Werrington Biodiversity and Bushfire Due Diligence

Lendlease Communities (Australia) Pty Ltd

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DOCUMENT TRACKING

Project Name	Werrington Biodiversity and Bushfire Due Diligence
Project Number	18WOL_11706
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Status	**Draft**
Version Number	**1**
Last saved on	**28 May 2019**

This report should be cited as 'Eco Logical Australia 2018. *Werrington Biodiversity Due Diligence*. Prepared for Lendlease Communities (Australia) Pty Ltd.'

ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from Lendlease Communities.

Template 2.8.1

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Abbreviations

Abbreviation	Description
APZ	Asset Protection Zone
BAM	Biodiversity Assessment Method – a method to quantify the value of biodiversity in NSW
BBAM	BioBanking Assessment Methodology – a method to quantify the value of biodiversity in NSW now superseded by BAM
BC Act	*Biodiversity Conservation Act 2016* – new legislation governing listing and assessment of threatened matters in NSW
ELA	Eco Logical Australia Pty Ltd
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* – Commonwealth legislation governing the listing, assessment and protection of nationally listed threatened matters
PBP	*Planning for Bush Fire Protection*
PCT	Plant Community Type – a system of classifying native vegetation in NSW
SAII	Serious and Irreversible Impacts - those impacts which are likely to contribute significantly to the risk of extinction of a threatened species or ecological community in New South Wales
WSU	Western Sydney University

1. Introduction

Eco Logical Australia Pty Ltd (ELA) was commissioned by Lendlease to undertake a due diligence assessment of an area at Werrington Lot 1 DP1226122, to serve as a potential development or offset site. The site is in the Penrith Local Government Area (LGA). The study area lies adjacent to the University of Western Sydney's Werrington campus, the Cobham Juvenile Detention Centre, Wollemi College, residential housing and the Blue Mountains Railway Line.

BIODIVERSITY DUE DILLIGENCE

The aim of this study was to examine the potential credit generation and credit requirements associated with the proposed establishment of a Stewardship Agreement Site and/or the potential options for development within the site. The lands subject to this due diligence covers a total area of approximately 27 ha and is hereon referred to as the subject land. Credit calculations were based on the 2016 Biodiversity Offsets Scheme (BOS).

The NSW Government commenced reforms of the *Threatened Species Conservation Act 1995* (TSC Act) and the *Native Vegetation Act 2003* (NV Act) in 2014. In November 2016, the NSW parliament passed the *Biodiversity Conservation Act 2016* (BC Act). This new legislation repeals the TSC Act. The BC Act commenced on 25 August 2017. Among other changes, the BC Act introduces new mandatory requirements for biodiversity assessment and reporting and will require proponents to offset biodiversity impacts by retiring biodiversity credits. This is a significant change to the status quo and will most likely result in a significant market for biodiversity credits in NSW.

The Penrith LGA is one of the seven western Sydney council areas to be included as an Interim Designated Area under the *Biodiversity Conservation (Savings and Transitional) Regulation 2017*. This means that until 25 November 2019, the former planning provisions apply to development assessment regarding threatened species, communities and their habitats.

As part of biodiversity reforms, the State Government has established the Biodiversity Assessment Method (BAM) which replaces other methodologies such as the BioBanking Assessment Methodology (BBAM). The BAM is based on these previous methodologies and determines the number and type of credits required at a development site, and the number and type of credits created at a Biodiversity Stewardship site (previously called 'BioBank' sites).

Like BioBanking, the new Biodiversity Offset Scheme is a market-based system where landowners may enter into a Biodiversity Stewardship Agreement to ensure no net loss of biodiversity values by undertaking management actions such as fencing, feral animal control and weed control. The agreement is registered on title and requires current and future landowners to manage the land consistent with the agreement.

The study determined the potential number of 'ecosystem credits' that may be generated within the subject property and estimated management costs of the subject land. Credit pricing was assessed based on inspections of the BioBanking public registers and the new Biodiversity Offsets Payment Calculator.

BUSHFIRE DUE DILLIGENCE

This component consists of a review of the previous bushfire report[1] to provide advice on relevance to the current proposed footprint and in the context of new or updated legislation.

2. Biodiversity Due Diligence - methodology and existing environment

2.1 Methodology

2.1.1 Literature and data review

The following information and data sources were reviewed prior to the field survey:

- BioNet database (OEH 2018a)
- Office of Environment and Heritage (OEH) BioNet vegetation Classification online dataset (OEH 2018b)
- OEH public registers for biodiversity credit transactions (OEH 2018c)
- previous biobank agreement site management costing spread sheets (various ELA reports)
- aerial photography
- NSW planning portal
- Biodiversity Values Map (OEH 2018d)
- Native Vegetation Maps of the Cumberland Plain, Western Sydney (OEH 2013)
- Native vegetation maps of western Sydney (NPWS 2002).

ELA reviewed existing vegetation mapping for the subject property to identify the indicative boundary and vegetation types within the potential impact and offset sites. This information was collated to inform the potential requirements of the field survey.

2.1.2 Field survey

Field survey was conducted on 18 October 2018 by ELA ecologist Dr Meredith Henderson for a total of 5 person hours. Field survey focused on validating the previously mapped vegetation communities within the subject land. This included an assessment of condition for each vegetation community present.

2.2 Data review

2.2.1 Vegetation mapping

Parts of the subject land had been mapped by OEH (2013) and NPWS (2002) as Shale Plains Woodland. Shale Plains Woodland is a subset of the threatened ecological community Cumberland Plain Woodland in the Sydney Basin Bioregion, listed as critically endangered under the BC Act (Figure 1). The community may meet the definition of the threatened ecological community Cumberland Plain Shale Woodlands

[1] Australian Bushfire Protection Planners Pty Ltd (2014) Bushfire Protection Assessment for the Proposed South Werrington Urban Village On Lot 102 in DP 1140594 Walker Street, Werrington for the Universal Property Group Pty Ltd.

and Shale-Gravel Transition Forest, listed as critically endangered under the EPBC Act. To meet the EPBC Act definition as outlined in the listing advice, the patches of vegetation must at least:

- contain canopy tree cover of more than 10% and be dominated by characteristic species, which are typically *Eucalyptus moluccana*, *E. tereticornis* and / or *E. fibrosa*
- have a patch size of ≥ 0.5 ha
- be comprised of ≥ 30% native perennial species in the understorey
- contain at least one tree with hollows per hectare or at least one large tree (≥ 80 cm DBH) per hectare from the upper tree layer species which are typical for this community.

