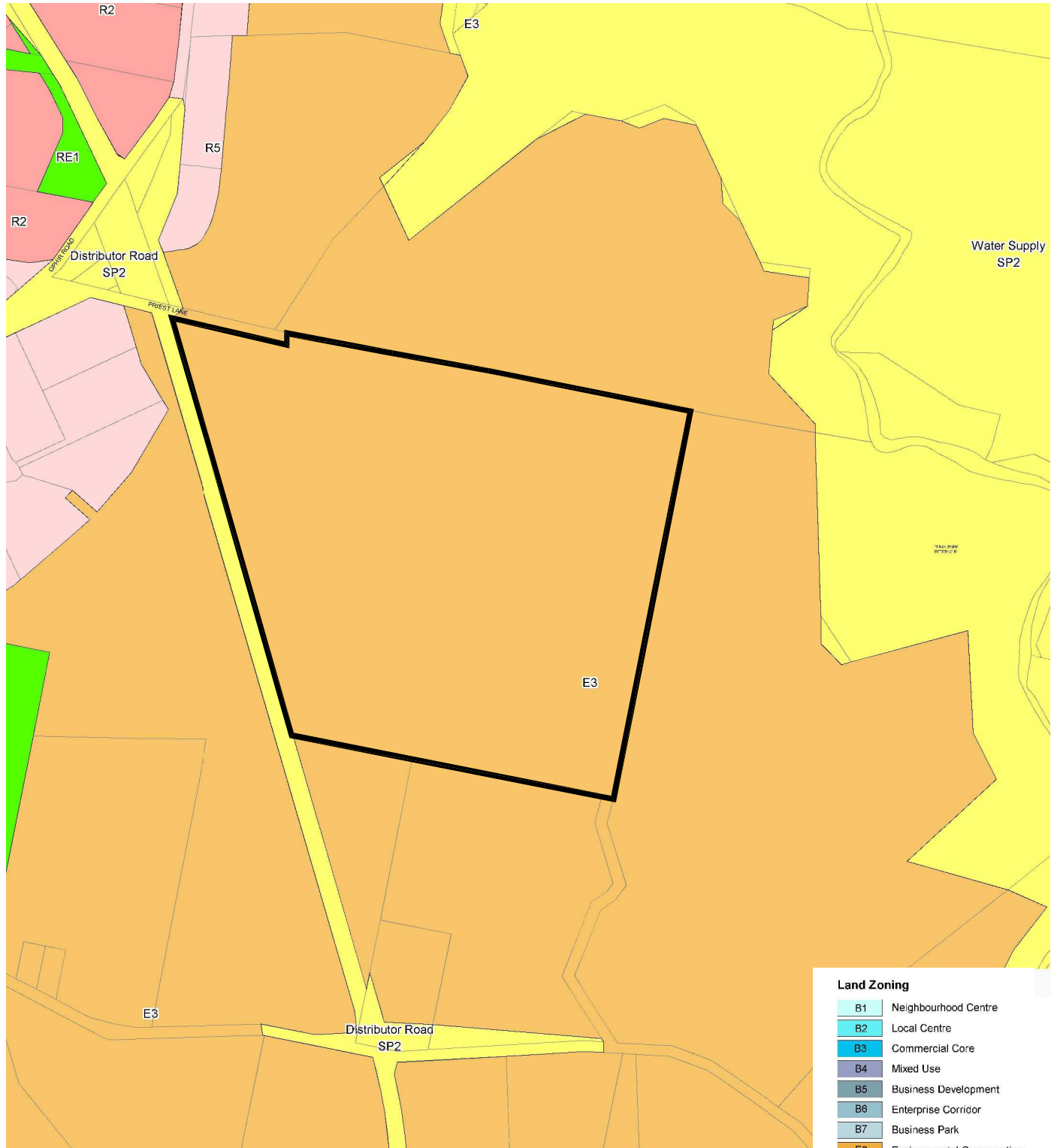
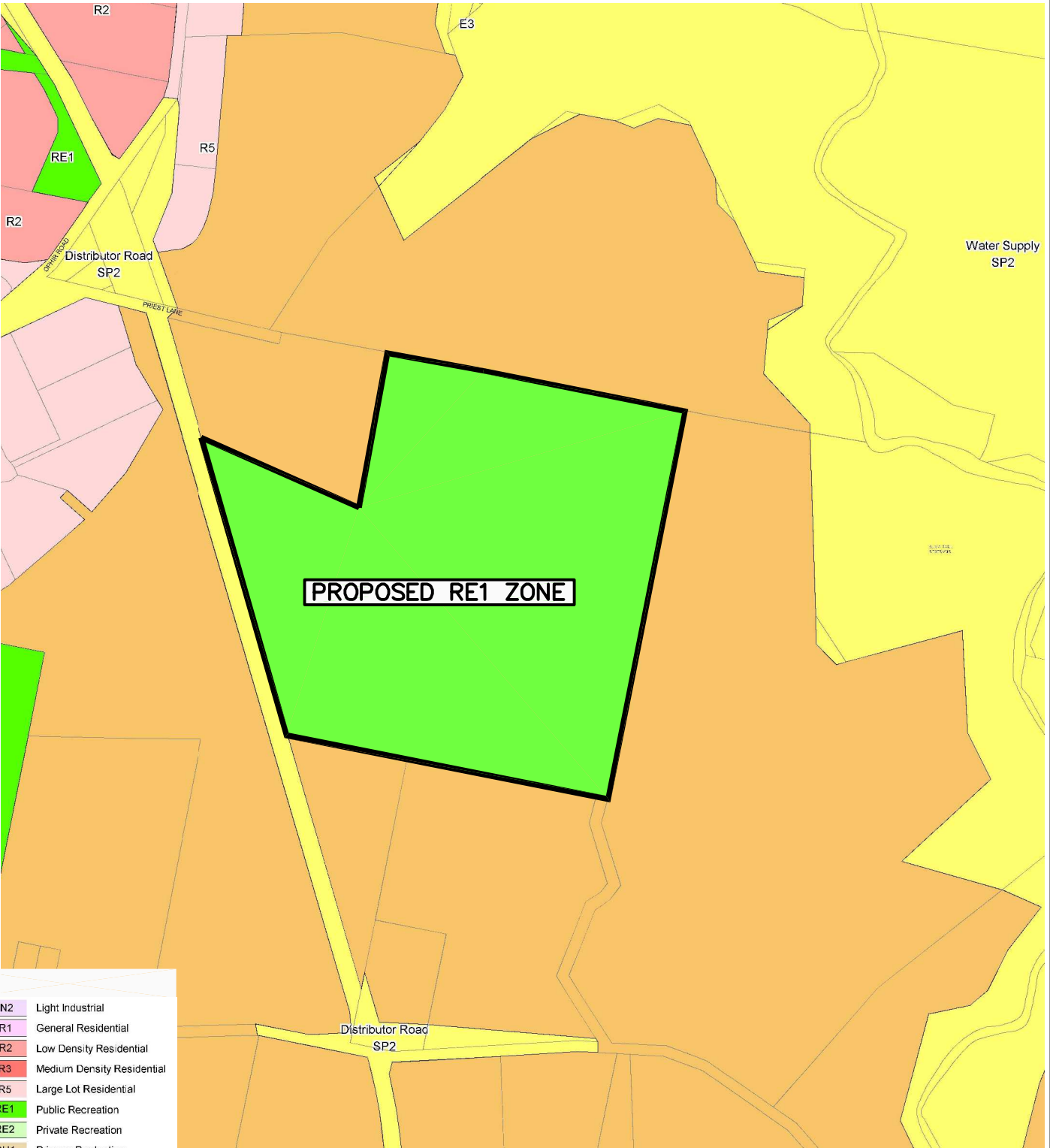




**EXISTING ZONING**



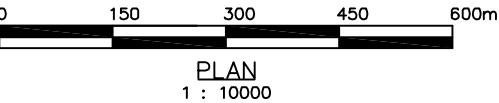
**PROPOSED ZONING**

| Land Zoning |                            |
|-------------|----------------------------|
| B1          | Neighbourhood Centre       |
| B2          | Local Centre               |
| B3          | Commercial Core            |
| B4          | Mixed Use                  |
| B5          | Business Development       |
| B6          | Enterprise Corridor        |
| B7          | Business Park              |
| E2          | Environmental Conservation |
| E3          | Environmental Management   |
| E4          | Environmental Living       |
| IN1         | General Industrial         |
| IN2         | Light Industrial           |
| R1          | General Residential        |
| R2          | Low Density Residential    |
| R3          | Medium Density Residential |
| R5          | Large Lot Residential      |
| RE1         | Public Recreation          |
| RE2         | Private Recreation         |
| RU1         | Primary Production         |
| RU5         | Village                    |
| SP2         | Infrastructure             |
| SP3         | Tourist                    |

**IMPORTANT NOTES**

- THIS PLAN HAS BEEN PREPARED FOR PLANNING PURPOSES ONLY
- ALL DIMENSIONS AND AREAS SHOWN ARE SUBJECT TO SURVEY
- DO NOT RELY ON THIS PLAN FOR THE LOCATION & TYPE OF EASEMENTS THAT MAY AFFECT THE LAND. THESE SHOULD BE ASCERTAINED BY SURVEY SEARCH AND/OR FIELD SURVEY.
- FUTURE EASEMENTS MAY BE REQUIRED FOR SERVICING OR OTHER REASONS, & AS SUCH ARE SUBJECT TO FINAL SURVEY AND/OR ENGINEERING DESIGN.
- THE LOCATION OF BUILDINGS IS INDICATIVE ONLY AND TRUE POSITION IN RELATION TO BOUNDARIES IS SUBJECT TO SURVEY

**SCALE**



PLANNING PROPOSAL - REZONING FROM E3 ENVIRONMENTAL MANAGEMENT TO RE1 PUBLIC RECREATION; AND SUBDIVISION AS AN ADDITIONAL PERMITTED USE LOT 33 DP 1012682, NORTHERN DISTRIBUTOR ROAD, ORANGE

**FIGURE 5 - EXISTING & PROPOSED ZONING**

DATE: 6.03.2015 REFERENCE: 14033DA SHEET: 4 OF 4



PLANNING & DEVELOPMENT  
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**Annexure B**  
**State Environmental Planning Policies Schedule of Consistency**  
**Planning Proposal Lot 33 DP 1012682, Northern Distributor Road, Orange**

| SEPP                                                                            | Relevance/Comment                                                                   |
|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| SEPP No. 1 - Development Standards                                              | Not applicable                                                                      |
| SEPP No. 2 - Minimum Standards for Residential Flat Development                 | Repealed by SEPP No. 20                                                             |
| SEPP No. 3 – Castlereagh Liquid Waste Disposal Depot                            | Repealed by Infrastructure SEPP                                                     |
| SEPP No.4 - Development without Consent and Miscellaneous Complying Development | Not applicable                                                                      |
| SEPP No. 5 - Housing for Older People or People with Disability                 | Repealed by SEPP (Housing for Seniors or People with a Disability) 2004             |
| SEPP No. 6 - Number of Storeys in a Building                                    | Not applicable                                                                      |
| SEPP No. 7 - Port Kembla Coal Loader                                            | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 8 - Surplus Public Land                                                | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 9 - Group Homes                                                        | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 10 - Retention of Low-Cost Rental Accommodation                        | Not applicable                                                                      |
| SEPP No. 11 - Traffic Generating Developments                                   | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 12 - Public Housing (Dwelling Houses)                                  | Repealed by SEPP No. 53                                                             |
| SEPP No. 13 - Sydney Heliport                                                   | Repealed by Sydney REP No. 26 - City West                                           |
| SEPP No. 14 - Coastal Wetlands                                                  | Not applicable                                                                      |
| SEPP No. 15 - Rural Land Sharing Communities                                    | Not applicable                                                                      |
| SEPP No. 16 - Tertiary Institutions                                             | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 17 - Design of Building in Certain Business Centres                    | Did not proceed                                                                     |
| SEPP No. 18 - Public Housing                                                    | Did not proceed                                                                     |
| SEPP No. 19 - Bushland in Urban Areas                                           | Not applicable                                                                      |
| SEPP No. 20 - Minimum Standards for Residential Flat Development                | Repealed by SEPP No. 53                                                             |
| SEPP No. 21 – Caravan Parks                                                     | Not applicable                                                                      |
| SEPP No. 22 - Shops and Commercial Premises                                     | Not applicable                                                                      |
| SEPP No. 23                                                                     | Not allocated                                                                       |
| SEPP No. 24 - State Roads                                                       | Did not proceed                                                                     |
| SEPP No. 25 - Residential Allotment Sizes                                       | Repealed by SEPP No. 53                                                             |
| SEPP No. 26 - Littoral Rainforests                                              | Not applicable                                                                      |
| SEPP No. 27 - Prison Sites                                                      | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 28 - Town Houses and Villa Houses                                      | Repealed by SEPP No. 25                                                             |
| SEPP No. 29 - Western Sydney Recreation Area                                    | Not applicable                                                                      |
| SEPP No. 30 - Intensive Agriculture                                             | Not applicable                                                                      |
| SEPP No. 31 - Sydney (Kingsford Smith) Airport                                  | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 32 - Urban Consolidation (Redevelopment of Urban Land)                 | Not applicable                                                                      |
| SEPP No. 33 - Hazardous and Offensive Development                               | Not applicable                                                                      |
| SEPP No. 34 - Major Employment Generating Industrial Development                | Repealed by SEPP (Major Projects) 2005, subsequently SEPP (Major Development ) 2005 |
| SEPP No. 35 - Maintenance Dredging of Tidal Waterways                           | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 36 - Manufactured Home Estates                                         | Not applicable                                                                      |
| SEPP No. 37 - Continued Mines and Extractive Industries                         | Repealed by SEPP (Mining, Petroleum Production and Extractive Industries) 2007      |
| SEPP No. 38 - Olympic Games and Related Development                             | Repealed by SEPP (Major Projects) 2005, subsequently SEPP (Major Development ) 2005 |
| SEPP No. 39 - Spit Island Bird Habitat                                          | Not applicable                                                                      |
| SEPP No. 40 - Sewerage Works                                                    | Did not proceed                                                                     |
| SEPP No. 41 - Casino/Entertainment Complex                                      | Not applicable                                                                      |

