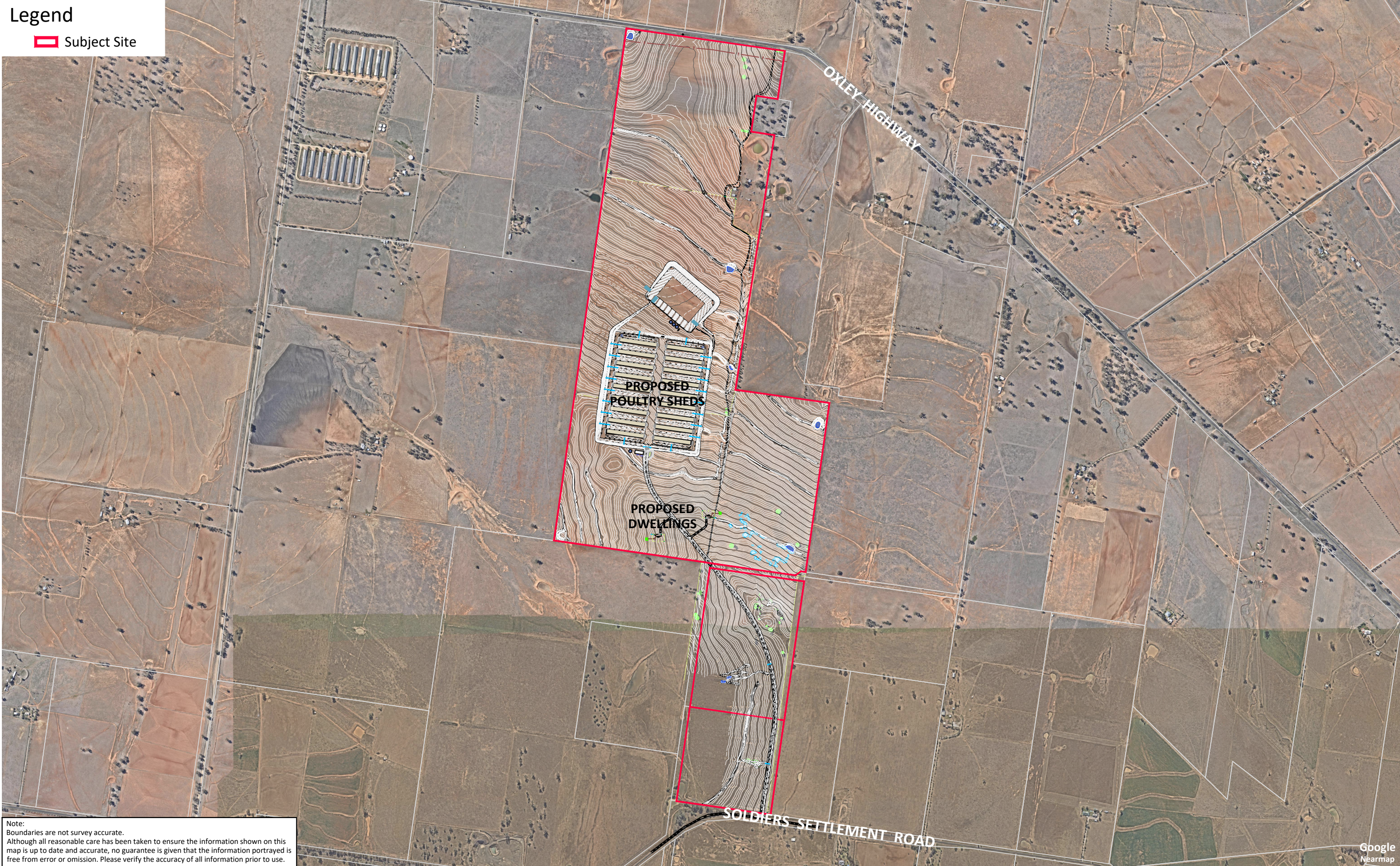
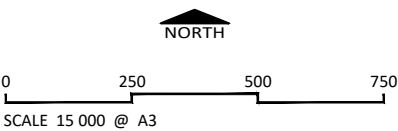


FIGURE 1-2: LOCALITY MAP

CLIENT
SITE DETAILS
DATE

Client
No.2432 Oxley Highway Bective
6 January 2025



Firebird ecoSultants Pty Ltd
ABN - 16 105 985 993
Level 1, 146 Hunter Street, Newcastle NSW 2300
P O Box 354 Newcastle NSW 2300



DISCLAIMER
This document and the information shown shall remain the property of Firebird ecoSultants Pty Ltd. The document may only be used for the purpose for which it was supplied and in accordance with the terms of engagement for the commission. Unauthorised use of this document in any way is prohibited

1.3 Bushfire Prone Land

The Site has been mapped as Bush Fire Prone Land Map (BFPLM) by TRC. Bushfire prone land maps provide a trigger for the development assessment provisions and consideration of sites that are bushfire prone.

Figure 1-3: Bushfire Prone Land Map





2 ASSESSMENT METHODOLOGY

The Bushfire Assessment Report is based on a desktop assessment of the site utilising the following resources:

- Planning for Bushfire Protection (NSW RFS, 2019);
- Aerial mapping
- Detailed GIS analysis

The methodology used in this assessment is in accordance with PBP and is outlined in the following sections.