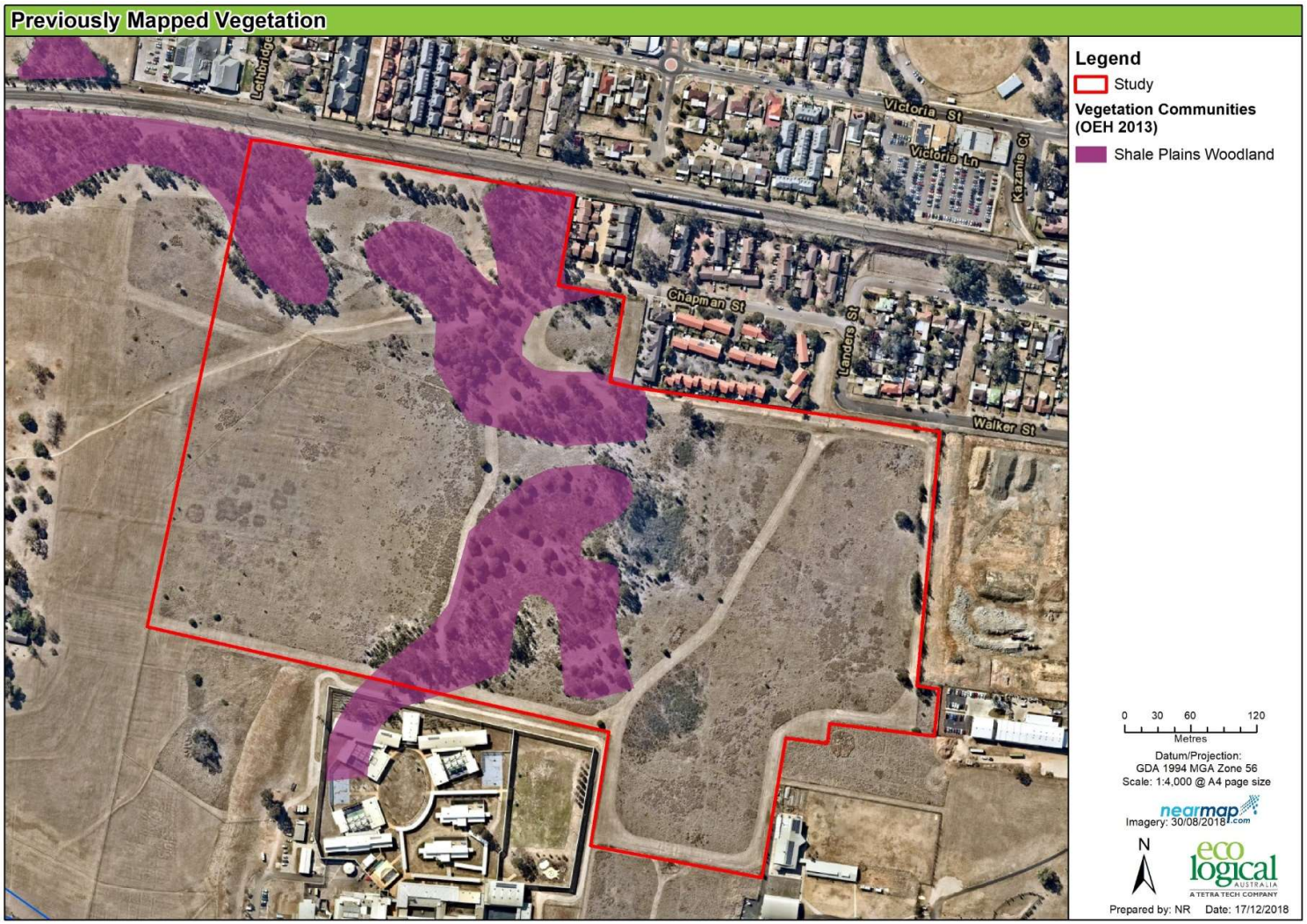

Figure 1: Previously mapped vegetation in the study area (OEH 2013)

