Development Application
Environmental Impact Statement

Bringelly Road, Leppington
Bringelly Road Business Hub

Submitted to Department of Planning and Environment
On Behalf of Western Sydney Parklands Trust

December 2014 ■ 13525

JBA Urban Planning Consultants Pty Ltd ABN 84 060 735 104 w jbaurban.com.au
North Sydney t +61 2 9956 6962 ■ Newcastle t +61 2 4927 0980

JBA operates under a Quality Management System that has been certified as complying with ISO 9001:2008. This report has been prepared and reviewed in accordance with that system. If the report is not signed below, it is a preliminary draft.

This report has been prepared by:

Rebecca Lockart 12/12/2014

This report has been reviewed by:

Gordon Kirkby 12/12/2014

Contents

Contents

Figures

Tables

Contents

Appendices

Statement of Validity

Development Application Details	
Applicant name	Western Sydney Parklands the Trust
Applicant address	Level 7, 10 Valentine Ave PARRAMATTA NSW 2150
Land to be developed	Lots 1-5 and 10-13 DP 29104 Lot 8 DP 1156767 Lot 5 and 21 DP 19406 Lots 1-2 DP 876864 Land within the Bringelly Road Reserve
Proposed development	Business Hub as described in Section 3.0 of this Environmental Impact Statement
Prepared by	
Name	Gordon Kirkby
Qualifications	BEc Dip URP
Address	Level 7, 77 Berry Street, North Sydney
In respect of	State Significant Development Application
Certification	
	I certify that I have prepared the content of this EIS and to the best of my knowledge: it is in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000; all available information that is relevant to the environmental assessment of the development to which the statement relates; and the information contained in the statement is neither false nor misleading.
Signature	
Name	Gordon Kirkby
Date	12/12/2014

Executive Summary

Purpose of this Report

This Environmental Impact Statement (EIS) has been prepared on behalf of the Western Sydney Parklands the Trust (the Trust). The EIS supports a Development Application submitted to the Department of Planning and Environment (the Department) under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP& A Act). It relates to the development proposal to construct a Business Hub located on Bringelly Road, Leppington.

Development at Bringelly Road for a Business Hub with a capital investment value of more than $10million is State Significant Development (SSD) for the purposes of the EP&A Act. As the proposed development will have a capital investment value of $13.34million it is SSD.

A request for the issue of Director General's Environmental Assessment Requirements (DGRs) was sought on 6 December 2013. Accordingly, the DGRs were issued on 17 January 2014 with a revised set of requirements issued on 16 April 2014 to reflect minor amendments to the Site area and potential future land uses. This submission is in accordance with the Department's guidelines for SSD applications lodged under Part 4 of the EP&A Act, and addresses the issues raised in the DGRs.

Overview of the Project

The Development Application (DA) seeks approval for subdivision and infrastructure works to facilitate the future potential development of the Site for large format retail (LFR), industrial (warehouse and logistics), and service centre uses. The project comprises the following components:

- The subdivision of the Site into eight developable lots serviced off a common access road which generally utilises the current Bringelly Road reserve with a main access connected with re-aligned Bringelly Road;
- Demolition of existing structures on the Site;
- Bulk Earthworks – A bulk earthworks strategy has been prepared to accommodate the needs of future development with the aim of achieving a practical and balanced approach to earthworks relative to the Site topography and constraints and allowing for flexibility in the future development of the Site in response to market requirements;
- Site services and infrastructure – construction and delivery of utilities, services and stormwater management infrastructure to accommodate the future development of the Site;
- Internal access – the proposal will seek development approval for internal roads to provide access to and service the future development of the Site; and,
- Estate landscaping.

The proposed subdivision layout is dependent on the planned boundary adjustment for the construction of the realigned Bringelly Road by the Roads and Maritime Services (RMS).

The purpose of the proposed development is to facilitate the potential future use of the Site for large format retail (up to 50,000m^2 Gross Floor Area (GFA)), light industrial and service centre uses with flexibility to develop the estate with any combination of these uses as envisaged under the WSP Plan of Management (POM) (See **Section 1.2**). As such, this development application includes preliminary concept plans that identify potential future building footprints and envelopes as well as Site access, internal roads, loading areas and car parking areas in order to demonstrate the development's capability and assess the potential impacts of the future use of the Site. It is important to note however that development for the use of individual lots, buildings and structures associated with the future development will be the subject of future separate development applications.

The Site

The Site is located approximately 35km south-west of the Sydney Central Business District (CBD) and is approximately 2km to the east of the proposed Leppington rail station and civic centre precinct within the Liverpool Local Government Area. The Site is in close proximity to the M7 and M5 Motorways and this provides excellent access to both the state and regional road network and surrounding key employment and industrial lands. The Site is approximately 22 hectares in area and located within an area bounded by the proposed realignment of Bringelly Road to the south, Stuart Road and Bedwell Park to the north and privately-owned land to the east between the Site and Cowpasture Road.