2.1 Vegetation Assessment

Vegetation surveys and vegetation mapping carried out on the site has been undertaken as follows:

- Aerial Photograph Interpretation to map vegetation cover and extent
- Confirmation of the vegetation assemblage typology present.

2.2 Slope Assessment

Slope assessment has been undertaken as follows:

- Aerial Photograph Interpretation in conjunction with analysis of electronic contour maps with a contour interval of 2m.

2.3 Fire Weather

The fire weather is dictated by PBP and assumes a credible worst-case scenario and an absence of any other mitigating factors relating to aspect or prevailing winds. The LGA has a Fire Danger Index (FDI) of 80 as per PBP.



3 SITE ASSESSMENT

The following assessment has been undertaken in accordance with the requirements of PBP (RFS, 2019).

3.1 Vegetation & Slope Assessment

In accordance with PBP (RFS 2019), an assessment of the vegetation over a distance of 140m in all directions from the site was undertaken. Vegetation that may be considered a bushfire hazard was identified in all directions from the site. This assessment is depicted in Table 3-1 below.

In accordance with PBP (RFS 2019), an assessment of the slope underneath the vegetation considered a bushfire hazard was undertaken and the results are presented in Table 3-1 below.

Table 3-1: Vegetation Classification

Proposed Poultry Broiler Farm, Ancillary Buildings		
Direction	Vegetation Type	Slope
North	Grassland vegetation	Flat ground
East	Grassland vegetation	Flat ground
South	Grassland vegetation	Flat ground
West	Grassland vegetation	Flat ground

Table 3-2: Vegetation Classification

Proposed Caretaker's Residences		
Direction	Vegetation Type	Slope
North	Grassland vegetation	Flat ground
East	Grassland vegetation	Flat ground
South	Grassland vegetation	Flat ground
West	Grassland vegetation	Flat ground

Legend

- Subject Site
- 140m Buffer
- Grassland

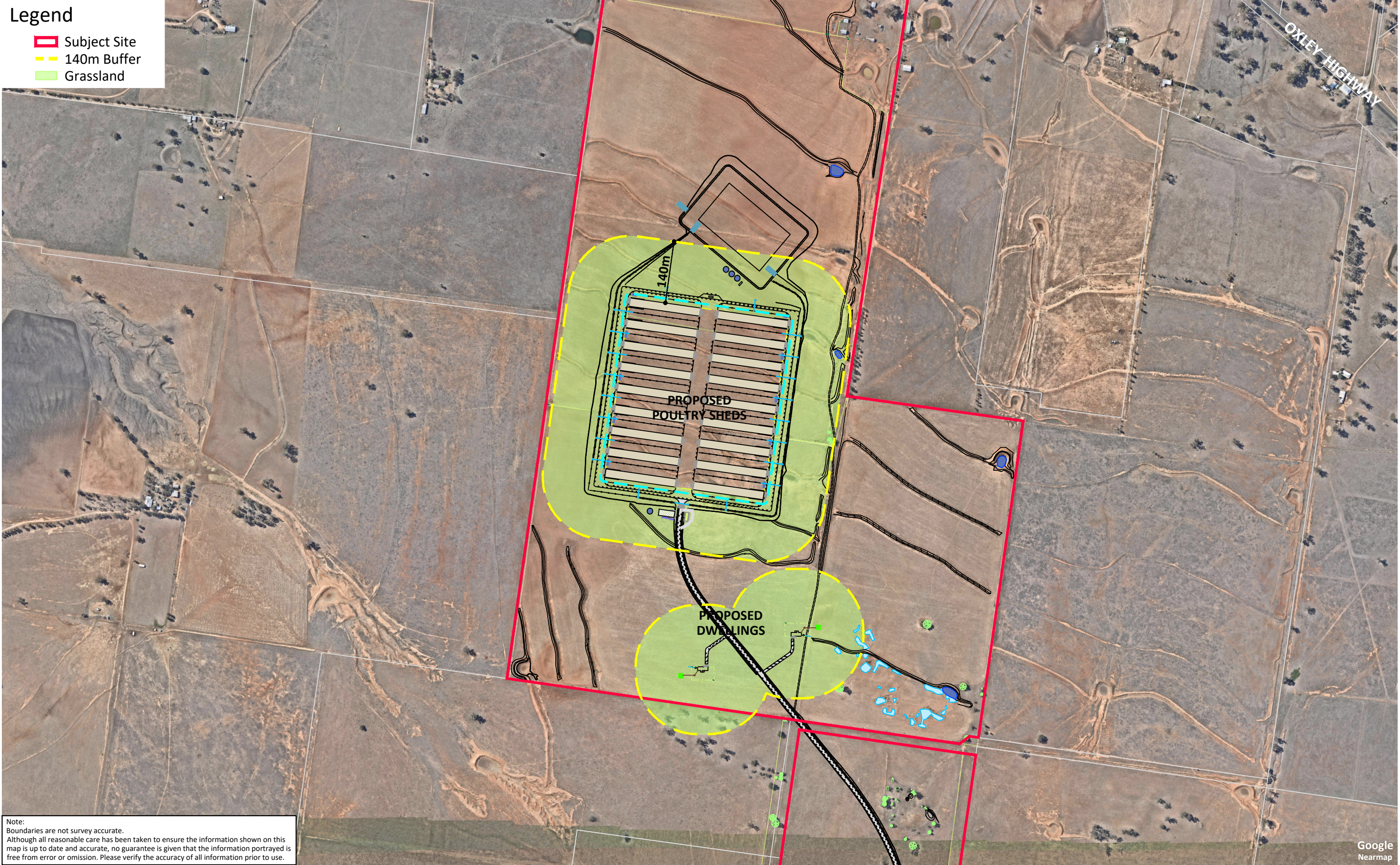
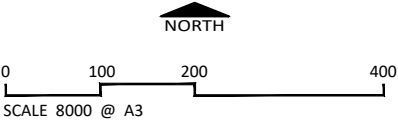