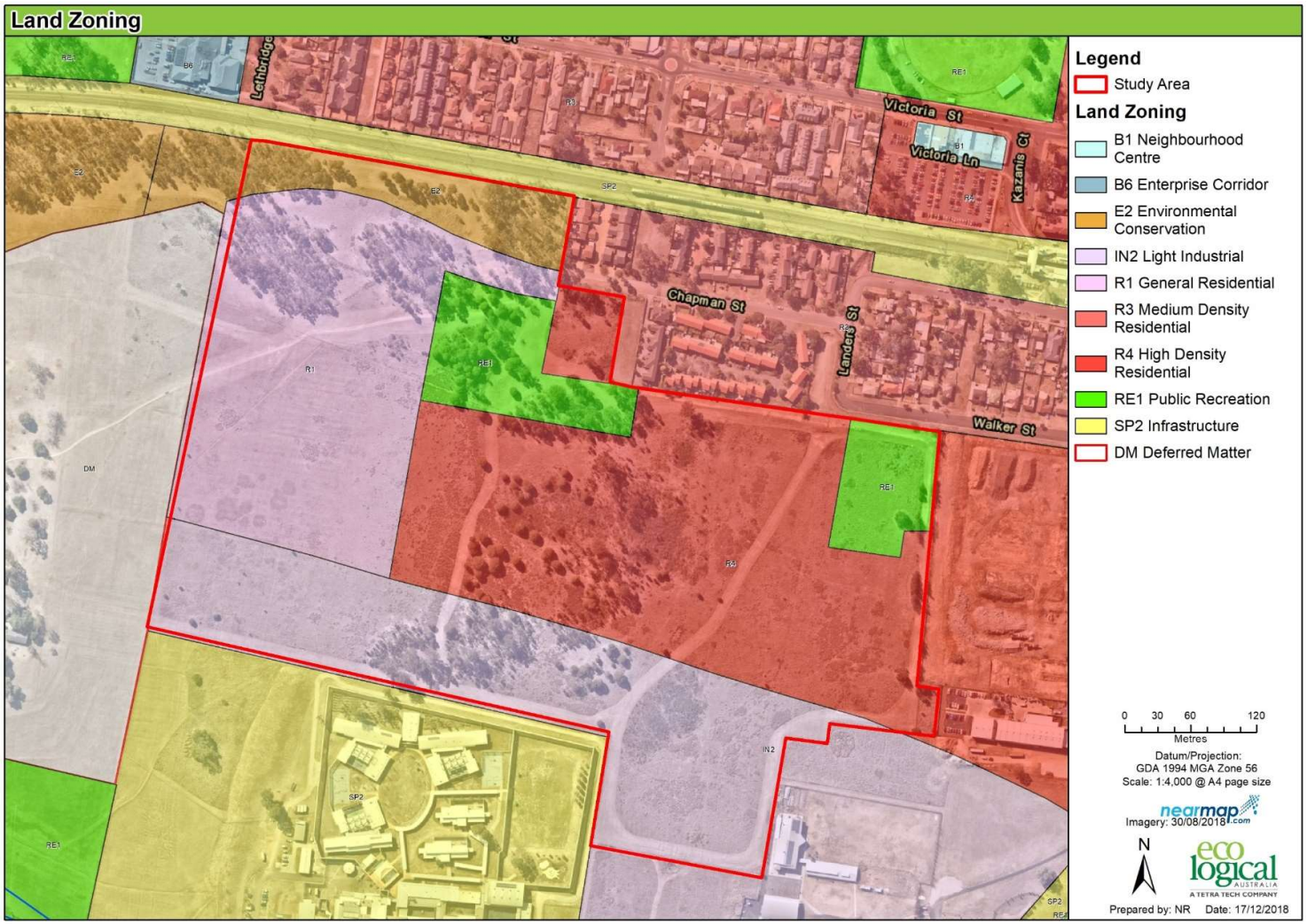

Figure 2: Land zoning in the study area

The aerial photography of the subject land indicated that there was a possibility that the vegetation present would meet at least the minimum patch size threshold.

2.2.2 Land zoning and legislative protection

The subject land is zoned (Figure 2) under the Penrith Local Environment Plan (LEP) 2010 as:

- RE1 – public recreation
- E2 – environmental conservation
- R1 – general residential
- R4 – high density residential
- IN2 – light industrial.

The land is not mapped as 'terrestrial biodiversity' under the LEP. However, the OEH Biodiversity Values Map, shows that portions of the land have been mapped as containing biodiversity values (Figure 3). This means that any development or clearing within the areas mapped would require a Biodiversity Development Assessment Report and quantification of biodiversity offsets.

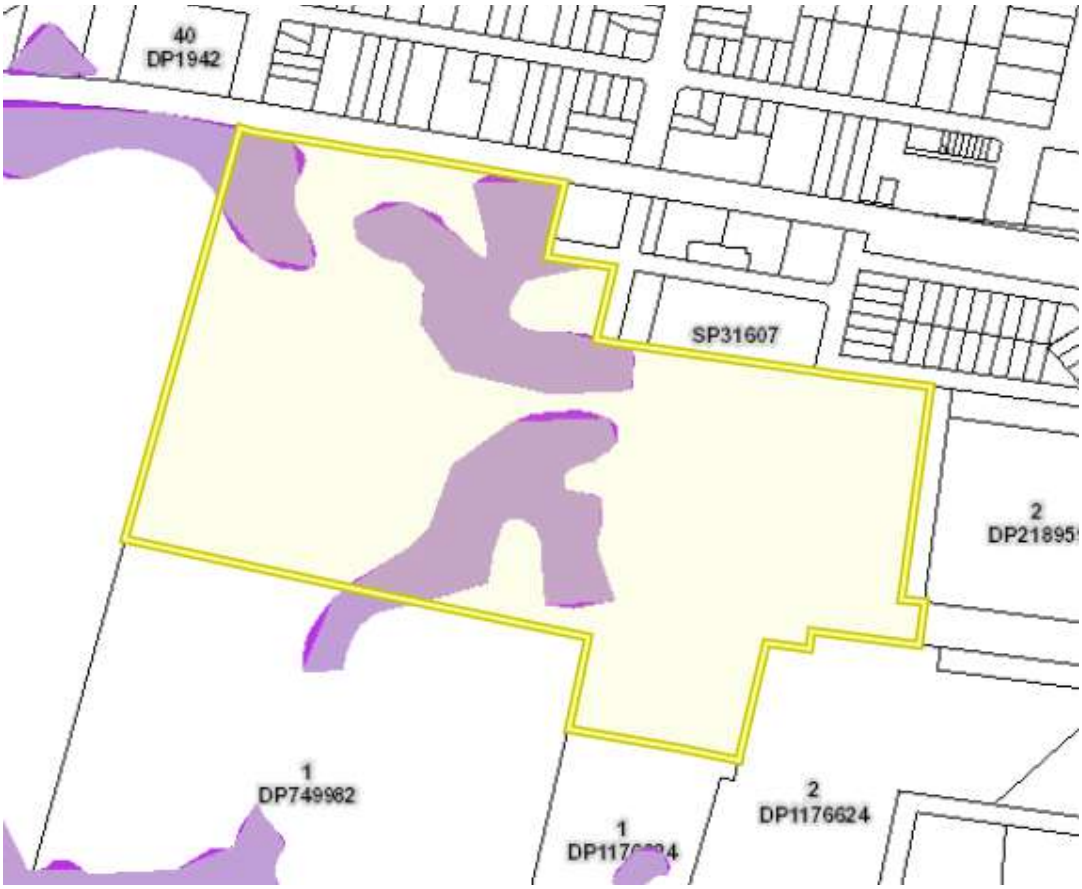

Figure 3: Subject land and areas mapped under the OEH Biodiversity Values Map

2.2.3 Threatened species records

BioNet records indicated that there were seven threatened species recorded within 1.5 km of the site (Figure 4).