Planning Context

Section 5.0 of the EIS considers all applicable legislation in detail. The proposed development Site is currently subject to the land use and development control provisions of two separate State Environmental Planning Policies. The majority of the Site, to the north of the current Bringelly Road alignment, is subject to the provisions of *State Environmental Planning Policy (Western Sydney Parklands) 2009* (Parklands SEPP), within which the proposed development is permissible with consent. The southern portion of the Site is subject to the provisions of *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* (Growth Centres SEPP) within which the proposed development is currently prohibited. Under Section 89E(3) of the *Environmental Planning and Assessment Act 1979* (the Act), development consent may be granted for a State significant development that is partly prohibited by an environmental planning instrument.

Pursuant to Clause 5 of Schedule 2 of *the State Environmental Planning Policy (State and Regional Development) 2011*, the development is considered to be SSD. This is due to the proposed development being within the WSP and having a capital investment value of more than $10 million.

Environmental Impacts and Mitigation Measures

This EIS provides an assessment of the environmental impacts of the project in accordance with the DGRs and sets out the undertakings made by the Trust to manage and minimise potential impacts arising from the development.

This EIS specifically details the following key assessment issues that relate to the proposed works:

- Site layout and design including urban design guidelines for future development on the Site;

- Economic justification for the potential future uses on the Site including a retail demand analysis for the type and scale of the proposed development and an assessment of the potential impacts of the development on nearby retail centres, including the Leppington and Edmondson Park centres;
- Access, traffic and transport including the potential impact of the development on the surrounding road network and internal access, loading and car parking arrangements;
- Infrastructure and utilities;
- Flooding and Stormwater management;
- Heritage
- Biodiversity, flora and fauna

Conclusion and Justification

The EIS addresses the DGRs, and the proposal provides for the development of a Business Hub in a high-demand and well serviced location. The potential impacts of the development are acceptable and are able to be managed. Given the planning merits of the proposal, the proposed development warrants approval by the Minister for Planning.

1.0 Introduction

This Environmental Impact Statement (EIS) is submitted to the Department of Planning and Environment pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) in support of an application for State Significant Development (SSD).

As development for a Business Hub with a capital investment value of more than $10 million, and which is identified under Clause 5 Schedule 2 of *State Environmental Planning Policy (State and Regional Development) 2011* the proposal is declared to be SSD for the purposes of the EP&A Act.

The report has been prepared by JBA on behalf of Western Sydney Parklands Trust (the Trust), and is based on the Urban Design Masterplan and engineering plans prepared by JBA and Northrop respectively (see **Appendices A and B**) and other supporting technical information appended to the report (see Table of Contents).

This EIS has been prepared in accordance with the requirements of Part 4 of the EP&A Act, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), and the Requirements of the Director General of the Department of Planning and Environment for the preparation of the EIS, which are included at **Appendix C**. This EIS should be read in conjunction with the supporting information and plans appended to and accompanying this report.

1.1 Overview of Proposed Development

This application seeks approval for the following development:

- The subdivision of the Site into eight developable lots serviced off a common access road which generally utilises the current Bringelly Road reserve with a main access connected with re-aligned Bringelly Road;
- Demolition of existing structures on the Site;
- Bulk Earthworks – A bulk earthworks strategy has been prepared to accommodate the needs of future development with the aim of achieving a practical and balanced approach to earthworks relative to the Site topography and constraints and allowing for flexibility in the future development of the Site in response to market requirements;
- Site services and infrastructure – construction and delivery of utilities, services and stormwater management infrastructure to accommodate the future development of the Site;
- Internal access – the proposal will seek development approval for internal roads to provide access to and service the future development of the Site; and,
- Estate landscaping.

The proposed subdivision layout is dependent on the planned boundary adjustment for the construction of the realigned Bringelly Road by the Roads and Maritime Services (RMS).

The purpose of the proposed development is to facilitate the potential future use of the Site for large format retail (up to 50,000m^2 Gross Floor Area (GFA)), light industrial and service centre uses with flexibility to develop the estate with any combination of these uses as envisaged under the WSP Plan of Management (POM) (See **Section 1.2**). As such, this development application includes preliminary concept plans that identify potential future building footprints and envelopes as well as Site access, internal roads, loading areas and car parking

areas in order to demonstrate the development's capability and assess the potential impacts of the future use of the Site. It is important to note however that development for the use of individual lots, buildings and structures associated with the future development will be the subject of future separate development applications.