**Annexure B**  
**State Environmental Planning Policies Schedule of Consistency (continued)**  
**Planning Proposal Lot 33 DP 1012682, Northern Distributor Road, Orange**

| SEPP                                                                                | Relevance/Comment                                                                   |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| SEPP No. 42 - Multiple Occupancy and Rural Land (Repeal)                            | Repealed                                                                            |
| SEPP No. 43 - New Southern Railway                                                  | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 44 - Koala Habitat Protection                                              | Not applicable – site not core koala habitat                                        |
| SEPP No. 45 - Permissibility of Mining                                              | Repealed by SEPP (Mining, Petroleum Production and Extractive Industries) 2007      |
| SEPP No. 46 - Protection and Management of Native Vegetation                        | Repealed by Native Conservation Act, 1997                                           |
| SEPP No. 47 - Moore Park Showground                                                 | Not applicable                                                                      |
| SEPP No. 48 - Major Putrescible Land fill Sites                                     | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 49 - Tourism Accommodation in Private Homes (Draft Only)                   | Not applicable                                                                      |
| SEPP No. 50 - Canal Estates                                                         | Not applicable                                                                      |
| SEPP No. 51 - Eastern Distributor                                                   | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 52 - Farm Dams and Other Works in Land and Water Management Plan Areas     | Not applicable                                                                      |
| SEPP No. 53 - Metropolitan Residential Development                                  | Not applicable                                                                      |
| SEPP No. 54 - Northside Storage Tunnel                                              | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 55 - Remediation of Land                                                   | Applicable. Addressed in Planning Proposal at Section 4.3(b)(viii) and Annexure H   |
| SEPP No. 56 - Sydney Harbour Foreshores and Tributaries                             | Repealed by SEPP (Major Projects) 2005, subsequently SEPP (Major Development ) 2005 |
| SEPP No. 57                                                                         | Not allocated                                                                       |
| SEPP No. 58 – Protecting Sydney’s Water Supply                                      | Repealed by Clause 7(3) of the Drinking Water Catchments REP No. 1                  |
| SEPP No. 59 - Central Western Sydney Economic and Employment Area                   | Not applicable                                                                      |
| SEPP No. 60 - Exempt and Complying Development                                      | Not applicable                                                                      |
| SEPP No. 61 - Exempt and Complying Development for White Bay and Glebe Island Ports | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 62 - Sustainable Aquaculture                                               | Not applicable                                                                      |
| SEPP No. 63 - Major Transport Projects                                              | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 64 - Advertising and Signage                                               | Not applicable                                                                      |
| SEPP No. 65 - Design Quality of Residential Flat Development                        | Not applicable                                                                      |
| SEPP No. 67 - Macquarie Generation Industrial Development Strategy                  | Repealed by Infrastructure SEPP                                                     |
| SEPP No. 69 - Major Electricity Supply Projects                                     | Repealed by Infrastructure SEPP                                                     |
| SEPP 70 - Affordable Housing (Revised Schemes)                                      | Not applicable                                                                      |
| SEPP No. 71 - Coastal Protection                                                    | Not applicable                                                                      |
| SEPP No. 72 - Linear Telecommunications Development – Broadband                     | Repealed by Infrastructure SEPP                                                     |
| SEPP No 73 – Kosciuszko Ski Resorts                                                 | Repealed by SEPP (Kosciuszko National Park – Alpine Resorts) 2007                   |
| SEPP No. 74 - Newcastle Port and Employment Lands                                   | Repealed by SEPP (Major Projects) 2005, subsequently SEPP (Major Development ) 2005 |
| SEPP (Housing for Seniors or People with a Disability) 2004                         | Not applicable                                                                      |
| SEPP (Building Sustainability Index: BASIX) 2004                                    | Not applicable                                                                      |
| SEPP (ARTC Rail Infrastructure) 2004                                                | Repealed by Infrastructure SEPP                                                     |

**Annexure B**  
**State Environmental Planning Policies Schedule of Consistency (continued)**  
**Planning Proposal Lot 33 DP 1012682, Northern Distributor Road, Orange**

| <b>SEPP</b>                                                      | <b>Relevance/Comment</b>        |
|------------------------------------------------------------------|---------------------------------|
| SEPP (Sydney Metropolitan Water Supply) 2004                     | Repealed by Infrastructure SEPP |
| SEPP (Development on Kurnell Peninsula) 2005                     | Not applicable                  |
| SEPP (Major Development) 2005                                    | Not applicable                  |
| SEPP (Sydney Region Growth Centres) 2006                         | Not applicable                  |
| SEPP (Mining, Petroleum Production & Extractive Industries) 2007 | Not applicable                  |
| SEPP (Temporary Structures) 2007                                 | Not applicable                  |
| SEPP (Infrastructure) 2007                                       | Not applicable                  |
| SEPP (Kosciuszko National Park – Alpine Resorts) 2007            | Not applicable                  |
| SEPP (Rural Lands) 2008                                          | Not applicable                  |
| SEPP (Exempt and Complying Development Codes) 2008               | Not applicable                  |
| SEPP (Western Sydney Parklands) 2009                             | Not applicable                  |
| SEPP (Affordable Rental Housing) 2009                            | Not applicable                  |
| SEPP (Western Sydney Employment Area) 2009                       | Not applicable                  |

**ANNEXURE C**  
**STATEMENT OF CONSISTENCY, SECTION 117 DIRECTIONS**  
Planning Proposal Lot 33 DP 1012682, Northern Distributor Road, Orange

**1. EMPLOYMENT AND RESOURCES**

**1.1 Business and Industrial Zones**

This Direction does not apply because the Planning Proposal does not affect land within an existing or proposed business or industrial zone (including the alteration of any existing business or industrial zone boundary).

**1.2 Rural Zones**

This Direction does not apply because the Planning Proposal does not seek to rezone land from a rural zone to a residential, business, industrial, village or tourist zone.

**1.3 Mining, Petroleum and Extractive Industries**

The planning proposal is not affected by this Direction.

**1.4 Oyster Aquaculture**

The planning proposal is not affected by this Direction.

**1.5 Rural Lands**

This Direction is applicable to the Planning Proposal.

The objectives of this Direction are:

- a) protect the agricultural production value of rural land,
- b) facilitate the orderly and economic development of rural lands for rural and related purposes.

According to this Direction a planning proposal must

- a) be consistent with the Rural Planning Principles listed in State Environmental Planning Policy (Rural Lands) 2008.
- b) be consistent with the Rural Subdivision Principles listed in State Environmental Planning Policy (Rural Lands) 2008.

The Planning Proposal is considered to be consistent Rural Planning Principles of SEPP (Rural Lands) 2008 as follows:

- a) *the promotion and protection of opportunities for current and potential productive and sustainable economic activities in rural areas,***
- b) *recognition of the importance of rural lands and agriculture and the changing nature of agriculture and of trends, demands and issues in agriculture in the area, region or State,***
- c) *recognition of the significance of rural land uses to the State and rural communities, including the social and economic benefits of rural land use and development,***

The Planning Proposal is not adverse to these principles. The agricultural value of the site and surrounding land has been significantly diminished due to the fragmented holding pattern; adjacent urban land uses and the relatively modest size of parcels. Due to its fringe location the subject land is likely to face pressure to accommodate the expansion and needs of the Orange urban area.

The importance of rural lands and agriculture are acknowledged. However, if a “greenfield” site capable of accommodating the ultimate facility is required, it is highly likely that such a site will only be found as rural land.

The selection of the subject land is judicious in the sense that there are perhaps more suitable sites available. However this site avoids areas of stronger rural/agricultural character and function. Further, its suitability is underpinned by its proximity to the urban centre of Orange and the fact it is also adjacent to a major transport route.

- d) *in planning for rural lands, to balance the social, economic and environmental interests of the community,***

The Planning Proposal is not adverse to this principle in that it seeks to balance the social, economic and environmental interests of the community. These matters are considered in Section 4.3(b)(ix) of the Planning Proposal. Further, and according to the Lantz Marshall study:

*The site has been identified (sic) as strategically important for the long-term provision of open space for Orange over the following 30+ years. The area is significant from a geographical distribution perspective, accessibility to the Northern Distributor Road and provides a quality landscape basis for passive parkland with potential linkages to Suma Park Dam.*

- e) *the identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land,***

The Planning Proposal is not adverse to this principle. It is supported by a preliminary Flora and Fauna Assessment and also recognises the need for drinking water quality to be maintained.

**f) the provision of opportunities for rural lifestyle, settlement and housing that contribute to the social and economic welfare of rural communities,**

The Planning Proposal is not adverse to this principle. Whilst it does not provide direct rural living opportunities, it does facilitate the provision of an important community resource that is intended to be of benefit to the lifestyle and amenity of the broader Orange community.

**g) the consideration of impacts on services and infrastructure and appropriate location when providing for rural housing,**

The principle is not relevant as the Planning Proposal does not seek to provide for rural housing opportunities.

**h) ensuring consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General.**

There is no regional strategy applicable to the subject land.

As outlined in Section 4.2(b) of this report, this Planning Proposal is consistent with the *Orange Community Strategic Plan* and its associated *Delivery/Operational Plan*.

The Planning Proposal is considered to be consistent Rural Subdivision Principles of SEPP (Rural Lands) 2008 as follows:

**a) the minimisation of rural land fragmentation**

The Planning Proposal is not adverse to this principle. The agricultural value of the site and surrounding land has been significantly diminished due to the fragmented holding pattern; adjacent urban land uses and the relatively modest size of parcels. Due to its fringe location the subject land is likely to face pressure to accommodate the expansion and needs of the Orange urban area.

The importance of rural lands and agriculture are acknowledged. However, if a “greenfield” site capable of accommodating the ultimate facility is required, it is highly likely that such a site will only be found as rural land.

The selection of the subject land is judicious in the sense that there are perhaps more suitable sites available. However this site avoids areas of stronger rural/agricultural character and function. Further, its suitability is underpinned by its proximity to the urban centre of Orange and the fact it is also adjacent to a major transport route.



***b) the consideration of the nature of existing agricultural holdings and the existing and planned future supply of rural residential land when considering lot sizes for rural lands,***

This proposal only seeks to subdivide the land as an Additional Permitted Use to accommodate a specific community focussed development. It does not seek to change the MLS that applies to the broader E3 Zone.

***c) the consideration of the natural and physical constraints and opportunities of land,***

There are no natural or physical constraints that prevent the subdivision depicted in the Planning Proposal.

***d) ensuring that planning for dwelling opportunities takes account of those constraints.***

The Planning Proposal does not seek to increase dwelling opportunities.

## **2. ENVIRONMENT AND HERITAGE**

### **2.1 Environment Protection Zones**

This Direction is applicable to the Planning Proposal because it involves land within the E3 Environmental Management Zone.

The objective of this Direction is to protect and conserve environmentally sensitive areas. According to this Direction a planning proposal must

- a) include provisions that facilitate the protection and conservation of environmentally sensitive areas.
- b) not reduce the environmental protection standards that apply to the land (including by modifying development standards that apply to the land). This requirement does not apply to a change to a development standard for minimum lot size for a dwelling in accordance with clause (5) of Direction 1.5 “Rural Lands”.