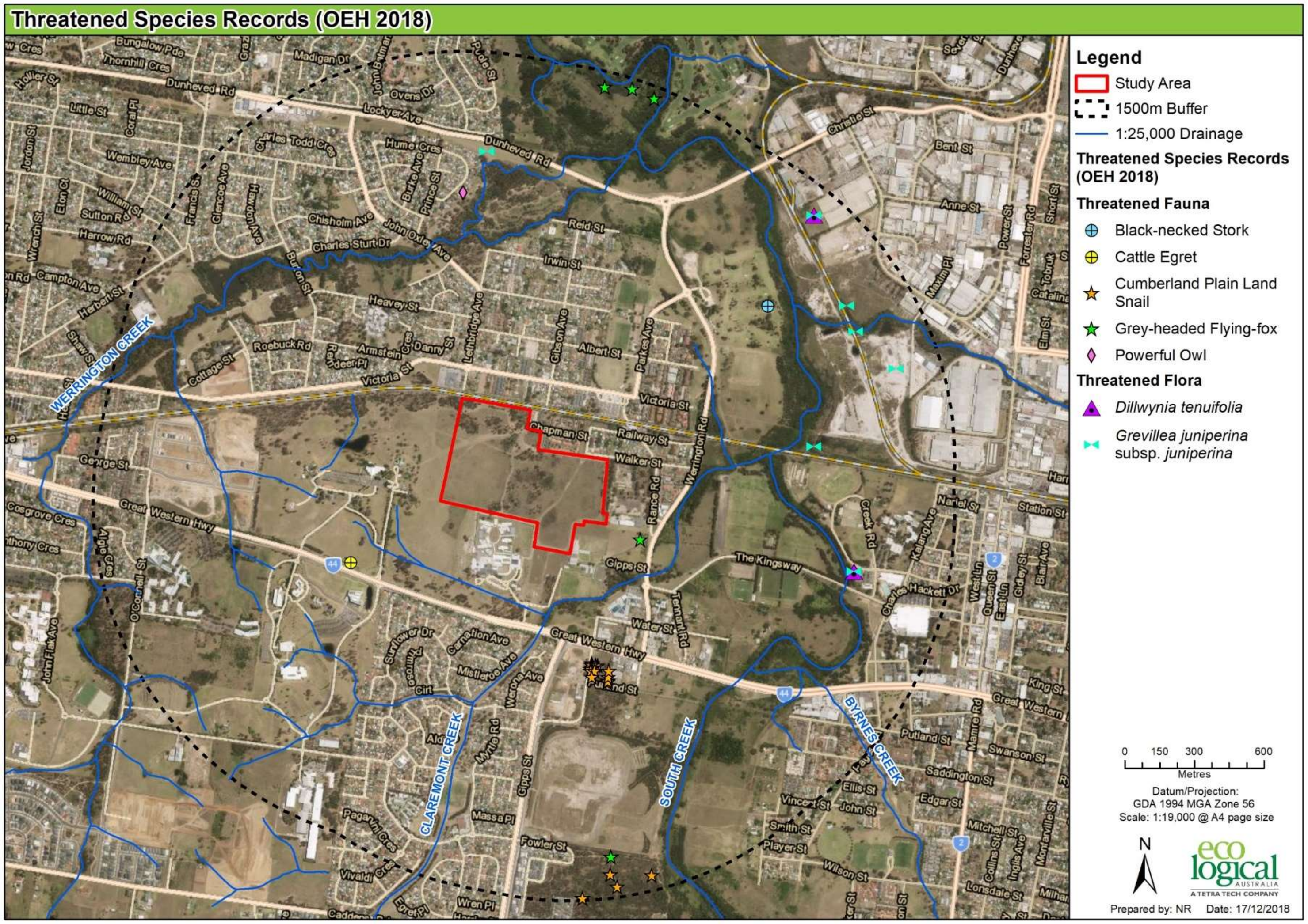

Figure 4: Threatened species recorded within 1.5 km of study area

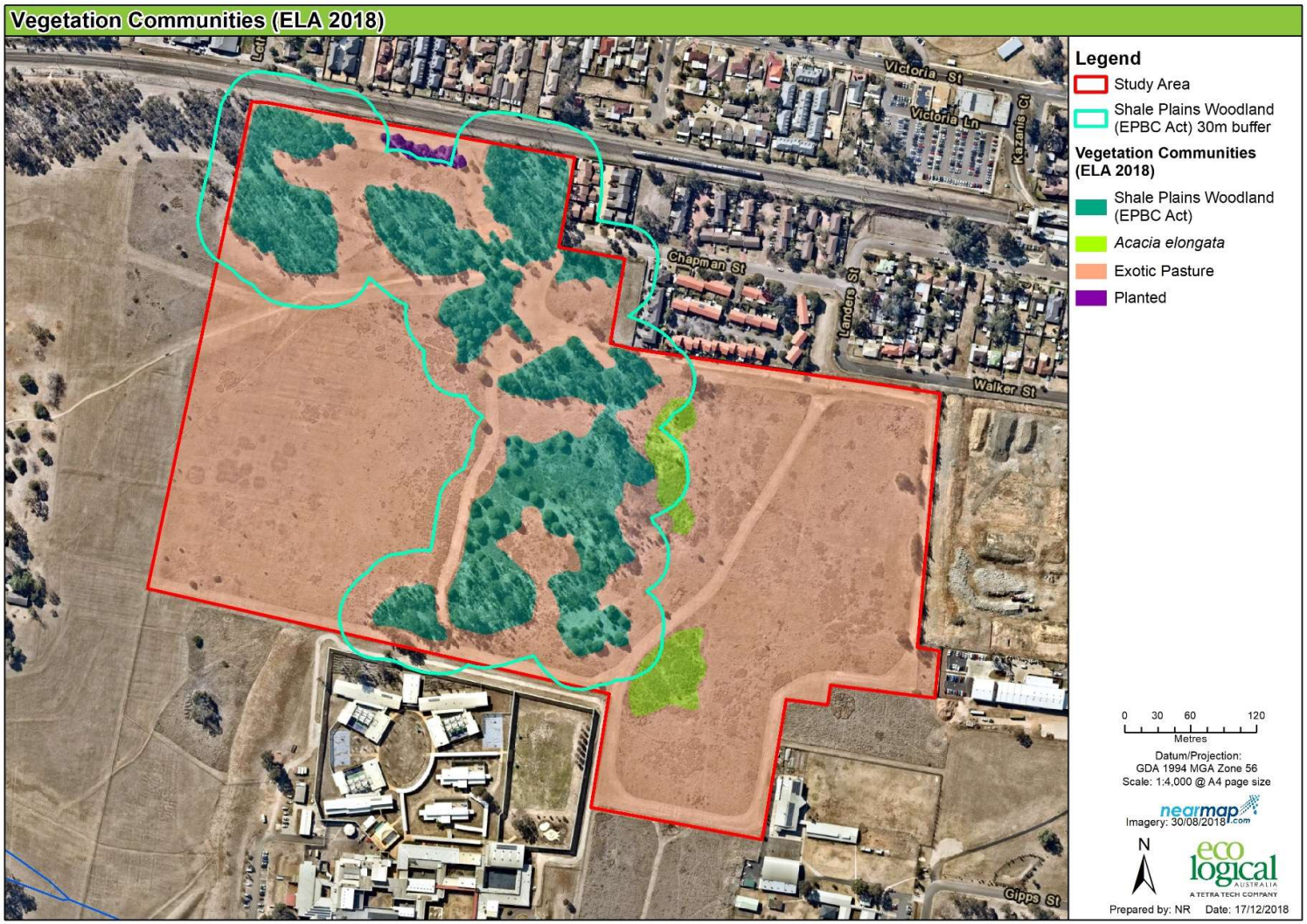

Figure 5: Validated vegetation within the study area showing EPBC Act listed vegetation

2.3 Existing environment

2.3.1 Vegetation types present

The field survey mapped the CEEC Cumberland Plain Woodland (Figure 5). This community was mapped predominantly due to the presence of *Eucalyptus tereticornis* (Red Gum) and *Eucalyptus moluccana* (Grey Box) in the canopy, and *Bursaria spinosa* (Native Blackthorn) in the midstorey. It is noted that the understorey was degraded and limited native species diversity was observed. However, it should be noted that throughout autumn, winter and early spring, there had been little rainfall, which is likely to have affected the diversity and abundance of native species in the understorey. The community was mapped in two different conditions, moderate and derived native shrubland.

The community in moderate condition contained a canopy of *Eucalyptus tereticornis* (Red Gum) and *Eucalyptus moluccana* (Grey Box). The mid-storey included *Bursaria spinosa* (Native Blackthorn), *Melaleuca styphelioides* and *Leucopogon juniperinus* (Prickly Beard-heath). The groundlayer was generally low in diversity and was dominated by native grasses and a few forbs including, *Aristida vagans*, *Microlaena stipoides* var. *stipoides*, *Dichondra repens*, *Rytidosperma* sp., *Themeda triandra*, *Dillwynia sieberi* and *Lomandra filiformis*. Patches in moderate condition also contained exotic species such as *Olea europaea* subsp. *cuspidata* (African Olive), *Eragrostis curvula* (African Lovegrass), *Sida rhombifolia* (Paddy's Lucerne) and *Lycium ferocissimum* (African Boxthorn).

The community in the derived native shrubland condition was challenging to identify because of its highly modified state. It did not have any canopy species at all. Where shrubs were present, they contained only a low cover of those species typical of the community. Shrubs in these patches included *Acacia elongata*, *Bursaria spinosa* and *Dillwynia sieberi*. Ground cover species were a mix of native and exotics including *Aristida vagans*, *Themeda triandra*, *Centella asiatica*, *Eragrostis curvula* and *Ehrharta erecta*.