1.2 Background to the Development

In 2010 the Trust developed a 10 year Plan of Management (POM) to guide the long-term future of the Western Sydney Parklands (herein referred to as 'the Parklands' or 'WSP'). In March 2014, the Trust released a Supplement to the WSP Plan of Management that identified nine locations for proposed business hubs. The business hubs collectively will comprise a maximum of two per cent of the total area of the Parklands with the aim of generating income to help fund the management and future development of the entire Parklands.

The Sites identified as proposed business hubs have low ecological value and are located nearby motorways and major arterial roads. The business hubs form an important foundation for securing the long term, sustainable revenue base that funds Parklands infrastructure, maintenance and improvements.

The revenue generated from the business hubs long-term leases will enable the Trust to fund key improvements to picnic and playgrounds, cycling and walking track networks and sporting facilities, as well as restore and expand natural habitat throughout the Parklands.

The Bringelly Road Site is the southernmost of proposed business hubs and forms a gateway to the broader Parklands area and the Austral / Leppington North precincts of the South West Growth Centre. The Site was selected as it was considered to meet the four criteria outlined in the Plan of Management for identifying Business Hub Sites and land uses:

1. *Land uses should not only generate an appropriate commercial return but also add to the amenity of adjacent communities.*
2. *Land uses must generate additional employment and training opportunities for local and regional communities.*
3. *Development must be undertaken in a manner that will minimise the environmental impact of such development.*
4. *The development of business hubs will only be permitted to occur on Sites with low environmental and recreational values.*

The location is suitable for the future development of LFR, light industrial and service uses with the potential to provide a variety of local jobs in close proximity to future residential development which will complement the activities proposed for the nearby Leppington Major Centre.

1.3 Analysis of Alternatives

1.3.1 Alternative Site options

Within the Western Sydney Parklands

The selection of a Site for the proposed business hub was first limited to a location within the WSP. The Trust looked at over 30 Sites for consideration in the *Plan of Management 2020* (POM), and applied the key criteria for selection of land within the WSP such as being adjacent to motorways, major arterial, roads and regional employment areas, with hubs to be located in each of the region's three local government areas: Liverpool, Fairfield and Blacktown. The principles guiding

the selection were specified through the Land Use Framework of the POM as listed above in **Section 1.2.**

For the purpose of the *Plan of Management 2020 –Supplement* an additional two principles were added which were developed through the POM consultation process. These were:

5. *Business hubs are to be located to take advantage of existing and new infrastructure investments and assets, such as the Sydney metropolitan road network (eg. motorways) and existing and new utility services (eg. Bungarribee lead-in sewer).*
6. *Business hubs are to be located to complement existing and proposed centres and employment areas in Western Sydney. In line with this criteria, the highest value occupants of the business hubs will be businesses not only providing a good return to the Trust, but which also maximise local job creation opportunities and economic activity to the region.*

From this selection criteria, nine business hubs were selected servicing local and regional communities, with three located in each Council area. To provide LFR, light industrial and service centre land uses the Site needed to have access to and have high visibility and business exposure to regional and local traffic networks, in addition to being located in close proximity to residential areas.

Within South Western Sydney

MacroPlan Dimasi's Net Community Benefit & Sequential Test (**Appendix D**) outlines that in order to develop the proposed combination of LFR, light industrial and service centre land uses on the Site, land needs to be zoned B5 – Business Development. Within the South-West Sydney region there are five distinct precincts zoned B5 – Business Development which provide potential alternate Sites to the proposed Site, including:

- Crossroads;
- Hoxton Park;
- Leppington North Precinct;
- Orange Grove; and
- Turner Road.

As outlined in MacroPlan Dimasi's report, none of these Sites are considered to be suitable for the proposed development due to availability, size, feasibility and location constraints. A full assessment of each of the alternative Sites is provided at **Section 5.2.2.**

1.3.2 Alternative development options

Development options for the Site are primarily limited by the Parklands SEPP or the POM, which prohibit residential development, and necessitate development in order to generate income for the Trust, as earlier discussed.

In turn, the location of the Site with high exposure to passing regional and local traffic and excellent regional traffic access from Bringelly Road and Cowpasture Road makes alternate land uses such as general office or business premises unsuitable for the Site. Additionally, traditional retail premises would be out of centre and likely impact the proposed Leppington North Centre, while tourist or visitor accommodation inappropriately located and generally unfeasible. Heavy industry also is unsuitable due to potential land use conflicts with nearby residential land uses.

The land use on the Site also needs to be complementary to the activities proposed for the Leppington Major Centre, rather than competitive.

1.3.3 The "do nothing" approach

The nine business hubs identified in the POM Supplement are identified to generate a total $20 million per annum for the Trust. This funding will directly fund the facilities and activities within the WSP.

The do nothing approach will result in inadequate funds to support the functioning and maintenance of the WSP in the short term and in the long term will need to seek alternate source of revenue to meet the growing usage and requirements of Trust.