The Planning Proposal is considered to be consistent with this Direction as follows:

- The subject land is within the Orange City water supply catchment area and also comprises sections of native timber that are identified in Orange LEP 2011 as having high biodiversity. The Planning Proposal addresses the potential impact on ecological and water quality values.
- The Planning Proposal does not seek to amend the existing environment protection standards that apply to the land. The current water catchment mapping and biodiversity mapping in Orange LEP 2011 will remain unaltered.



## **2.2 Coastal Protection**

The Planning Proposal is not affected by this Direction.

## **2.3 Heritage Conservation**

The Planning Proposal is not affected by this Direction.

## **2.4 Recreation Vehicle Areas**

The Planning Proposal is not affected by this Direction.

## **3. HOUSING, INFRASTRUCTURE AND URBAN DEVELOPMENT**

### **3.1 Residential Zones**

The Planning Proposal is not affected by this Direction.

### **3.2 Caravan Parks and Manufactured Home Estates**

The Planning Proposal is not affected by this Direction.

### **3.3 Home Occupations**

The Planning Proposal is not affected by this Direction.

### **3.4 Integrating Land Use and Transport**

This Direction applies to the Planning Proposal.

There are no aspects of the proposal that are inconsistent with the objectives of this Direction, particularly as:

- The existing road system would be of an adequate standard to cater for the additional traffic that would be generated by this proposal.
- Bus services can be extended to the development as demand dictates.
- The distance of the site from the CBD, does not warrant the provision of pedestrian and cycling paths.

### **3.5 Development near Licensed Aerodromes**

The Planning Proposal is not affected by this Direction.

### **3.6 Shooting Ranges**

The Planning Proposal is not affected by this Direction.

## **4. HAZARD AND RISK**

### **4.1 Acid Sulphate Soils**

The Planning Proposal is not affected by this Direction.

### **4.2 Mine Subsidence and Unstable Land**

The Planning Proposal is not affected by this Direction.

### **4.3 Flood Prone Land**

The Planning Proposal is not affected by this Direction.

### **4.4 Planning for Bushfire Protection**

The Planning Proposal is not affected by this Direction.

## **5. REGIONAL PLANNING**

### **5.1 Implementation of Regional Strategies**

The Planning Proposal is not affected by this Direction.

### **5.2 Sydney Drinking Water Catchments**

The Planning Proposal is not affected by this Direction.

### **5.3 Farmland of State and Regional Significance on the NSW Far North Coast**

The Planning Proposal is not affected by this Direction.

### **5.4 Commercial and Retail Development along the Pacific Highway, North Coast**

The Planning Proposal is not affected by this Direction.

### **5.5 Development in the vicinity of Ellalong, Paxton and Millfield (Cessnock LGA)**

Revoked

### **5.6 Sydney to Canberra Corridor**

Revoked

### **5.7 Central Coast in vicinity of Ellalong, Paxton and Millfield (Cessnock LGA)**

Revoked

### **5.8 Second Sydney Airport: Badgery's Creek**

The Planning Proposal is not affected by this Direction.

## **6. LOCAL PLAN MAKING**

### **6.1 Approval and Referral Requirements**

The Planning Proposal does not alter provisions relating to approval and referral requirements.

### **6.2 Reserving Land for Public Purposes**

The Planning Proposal is not inconsistent with this Direction.

### **6.3 Site Specific Provisions**

The Planning Proposal is not inconsistent with this Direction.

## **7. METROPOLITAN PLANNING**

### **7.1 Implementation of the Metropolitan Strategy**

The planning proposal is not affected by this Direction.

## Preliminary Flora and Fauna assessment

Proposed Sporting Field Complex

Lot A and Lot B in the subdivision Lot 33 DP1012682 Priest Lane, Orange NSW

Ref: R14387ff

Date: 18 November 2014



Prepared by: Envirowest Consulting Pty Ltd  
9 Cameron Place  
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Environmental Scientist

Authorising Officer: Greg Madafiglio PhD  
Senior Environmental Scientist

Report number: R14105ff

Date: 18 November 2014

## Executive Summary

### Background

A two lot subdivision is proposed for Lot 33 DP1012682 Priest Lane, Orange NSW. Proposed Lot A will be rural-residential. Land-use of proposed Lot B will be a sporting field complex and car park.

The study area is a 52 hectare rural-residential property located east of the city of Orange. The land-use of the study area is grazing which has occurred for over 100 years. The current land-use is grazed grasslands and open woodland. Land to the west has been developed for residential land-use.

An assessment of the development is required to determine impacts on flora and fauna.

### Scope

This report is a preliminary flora and fauna assessment for the existence of key habitats or threatened species, provides an overview of the flora and fauna species present and assesses the impact of the development on flora and fauna.

### Summary

An assessment of the impacts of the subdivision was undertaken by site inspection and review of Office of Environment and Heritage (OEH) flora and fauna databases. The subject site comprises those areas to be disturbed by the subdivision and includes proposed boundary fencing, sports field and car park. The study area is Lot 33 DP 1012682 Priest Lane, Orange NSW.

The site is located in mid to upper slopes with local drainage lines discharging into Suma Park Reservoir 300m north.

The study area consists of modified grasslands and open woodland. The vegetation has been highly disturbed by agricultural practices including clearing, cultivation, introduction of exotic species and stock grazing. The understorey vegetation is highly disturbed containing few native flora species.

Modified grasslands were dominated by grasses and broadleaved weeds with scattered shrubs including *Cratargus monogyny* and *Rosa rubiginosa*. The modified grasslands have been impacted by historical agricultural activities including clearing, grazing, cultivation and addition of fertilisers.

The open woodland comprised mature *Eucalyptus viminalis*, *E. bridgesiana* and *E. melliodora*. The woodland has been historically grazed and timber selectively cleared.

Little fauna diversity was observed within the grasslands due to habitat disturbance. Faunal habitat within the open woodland was more diverse due to tree hollows, rocks, fallen timber and leaf litter. The open woodland has also been disturbed by grazing and historical clearing.

No threatened or endangered flora and fauna species were observed within the subject site or study area. No endangered populations or communities were identified within the subject site or study area.

A search of the OEH Bionet database found no records of threatened or endangered flora or fauna occurring on the site. Eight threatened species have been recorded within 5km of the study

area. An additional fifty one threatened species were predicted to occur within the search area. The assessment identified the site contained potential habitat for thirty of these species.

The development will be located within the grasslands and will create one rural-residential lot and one public recreational lot used for a proposed sporting field complex and car park.

Minimal habitat will be removed or disturbed as a result of the development. No impact is expected on threatened species with habitat attributes consistent with habitat identified on the site. No impact is expected on other species predicted to occur in the search area. An *Assessment of Significance* and EPBC Act considerations is not required.

### Conclusions

The study area consists of modified grasslands and disturbed open woodlands. The development will be located within the modified grasslands. No threatened floral or faunal species or endangered ecological communities were observed on the site during the field surveys. Minimal habitat will be removed for the development and no impact on the threatened and endangered species with potential to occur in the study area is expected.

The development is not expected to have a significant impact on the long-term survival of threatened species and communities within the South Eastern Highlands Bioregion.



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## **1. Background**

A two lot subdivision is proposed for Lot 33 DP1012682 Priest Lane, Orange NSW. Proposed Lot A will be rural-residential. Land-use of proposed Lot B will be a sporting field complex and car park.

The study area is a 52 hectare rural-residential property located east of the city of Orange. The land-use of the study area is grazing which has occurred for over 100 years. The current land-use is grazed grasslands and open woodland. Land to the west has been developed for residential land-use.

An assessment of the development is required to determine impacts on flora and fauna.

## **2. Scope of report**

Envirowest Consulting Pty Ltd was commissioned by Orange City Council to undertake a preliminary flora and fauna assessment of Lot 33 DP1012682 Priest Lane, Orange NSW.

The assessment will assess the existence of key habitats of threatened species and give an overview of the flora and fauna species present. The assessment aims to identify impacts the development may have on flora and fauna species, their communities and any ecological interactions that may occur in the study area.

## **3. Site description**

### **3.1 Location**

The study area consists of Lot 33 DP1012682 and has an area of approximately 52 hectares. The study area is located east of the city of Orange (Figure 1) and in the South Eastern Highlands Bioregion. The subject site comprises those areas to be disturbed by the development and includes the proposed boundary fencing, sporting field and car park. The sporting field and car park will be located in the south western section of the study area.

### **3.2 Climate**

Climatic data from the nearest recording station, Orange Airport, indicates the study area has an average annual rainfall of 966mm. Rainfall is at a maximum in August averaging 93.2mm. April is the driest month receiving approximately 38mm.

Availability of soil moisture is lowest in summer and not usually limiting in winter when rainfall exceeds evaporation. Low winter temperatures restrict plant growth from May to September so that plant growth is most active during spring and autumn.

### **3.3 Topography**

The study area consists of mid to upper slope. Elevation ranges between 855 and 911 metres above sea level. The central and western sections of the study area have an undulating to rolling terrain with inclines ranging from 3% to 6%. A low ridge running north to south in the east produces a predominantly westerly aspect in the western section. The eastern and northern sections have a hilly terrain with inclines ranging from 6% to 10%. Aspect in the northern section is predominately south western.

Four drainage lines convey surface water flows through the site and empty into the dam on site and into Suma Park Reservoir to the north east and north of the site.

### 3.4 Vegetation

The study area had been predominately cleared of trees with small patches of eucalypts remaining. No remnant trees were located on the subject site. A tree line has been planted along part of the western boundary of the study area.

Understorey vegetation within the study area comprised grasses and broadleaved weeds.

Open woodlands comprise *Eucalyptus bridgesiana* (Apple box), *E. melliodora* (Yellow box) and *E. viminalis* (Ribbon Gum). *Salix* sp. (Willow) was identified along a drainage line in the south.

Water tolerant species comprising *Centella asiatica*, *Juncus acutus* and *Rumex acetosella* dominate the vegetation around the drainage line in the central section and were observed throughout the grasslands and around the dams.

Vegetation on the site had been highly modified through historical clearing and agricultural practices such as cultivation, fertilising, sowing of exotic species, introduction of weeds, herbicides and stock grazing.

A detailed description of the vegetation on the subject site is given in Section 6.1.

### 3.5 Land-uses

The land-use of the study area was rural-residential with cattle grazing on grasslands and open woodlands. A dwelling and associated residential yard was located in the north western section of the subject site.

### 3.6 Soils and geology

The study area is located within the Byng Soil Landscape (Kovac *et al.* 1990). The dominant soils within the area are brown cracking clays, friable brown duplex and wiesenboden in drainage depressions. Small areas of black and brown structured earths and shallow soils occur. Rock outcrops are common. Brown cracking clays comprise dark brown fine sandy loam to light clay topsoil to brownish black to dark brown medium to heavy clay subsoil. Wiesenboden comprise brownish black to black light clay topsoil. The boundary between topsoil and subsoil is clear to gradual change to a medium to heavy clay with strong smooth-faced peds subsoil.

The site is underlain by Molong Geanticline and Links Andesite of Ordovician age. Parent rock consists of massive and sheared hornblende andesites and some ultrabasics, containing pyroxenes, peridotites, serpentinites and amphiboles. Parent material consists of *in situ* and alluvial-colluvial materials derived from the parent rock (Kovac *et al.*, 1990). The south eastern area of the site contains rocky outcrops and cobbles and boulders are common.

### 3.7 Surface water

Three drainage lines and two dams capture surface water flows in the study area. The western drainage line is a 1<sup>st</sup> order stream which captures water from the western and south western section of the study area. A dam is located along the drainage line. The catchment for the western drainage line is located to the west and north west and comprises grazing land.

The central drainage line is a 2<sup>nd</sup> order stream and captures water from the central and southern section of the study area. The catchment for the central drainage line extends to the south and comprises grazing land. A stock dam also captures water in the eastern section and overflows into the eastern drainage line.

The eastern drainage line is a 1<sup>st</sup> order stream and captures water from the eastern section of the study area. The catchment for the eastern drainage line extends to the east and comprises grazing land.

The drainage lines are considered ephemeral and when flowing empty into Suma Park Reservoir located approximately 300m north and north east of the subject site. Suma Park Reservoir is a permanent watercourse.

### 3.8 Groundwater

One bore was identified on the NSW Natural Resource Atlas in the central area of Lot 33. The bore is licenced for stock use. Water bearing zones and standing water levels were not provided. The bore was drilled to a depth of 7.6 metres. The Natural Resource Atlas identifies numerous groundwater bores to the west of the study area in areas of rural-residential land-use. Bores in the locality have a domestic and stock use. Water bearing zones are located at depths generally greater than 15m in basalt. Standing water levels at the time of drilling were greater than 3 metres.