The vegetation present was assigned to a Plant Community Type (PCT), as defined by the BioNet Vegetation Classification System. The PCT system is the classification scheme required under the new biodiversity reforms for conducting impact assessments and identifying offsets (OEH 2018b).

The vegetation community present:

- Cumberland Plain Woodland – PCT 849; Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion.

2.3.2 Threatened species habitats

Habitat elements present on the subject land were limited to the shrubby understorey, some leaf litter and large trees. There was little coarse woody debris, no waterways, rock outcrops or ledges and caves. The site may provide habitat for wide ranging urban tolerant species such as somqe hollow dependent bats, Grey-headed Flying-fox and Cumberland Plain Land Snail. No threatened species were observed during the field survey.

2.4 Credit estimates and pricing – as an offset site

To determine the number of ecosystem credits that could be potentially generated in the subject property, the number of credits per hectare was estimated per PCT and vegetation zone. This was

calculated using previous credits per hectare estimates. This was conducted for the BAM, which in ELA's experience is generating fewer credits per hectare than the former BBAM.

In the past (using BBAM), OEH has set an estimate of about 9.3 credits per hectare for PCT on the Cumberland Plain in western Sydney (and adjacent areas). However, under the new scheme (BAM), the number of credits generated per hectare is lower. Plots in other Cumberland Plain Woodland of a similar condition were generating 3 to 4 credits per hectare.

Credit prices were determined by reviewing the Biodiversity Conservation Trust's Offsets Payment Calculator, which is likely based primarily on the BioBanking scheme and any recent credit transactions. Credit pricing is a factor to be taken with a high degree of caution. ELA expects the prices to fluctuate while the new scheme is introduced, and the market adjusts to the new credits generated from both development and offset sites.