1.4 Director-General's Requirements

In accordance with section 78A(8A) of the EP&A Act, and Schedule 2 of the Environmental Planning and Assessment Regulations 2000, the then Director-General of the Department issued requirements for the preparation of the EIS on 16 April 2014. A copy of the DGRs is provided at **Appendix C**.

The DGRs require that the EIS must include the documents listed in Schedule 1 of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation) and must meet the requirements of Schedule 2 of the Regulation, in particular the form specifications in Clause 6 and the content specifications in Clause 7. Several stakeholders were identified with whom consultation must occur during the preparation of the EIS (see **Section 4.0**).

Table 1 provides a detailed summary of the individual matters listed in the DGRs and identifies where these requirements have been addressed in this report and the accompanying technical studies.

Table 1 – Secretary's Environmental Assessment Requirements (SSD – 6324)

Director-General's Environmental Assessment Requirement	Location in Report	
General Requirements	**Report**	**Appendix**
The EIS must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.*		
EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.	**Section 5.0**	
Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include: ▪ adequate baseline data; ▪ consideration of potential cumulative impacts due to other development in the vicinity; and ▪ measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.	**Section 5.17**	
The EIS must be accompanied by a report from a qualified quantity surveyor providing: ▪ a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived; ▪ an estimate of the jobs that will be created by the future development during the construction and operational phases of the development; and ▪ certification that the information provided is accurate at the date of preparation.	A cost summary report is included at **Appendix Q**	

Director-General's Environmental Assessment Requirement	Location in Report	
Key Issues **1. Relevant EPIs, Polices and Guidelines**	**Report**	**Appendix**
Address the statutory provisions applying to the development contained in all relevant EPIs, including:	**Section 5.1**	-
– *State Environmental Planning Policy (State & Regional Development) 2011*		-
– *State Environmental Planning Policy (Western Sydney Parklands) 2009*		-
– *State Environmental Planning Policy (Sydney Growth Centres) 2006*		-
– *State Environmental Planning Policy No.33 – Hazardous and Offensive Development*		-
– *State Environmental Planning Policy No.55 – Remediation of Land*		-
– *State Environmental Planning Policy No.64 – Advertising and Signage*		-
– *State Environmental Planning Policy (Infrastructure) 2007*		-
– *Liverpool Local Environmental Plan 2008*		-
Detail the nature and extent of any prohibitions that apply to the development	**Section 5.1**	-
Identify the development standards applying to the Site. Justify any development standards not being met.	**Section 5.1**	-
Address the relevant planning provisions, goals and strategic planning objectives in the following:	**Section 5.1**	-
A Plan for Growing Sydney	**Section 5.1**	-
NSW 2021: A Plan to make NSW Number One		
Metropolitan Plan for Sydney 2036		
Draft Metropolitan Strategy for Sydney 2031		
South West Subregion: Draft Subregional Strategy		
Relevant Development Contributions Plan/s		
Development Near Rail Corridors and Busy roads – Interim Guideline		
Liverpool DCP 2008		
Relevant Development Contributions Plan/s including: – Liverpool and Camden Growth Centre Precincts Development Controls Plans		
Detail how the development promotes or is consistent with these provisions and strategic objectives.		
2. Layout and Urban Design	**Report**	**Appendix**
Detail the subdivision layout and design for the development including staging, Site coverage, lot sizes, setbacks, open space and landscaped areas. The layout and design of the proposed development shall demonstrate regard for the proposed Bringelly Road upgrade and realignment, and for surrounding vehicular, pedestrian and cycling networks.	**Section 5.3**	**Appendix A**
Address potential land use conflicts associated with current and planned future neighbouring uses, in the layout and potential building footprints/envelopes. This should include spatial separation, siting, noise mitigation, and a suitable urban design response incorporating appropriate presentation to the public domain, and landscaping utilising endemic species.	**Section 5.0**	**Appendix A and M**
Provide an assessment of any geotechnical and/or typographical limitations (such as Site soils and slope) and, if necessary, design considerations that address these limitations.	**Section 3.4**	**Appendix P**
Outline how the extent of cut and fill associated with the proposal has been minimised.	**Section 3.4**	**Appendix F**