### 3.9 Neighbouring land-use

- North – Suma Park Reservoir/ rural-residential
- East – Suma Park Reservoir
- South – Rural-residential
- West – Residential subdivision

## 4. Proposed development

The development proposes a two lot subdivision for Lot 33 DP1012682 Priest Lane, Orange NSW. The preliminary development plan proposes Lot A approximately 7ha in size and Lot B approximately 45ha (Figure 2). Rural-residential land-use is proposed for Lot A and recreational land-use for Lot B.

Access to Lot A will be along the existing bitumen Priest Lane. A dwelling is existing on Lot A. Access to Lot B will be created from the Northern Distributor.

The proposed sporting field complex and car park is located in the western section, in cleared areas of proposed Lot B and no trees will require removal.

Fences will be constructed along proposed boundaries. The boundaries are located in cleared areas. Tree removal is not expected to be required for boundary fence construction.

## 5. Methodology

### 5.1 Desktop study

A desktop study was undertaken to collect information on individual species and in particular the presence of any endangered species. This was determined primarily by habitat assessment of the subject site and a search of the OEH Bionet database. The area for the database search covered a 5km radius from the subject site.

The Office of Environment and Heritage (OEH) NSW Bionet Website was reviewed for threatened species, populations and communities known or predicted to occur within a 5km radius of the subject site.

An assessment of the likelihood of these species to occur on the subject site was undertaken. The assessment included a review of the habitat features of the species including soil type, geology, moisture content, topography or presence of associated species/vegetation types.

The impact of the proposed development on flora and fauna with potential to occur on the subject site was assessed in accordance with the Assessment of Significance under Section 5a of the *Threatened Species Conservation Amendment Act* (2002) and EPBC Act considerations. The habitat, life cycles and general ecology of a range of both plant and animal species was researched. This and all other information has been used to make impact assessments.

## 5.2 Field surveys

An overall description of the subject site was completed by conducting a general field survey. The aim of the survey was to assess the subject site and study area which included a vegetation and topography assessment, identification of major land-uses, species identification, a land and water degradation assessment and evaluation of potential habitat for fauna.

The survey was undertaken on 29 August and 11 September 2014. The conditions on the days were fine. Representative photographs of the site are presented in Figure 6.

The field data for flora species was recorded on a presence or absence basis. Based on the field survey data, two general habitat types were identified within the study area:

- grasslands
- open woodlands

The fauna survey involved opportunistic observations.

## 6. Results and discussion

### 6.1 Flora

The study area consists of two vegetation types;

- Modified grasslands – located on the arable areas of the study area throughout the central, southern, northern and western sections. Two farm dams were located within the grasslands. The subject site is located within the modified grasslands.
- Open woodland – located in the central and western sections of the study area in areas of surface rocks, rock outcrop and moderately inclined slopes. The open woodland is has been grazed. Understorey shrub species have been removed by disturbance.

A plan of the vegetation types is presented in Figure 5.

#### 6.1.1 Modified grasslands

The grasslands occur throughout the central, southern and western sections of the study area (Figure 5). The grasslands are expected to have undergone cultivation and fertilising in the past to enable pasture improvement and agricultural activities and are therefore considered modified. The disturbance activity is reflected in the vegetation present.

The grasslands contain a mix of native and introduced grasses and herbs and was dominated by *Phalaris aquatica*. Other grasses and herbs included *Trifolium* spp., *Paspalum dilatatum* and *Plantago lanceolata*.

A disturbed riparian zone was identified in the grasslands along the drainage line located in the central area of the study area. The riparian zone is dominated by water tolerant species including *Centella asiatica*, *Juncus acutus* and *Rumex acetosella*.

Scattered trees occur throughout the grasslands. Remnant eucalypt trees occurring in the grasslands are *Eucalyptus viminalis*. *Salix* spp. were identified along the drainage line in the southern section.

Native trees and shrubs have been planted along the western boundary of the study area. The juvenile trees and shrubs are unlikely to provide significant habitat for threatened and endangered species in the area.

Ornamental species had been planted around the dwelling.

No threatened or endangered species were observed within the grasslands of the subject site. Flora recorded during the field surveys are presented in Table 1.

#### 6.1.2 Open woodlands

The original woodland in the study area is expected to have been extensively cleared in the 1800's and timber used as firewood. The current open woodlands are expected to be regrowth and trees that were not cleared. The open woodlands have been historically grazed by cattle and timber selectively cleared resulting in fragmentation. The understorey is considered to be significantly disturbed and of low ecological value. The disturbance activity is reflected in the vegetation present.

The open woodland comprised *Eucalyptus viminalis* as the dominant species with several *E. bridgesiana* and *E. melliodora* trees.

The western open woodland is approximately 4 hectares in size and extends beyond the subject site to the west. The central open woodland is approximately 1.3 hectares in size. The woodlands have become fragmented due to historical clearing.

Shrub understorey in the woodlands was scarce and dominated by woody species including *Rosa rubiginosa* and *Crataegus monogyna*.

The ground layer was dominated by introduced grass species including *Phalaris aquatica*, *Trifolium subterraneum* and *T. repens*.

No threatened or endangered species were observed within the open woodland of the subject site.

Table 1. Flora species recorded for each vegetation type

| Trees                         |             | Modified grassland | Open woodland |
|-------------------------------|-------------|--------------------|---------------|
| <i>Eucalyptus bridgesiana</i> | Apple box   |                    | X             |
| <i>E. melliodora</i>          | Yellow box  |                    | X             |
| <i>E. viminalis</i>           | Ribbon gum  | X                  | X             |
| <i>Salix</i> sp.              | Willow      | X                  |               |
| Shrubs                        |             |                    |               |
| <i>Crataegus monogyna</i>     | Hawthorn    | X                  |               |
| <i>Rosa rubiginosa</i>        | Sweet briar | X                  | X             |
| <i>Rubus</i> spp.             | Blackberry  | X                  | X             |
| <i>Viscum cruciatum</i>       | Mistletoe   | X                  |               |

| Herbs                          |                     |   |   |
|--------------------------------|---------------------|---|---|
| <i>Amaranthus</i> spp.         | Amaranth            | X |   |
| <i>Anagallis arvensis</i>      | Pimpernel           | X |   |
| <i>Capsella bursapastoris</i>  | Shepherd's purse    | X |   |
| <i>Carduus nutans</i>          | Nodding thistle     | X |   |
| <i>Carthamus lanatus</i>       | Saffron thistle     | X | X |
| <i>Centella asiatica</i>       | Centella            | X |   |
| <i>Cerastium vulgatum</i>      | Mouse-ear chickweed | X |   |
| <i>Cirsium vulgare</i>         | Black thistle       | X |   |
| <i>Daucus glochidiatus</i>     | Wild Carrot         |   | X |
| <i>Echium plantagineum</i>     | Paterson's curse    | X |   |
| <i>Hypochoeris radicata</i>    | Flat weed           | X | X |
| <i>Marrubium vulgare</i>       | Horehound           | X |   |
| <i>Modiola caroliniana</i>     | Red flowered mallow | X |   |
| <i>Onopordum acanthium</i>     | Scotch thistle      | X |   |
| <i>Paspalum dilatatum</i>      | Paspalum            | X |   |
| <i>Plantago lanceolata</i>     | Plantain            | X | X |
| <i>Polygonum aviculare</i>     | Wireweed            | X |   |
| <i>Rumex acetosella</i>        | Sorrel              | X |   |
| <i>Silybum marianum</i>        | Variegated thistle  | X | X |
| <i>Sisymbrium officinale</i>   | Hedge mustard       | X | X |
| <i>Stellaria media</i>         | Chickweed           | X |   |
| <i>Trifolium repens</i>        | White clover        | X |   |
| <i>Trifolium subterraneum</i>  | Subterranean clover | X | X |
| <i>Urtica</i> sp.              | Stinging nettle     | X | X |
| Grasses                        |                     |   |   |
| <i>Bromus catharticus</i>      | Prairie grass       | X |   |
| <i>Chloris truncata</i>        | Windmill grass      | X |   |
| <i>Dactylis glomerata</i>      | Cocksfoot           | X |   |
| <i>Eleusine indica</i>         | Crowsfoot grass     | X |   |
| <i>Paspalum dilatatum</i>      | Paspalum            | X |   |
| <i>Phalaris aquatica</i>       | Phalaris            | X |   |
| <i>Pennisetum clandestinum</i> | Kikuyu              | X |   |
| Rushes                         |                     |   |   |
| <i>Juncus acutus</i>           | Spiny rush          | X | X |

## 6.2 Fauna

Faunal habitat within the grasslands was generally uniform. The vegetation on the grasslands was highly disturbed and relatively homogeneous in structure and diversity. Historical clearing and cultivation has resulted in a loss of tree species. Stock grazing has also contributed to disturbance of native species. The grasslands provide a food source for grazing animals.

The high density of *Phalaris aquatica* in some areas of the grassland provides potential habitat for vermin such as *Oryctolagus cuniculus*.

Bird species observed or heard in the grasslands included *Corvus coronoides*, *Eolophus roseicapilla*, *Grallina cyanoleuca* and *Gymnorhina tibicen*.

The dam provides habitat to aquatic fauna species such as frogs and birds. One duck species, *Anas querquedula* and geese, *Anser* spp. were observed on the dam in the grassland. Frog calls were observed in the riparian zone though no individual species were identified. The dam also serves as a water source to animals living in other habitats.

Faunal habitat within the open woodland differed according to vegetation type and features such as tree hollows, rocks and fallen logs. Cattle grazing had contributed to disturbance of native species.

Bird species identified in the open woodland included *Cacatua alba*, *Eolophus roseicapilla*, *Gymnorhina tibicen* and *Platycercus eximius*.

Fauna recorded during the field surveys are presented in Table 2.

Table 2. Fauna species identified in opportunistic observations

| Scientific Name              | Common Name       | Comments          | Grassland | Open woodland |
|------------------------------|-------------------|-------------------|-----------|---------------|
| <i>Anser spp.</i>            | Geese             | Sighted on dam    | X         |               |
| <i>Anas querquedula</i>      | Garganey          | Sighted on dam    | X         |               |
| <i>Bos primigenius</i>       | Cattle            | Sighted           | X         |               |
| <i>Cacatua alba</i>          | White cockatoo    | Sighted and calls |           | X             |
| <i>Corvus coronoides</i>     | Australian raven  | Sighted and calls | X         | X             |
| <i>Eolophus roseicapilla</i> | Galah             | Sighted           | X         | X             |
| <i>Grallina cyanoleuca</i>   | Peewee            | Sighted           | X         | X             |
| <i>Gymnorhina tibicen</i>    | Australian magpie | Sighted and calls | X         | X             |
| <i>Oryctolagus cuniculus</i> | European rabbit   | Sighted           | X         |               |
| <i>Passeridae sp.</i>        | Sparrow           | Sighted           | X         |               |
| <i>Platycercus eximius</i>   | Eastern rosella   | Sighted           | X         | X             |
| <i>Sturnus vulgaris</i>      | Common starling   | Sighted           | X         |               |

No threatened or endangered fauna species were observed within the subject site.

*E. viminalis* trees were identified in the study area. *E. viminalis* is a listed koala feed species in Schedule 2 of the State Environmental Planning Policy No. 44 (SEPP 44) Koala Habitat Protection. To be considered potential koala habitat the trees listed in Schedule 2 of the Act should comprise at least 15% of the total number of trees in the tree component.

*E. viminalis* comprised more than 15% of the total number of trees in the study area. Additional tree species are not listed as koala feed tree species. The site is considered potential koala habitat as known feed tree species of the koala occur at more than 15%.

To be considered core koala habitat the site must contain a resident population of koalas as evidenced by attributes such as breeding females and recent sightings and historical records of a population.

The nearest observation of a koala was approximately 12km north of the site in 2011. The study area is unlikely to encompass a resident koala population due to distance and fragmentation of habitat from the nearest koala sighting.

The site is not considered core koala habitat as the site does not or is unlikely to encompass a resident koala population.

### 6.3 Threatened species

#### 6.3.1 Threatened species recorded within the study area

No threatened species, populations or communities were identified in the study area. No threatened species are listed on the OEH Bionet database as being recorded within the study area.



### 6.3.2 Threatened species recorded in the vicinity

Threatened flora and fauna species, which have been recorded in the search area, are listed in Table 3. The data was obtained from the OEH Bionet database. Each species has a Threatened Species Conservation (TSC) Status which is a legal status according to the TSC Act, 1995 and an Environment Protection and Biodiversity Conservation (EPBC) status which is a legal status according to the EPBC Act (1999). The search area covered a 5km radius from the study area.

Eight threatened species have been recorded within 5km of the subject site (Table 3). The study area provides potential habitat for five of these species including *Daphoenositta chrysoptera*, *Oxyura australis*, *Polytelis swainsonii*, *Pteropus poliocephalus* and *Stictonetta naevosa* (Appendix 1). No impact on these species was considered likely due to the small amount of potential habitat to be removed or disturbed.