FIGURE 3-1: VEGETATION MAP

CLIENT
SITE DETAILS
DATE

Client
No.2432 Oxley Highway Bective
6 January 2025



Firebird ecoSultants Pty Ltd
ABN - 16 105 985 993
Level 1, 146 Hunter Street, Newcastle NSW 2300
P O Box 354 Newcastle NSW 2300



DISCLAIMER
This document and the information shown shall remain the property of Firebird ecoSultants Pty Ltd. The document may only be used for the purpose for which it was supplied and in accordance with the terms of engagement for the commission. Unauthorised use of this document in any way is prohibited



4 BUSHFIRE PROTECTION ASSESSMENT

4.1 Asset Protection Zones (APZ)

The PBP (RFS, 2019) guidelines have been used to determine the widths of the APZs required for habitable buildings within the site using the vegetation and slope data identified in Section 3-1 of this report.

The objective of Chapter 1 in regard to APZs details to provide for a defensible space to be located around buildings and provide appropriate separation between a hazard and buildings, which in combination with other measures, prevent the likely fire spread to buildings. The proposed poultry sheds will comply with the assessment shown in Table 4-1.

The acceptable solution in Chapter 7 in regards to APZs for residential infill development intends for an APZ to be provided in accordance with Table A1.12.6 in Appendix 1 of PBP 2019. The proposed caretaker's residences will comply with the assessment shown in Table 4-1.

Table 4-1: APZs for Proposed Poultry Sheds

Direction from Development	Vegetation classified within 140m	Effective Slope (within 100m)	APZ to be provided ¹
North	Grassland vegetation	Flat	Separation distance of 10m
East	Grassland vegetation	Flat	Separation distance of 10m
South	Grassland vegetation	Flat	Separation distance of 10m
West	Grassland vegetation	Flat	Separation distance of 10m

¹ For 'Other Development' PBP 2019 does not prescribe a minimum APZ dimension. Rather, it notes the general fire safety requirements of the NCC are accepted as adequate for the purposes of bushfire protection, though measures over and above may be provided. Notwithstanding the above, PBP 2019 requires the consideration of a managed hazard-separation area for firefighting purposes referred to as 'defendable space', as per the aim and objectives of PBP 2019 set out at Section 1.1. Defendable space is an area between buildings and the hazard source which is capable of providing a relatively safe environment in which firefighters can undertake operations to defend an asset or structure. The defendable space dimension is defined by the ability to gain access around an asset, building or structure and conduct defensive firefighting operations.

Table 4-2: APZs for the Proposed Manager's Residences

Direction from Development	Vegetation classified within 140m	Effective Slope (within 100m)	APZ to be provided
North	Grassland vegetation	Flat	Separation distance of 50m
East	Grassland vegetation	Flat	Separation distance of 50m
South	Grassland vegetation	Flat	Separation distance of 50m
West	Grassland vegetation	Flat	Separation distance of 50m