Director-General's Environmental Assessment Requirement	Location in Report	
3. Economic Impacts	**Report**	**Appendix**
Clarify the nature of intended future land uses. Assess the supply and demand for the future land uses facilitated by the proposal, and include a detailed justification in relation to the demand for the intended future land uses.	**Section 5.2**	**Appendix J and D**
Assess and identify economic impacts of the proposal on existing and planned retail/commercial centres within the subject and adjoining LGAs and within the South West Growth area (including Leppington Major Centre and Edmondson Park Town Centre). Address the cumulative impacts of 'out of centre' retailing/commercial activities. Identify any required mitigation measures to deal with negative economic impacts.	**Section 5.3**	**Appendix J and D**
4. Regional Open Space Impacts	**Report**	**Appendix**
Address the loss of open space within the Western Sydney Parklands in relation to regional open space requirements for the South West Growth Centre, and in particular the Austral/Leppington North precincts.	**Section 5.6**	
5. Ecologically Sustainable Development (ESD)	**Report**	**Appendix**
Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000) will be incorporated in the proposal.	**Section 7.3**	
Include a description of the measures that would be implemented to minimise consumption of resources, water and energy, including an integrated Water Management Plan which details any proposed alternative water supplies, proposed end uses of potable and non-potable water, and demonstrates water sensitive urban design and any water conservation measures.	**Section 3.5**	**Appendix F**
6. Contamination	**Report**	**Appendix**
Provide a preliminary Site assessment, and further detailed Site assessment and remedial action plan/s (if applicable), to demonstrate that the Site is suitable, or can be made suitable, for the proposed use in accordance with SEPP 55.	**Section 3.9**	**Appendix I**
Identify measures for the management and disposal of any hazardous materials from the demolition/removal of existing buildings/structures (including dams).	**Section 3.9**	**Appendix I**
Relevant Policies and Guidelines: ▪ *EPA Guidelines, under Contaminated Land Management Act 1997*		
7. Noise and vibration	**Report**	**Appendix**
Identify the main noise and vibration generating sources and activities at all stages of construction.	**Section 5.11**	**Appendix M**
Identify current and future sensitive receivers, and assess noise and vibration on these receivers, including traffic noise.	**Section 5.11**	**Appendix M**
Outline measures to minimise and mitigate the potential noise and vibration impacts on current and future sensitive receivers, including surrounding occupiers of land.	**Section 5.11**	**Appendix M**
Relevant Policies and Guidelines: ▪ *NSW Industrial Noise Policy (EPA 2000) and Application Notes;* ▪ *Interim Construction Noise Guideline (DECC 2009);* ▪ *Assessing Vibration: A Technical Guideline (DEC 2006); and* ▪ *NSW Road Noise Policy (DECCW 2011)*		

Director-General's Environmental Assessment Requirement	Location in Report	
8. Transport and Accessibility (Operation)		
Provide a detailed traffic analysis of the proposal to the satisfaction of the Roads and Maritime Services (RMS) and Transport for NSW (TfNSW), including: ▪ The traffic generation potential of the proposed development, including total daily and peak hour trips with current and future daily vehicle movements. ▪ The traffic impacts on the safety and efficiency of the local road network (in particular Bringelly Road and Stuart Road fronting the Site) and on the intersection capacity, with a detailed intersection performance analysis on the Camden Valley Way / Cowpasture Road / Bringelly Road intersection. ▪ The potential need and associated funding for upgrading of the local road network and intersection/s, to ensure they operate with an acceptable level of service.	**Section 5.4**	**Appendix K**
Detail the access and parking provisions associated with the proposed development including compliance with the requirements of the relevant Australian Standards and parking codes.	**Section 5.4**	**Appendix A and G**
Describe and detail measures to be implemented to promote sustainable means of transport including provision of facilities to increase the non-car mode share for travel to and from the Site, including a draft work place travel plan.	**Section 5.4**	**Appendix K**
Ensure that opportunities for continuous regional cycle and pedestrian linkages can be maintained, including linkages between Western Sydney Parkland and Edmondson Regional Park.	**Section 5.4**	**Appendix K**
Relevant Policies and Guidelines: ▪ *Guide to Traffic Generating Developments (RTA);* ▪ *Planning Guidelines for Walking and Cycling; and* ▪ *EIS Guidelines – Road and Related Facilities (DoPI).*		
9. Sediment/Erosion, Bulk Earthworks and Waste (Construction, Excavation and Operation)	**Report**	**Appendix**
Detail the management of earthworks across the Site including measures and procedures to minimise and manage the generation and off-Site transmission of sediment, dust, and airbourne pollutants.	**Section 5.8 and 5.9**	**Appendix F**
Provide a bulk earthworks strategy including details of volume/s of soil to be excavated, removed from the Site, or imported to the Site.	**Section 5.8 and 5.9**	**Appendix B and F**
Identify, quantify and classify the likely waste streams to be generated during construction and operation and the measures to be implemented to manage, reuse, recycle and safely dispose of this waste in accordance with the waste hierarchy. Identify appropriate servicing arrangements (including but not limited to waste management, loading zones, mechanical plants).	**Section 5.8 and 5.9**	**Appendix B and F**
Relevant Policies and Guidelines: ▪ *Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom); and* ▪ *Approved methods for the Modelling and Assessment of Air Pollutants in NSW (EPA).*		
10. Hazards and Land Use Safety	**Report**	**Appendix**
Provide a description of the proposed storage, use and management of any hazardous materials and measures to be implemented to manage hazards and risks associated with the storage.	No hazardous materials are proposed to be stored or used on the Site.	
A preliminary risk screening completed in accordance with State Environmental policy no. 33- Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous material associated with the project. Should preliminary screening indicate that the project is 'potentially hazardous', a Preliminary Hazard Analysis (PHA) must be prepared in accordance with *Hazardous Planning Advisory Paper No.6 – Guidelines for Hazard Analysis* (DoP, 2011) and *Multi-Level Risk Assessment (*DoP, 2011).	SEPP 33 is not considered to apply as the proposed development does not fall under the definition of being an 'industry' and the proposed works do not constitute a potentially hazardous industry or a potentially offensive industry.	