### 6.3.3 Threatened species with potential to occur in the vicinity

Threatened flora and fauna species, with the potential to occur in the area, are listed in Table 3. The data was obtained from the OEH Bionet database. The search area covered a 5km radius from the study area.

The database search identified forty three faunal species, five floral species and three communities with potential to occur in the vicinity. The study area provides potential habitat for thirty of these species (Appendix 1). No impact on these species was considered likely due to the small amount of potential habitat to be removed or disturbed. An Assessment of Significance and/or EPBC Act considerations is not required to be undertaken.

Habitat attributes for the remainder of the species listed in Table 3 are not found within the study area though may occur elsewhere in the vicinity. The survival of these species is not expected to be impacted by the development.

Table 3. Threatened species predicted to occur on the site from the NSW Threatened Species Website and recorded occurrence of threatened species on the NSW OEH Bionet (Search area – 5km radius of study area)

| Scientific Name                            | Common Name                    | Last recorded date | Distance from the site (km) | TSC Status | EPBC Status |
|--------------------------------------------|--------------------------------|--------------------|-----------------------------|------------|-------------|
| <b>Mammals</b>                             |                                |                    |                             |            |             |
| <i>Cercartetus nanus</i>                   | Eastern Pygmy-possum           | NR                 | -                           | V          | Not listed  |
| <i>Chalinolobus dwyeri</i>                 | Large-eared Pied Bat           | NR                 | -                           | V          | V           |
| <i>Dasyurus maculatus</i>                  | Spotted-tailed Quoll           | NR                 | -                           | V          | E           |
| <i>Miniopterus schreibersii oceanensis</i> | Eastern Bentwing-Bat           | 2008               | 2km S                       | V          | Not listed  |
| <i>Myotis macropus</i>                     | Southern Myotis                | NR                 | -                           | V          | Not listed  |
| <i>Petaurus australis</i>                  | Yellow-bellied Glider          | NR                 | -                           | V          | Not listed  |
| <i>Petaurus norfolcensis</i>               | Squirrel Glider                | NR                 | -                           | V          | Not listed  |
| <i>Phascogale tapoatafa</i>                | Brush-tailed Phascogale        | NR                 | -                           | V          | Not listed  |
| <i>Phascolarctos cinereus</i>              | Koala                          | NR                 | -                           | V          | V           |
| <i>Pteropus poliocephalus</i>              | Grey-headed Sheath-tail bat    | 2011               | 2.3km S                     | V          | V           |
| <i>Saccolaimus flaviventris</i>            | Yellow Bellied Sheath-tail Bat | NR                 | -                           | V          | Not listed  |
| <b>Avifauna</b>                            |                                |                    |                             |            |             |
| <i>Anthochaera phrygia</i>                 | Regent Honeyeater              | NR                 | -                           | E4         | E           |
| <i>Botaurus poiciloptilus</i>              | Australasian Bittern           | NR                 | -                           | E1         | E           |
| <i>Burhinus grallarius</i>                 | Bush Stone-curlew              | NR                 | -                           | E1         | Not listed  |
| <i>Callocephalon fimbriatum</i>            | Gang-gang Cockatoo             | NR                 | -                           | V          | Not listed  |
| <i>Calyptorhynchus lathamii</i>            | Glossy Black Cockatoo          | NR                 | -                           | V          | Not listed  |
| <i>Chthonicola sagittata</i>               | Speckled Warbler               | NR                 | -                           | V          | Not listed  |
| <i>Circus assimilis</i>                    | Spotted Harrier                | NR                 | -                           | V          | Not listed  |

|                                                                                                                                                                                      |                                               |      |         |    |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|------|---------|----|------------|
| <i>Climacteris picumnus victoriae</i>                                                                                                                                                | Brown Treecreeper (eastern subspecies)        | NR   | -       | V  | Not listed |
| <i>Daphoenositta chrysoptera</i>                                                                                                                                                     | Varied Sittella                               | 1992 | 5km NW  | V  | Not listed |
| <i>Epthianura albifrons</i>                                                                                                                                                          | White fronted Chat                            | NR   | -       | V  | Not listed |
| <i>Glossopsitta pusilla</i>                                                                                                                                                          | Little Lorikeet                               | NR   | -       | V  | Not listed |
| <i>Grantiella picta</i>                                                                                                                                                              | Painted Honeyeater                            | NR   | -       | V  | Not listed |
| <i>Hieraaetus morphnoides</i>                                                                                                                                                        | Little Eagle                                  | NR   | -       | V  | Not listed |
| <i>Lathamus discolor</i>                                                                                                                                                             | Swift Parrot                                  | NR   | -       | E1 | E          |
| <i>Limosa limosa</i>                                                                                                                                                                 | Black-tailed Godwit                           | NR   | -       | V  | Not listed |
| <i>Lophoictinia isura</i>                                                                                                                                                            | Square Tailed Kite                            | NR   | -       | V  | Not listed |
| <i>Melanodryas cucullata cucullata</i>                                                                                                                                               | Hooded Robin (south eastern form)             | NR   | -       | V  | Not listed |
| <i>Melithreptus gularis gularis</i>                                                                                                                                                  | Black-chinned Honeyeater (eastern subspecies) | NR   | -       | V  | Not listed |
| <i>Neophema pulchella</i>                                                                                                                                                            | Turquoise Parrot                              | NR   | -       | V  | Not listed |
| <i>Ninox connivens</i>                                                                                                                                                               | Barking Owl                                   | NR   | -       | V  | Not listed |
| <i>Ninox strenua</i>                                                                                                                                                                 | Powerful Owl                                  | NR   | -       | V  | Not listed |
| <i>Oxyura australis</i>                                                                                                                                                              | Blue-billed Duck                              | 2009 | 4km SW  | V  | Not listed |
| <i>Petroica boodang</i>                                                                                                                                                              | Scarlet Robin                                 | NR   | -       | V  | Not listed |
| <i>Petroica phoenicea</i>                                                                                                                                                            | Flame Robin                                   | NR   | -       | V  | Not listed |
| <i>Polytelis swainsonii</i>                                                                                                                                                          | Superb Parrot                                 | 2010 | 4km NW  | V  | V          |
| <i>Pomatostomus temporalis temporalis</i>                                                                                                                                            | Grey-crowned Babbler (eastern subspecies)     | NR   | -       | V  | Not listed |
| <i>Rostratula australis</i>                                                                                                                                                          | Painted Snipe                                 | NR   | -       | E1 | E          |
| <i>Stagonopleura guttata</i>                                                                                                                                                         | Diamond Firetail                              | NR   | -       | V  | Not listed |
| <i>Stictonetta naevosa</i>                                                                                                                                                           | Freckled Duck                                 | 2009 | 4km SW  | V  | Not listed |
| <b>Amphibia</b>                                                                                                                                                                      |                                               |      |         |    |            |
| <i>Litoria booroolong</i>                                                                                                                                                            | Booroolong Frog                               | NR   | -       | E1 | E          |
| <i>Litoria castanea</i>                                                                                                                                                              | Yellow-spotted Tree Frog                      | NR   | -       | E4 | E          |
| <b>Reptilia</b>                                                                                                                                                                      |                                               |      |         |    |            |
| <i>Aprasia parapulchella</i>                                                                                                                                                         | Pink-tailed Worm Lizard                       | NR   | -       | V  | V          |
| <i>Suta flagellum</i>                                                                                                                                                                | Little Whip Snake                             | NR   | -       | V  | Not listed |
| <b>Flora</b>                                                                                                                                                                         |                                               |      |         |    |            |
| <i>Eucalyptus aggregata</i>                                                                                                                                                          | Black Gum                                     | NR   | -       | V  | Not listed |
| <i>Eucalyptus canobolensis</i>                                                                                                                                                       | Silver-leaf Candlebark                        | 1963 | 3.4km W | V  | E          |
| <i>Eucalyptus robertsonii subsp. hemisphaerica</i>                                                                                                                                   | Robertson's Peppermint                        | NR   | -       | V  | V          |
| <i>Swainsona recta</i>                                                                                                                                                               | Small Purple-pea                              | NR   | -       | E1 | E          |
| <i>Swainsona sericea</i>                                                                                                                                                             | Silky Swainson-pea                            | 1926 | 3.6km W | V  | Not listed |
| <b>Community</b>                                                                                                                                                                     |                                               |      |         |    |            |
| Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions                                                                                                   |                                               | NR   | -       | E3 | Not listed |
| Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions |                                               | NR   | -       | E3 | Not listed |
| White Box Yellow Box Blakely's Red Gum Woodland                                                                                                                                      |                                               | NR   | -       | E3 | CE         |

TSC Status - Legal status of a species according to the Threatened Species Act (1995)

E1 – Endangered

E4 – Extinct

V – Vulnerable

E2 – Endangered population

E4A – Critically endangered

V2 – Vulnerable ecological community

E3 – Endangered ecological community

E4B – Critically endangered ecological community

EPBC Status - Legal status of a species according to the Environment Protection and Biodiversity Conservation Act (1999)

CE – Critically endangered

E – Endangered

V – Vulnerable

Ex – Extinct

NR - Not recorded

## 6.4 Impacts of the development on flora and fauna

Current land-use of the site is zoned E3 - Environmental Management. Proposed land-use for Lot A will change to rural-residential. A dwelling, access road and lot entrance is existing on proposed Lot A. Land-use in a small section (approximately 3 hectares) will change to public recreational.

The land-use on the majority of the study area will remain similar to the current land-use of low intensity stock grazing.

The proposed sporting field complex and car park have been positioned within grassland areas and remnant tree removal will not be required to allow construction. Trees and shrubs within the tree line on the western boundary are not expected to require removal. Sufficient spacing between trees ensures boundary fencing and lot entrance can be constructed without tree removal. The western drainage line will be filled and flows directed into underground pipes.

The western drainage line is ephemeral and unlikely to provide permanent aquatic habitat for faunal species. The piping of flows is not expected to have a significant impact on flora and fauna.

Boundary fencing is recommended to be 90cm high stock proof fences constructed of plain wire to ensure free movement of native fauna. The fences are not expected to fragment populations or restrict faunal movement. Impact on flora and fauna species from boundary fence construction is not expected to be significant in the study area.

The use of the proposed sporting field complex and car park of the new Lot will result in an increase in the number of vehicles accessing the site. This increase is not expected to have a significant impact on flora and fauna.

An Assessment of Significance in accordance with Section 5a of the *Threatened Species Conservation Amendment Act (2002)* or EPBC Act considerations is not considered required as no impact on threatened species was identified from the development. The development is not expected to have a significant impact on the long-term survival of threatened species and communities within the South Eastern Highlands Bioregion.

## 7. Conclusions

The study area consists of modified grasslands and disturbed open woodlands. The development will be located within the modified grasslands. No threatened floral or faunal species or endangered ecological communities were observed on the site during the field surveys. Minimal habitat will be removed for the development and no impact on the threatened and endangered species with potential to occur in the study area is expected.

The development is not expected to have a significant impact on the long-term survival of threatened species and communities within the South Eastern Highlands Bioregion.

## **8. Limitations**

The assessment was preliminary and did not include a detailed trapping or spotlighting program. The information presented is thought to be accurate however Envirowest Consulting Pty Ltd will not be responsible for any errors or omissions or the results of any actions taken on the basis of the information.