Legend

- Subject Site
- 50m APZ
- 10m APZ

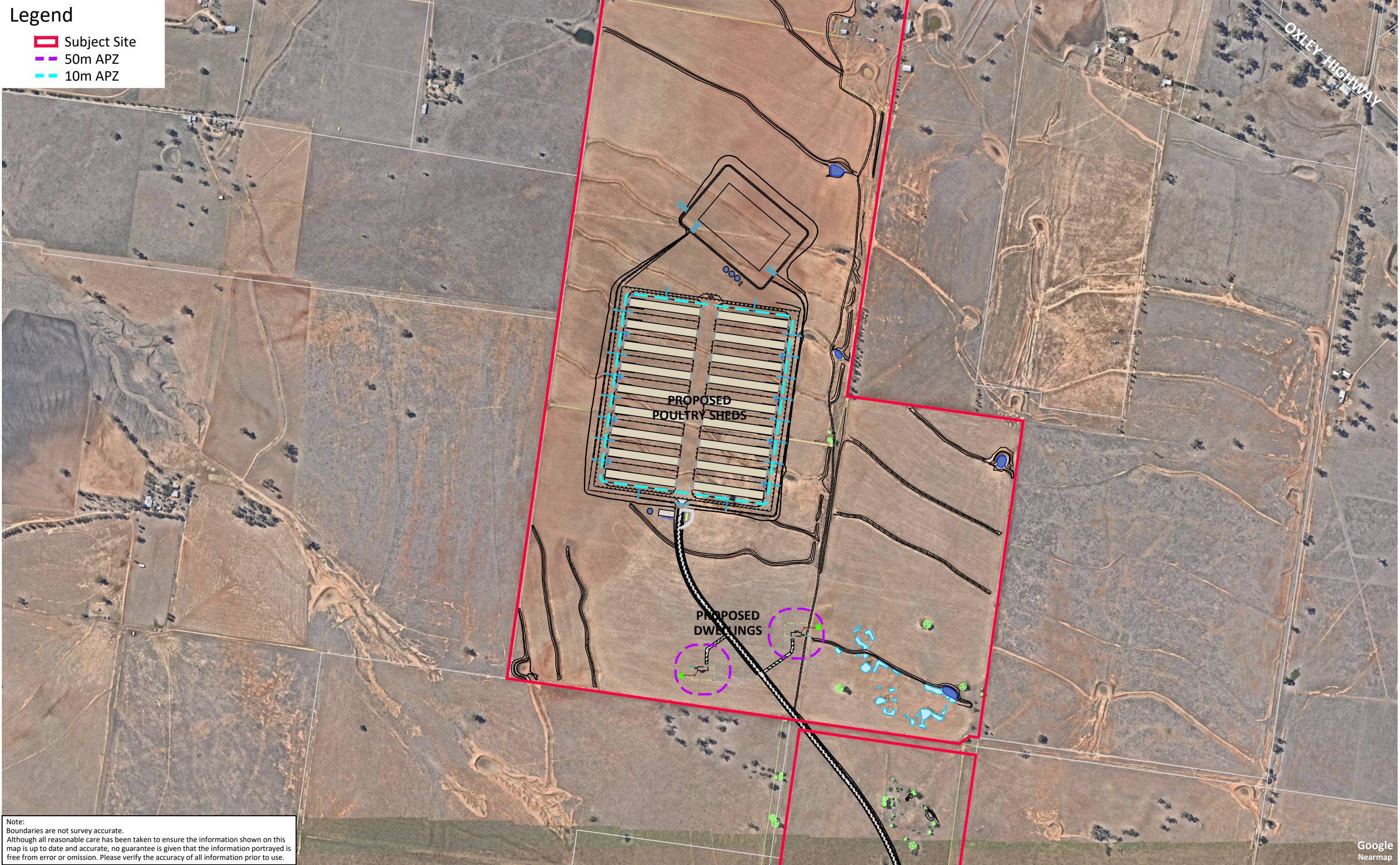
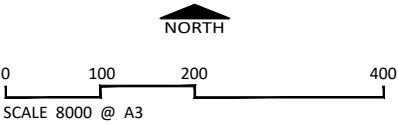


FIGURE 4-1: ASSET PROTECTION ZONES

CLIENT
SITE DETAILS
DATE

Client
No.2432 Oxley Highway Bective
6 January 2025



Firebird ecoSultants Pty Ltd
ABN - 16 105 985 993
Level 1, 146 Hunter Street, Newcastle NSW 2300
P O Box 354 Newcastle NSW 2300



DISCLAIMER
This document and the information shown shall remain the property of Firebird ecoSultants Pty Ltd. The document may only be used for the purpose for which it was supplied and in accordance with the terms of engagement for the commission. Unauthorised use of this document in any way is prohibited

5 ACCESS

Access to the site is proposed via an entrance road from Soldiers Settlement Road to the South. This entrance road extends at a distance of approx. 1.6km to the location of the poultry sheds. The entrance road will service access to the poultry sheds and residential dwellings and will comply with the following in accordance with Table 7.4a in PBP 2019 for property access:

- › Property access roads are two-wheel drive, all weather roads
- › The capacity of road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes), bridges and causeways are to clearly locate load rating
- › There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available
- › at least one alternative property access road is provided for individual dwellings or groups of dwellings that are located more than 200 metres from a public through road

In circumstances where this cannot occur, the following requirements apply:

- › minimum 4m carriageway width;
- › in forest, woodland and heath situations, rural property roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m, at the passing bay;
- › a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches;
- › property access must provide a suitable turning area in accordance with Appendix 3;
- › curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;
- › the minimum distance between inner and outer curves is 6m;
- › the crossfall is not more than 10 degrees;
- › maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and
- › a development comprising more than three dwellings has formalised access by dedication of a road and not by right of way.

Given that the proposed property access road complies with the above, it will ensure that appropriate operational access and egress is available for emergency services and occupants internally and to access the public road system.



6 EMERGENCY AND EVACUATION

PBP 2019 identifies at Section 8.3 the requirement for suitable emergency and evacuation arrangements. The proposed poultry farm operation will employ a workforce of 2 on-site managers and 4 full time equivalent (FTE) workers as well as contract staff, a moderate number of people intended to be onsite and responsible for the management of up to 1,236,150 birds.

The first element of consideration in relation to emergency and evacuation arrangements is the road network which is considered above, and exceeds the minimum design requirements set out by PBP 2019. The internal road network not only doubles as defensible space for firefighting operations and limits the distance to which grass fire might occur adjacent to the buildings, it also provides a direct linkage to the public road.

In the event of emergency, evacuation of employees from the site may be required in which case, the internal and external road network are capable of facilitating such activities provided departure is decided in sufficient time to enable safe evacuation.

It is not envisaged that the birds occupying the site are reasonably able to be evacuated. However, from a humane perspective the combined bush fire protection measures of defensible space and building construction are intended to offer protection in the event of grass fire. In the event of fire, it is also likely that water supply available on site would be deployed for firefighting purposes and to protect the structural assets which inherently seeks to protect the occupants as well as the birds.

7 WATER SUPPLY AND UTILITIES

As the poultry broiler sheds are classified Other Development, the proposal in this regard must meet the objectives of Chapter 1 in PBP 2019 which is to ensure that utility services are adequate to meet the needs of firefighters. The proposal includes tanks that will be able to supply water to the area involving the sheds and staff amenities.