Management costs must be taken into consideration for any Biodiversity Stewardship feasibility. The management costs are those that must be set aside for the in-perpetuity management of the site. Based on previous experience, the management costs (basic level) for a similar site would be around $45,000 to $50,000 per hectare (per year). The basic management actions include weed control, erosion control, fencing, feral animal control, fire management and rubbish removal.

A conservative approach of $50,000 per hectare in management costs was taken. This is because the site is relatively small for a potential Biodiversity Stewardship Site and some fixed in-perpetuity costs (such as fire management, fence maintenance and feral animal control) do not gain the financial benefit of larger sites. Furthermore, there are administration costs that need to be considered such as monitoring surveys, legal and insurance fees, and annual reporting, which have been included in the management costs.

Table 1: Estimated pricing and management costs for an offset option at Werrington

Vegetation type	Total ha	Credits/ha	Credits	Price / credit	Est. total income (ex GST)	Est. mgmt. costs (ex GST)	Potential profit (income – mgmt.)
CPW - moderate	5.88	4	24	$25,000	$600,000	$294,000	$306,000
CPW - DNS	0.75	3	2	$25,000	$50,000	$37,500	$12,500
Total	**6.63**	**-**	**26**	**-**	**$650,000**	**$331,500**	**$318,500**

2.5 Credit estimates and pricing – as a development site

As with the number of credits likely to be generated for an offset site, ELA estimated the number of ecosystem credits likely to be required if the current proposed Masterplan was developed. In this scenario, it has been assumed that 3.95 ha of native vegetation, the Cumberland Plain Woodland, would be cleared for the development outcome. This may not be the final outcome of a development option. However, this exercise gives an estimate of the likely offset liability associated with clearing the native vegetation as per the Masterplan, should a DA be lodged post 24 November 2019 (likely change of assessment under new legislation for LGA's within the Interim Designated Area's).

Table 2: Estimated offset obligations and costs for a development option at Werrington under BC Act

Vegetation type	Total ha	Credits/ha	Total credits	~Cost per credit ($ inc. GST)
CPW - moderate	3.60	40	144	$28,100
CPW - DNS	0.35	31	11	$28,100
Total	**6.63**	**-**	**258**	**-**

2.6 Other considerations – EPBC Act and SAII

2.6.1 Approvals under the EPBC Act

Most of the native vegetation present would meet the definition of the EPBC Act listed community Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (Figure 5). If a full development scenario was pursued, a referral to the Commonwealth Minister for the Environment would be recommended. Currently, ELA's understanding is that even relatively small impacts on this critically endangered ecological community have been regarded by the Minister as controlled actions.

If clearing of the vegetation here was to be a controlled action, the Commonwealth would seek the retirement of credits purchased from vendors. This is because it is ELA's understanding that the Commonwealth do not currently approve of the use of paying into the Biodiversity Conservation Fund in NSW. Alternatively, Lendlease could purchase land with the correct vegetation type in a condition state equivalent to the EPBC Act thresholds and establish a Biodiversity Stewardship Agreement.

Referral, reporting, negotiation and seeking offsets to satisfy the Commonwealth is time consuming, and there is no guarantee that the Minister would approve the clearing of this vegetation type. Therefore, there is a risk to any proposal seeking to clear some or all the native vegetation at this site.

2.6.2 Potential offsets under the EPBC Act

The current Masterplan proposes impacts to EPBC Act listed community Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (CPW). The potential offset obligation resulting from these proposed impacts (3.95 ha) are 'estimated' in Table 3 and depicted in Figure 6. Estimates are based on previously approved similar projects and the offset requirements required from those approvals.

Table 3: EPBC Act offset obligation – 'estimates'

Stage	Direct Impact (ha)	Indirect Impact (ha)	Total Impact (ha)	Potential Offset Obligation (ha)	Potential Offset Obligation (credits)
Stage 1	1.45	0.97	2.42	~5.4 ha	~54 Credits
Stage 2	2.50	0.43	2.93	~6.6 ha	~66 Credits
Total	**3.95**	**1.40**	**5.35**	**~12.05**	**~120 Credits**

Note: CPW 'credits' will need to meet EPBC requirements. Offset/Credit prices are highly variable and accordingly have not been included in this instance.