## 9. References

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## Figures

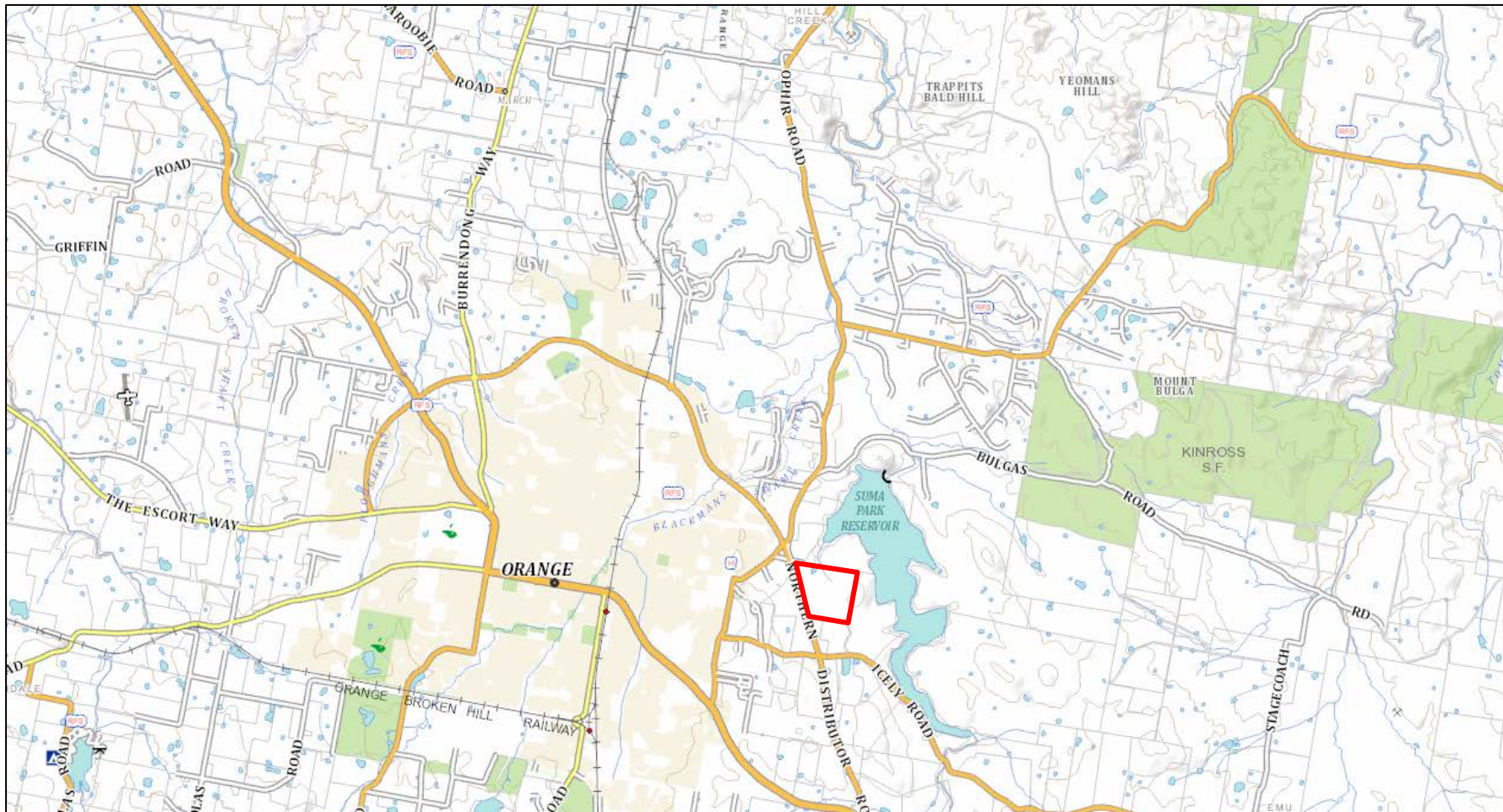
Figure 1. Study area locality map

Figure 2. Aerial photograph of the study area

Figure 3. Aerial photograph of the proposed development

Figure 4. Proposed subdivision and development

Figure 5. Photographs of the site



#### Legend

 Study area/subject site

Figure 1. Study area locality map

Lot 33 DP1012682 Priest Lane, Orange NSW



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Date: 24/9/2014





Figure 3

# Legend

— Study area/subject site

Approximate Scale 1: 6,400



Figure 2. Aerial photograph of the study area

Lot 33 DP1012682 Priest Lane, Orange NSW



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Drawn by: AP

Date: 29/9/2014





Figure 3. Aerial photograph of the proposed development

Lot 33 DP1012682 Priest Lane, Orange NSW

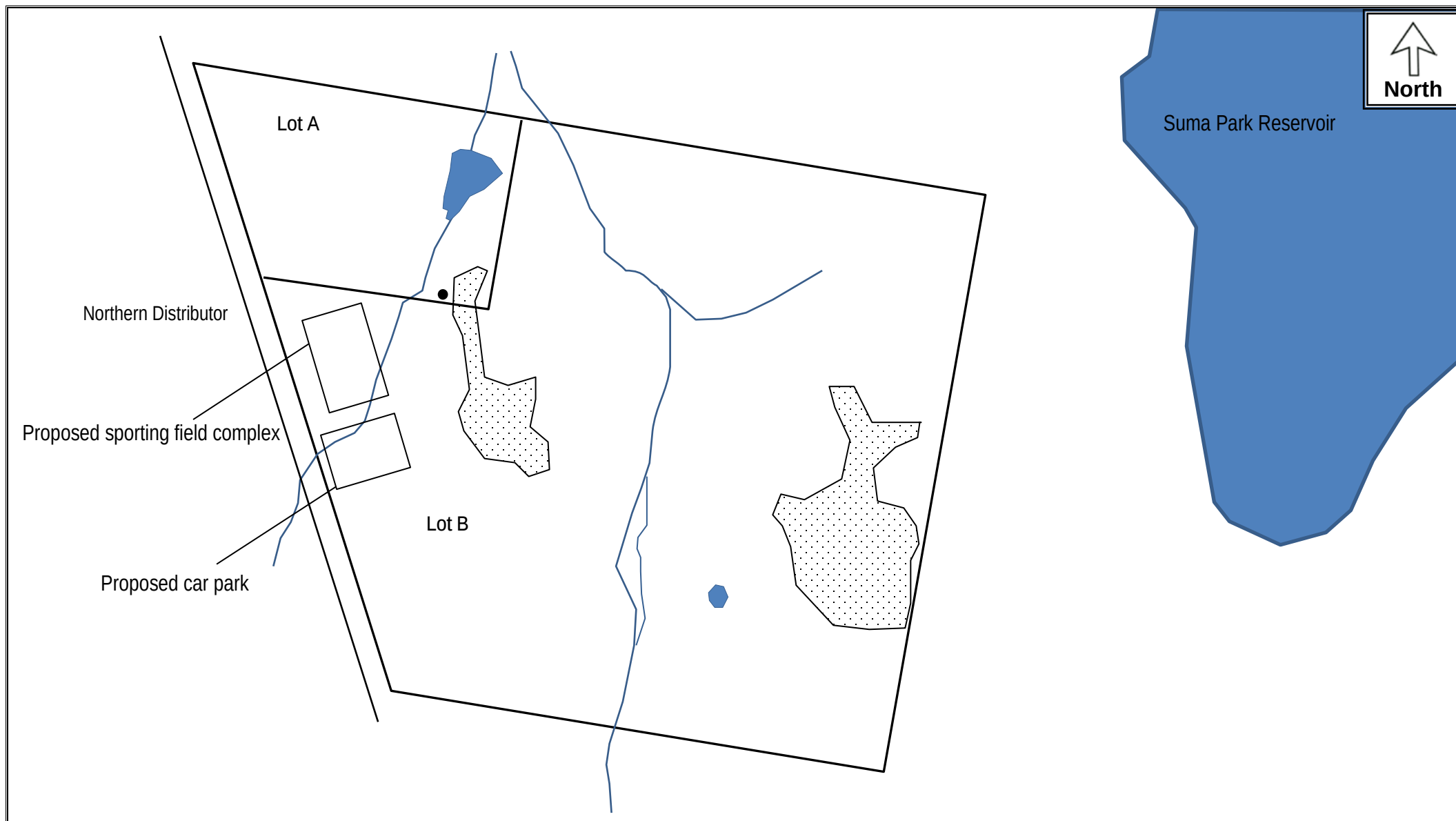


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Date: 29/9/2014



# Legend

-  Study area
-  Dam
-  Drainage Line
-  Open Woodlands
-  Bore

Figure 4. Proposed subdivision and vegetation types

Lot 33 DP1012682 Priest Lane, Orange NSW



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Date: 29/9/2014



Figure 5. Photographs of the study area



Grasslands in western section of lot- location of sports complex and car park



Western drainage line in grasslands



Open woodlands in the central section



Grassland with central drainage line and open woodlands on eastern ridge in background



Ornamental species, existing dwelling and driveway

## Appendices

Appendix 1. Impacts of the proposal on flora, fauna and communities

## Appendix 1. Impacts of the proposal on flora, fauna and communities

### Impacts of the proposal on flora, fauna and communities

#### 1. Species unlikely to be present

The preferred habitat and ecology of some species, identified as possibly present from the NSW Threatened Species website or have been identified within 5km of the subject site (Table 3) indicate they are unlikely to be present on the site. Some species can be reasonably excluded and do not require evaluation in the Assessment of Significance, “seven part test” or EPBC Act considerations. The species excluded and the basis for this are presented in the table below. Reasons for exclusion are listed as habitat likely to be impacted on. Information provided within the table, is referenced from the OEH Threatened Species Profile for individual species or Ayers *et al.* (1996).

| Species                                            | TSC Act | EPBC Act   | Occurrence | Habitat requirements                                                                                                                                                                                                                                                                                                                                        | Presence of habitat | Likelihood of occurrence | Potential impact                                                          |
|----------------------------------------------------|---------|------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------|---------------------------------------------------------------------------|
| <b>Mammals</b>                                     |         |            |            |                                                                                                                                                                                                                                                                                                                                                             |                     |                          |                                                                           |
| <i>Cercartetus nanus</i><br>Eastern Pygmy-possum   | V       | Not listed | P          | Eastern pygmy-possums inhabit rainforest to sclerophyll forests and woodland to heath. They feed on nectar and pollen from banksias, eucalypts and bottlebrushes, insects and soft fruits when there are no flowers. The eastern pygmy-possum shelters in tree hollows, rotten stumps, holes in the ground, abandoned bird-nests or thickets of vegetation. | Present             | Possible                 | No – minimal habitat is expected to be removed as part of the development |
| <i>Chalinolobus dwyeri</i><br>Large-eared Pied Bat | V       | V          | P          | Large-eared pied bats roost in caves, crevices in cliffs, old mine workings and in disused, bottle-shaped mud nests of the Fairy Martin. They inhabit well-timbered areas containing gullies. It is thought that the species probably forages for small, flying insects below the forest canopy.                                                            | Absent              | Unlikely                 | No                                                                        |

|                                                                    |   |            |                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |          |                                                                           |
|--------------------------------------------------------------------|---|------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|---------------------------------------------------------------------------|
| <i>Dasyurus maculates</i><br>Spotted-tailed Quoll                  | V | E          | P                          | The spotted tailed quoll is recorded within a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. The spotted tailed quoll requires hollow-bearing trees, fallen logs, small caves, rock crevices, boulder fields and rocky-cliff faces within its range to be used as den sites. The spotted tailed quoll feeds on a variety of prey including gliders, possums, small wallabies, rats, birds, bandicoots, rabbits and insects. Rocks and boulder fields are important habitat features for the spotted tailed quoll. | Marginal | Unlikely | No – minimal habitat is expected to be removed as part of the development |
| <i>Miniopterus schreibersii oceanensis</i><br>Eastern Bentwing-Bat | V | Not listed | 1 record from 2008 (2km S) | Primarily roosts in caves but also uses derelict mines, stormwater tunnels, buildings and other man-made structures. Hunts in forested areas, catching moths and other flying insects above the tree tops.                                                                                                                                                                                                                                                                                                                                                                                                                   | Marginal | Unlikely | No                                                                        |
| <i>Myotis macropus</i><br>Southern myotis                          | V | Not listed | P                          | Found along the coast and rarely more than 100km inland, except along major rivers. Generally roost in groups of 10 to 15 close to water in caves, mine shafts, hollow bearing trees, stormwater channels, buildings, under bridges and in dense foliage. Forage over streams and pools catching insects and small fish.                                                                                                                                                                                                                                                                                                     | Marginal | Unlikely | No – minimal habitat is expected to be removed as part of the development |
| <i>Petaurus australis</i><br>Yellow-bellied Glider                 | V | Not listed | P                          | Occur in tall mature eucalypt forests generally in areas with high rainfall and nutrient rich soils. Den in hollows of large trees.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Marginal | Unlikely | No                                                                        |
| <i>Petaurus norfolcensis</i><br>Squirrel Glider                    | V | Not listed | P                          | Inhabits mature or old growth Box, Box-Ironbark woodlands. Prefers mixed species stands with a shrub or Acacia mid-storey.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Absent   | Unlikely | No                                                                        |
| <i>Phascogale tapoatafa</i><br>Brush-tailed Phascogale             | V | Not listed | P                          | Prefers dry sclerophyll open forest with sparse groundcover of herbs, grasses, shrubs or leaf litter. Also inhabit heath, swamps, rainforest and wet sclerophyll forest. Agile climber foraging preferentially in rough barked trees of 25cm DBH or greater. Nest and shelter in tree hollows.                                                                                                                                                                                                                                                                                                                               | Absent   | Unlikely | No                                                                        |
| <i>Phascolarctos cinereus</i><br>Koala                             | V | V          | P                          | The koala is an arboreal mammal and is dependent on good tree coverage. Koalas mainly occur on the central and north coasts with some populations in the western region. They inhabit eucalypt woodlands and forests where acceptable food trees are present.                                                                                                                                                                                                                                                                                                                                                                | Marginal | No       | No – minimal habitat is expected to be removed as part of the development |