The proposed manager's residences are classified Infill Development and must meet the specific objectives of Chapter 7 in PBP 2019. In regard to water supply, where no reticulated water supply is available, a 20,000L static water supply for firefighting purposes is provided for each habitable building that must comply with the following:

- › a connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Storz outlet with a ball valve is fitted to the outlet;
- › ball valve and pipes are adequate for water flow and are metal;
- › supply pipes from tank to ball valve have the same bore size to ensure flow volume;
- › underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank;
- › a hardened ground surface for truck access is supplied within 4m;
- › above-ground tanks are manufactured from concrete or metal;
- › raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959);
- › unobstructed access can be provided at all times;
- › underground tanks are clearly marked;
- › tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters;
- › all exposed water pipes external to the building are metal, including any fittings;
- › where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel-powered pump, and are shielded against bush fire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter; and
- › fire hose reels are constructed in accordance with AS/NZS 1221:1997, and installed in accordance with the relevant clauses of AS 2441:2005.

8 COMPLIANCE WITH AIMS AND OBJECTIVES OF CHAPTER 1 OF PBP

The proposal includes 18 x sheds for a poultry broiler farm captured as Other Development in PBP 2019. The aim of PBP 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 objectives 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, minimises material ignition
4. ensure that appropriate operational access and egress for emergency service personnel and residents is available
5. provide for ongoing management and maintenance of BPMs
6. ensure that utility services are adequate to meet the needs of firefighters. Table 7-1 details the proposed poultry broiler farm shed compliance with Chapter 1 of PBP 2019.

Table 8-1: Proposed Poultry Broiler Farm Sheds Compliance with Chapter 1 of PBP 2019

Aim	Meets Criteria	Comment
The aim of PBP is to provide for the protection of human life and minimise impacts on property from the threat of bushfire, while having due regard to development potential, site characteristics and protection of the environment.	Yes	The proposal's landscaping, defendable space, access and egress, emergency risk management are in accordance with PBP and aims have been achieved.
Objectives	Meets Criteria	Comment
Afford occupants of any building adequate protection from exposure to bushfire.	Yes	The poultry sheds have been provided an APZ of 10m from all elevations in accordance with Appendix 1 of PBP 2019. Water supplies are available that can be used in firefighting operations within the site should there be any bushfire /fire.
Provide for defendable space to be located around buildings.	Yes	Defendable space is provided on all sides of the poultry sheds.

Aim	Meets Criteria	Comment
Provide appropriate separation between a hazard and buildings, which, in combination with other measures, prevent direct flame contact and material ignition.	Yes	APZs have been provided in accordance with Table A1.12.6 in Appendix 1 of PBP 2019 for proposed poultry sheds.
Ensure that safe operational access and egress for emergency service personnel and occupants is available	Yes	The site proposes a property access road which has direct access to the public road, and access and egress for emergency vehicles and evacuation is adequate.
Provide for ongoing management and maintenance of bushfire protection measures, including fuel loads, in the asset protection zone.	Yes	The fuel loads in the site will be managed.
Ensure that utility services are adequate to meet the needs of firefighters (and others assisting in bushfire fighting).	Yes	Water supply to the poultry farm sheds is proposed via tanks alongside the staff amenities. Any residential buildings will require 20,000L static water supply to be dedicated to firefighting purposes that follow the requirements outlined in Chapter 7 of this report.



9 COMPLIANCE WITH CHAPTER 7 OF PBP 2019

The proposal includes manager's residences and therefore development standards apply. Table 6-1 details the proposed dwelling compliance with Development Standards for Infill development.

Table 9-1: Proposed Dwelling Compliance with Development Standards

Acceptable Solutions	Performance Criteria	Compliance
ASSET PROTECTION ZONES		
> an APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1.	> APZs are provided commensurate with the construction of the building; and > A defensible space is provided.	Complies with Acceptable Solution – APZs of 50m on all elevations are provided for each residential dwelling in accordance with Table A1.12.6 in Appendix 1 of PBP 2019.
> APZs are managed in accordance with the requirements of Appendix 4 of PBP.	> APZs are managed and maintained to prevent the spread of a fire to the building.	Complies with Acceptable Solution – the APZs are to be managed to the requirements of PBP Appendix 4 (summarised in Appendix B here)
> APZs are wholly within the boundaries of the development site. > APZ are located on lands with a slope less than 18 degrees.	> the APZ is provided in perpetuity. > APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	Complies with Acceptable Solution – APZs are on site and do not occur on steep land.
> property access roads are two-wheel drive, all- weather roads.	> firefighting vehicles are provided with safe, all- weather access to structures and hazard vegetation.	Complies with Acceptable Solution – the manager's residences will have direct access to the proposed property access road.



<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 and causeways are to clearly indicate load rating. 	<ul style="list-style-type: none"> › the capacity of access roads is adequate for firefighting vehicles. 	Complies with Acceptable Solution – Road access is adequate for emergency vehicles.
<ul style="list-style-type: none"> › hydrants are provided in accordance with the relevant clauses of AS 2419.1:2017; › There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available. 	<ul style="list-style-type: none"> › there is appropriate access to water supply. 	Complies with Acceptable Solution – If water reticulation is not available, a 20,000L static water supply will be required for each dwelling.
<ul style="list-style-type: none"> › at least one alternative property access road is provided for individual dwellings or groups of dwellings that are located more than 200 metres from a public through road; › There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency firefighting vehicles. 	<ul style="list-style-type: none"> › firefighting vehicles can access the dwelling and exit the property safely. 	Complies with Performance Criteria – the proposed residential dwellings will have safe access to and from the proposed property access road that will be sufficient for firefighting vehicles.
WATER SUPPLIES		
<ul style="list-style-type: none"> › reticulated water is to be provided to the development, where available; and › a static water supply is provided where no reticulated water is available. 	<ul style="list-style-type: none"> › an adequate water supply is provided for firefighting purposes. 	Complies with Acceptable Solution – static water supply provided.