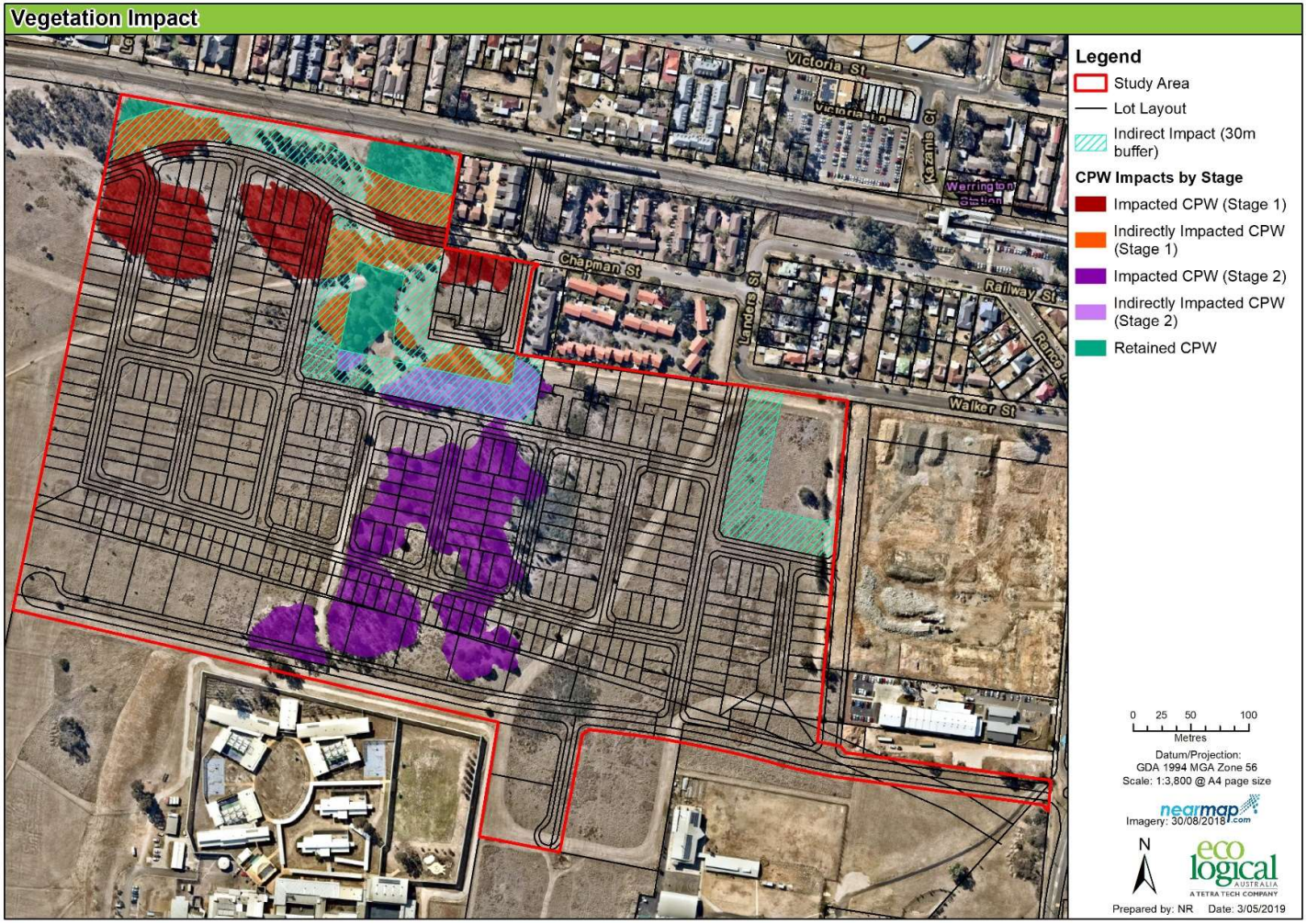

Figure 6: EPBC Act Vegetation Impacts

2.6.3 Matters subject to serious and irreversible impacts

Serious and irreversible impacts (SAII) are those impacts which are likely to contribute significantly to the risk of extinction of a threatened species or ecological community in New South Wales. A guideline for decision makes has been produced to assist in determining if a project may result in SAII on a range of threatened matters. A list of matters likely to be affected by SAII was produced by OEH and Cumberland Plain Woodland is one of them. A consent authority must consider if a proposal will result in SAII. If the consent authority concludes a SAII is likely, they must refuse the development or clearing application.

There have been no thresholds established for impacts on threatened ecological communities. This does not mean that no impact may occur. Rather it means that an accredited assessor must use the guidance in BAM to answer a series of questions about the development and the threatened matter. The assessor must consider topics such as:

- the actions to avoid direct and indirect impacts on the threatened matter
- the extent and condition of the matter
- the regional context of the matter and the likely area remaining in the broader landscape.

To ELA's knowledge, no development assessment has been made for threatened matters subject to SAII, and it is therefore unclear how a consent authority would treat such an assessment. Consent authorities may also add threatened matters to the list likely to be subject to SAII for their LGA. Therefore, while clearing this vegetation type is possible, it is not without risk and it should not be assumed that seeking and retiring offsets would be accepted by the consent authority.

2.7 Financial caveats

The costing estimates provided are only approximations. All associated costs and credit generation are likely to change if a Stewardship Site was pursued. The financial caveats are as follows:

- The BC Act has established the Biodiversity Conservation Trust (BCT), which administers the Biodiversity Conservation Fund (the Fund). The BCT has established a tool that calculates prices for credits that cannot be obtained on the open market. The payments calculator works by taking recent sales of that credit, then adding an administration fee and risk factor fee to the cost. This may add up to 10-25% of the cost of a credit from credit holders in the open market.
- In the Biodiversity Conservation Trust Offsets Payment Calculator (accessed 12 December 2018) the credits had a baseline price of $25,000 for 1 credit of Cumberland Plain Woodland (PCT 849 - Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion). These prices are considered to reflect the open market at the time, and do not consider the premium that a developer would need to pay, if paying into the Fund. The price is subject to change and must be reviewed regularly to provide accurate costings. However, ELA has concerns that the price is not accurate:
    - ELA believes this is not the actual cost for credits. Until the Biodiversity Conservation Trust (BCT) agree that credits can be purchased for that amount, the prices are only provisional. For example, you cannot buy credits now because the tool is not live and operational.

- ELA has concerns that the credit price quoted (from the online calculator) has the potential to change significantly, because the tool has not considered the number of credits generated by the new offset scheme (which are significantly lower in comparison to the old scheme).

- A high degree of caution is therefore required when considering the 'quoted' prices. We recommend that you allow for different and potentially larger credit prices, for example if credit prices doubled to achieve an offset obligation. This makes smaller sites such as the subject site more viable as a Stewardship Site. It is noted that an average credit price of $12,750 would be required to achieve a break-even scenario for this site (not including the establishment of the agreement and assuming the fixed costs per hectare for management are accurate).

3. Bushfire Due Diligence

A desktop review of the following previous bushfire assessment report was completed:

> *Australian Bushfire Protection Planners Pty Ltd (2014) Bushfire Protection Assessment for the Proposed South Werrington Urban Village On Lot 102 in DP 1140594 Walker Street, Werrington for the Universal Property Group Pty Ltd.*

This review identified that this report is no longer applicable to the current proposal as bushfire planning requirements applicable to the proposal have changed, the proposed development layout has been modified, and the vegetation on the northern boundary is proposed to be retained as woodland (and adjoins retained woodland to the west within Western Sydney University (WSU) lands).

3.1 Changes to bushfire planning requirements

Previously the proposal was assessed using *Planning for Bush Fire Protection* (PBP) 2006' (NSWRFS 2006) in accordance with Section 100B of the Rural Fires Act 1997.