|                                                                   |    |            |                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |          |                                                                           |
|-------------------------------------------------------------------|----|------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|---------------------------------------------------------------------------|
| <i>Pteropus poliocephalus</i><br>Grey-headed Flying-fox           | V  | V          | 2 records from 2010 (4km W) and 2011 (2.3km S) | Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. Feed on the nectar and pollen of native trees, in particular <i>Eucalyptus</i> , <i>Melaleuca</i> and <i>Banksia</i> , and fruits of rainforest trees and vines.                                                                                                                                          | Present  | Possible | No – minimal habitat is expected to be removed as part of the development |
| <i>Saccolaimus flaviventris</i><br>Yellow Bellied Sheath-tail Bat | V  | Not listed | P                                              | Yellow-bellied sheath-tail bats forage in most habitats for insects. They roost singly or in groups in tree hollows and buildings. In treeless areas they are known to utilise mammal burrows.                                                                                                                                                                                                                                                                           | Present  | Possible | No – minimal habitat is expected to be removed as part of the development |
| <b>Avifauna</b>                                                   |    |            |                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |          |                                                                           |
| <i>Anthochaera phrygia</i><br>Regent Honeyeater                   | E4 | E          | P                                              | Most commonly found in box-ironbark woodlands and will also inhabit swamp mahogany forests and riverine she-oak woodlands. Remnant stands of timber, roadside reserves, travelling stock routes and street trees also provide habitat. The regent honeyeater mainly feeds on the nectar from a wide range of eucalypts and mistletoes. They also feed on fruit from mistletoe and insects. A shrubby understorey is an important source of insects and nesting material. | Absent   | Unlikely | No                                                                        |
| <i>Botaurus poiciloptilus</i><br>Australasian Bittern             | E1 | E          | P                                              | Favours permanent freshwater wetlands with tall, dense vegetation particularly bulrushes and spikerushes. Feeds mainly at night on frogs, fish, yabbies, spiders, insects and snails.                                                                                                                                                                                                                                                                                    | Absent   | Unlikely | No                                                                        |
| <i>Burhinus grallarius</i><br>Bush Stone-curlew                   | E1 | Not listed | P                                              | Inhabits open forest and woodlands with a sparse grassy ground layer and fallen timber. It is largely nocturnal and especially active on moonlit nights. The bush stone-curlew feeds on insects and small vertebrates such as frogs, lizards and snakes. They form a nest on the ground in a scrape or small bare patch.                                                                                                                                                 | Marginal | Possible | No – minimal habitat is expected to be removed as part of the development |
| <i>Callocephalon fimbriatum</i><br>Gang-gang Cockatoo             | V  | Not listed | P                                              | In summer, generally found in tall mountain forests and woodlands particularly in heavily timbered and mature wet sclerophyll forests. In winter, may occur at lower altitudes in drier more open forests and woodlands particularly box-ironbark assemblages. Favours old growth attributes for nesting and roosting.                                                                                                                                                   | Absent   | Unlikely | No                                                                        |

|                                                                                    |   |            |                             |                                                                                                                                                                                                                                                                                                                                                                        |          |          |                                                                           |
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| <i>Calyptorhynchus lathamii</i><br>Glossy Black Cockatoo                           | V | Not listed | P                           | Inhabits open forest and woodlands with stands of sheoak species.                                                                                                                                                                                                                                                                                                      | Absent   | Unlikely | No                                                                        |
| <i>Chthonicola sagittatus</i><br>Speckled Warbler                                  | V | Not listed | P                           | Lives in a wide range of <i>Eucalyptus</i> dominated communities that have a grassy understorey. Typical habitat includes scattered native tussock grasses, a sparse shrub layer, some eucalypt regrowth and an open canopy. Large, relatively undisturbed remnants are required for the species to persist in an area.                                                | Present  | Possible | No – minimal habitat is expected to be removed as part of the development |
| <i>Circus assimilis</i><br>Spotted Harrier                                         | V | Not listed | P                           | The Spotted Harrier is found in open wooded country in tropical and temperate Australia, particularly in arid and semi-arid areas. It hunts by day on ground birds, mice, rats, rabbits and lizards. The nest is built in trees in open or remnant woodland.                                                                                                           | Marginal | Possible | No – minimal habitat is expected to be removed as part of the development |
| <i>Climacteris picumnus victoriae</i><br>Brown Treecreeper<br>(eastern subspecies) | V | Not listed | P                           | Widespread within eastern Australia, occurring in eucalypt forests and woodlands of inland plains and slopes of the Great Dividing Range. They forage in trees and on the ground for insects, mostly ants. They also feed on nectar from Mugga Ironbark and paperbark, lizards and food scraps. The brown treecreeper nests in hollows of dead standing or live trees. | Present  | Possible | No – minimal habitat is expected to be removed as part of the development |
| <i>Daphoenositta chrysoptera</i><br>Varied Sittella                                | V | Not listed | 1 record from 1992 (5km NW) | Varied Sittella are found in eucalypt woodlands and forests. They prefer rough-barked trees like stringybarks and ironbarks or mature trees with hollows or dead branches. They feed mainly by gleaning on tree trunks or branches looking for insects. The nest is a deep open cup of bark and spiderweb.                                                             | Present  | Possible | No – minimal habitat is expected to be removed as part of the development |
| <i>Epthianura albifrons</i><br>White fronted Chat                                  | V | Not listed | P                           | Found mostly in temperate to arid climates and very rarely sub-tropical areas, it occupies foothills and lowlands up to 1000m above sea level. It occurs mostly in the southern half of NSW in damp open habitats along the coast and near waterways in the western part. Forages on bare or grassy ground in wetland areas.                                           | Marginal | Possible | No – minimal habitat is expected to be removed as part of the development |



|                                                |    |            |   |                                                                                                                                                                                                                                                                                                                                                                                                 |          |          |                                                                           |
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| <i>Glossopsitta pusilla</i><br>Little Lorikeet | V  | Not listed | P | The Little Lorikeet is found in dry, open eucalypt forests and woodlands. They forage in small flocks, feeding primarily on nectar and pollen in the tree canopy. On the Western Slopes and Tablelands, White Box and Yellow Box are particularly important food sources for pollen and nectar. The nest hollows are located at heights of between 2 and 15m in living smooth-barked eucalypts. | Present  | Possible | No – minimal habitat is expected to be removed as part of the development |
| <i>Grantiella picta</i><br>Painted Honeyeater  | V  | Not listed | P | Inhabits boree, brigalow and box-gum woodlands and box-ironbark forests. Specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias. Nest from spring to autumn in a small delicate nest hanging within the outer canopy of drooping eucalypts, she-oak, paperbark or mistletoes branches.                                                                         | Present  | Possible | No – minimal habitat is expected to be removed as part of the development |
| <i>Hieraaetus morphnoides</i><br>Little Eagle  | V  | Not listed | P | The Little Eagle is seen over woodland and forested lands and open country extending into the arid zone. It tends to avoid rainforest and heavy forest. It searches for prey on the wind and from a high exposed perch. Prey includes rabbits, other live mammals and insects. They nest in mature living trees in open woodland or tree lined watercourses and rarely in isolated trees.       | Present  | Possible | No – minimal habitat is expected to be removed as part of the development |
| <i>Lathamus discolor</i><br>Swift Parrot       | E1 | E          | P | Breeding in Tasmania and its nearby islands the swift parrot migrates to south-eastern Australia to feed during winter. Inhabiting winter flowering species such as Red Ironbark, Yellow Gum, White Box, Swamp Gum and Manna Gum that have an association with psyllid infestations.                                                                                                            | Marginal | Unlikely | No – minimal habitat is expected to be removed as part of the development |
| <i>Limosa limosa</i><br>Black-tailed Godwit    | V  | Not listed | P | Primarily found along the coast, usually in sheltered bays, estuaries and lagoons with large intertidal mudflats and/or sandflats. This species also occurs inland on mudflats and in large muddy lakes and swamps where the water is less than 10cm deep. Forages for insects, crustaceans, molluscs, worms, larvae, spiders, fish eggs, frog eggs and tadpoles in soft mud or shallow water.  | Absent   | Unlikely | No                                                                        |

|                                                                              |   |            |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |          |                                                                           |
|------------------------------------------------------------------------------|---|------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|---------------------------------------------------------------------------|
| <i>Lophoictinia isura</i><br>Square Tailed Kite                              | V | Not listed | P | The square tailed kite ranges along coastal and subcoastal areas from south western to northern Australia. Scattered records in NSW indicate that the species is a regular resident in the north, north east and along the major west flowing river systems. The square tailed kite is found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses.                                                 | Absent   | Unlikely | No                                                                        |
| <i>Melanodryas cucullata</i><br>Hooded Robin (south eastern form)            | V | Not listed | P | Prefers lightly wooded country, usually open eucalypt woodland, acacia scrub and mallee. The habitat needs to be structurally diverse with mature eucalypts, saplings, small shrubs and tall native grasses. The hooded robin feeds on insects. They nest in a tree fork or crevice using bark and grasses to form the nest.                                                                                                                                                      | Marginal | Possible | No – minimal habitat is expected to be removed as part of the development |
| <i>Melithreptus gularis</i><br>Black-chinned Honeyeater (Eastern subspecies) | V | Not listed | P | Inhabits drier open forests or woodlands dominated by box and ironbark eucalypts. It also inhabits open forests of smooth-barked gums, stringybarks, ironbarks and tea-trees. The black-chinned honeyeater moves quickly from tree to tree, foraging rapidly along outer twigs, underside of branches and trunks, probing for insects. Nectar is taken from flowers and honeydew is gleaned from foliage. The nest is placed high in the crown of the tree and hidden by foliage. | Present  | Possible | No – minimal habitat is expected to be removed as part of the development |
| <i>Neophema pulchella</i><br>Turquoise Parrot                                | V | Not listed | P | Extending from southern Queensland through to northern Victoria, from the coastal plains to the western slopes of the Great Dividing Range the turquoise parrot lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. They prefer to feed in the shade of a tree and spends most of the day on the ground searching for the seeds of grasses and herbaceous plants. The turquoise parrot nests in tree hollows, logs or posts.     | Present  | Possible | No – minimal habitat is expected to be removed as part of the development |
| <i>Ninox connivens</i><br>Barking Owl                                        | V | Not listed | P | Inhabits eucalypt woodland, open forest, swamp woodlands and, especially in inland areas, timber along watercourses. Denser vegetation is used occasionally for roosting. The barking owl feeds on a variety of prey with invertebrates predominant for most of the years and birds and small mammals becoming important during breeding.                                                                                                                                         | Present  | Possible | No – minimal habitat is expected to be removed as part of the development |

|                                             |   |            |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |          |                                                                             |
|---------------------------------------------|---|------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-----------------------------------------------------------------------------|
| <i>Ninox strenua</i><br>Powerful Owl        | V | Not listed | P                                                 | Primarily distributed on coast, inhabits dense vegetation & old trees in sheltered gullies. The powerful owl inhabits a range of vegetation types from woodland and open sclerophyll forest to tall open wet forest and rainforest. It requires large tracts of forest or woodland but can occur in fragmented landscapes. Breeding and hunting is undertaken in open or closed sclerophyll forest or woodlands and occasionally hunts in open habitats.                                                                                          | Present  | Possible | No – minimal habitat is expected to be removed as part of the development   |
| <i>Oxyura australis</i><br>Blue-billed Duck | V | Not listed | 1 record from 2009 (4km SW)                       | Prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation. Blue-billed ducks will feed by day far from the shore, particularly if dense cover is available in the central parts of the wetland.                                                                                                                                                                                                                                                                                                                     | Marginal | Possible | No – minimal habitat is expected to be disturbed as part of the development |
| <i>Petroica boodang</i><br>Scarlet Robin    | V | Not listed | P                                                 | The Scarlet Robin lives in mature and regrowth eucalypt forest and woodlands. In autumn and winter, many Scarlet Robins live in open grassy woodland and grasslands or grazed paddocks with scattered trees. They forage insects and other invertebrates from low perches, fenceposts or on the ground. The nest is an open cup made of plant fibres and cobwebs and is built in the fork of a tree.                                                                                                                                              | Present  | Possible | No – minimal habitat is expected to be removed as part of the development   |
| <i>Petroica phoenicea</i><br>Flame Robin    | V | Not listed | P                                                 | The Flame Robin breeds in upland tall moist eucalypt forests and woodlands and prefer clearings or areas with open understoreys. In winter, they migrate to drier more open habitats in the lowlands and live in dry forests, open woodlands and in pastures and native grasslands with or without scattered trees. They forage small invertebrates from low perches or take flying insects in the air.                                                                                                                                           | Present  | Possible | No – minimal habitat is expected to be removed as part of the development   |
| <i>Polytelis swansonii</i><br>Superb Parrot | V | V          | 88 records from 2007 (5km SW) to 2010 (4.05km NW) | Inhabits box-gum, box-cypress pine and boree woodlands and river red gum forest or woodland. In the Riverina the birds nest in the hollows of large trees mainly in tall riparian river red gum forest or woodland. On the South West Slopes nest trees can be in open Box-Gum Woodland or isolated paddock trees. The superb parrot may forage up to 10km from nesting sites, primarily in grassy box woodland. They feed in trees and understorey shrubs and on the ground and their diet consists mainly of grass seeds and herbaceous plants. | Present  | Possible | No – minimal habitat is expected to be removed as part of the development   |