<ul style="list-style-type: none"> › fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2017; › hydrants are not located within any road carriageway; and › reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads. 	<ul style="list-style-type: none"> › water supplies are located at regular intervals; and › the water supply is accessible and reliable for firefighting operations. 	Complies with Acceptable Solution – hydrants are not existing. The manager's residences will require static water supply for firefighting purposes.
<ul style="list-style-type: none"> › fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2017. 	<ul style="list-style-type: none"> › flows and pressure are appropriate. 	Complies with Acceptable Solution – Flow and pressure of any water tanks assumed compliant
<ul style="list-style-type: none"> › all above-ground water service pipes external to the building are metal, including and up to any taps 	<ul style="list-style-type: none"> › the integrity of the water supply is maintained. 	Complies with Acceptable Solution – All above ground pipes will meet the specifications of the acceptable solution
<ul style="list-style-type: none"> › where no reticulated water supply is available, water for firefighting purposes is provided in accordance with Table 5.3d 	<ul style="list-style-type: none"> › a static water supply is provided for firefighting purposes in areas where reticulated water is not available. 	Complies with Acceptable Solution – static water supply provided.



ELECTRICITY SERVICES		
<ul style="list-style-type: none"> › where practicable, electrical transmission lines are underground; and › where overhead, electrical transmission lines are proposed as follows: <ul style="list-style-type: none"> ○ lines are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas; and ○ no part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines. 	<ul style="list-style-type: none"> › location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings. 	<p>Complies with Acceptable Solution – Electrical services to the site will meet the requirements of the acceptable solution.</p>
GAS SERVICES		
<ul style="list-style-type: none"> › 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; › 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. 	<ul style="list-style-type: none"> › location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings. 	<p>Complies with Acceptable Solution – Gas services to the site will meet the requirements of the acceptable solution</p>



CONSTRUCTION STANDARDS

<ul style="list-style-type: none"> › BAL is determined in accordance with Tables A1.12.5 to A1.12.7; and › construction provided in accordance with the TRC and as modified by section 7.5 (please see advice on construction in the flame zone). 	<ul style="list-style-type: none"> › the proposed building can withstand bush fire attack in the form of embers, radiant heat and flame contact. 	Complies with Acceptable Solution – the proposed manager's residences will be able to achieve BAL-LOW
<ul style="list-style-type: none"> › fencing and gates are constructed in accordance with section 7.6. 	<ul style="list-style-type: none"> › proposed fences and gates are designed to minimise the spread of bush fire. 	Can Comply – Fencing on site will meet the requirements of the acceptable solution
<ul style="list-style-type: none"> › Class 10a buildings are constructed in accordance with section 8.3.2. 	<ul style="list-style-type: none"> › proposed Class 10a buildings are designed to minimise the spread of bush fire. 	N/A – the proposal is not classed as 10a.

LANDSCAPING

<ul style="list-style-type: none"> › compliance with the NSW RFS 'Asset protection zone standards' (see Appendix 4); › a clear area of low-cut lawn or pavement is maintained adjacent to the house; › fencing is constructed in accordance with section 7.6; and › trees and shrubs are located so that: <ul style="list-style-type: none"> ○ the branches will not overhang the roof; ○ the tree canopy is not continuous; and ○ any proposed windbreak is located on the elevation from which fires are likely to approach. 	<ul style="list-style-type: none"> › landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions. 	Complies with Acceptable Solution – the provided APZs are to be managed to the requirements of PBP Appendix 4 (summarised in Appendix B here)
--	---	--

10 CONCLUSION & RECOMMENDATIONS

In summary, a Bushfire Risk Assessment has been undertaken for a poultry broiler farm, ancillary buildings and two caretaker's residences at 2432 Oxley Highway, Bective. The report forms part of the supporting documentation for an Environmental Impact Statement (EIS) to be submitted to Tamworth Regional Council (TRC).

The following is recommended to enable the proposal to meet the relevant legislative requirements for the proposed development:

- The proposed poultry broiler farm consisting of 18 sheds must comply with the following objectives of Chapter 1 in Planning for Bushfire Protection 2019:
 - › Afford buildings and their occupants protection from exposure to a bushfire;
 - › Provide for a defensible space to be located around buildings - *defensible space areas for each laying shed, services buildings and water tanks are provided at minimum 10m*
 - › Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;
 - › Ensure that appropriate operational access and egress for emergency service personnel and occupants is available – consider the preparation of a bushfire emergency management and evacuation plan to support the safe operation of the facility;
 - › Provide for ongoing management and maintenance of BPMs; and
 - › Ensure that utility services are adequate to meet the needs of firefighters
- The proposed caretaker's residences must show compliance with the objectives of Chapter 7 in Planning for Bushfire Protection 2019 including:
 - › The farm manager's residences are to comply with the Bushfire Attack Level (BAL) of **BAL-LOW** and the 50m APZ provisions of this assessment. Its Asset Protection Zone is to be maintained in a low fuel condition (grass height not exceeding 10cm) all year round and in perpetuity.
 - › Direct access/egress to the proposed entrance road from Soldiers Settlement Road.
 - › Static water supply for the facility meets the following recommendations of this assessment:
 - a) 10m defensible space area is provided around each tank;
 - b) Each steel tank is to facilitate fire appliance access by providing an outlet within 4m of the standing position of a Category 1 tanker, which is likely to pull up on the central access road. The outlet is to be fitted with a 65mm metal Storz outlet with gate or ball valve;