Director-General's Environmental Assessment Requirement	Location in Report	
11. Air Quality and Odour		
An assessment of the potential air quality impacts including odour, or the development on surrounding receivers including impacts from construction, operation and transport.	**Section 5.12**	
Details of the proposed mitigation, management and monitoring measures.	**Section 5.12**	
12. Visual		
An assessment of the potential visual impacts of the development on the amenity of the surrounding area (including lighting).	**Section 5.16**	
13. Flora and Fauna		
Undertake a fauna and flora survey of the Site in accordance with OEH Threatened Species Survey and Assessment Guidelines. Address impacts on flora and fauna, including threatened species, populations and endangered ecological communities and their habitats and any draft/final recovery plans. Identify steps to be taken to avoid, mitigate or offset any impacts to the environment, threatened species, populations and endangered ecological communities The NSW offset principles .	**Section 5.10**	**Appendix L**
Assess the impacts of the proposal in regard to the Biodiversity Certification order for the Sydney Region Growth Centres. Identify removal of any 'existing native vegetation' (As defined under the Order) and address provisions of the Order regarding removal of such vegetation. Note: The development is located within the South West Growth Centre which is subject to Biodiversity Certification under the *Threatened Species Conservation Act 1995*. The subject land is predominantly within a 'non-certified ' area.	**Section 5.10**	**Appendix L**
14. Bushfire Risk		
Asses the level of hazard posed to future development by the land or adjacent land and how the hazards may change as a result of the development.	**Section 5.14**	**Appendix O**
Address the requirements of *Planning for Bush Fire Protection 2006* (RFS) and in particular the provision of access (including perimeter roads) and provision of water supply for firefighting purposes.	**Section 5.14**	**Appendix O**
15. Infrastructure and Utilities		
In consultation with relevant agencies and through the preparation of an integrated water/infrastructure management plan/s, detail the existing capacity and any augmentation requirements of the utilities for the development, including water and waste water supply, staging of infrastructure, and any potential impacts on environmental performance.	**Section 5.5**	**Appendix F**
16. Staging		
Provide details regarding the staging of the proposed development (if proposed).	The application is not proposed to be a staged application.	
17. Contributions		
Identify contributions which are to be established for the development, including relevant Section 94 Contributions Plan/s and / or Voluntary Planning Agreement/s.	**Section 3.10**	
18. Flooding, Stormwater/Water Management		
Provide a detailed hydrological and hydraulic assessment (including potential flooding impacts) for the proposed development, all adjacent areas, proposed staging and the full potential forecast development of the Site which includes details of appropriate mitigation measures, if necessary, and which also includes:	**Section 5.7**	**Appendix F**
▪ A comprehensive assessment of flooding impacts including the maintenance/ improvement of ore development flooding regime/s downstream of the Site, and up to and including the 100 year ARI, and includes a sensitivity analysis for potential impacts from climate change.	**Section 5.7**	**Appendix F**
▪ Assessment of the impacts of earthworks and filling of land within the proposed development, with an understanding of cumulative flood impacts.	**Section 5.7**	**Appendix F**