Recently the updated National Construction Code (NCC 2019) was released (incorporating an update to AS 3959-2018 – *Construction of Buildings in Bushfire-prone Areas*). In anticipation of this change the NSWRFS pre-released a new *Planning for Bush Fire Protection* in 2018 (PBP 2018) however it will likely not come into effect (be legislated) until September 2019 (and until then PBP 2006 remains the legally referenced document).

However, to meet future Complying Development Certificate or Construction Certificate requirements, the plans and specifications for the proposed development will need to show compliance with AS 3959:2018 and the updated version of PBP. As such the requirements of PBP 2018 were used for this due diligence assessment.

3.2 Changes to proposed development footprint

The updated development footprint (**Figure 6**) includes the removal of a perimeter road along the western boundary adjoining the WSU Werrington Campus. While PBP 2006 and PBP 2018 require new subdivisions to have a perimeter road to separate a subdivision from bush fire prone lands, the adjoining lands are not identified as bush fire prone as they are actively managed. In addition, the adjoining WSU is identified for development in the masterplan for that site. Therefore, no bushfire protection measures are triggered under PBP 2018 along this western boundary with WSU. This includes any requirement for a perimeter road along this western interface. Accordingly, the removal of the perimeter road in the updated design does not breach any requirements of PBP 2018. The proposed development can meet the requirements identified in PBP 2018 for access and provision of services (water, gas and electricity). The requirements for Asset Protection Zones are discussed in the Sections below.

3.3 Vegetation Hazard within and adjoining the development footprint

The updated development footprint includes three blocks containing vegetation (**Figure 7**). It is assumed that the central and eastern vegetation blocks are managed as parkland for recreation purposes and, as managed lands, will not meet the criteria for bush fire prone lands. As managed lands they also don't attract any bushfire protection measures under PBP 2018, including asset protection zone requirements.

The remaining vegetation block is located western extent of the northern boundary (south of the rail line and north of the western extension to Chapman Street) and is mapped as bush fire prone land (Cumberland Plain Woodland). As this vegetation is identified to be retained and not actively managed as parkland, it attracts APZ requirements. It also adjoins a strip of bush fire prone vegetation on the WSU site adjoining the rail easement which could support a >100m fire run. The applicable APZ requirements are detailed in the following section.

3.4 Asset Protection Zones applicable to the proposed development

The predominant vegetation class and the effective slope is used to calculate the dimensions of the Asset Protection Zones (APZ) required for the proposed development footprint based on a Forest Fire Danger Index of 100 (as required by PBP 2018).

The bushfire protection measures which may be applicable will vary with the type of development proposed on the lots which are located adjacent to bush fire prone land. APZs were calculated for the following two development types:

- Residential subdivision development detailing the required APZ to achieve a maximum Bushfire Attack Level (BAL) of BAL-29 in accordance with AS 3959-2009 (considered best practice); and
- Special Fire Protection Purpose (SFPP) which are developments require a higher level of measures to be implemented, especially APZ dimensions. SFPP developments are identified in Section 100B of the *Rural Fires Act 1997* and include schools, retirement villages, aged care, child care centres, tourist accommodation and seniors living.

The requirements for APZs are provided in the table below based on PBP (2006), the pre-released PBP 2018 (likely to come into effect in late 2019 to align with the adoption of the National Construction Code 2019 in NSW) and *AS 3959-2009 Construction of buildings in bushfire-prone areas* (AS 3959-2009) (Standards Australia 2009). The BAL-29 APZ extent is also shown in **Figure 7**.

Table 4 Asset protection zone requirements

Property:	Study area		Residential subdivision			SFPP development	
Direction from development boundary	Effective Slope	Vegetation classification	PBP required APZ [1]	PBP 2018 (Pre-release) APZ[2]	BAL-29 required APZ[3]	SFPP APZ[4]	SFPP (PBP 2018 [Pre-release]) APZ[5]
Northern boundary – western extent	Upslope – Flat* (* based on previous bushfire report)	Woodland	10 m	12 m	16 m	50 m	42 m

[1] Applicable APZ from Table A2.4 PBP 2006
[2] Applicable APZ in the pre-release Planning for Bush Fire Protection (2018) likely to be legislated in mid 2019.
[3] APZ dimension that achieves a Bushfire Attack Level (BAL) of BAL-29 in accordance with *AS 3959-2009 Construction of buildings in bushfire-prone areas* (Standards Australia 2009)
[4] Applicable APZ for an SFPP PBP 2006
[5] Applicable APZ for SFPP from Table A1.12.1 pre-release PBP 2018

Figure 7 **Asset Protection Zones**

The northern western boundary of the proposed development consists of bush fire prone vegetation (woodland) which triggers the requirement for APZs to be incorporated into lots adjoining this hazard. The previous bushfire report (Australian Bushfire Protection Planners 2014) identified that the road width, footpath and residential setback ('road footprint') adjoining the bushfire hazard along the northern boundary is 17m wide.

The APZ setback required for a residential subdivision by PBP 2018 is 12m, or under AS3959:2009 is 16m, which could potentially be accommodated within the road footprint. The lots to the south of the Chapman Road therefore meet the requirements of PBP 2018 in that potential building footprints will not be exposed to a radiant heat level exceeding 29 kW/m^2 on each proposed lot.

However, please note if a SFPP was proposed in any of these lots adjoining this northern boundary, the required APZs may limit or prevent such development potential due to the widths APZs required (42m wide APZs) in relation to the size of the lots proposed. Due to the larger APZ requirements, the footprint available would significant limit/potentially prevent SFPP development within these lots south of the Chapman Road extension.

4. References

NSW National Parks and Wildlife service (NPWS) 2002. Native vegetation maps of western Sydney.

NSW Rural Fire Service (NSWRFS) (2006) Planning for Bush Fire Protection: A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners including the 2010 Appendix 3 Addendum. NSW Rural Fire Service, Sydney.

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ISO 9001 Quality Management

AS/NZS 4801 Occupational Health and Safety Management

ISO 14001 Environmental Management

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