- c) The tanks are to be topped up to full capacity at the start of each regulated fire season and water levels observed throughout each fire season to ensure sufficient firefighting capacity is maintained for the duration of the season;
- d) Ensure the fire safety provisions of the NCC are implemented and consider the ability for firefighting equipment provided on site to protect the entirety of each building (i.e. hoses are located and can stretch the perimeter around buildings, etc).

If the recommendations contained within this report are duly considered and incorporated, it is considered that the fire hazard present is containable to a level necessary to provide an adequate level of protection to life and property on the proposal for poultry broiler farm sheds, ancillary buildings and two caretaker's residences.



II BIBLIOGRAPHY

Department of Bush Fire Services (undated). *Bush Fire Readiness Checklist*.

NSWFB (1988). *Hazard Reduction for the Protection of Buildings in Bushland Areas*. New South Wales Fire Brigades.

NSW Rural Fire Service (1997). *Bush Fire Protection for New and Existing Rural Properties*. September 1997, NSW Government.

NSW Rural Fire Service (2006). *Planning for Bushfire Protection – A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners*.

NSW Rural Fire Service (2019). *Planning for Bushfire Protection – A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners*.

NSW Rural Fire Service (2005). Standards for Asset Protection Zones. NSW Rural Fire Service.

NSW Rural Fire Service (2002). *Circular 16/2002: Amendments to the Rural Fires Act 1997 – hazard reduction and planning requirements*.

Planning NSW & NSW Rural Fire Service (2001). *Planning for Bushfire Protection – A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners*.

Ramsay, GC and Dawkins, D (1993). *Building in Bushfire-prone Areas – Information and Advice*. CSIRO and Standards Australia.

Rural Fires and Environmental Assessment Legislation Amendment Act 2002.

Standards Australia (2018). *AS 3959 – 2018: Construction of Buildings in Bushfire-prone Areas*.

APPENDIX A PROPOSED SITE PLANS

OXLEY HIGHWAY



Lot 161
DP 755319

Lot 186
DP 755319
"Beauve Reserve"

Lot 3
DP 592863

Lot 11
DP 849425

Lot 4
DP 592863

Lot 163
DP 755319

Part Lot 43
DP 755319

Lot 5
DP 755319

Part Lot 43
DP 755319

Lot 156
DP 755319

Lot 44
DP 755319

Lot 146
DP 755319

Lot 1 DP 127958

Lot 2 DP 127958

Lot 3 DP 127958

Lot 147
DP 755319

Proposed
New Access off Soldiers
Settlement Road

Tenworth Approx 17km

SOLDIERS SETTLEMENT ROAD

AAM

Lot 161 DP 755319

PROPOSED LAYOUT PLAN

APPENDIX B ASSET PROTECTION ZONES

APPENDIX 4

ASSET PROTECTION ZONE REQUIREMENTS

In combination with other BPMS, a bush fire hazard can be reduced by implementing simple steps to reduce vegetation levels. This can be done by designing and managing landscaping to implement an APZ around the property.

Careful attention should be paid to species selection, their location relative to their flammability, minimising continuity of vegetation (horizontally and vertically), and ongoing maintenance to remove flammable fuels (leaf litter, twigs and debris).

This Appendix sets the standards which need to be met within an APZ.

A4.1 Asset Protection Zones

An APZ is a fuel-reduced area surrounding a building or structure. It is located between the building or structure and the bush fire hazard.

For a complete guide to APZs and landscaping, download the NSW RFS document *Standards for Asset Protection Zones* at the NSW RFS Website www.rfs.nsw.gov.au.

An APZ provides:

- a buffer zone between a bush fire hazard and an asset;
- an area of reduced bush fire fuel that allows for suppression of fire;
- an area from which backburning or hazard reduction can be conducted; and
- an area which allows emergency services access and provides a relatively safe area for firefighters and home owners to defend their property.

Bush fire fuels should be minimised within an APZ. This is so that the vegetation within the zone does not provide a path for the spread of fire to the building, either from the ground level or through the tree canopy.