Director-General's Environmental Assessment Requirement	Location in Report	
▪ An emergency response plan to manage floods above the flood planning level which includes an assessment of flood evacuation needs to ensure risk to people and damage to protect infrastructure are minimised.	**Section 5.7**	**Appendix F**
▪ Detailed water quality modelling to asses and address impacts on stormwater runoff from the development and the Site, and a detailed water quality impact assessment	**Section 5.7**	**Appendix F**
▪ Details of on-Site stormwater treatment facilities to ensure all gross pollutants and liquid contaminants are captured and removed from stormwater off particularly for runoff to Bedwell Park pond/s	**Section 5.7**	**Appendix F**
Assess the impacts on surface and groundwater sources (both quality and quality), watercourses, riparian land, groundwater dependant ecosystems, and measures proposed to reduce and mitigate these impacts.	**Section 5.7.2**	**Appendix F and P**
Identify management strategies for the existing dams on Site including disposal of sediment and water.		**Appendix F**
Relevant Policies and Guidelines: ▪ *NSW Government Flood Prone Land Policy (1984) as set out in the Floodplain Development manual (2005);* ▪ *"Practical Consideration of Climate Change" (DECCW, 2007);* ▪ *Section 17(2) Local Planning Direction 4.3 "Flood Prone Land";* ▪ *Planning circular PS 07-003 "New guideline and changes to section 117 direction and EP&A Regulation on flood prone land";* ▪ *Guidelines for Controlled Activities on Waterfront Land; and* ▪ *Liverpool DCP 2008.*		
19. Heritage		
Provide a Statement of Significance including field survey/s and an assessment of the impact and / or conservation areas being undertaken in accordance with the guidelines in the NSW heritage Manual, by a qualified practitioner/consultant with historic Sites experience. Note: Provisions of the Division 9 Part 6 of the *Heritage Act 1077* may require an excavation permit for disturbance of archaeological relics.	**Section 5.13**	**Appendix N**
Address Aboriginal Heritage in accordance with the Draft *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (2005) and *Aboriginal Cultural Heritage Consultation requirements for Proponents* (DECCW, 2010). Impacts to Aboriginal cultural heritage must be avoided or adequately mitigated (in consultation with Aboriginal stakeholders).	**Section 5.13**	**Appendix N**
20. Archaeological Impacts		
If relevant, an archaeological study is to be carried out on the Site to identify any European and / or Aboriginal archaeological impacts associated with the proposal. Address recommendations in any archaeological zoning plan or archaeological management plan held by Liverpool City Council.	**Section 5.13**	**Appendix N**
21. Mineral Resources		
Assess potential impacts of the proposal on any significant mineral or petroleum resources, and access for future exploration in the area.	There are no mineral or petroleum resources within the immediate area of the Site, as such there will be no impact of the development on any significant mineral or petroleum resources. There are no operating mines or exploration activities within the WSP or adjoining localities to the Site.	

Director-General's Environmental Assessment Requirement	Location in Report	
Plans and Documents	**Report**	**Appendix**
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents. In addition, the EIS must include the following: ▪ Survey Plan of the Site as existing; ▪ Draft Plan of Subdivision prepared by Registered Surveyor; ▪ Demolition Plan; ▪ Remediation Plan (if applicable); ▪ Detailed Earthworks Plan; ▪ Stormwater Concept Plan; ▪ Concept Landscape Plan; ▪ Construction Management Plan, inclusive of a Construction Management Plan and construction methodology; ▪ Geotechnical Report and Structural Report, including assessment of any landslip considerations and engineering requirements of the proposed business park; and ▪ Noise report (construction).	**Refer Appendices**	
Consultation	**Report**	**Appendix**
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, and community groups and affected land owners. In particular you must consult with: ▪ Liverpool City Council; ▪ Camden Council; ▪ Roads and maritime Services; ▪ Transport for NSW; ▪ Office of Environment and heritage; ▪ NSW Environment Protection Authority; ▪ Department of Primary Industries (NSW Office of Water); ▪ NWS Rural Fire Service; ▪ Sydney Water; and ▪ UrbanGrowth NSW. The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	**Section 4.0**	Also, all appended reports include details of any relevant consultation undertaken with authorities / stakeholders etc.
Further consultation after 2 years	**Report**	**Appendix**
If you do not lodge a development application and EIS for the development within 2 years of the issue date of these DGRs, you must consult further with the Secretary in relation to the preparation of the EIS.	-	-
References	**Report**	**Appendix**
The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, Attachment 1 contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this development.	**-**	

1.5 Project Team

An expert project team has been formed to deliver the project and includes the consultants listed in **Table 2**.

Table 2 – Project Consultant Team

Consultant	Speciality
Western Sydney Parklands the Trust	Applicant
Northrop	Engineering and Civil Works
JBA Urban Planning Consultants	Urban planning Community engagement Urban design
Acoustic Logic	Noise and Vibration Assessment
Arcadia Landscape Architects	Landscape Architects
Coffey	Geotechnical Contamination
Dominic Steele Consulting Archaeology	Aboriginal & Historical cultural heritage
EcoLogical	Flora and Fauna Bushfire Assessment
Henry Davis York Lawyers	Legal
HillPDA	Retail Demand and Economic Impacts
LandPartners	Detailed Survey Draft Plan of Subdivision
MacroPlan Dimasi	Net Community Benefit & Sequential Testing Analysis
Northcroft	Quantity Surveyor
Transport and Traffic Planning Associates	Traffic and Transport

2.0 Site Analysis

2.1 Site Location and Context

The Site is located approximately 35km west of the Sydney CBD and is approximately 2km to the east of the proposed Leppington rail station and civic centre precinct within the Liverpool Local Government Area. The Site is largely within the area identified as the Western Sydney Parklands under the Parklands SEPP, with a small portion in the south of the Site subject to the Growth Centres SEPP. The Site is in close proximity to the M7 and M5 Motorways and this provides excellent access to both the state and regional road network and surrounding key employment and industrial lands. The Site's locational context is shown at **Figure 1**.