|                                                                                           |    |            |                             |                                                                                                                                                                                                                                                                                                                                                                                    |          |          |                                                                             |
|-------------------------------------------------------------------------------------------|----|------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-----------------------------------------------------------------------------|
| <i>Pomatostomus temporalis temporalis</i><br>Grey-crowned Babbler<br>(eastern subspecies) | V  | Not listed | P                           | Inhabits open box-gum woodland on the slopes and box-cypress pine and open box woodlands on alluvial plains. Flight is laborious with birds hopping to the top of a tree and gliding down to the next. Birds are generally unable to cross large open areas. The grey-crowned babbler feeds on invertebrates.                                                                      | Present  | Possible | No – minimal habitat is expected to be removed as part of the development   |
| <i>Rostratula australis</i><br>Painted Snipe                                              | E1 | E          | P                           | Inhabits fringes of swamps, dams and marshy areas with a cover of grasses, lignum, low scrub or open timber. The nest is constructed on the ground amongst tall vegetation such as grasses and leaves.                                                                                                                                                                             | Marginal | Unlikely | No – minimal habitat is expected to be disturbed as part of the development |
| <i>Stagonopleura guttata</i><br>Diamond Firetail                                          | V  | Not listed | P                           | It is found in grassy woodlands as well as open forest, mallee and natural temperate grassland. The diamond firetail feeds on the ground on ripe and partly ripe grass and herb seeds, green leaves and insects. Nests are globular structures built in either the shrubby understorey or higher up. They roost in dense shrubs or in smaller nests.                               | Present  | Possible | No – minimal habitat is expected to be removed as part of the development   |
| <i>Stictonetta naevosa</i><br>Freckled Duck                                               | V  | Not listed | 1 record from 2009 (4km SW) | Prefers permanent freshwater swamps and creeks with heavy growth of Cumbungi, Lignum or Tea-tree. The freckled duck moves to more permanent waters such as lakes, reservoirs, farm dams and sewage ponds during drier times. They rest during the day and feed at dawn, dusk and night on algae, seeds and vegetative parts of aquatic grasses and sedges and small invertebrates. | Present  | Possible | No – minimal habitat is expected to be disturbed as part of the development |
| <b>Amphibia</b>                                                                           |    |            |                             |                                                                                                                                                                                                                                                                                                                                                                                    |          |          |                                                                             |
| <i>Litoria booroolongensis</i><br>Booroolong Frog                                         | E1 | E          | P                           | Aquatic species inhabiting vegetation within or at the edges of permanent or ephemeral water with some fringing vegetation cover. The booroolong frog shelters under rocks or amongst vegetation near the ground on the stream edge.                                                                                                                                               | Present  | Possible | No – minimal habitat is expected to be disturbed as part of the development |

|                                                                                        |    |            |                              |                                                                                                                                                                                                                                                                                                                                                                                                                         |          |          |                                                                             |
|----------------------------------------------------------------------------------------|----|------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-----------------------------------------------------------------------------|
| <i>Litoria castanea</i><br>Yellow-spotted Tree Frog                                    | E4 | E          | P                            | There is only a single known population of the Yellow-spotted Tree Frog which occurs on the Southern Tablelands. Historically, this species occurred in two separate highland ranges including the central highlands from Bathurst/Orange to Bombala. The Yellow-spotted Tree Frog requires large permanent ponds or slow flowing streams with plenty of emergent vegetation such as bulrushes.                         | Present  | Possible | No – minimal habitat is expected to be disturbed as part of the development |
| <b>Reptilia</b>                                                                        |    |            |                              |                                                                                                                                                                                                                                                                                                                                                                                                                         |          |          |                                                                             |
| <i>Aprasia parapulchella</i><br>Pink-tailed Worm Lizard                                | V  | V          | P                            | The pink-tailed worm lizard is only known from the Central and Southern Tablelands and the South Western Slopes. Inhabits sloping, open woodlands with predominantly native grassy groundlayers particularly those dominated by kangaroo grass. Sites are typically well-drained, with rocky outcrops or scattered, partially buried rocks.                                                                             | Present  | Possible | No – minimal habitat is expected to be removed as part of the development   |
| <i>Suta flagellum</i><br>Little Whip Snake                                             | V  | Not listed | P                            | Distribution extends north to Crookwell. They occur in Natural Temperate Grasslands and grassy woodlands including those dominated by snow gum and yellow box on well drained hillside with scattered loose rocks. Most individuals are found under rocks or logs lying on or partially embedded in the soil.                                                                                                           | Present  | Possible | No – minimal habitat is expected to be removed as part of the development   |
| <b>Flora</b>                                                                           |    |            |                              |                                                                                                                                                                                                                                                                                                                                                                                                                         |          |          |                                                                             |
| <i>Eucalyptus aggregata</i><br>Black Gum                                               | V  | Not listed | P                            | Black Gum occurs mainly in the wetter, cooler and higher parts of the Central and Southern Tablelands. They grow in the lowest parts of the landscape on alluvial soils on cold, poorly drained flats and hollows adjacent to creeks and small rivers, often grows with other cold-adapted eucalypts such as <i>E. pauciflora</i> , <i>E. viminalis</i> , <i>E. rubida</i> , <i>E. stellulata</i> and <i>E. ovata</i> . | Absent   | Unlikely | No                                                                          |
| <i>Eucalyptus canobolensis</i><br>Silver-leaf Candlebark                               | V  | E          | 1 record from 1963 (3.4km W) | Known only from Mt Canobolas near Orange. Found predominantly between 1100-1300m. The species is more or less restricted to the Mt Canobolas State Recreation Area.                                                                                                                                                                                                                                                     | Absent   | Unlikely | No                                                                          |
| <i>Eucalyptus robertsonii</i><br>subsp. <i>hemisphaerica</i><br>Robertson's Peppermint | V  | V          | P                            | Found only in the central tablelands of NSW, east and south east of Bathurst and Orange. They are locally frequent in grassy or dry sclerophyll woodland or forest on lighter soils and often on granite. Associated vegetation includes mixed woodlands of <i>Eucalyptus piperita</i> , <i>E. goniocalyx</i> , <i>E. dalrympleana</i> , <i>E. dives</i> , <i>E. mannifera</i> and <i>E. rossii</i> .                   | Marginal | Possible | No – minimal habitat is expected to be removed as part of the development   |

|                                                                                                                                                                                      |    |            |                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |          |                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|---------------------------------------------------------------------------|
| Swainsona recta<br>Small Purple-pea                                                                                                                                                  | E1 | E          | P                            | Historically recorded from Carcoar, Culcairn and Wagga Wagga where it is now probably extinct. Populations still exist in the Queanbeyan and Wellington-Mudgee areas. Before European settlement it occurred in the grassy understorey of woodlands and open forests dominated by <i>Eucalyptus blakelyi</i> , <i>E. melliodora</i> , <i>E. rubida</i> and <i>E. goniocalyx</i> .                                                                                                                                                                                                                                                                                                            | Marginal | Unlikely | No – minimal habitat is expected to be removed as part of the development |
| Swainsona sericea<br>Silky Swainson-pea                                                                                                                                              | V  | Not listed | 1 record from 1926 (3.6km W) | Found in temperate grassland and snow gum woodland on the Monaro and box-gum woodland in the southern tablelands and south west slopes. Sometimes found in association with cypress pines.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Marginal | Unlikely | No – minimal habitat is expected to be removed as part of the development |
| Ecological communities                                                                                                                                                               |    |            |                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |          |                                                                           |
| Tablelands Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions                                                                                                  | E3 | Not listed | P                            | Dominated by an open canopy of species including <i>E. viminialis</i> , <i>E. radiata</i> , <i>E. dalrympleana</i> subsp. <i>dalrympleana</i> and <i>E. pauciflora</i> . Typically occurs on loam or clay soils associated with basalt or less commonly alluvium, fine grained sedimentary rocks, granites and similar substrates. Occurs at altitudes between 600m to 900m above sea level.                                                                                                                                                                                                                                                                                                 | Absent   | Unlikely | No                                                                        |
| Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions | E3 | Not listed | P                            | Tablelands Snow Gum Grassy Woodland is an open woodland community which sometimes occurs as an open forest formation, in which the most obvious species are <i>E. pauciflora</i> (Snow Gum), <i>E. stelluata</i> (Black Sallee), <i>E. rubida</i> (Candlebark) and/or <i>E. viminalis</i> (Ribbon Gum). The community occurs on valley floors, margins of frost hollows, footslopes and undulating hills at altitudes of between 600 and 1400m. Remnants generally occur on fertile lower parts of the landscape where resources such as water and nutrients are abundant. The community occurs on a variety of substrates including granite, basalt, metasediments and Quaternary alluvium. | Present  | Possible | No                                                                        |
| White Box Yellow Box Blakely's Red Gum Woodland                                                                                                                                      | E3 | Not listed | P                            | Open woodland community in which the most obvious species are White Box, Yellow Box and/or Blakely's Red Gum. The NSW definition of this community differs from the federal definition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Present  | Possible | No                                                                        |

## Codes

### Occurrence

Species known to occur were identified in the search area on the Bionet database or from field surveys. Predicted (P) species were identified from the Bionet database.

### Presence of habitat

- Present: Potential or known suitable habitat features such as soil type, geology, moisture content, topography, aspect and/or altitude or presence of associated species/vegetation type.
- Marginal: Some suitable habitat features such as soil type, geology, moisture content, topography, aspect and/or altitude or presence of some associated species/vegetation type.
- Absent: No suitable resources/landscape/associated species present.

### Likelihood of occurrence

- None: Species does not occur on the site.
- Unlikely: Species not likely to occur on the site.
- Possible: Species could occur and habitat may be suitable.
- Present: Species recorded on the site during site inspections.

### Potential impact

- No: The development would not impact the species or habitat and no impact expected. No Assessment of Significance and/or EPBC Act considerations required.
- Yes: The development could impact the species and an Assessment of Significance and/or EPBC Act considerations has been undertaken.



18 November 2014

Orange City Council  
PO Box 35  
Orange NSW 2800  
Attention: Kathy Woolley

Ref: L14387

Dear Kathy,

Aboriginal archaeological site investigation, Lot 33 DP1012682 Priest Lane, Orange NSW

**1. Background**

A development is proposed for Lot 33 DP1012682 Priest Lane, Orange NSW. The development will involve the creation of a proposed sporting field complex and car park. The site comprises cleared agricultural land historically used for grazing and cropping.

An archaeological assessment is required as part of the development application.

**2. Scope**

- Search of the Department of Environment, Climate Change and Water Aboriginal Heritage Information Management System (AHIMS) for Aboriginal archaeological sites within Lot 33 DP1012682 Priest Lane, Orange NSW.

**3. Method**

The AHIMS database was searched for Aboriginal sites or places in or near the investigation area.

**4. Results**

**4.1 AHIMS search**

The AHIMS search was undertaken on Lot 33 DP1012682, with a buffer of 50 metres.

The search of the AHIMS database found no records of Aboriginal sites or places recorded on or near Lot 33 DP1012682.

A copy of the report is included as Attachment 1.

**6. Impact of the development**

There are no aboriginal sites or places in or near the proposed development that may be impacted.

**7. Conclusion**

No aboriginal sites or places were identified on Lot 33 DP1012682 Priest Lane, Orange NSW.

**8. Recommendations**

No aboriginal sites or places will be impacted upon by the proposed development.



9. References

NSW OEH (accessed 26 September 2014)

<http://www.environment.nsw.gov.au/licences/AboriginalHeritageInformationManagementSystem.htm>

Please call if you require additional information.

Regards

A handwritten signature in dark ink, appearing to read 'Ashleigh Pickering', is written over a light grey rectangular background.

Ashleigh Pickering  
Environmental Scientist

Attachment 1. Results of AHIMS search

Envirowest Consulting Pty Ltd

Date: 26 September 2014

Attention: Leah Desborough

Email: leah@envirowest.net.au

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Lot : 33, DP:DP1012682 with a Buffer of 50 meters, conducted by Leah Desborough on 26 September 2014.**

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

|   |                                                                       |
|---|-----------------------------------------------------------------------|
| 0 | Aboriginal sites are recorded in or near the above location.          |
| 0 | Aboriginal places have been declared in or near the above location. * |

**If your search shows Aboriginal sites or places what should you do?**

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(http://www.nsw.gov.au/gazette\)](http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

**Important information about your AHIMS search**

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.