An APZ, if designed correctly and maintained regularly, will reduce the risk of:

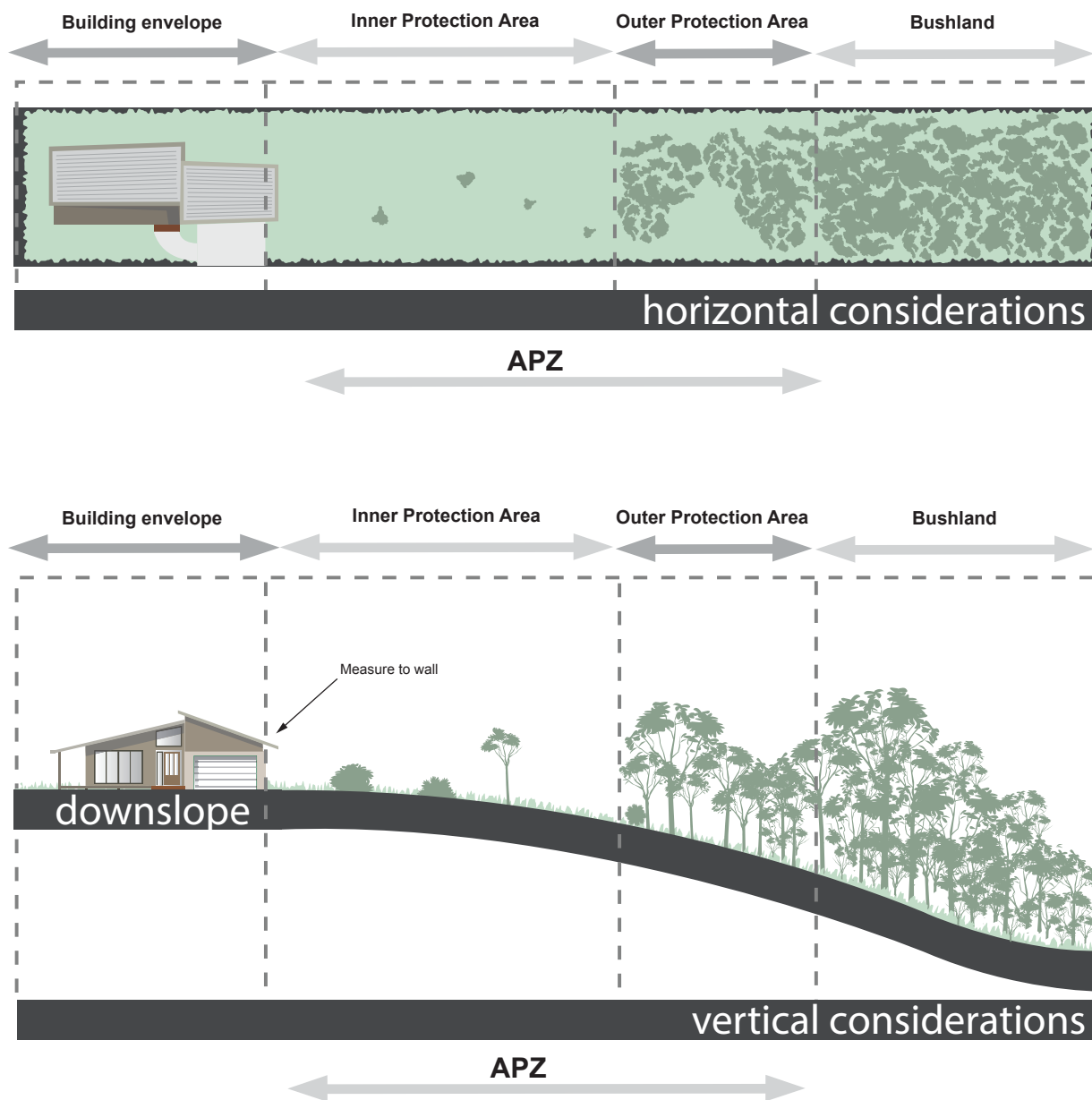
- direct flame contact on the building;
- damage to the building asset from intense radiant heat; and
- ember attack.

The methodology for calculating the required APZ distance is contained within Appendix 1. The width of the APZ required will depend upon the development type and bush fire threat. APZs for new development are set out within Chapters 5, 6 and 7 of this document.

In forest vegetation, the APZ can be made up of an Inner Protection Area (IPA) and an Outer Protection Area (OPA).

Figure A4.1

Typical Inner and Outer Protection Areas.



A4.1.1 Inner Protection Areas (IPAs)

The IPA is the area closest to the building and creates a fuel-managed area which can minimise the impact of direct flame contact and radiant heat on the development and act as a defensible space. Vegetation within the IPA should be kept to a minimum level. Litter fuels within the IPA should be kept below 1cm in height and be discontinuous.

In practical terms the IPA is typically the curtilage around the building, consisting of a mown lawn and well maintained gardens.

When establishing and maintaining an IPA the following requirements apply:

Trees

- 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; and
- preference should be given to smooth barked and evergreen trees.

Shrubs

- create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover; 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

- 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.

A4.1.2 Outer Protection Areas (OPAs)

An OPA is located between the IPA and the unmanaged vegetation. It is an area where there is maintenance of the understorey and some separation in the canopy. The reduction of fuel in this area aims to decrease the intensity of an approaching fire and restricts the potential for fire spread from crowns; reducing the level of direct flame, radiant heat and ember attack on the IPA.

Because of the nature of an OPA, they are only applicable in forest vegetation.

When establishing and maintaining an OPA the following requirements apply:

Trees

- tree canopy cover should be less than 30%; and
- canopies should be separated by 2 to 5m.

Shrubs

- shrubs should not form a continuous canopy; and
- shrubs should form no more than 20% of ground cover.

Grass

- grass should be kept mown to a height of less than 100mm; and
- leaf and other debris should be removed.

An APZ should be maintained in perpetuity to ensure ongoing protection from the impact of bush fires. Maintenance of the IPA and OPA as described above should be undertaken regularly, particularly in advance of the bush fire season.