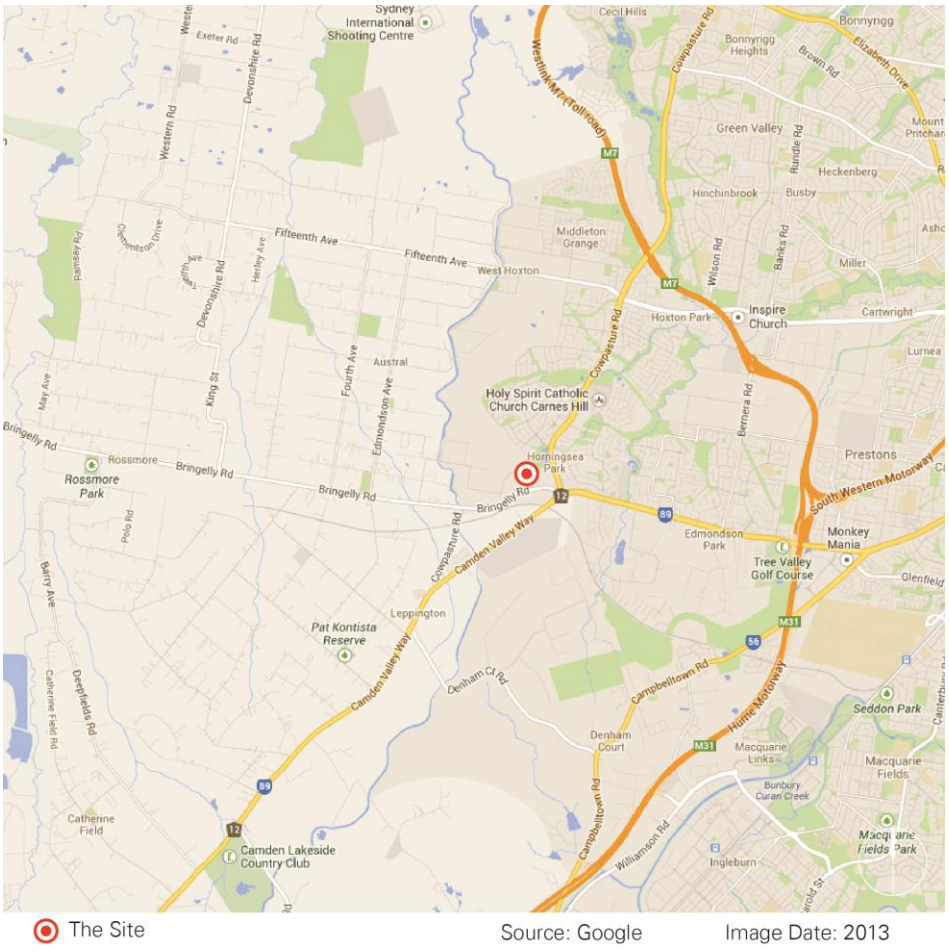

Figure 1 – Location plan

The Site is approximately 21 hectares (ha) in size and irregular in shape. The Site has frontages of approximately 700m along Bringelly Road to the south and 300m along Stuart Road to the north. The Site also borders Bedwell Park to the north and a private landholding to the east. From the Site, via Bringelly Road, Cowpasture Road provides access to the Westlink M7 toll road 3.5km to the north and Camden Valley Way provides access to the South Western Motorway M5 3.5km to the east.

At present, the land surrounding the Site to the west and south is predominantly utilised for farming purposes. To the east and north of the Site, parts of the land have been developed for residential land uses and consist of the suburbs of Horningsea Park, Edmondson Park, and Hoxton Park.

The Site is located in proximity to significant industrial precincts including the Ingleburn Industrial area approximately 10km south and the Prestons Industrial area 6km to the east. Narellan is located approximately 14km south-west of the Site and includes both industrial and LFR land uses. Nearby LFR retail development includes the Crossroads Homemaker Centre in Casula (50,300m^2), Warwick Farm Homemaker Centre (15,655m^2), and Orange Grove Megacenta Liverpool (30,500m^2).

Importantly, the Growth Centres SEPP outlines large-scale development plans for the areas west of the Bringelly Road Site. It is noted that the plans will significantly alter the local context through revised zoning provisions for residential, commercial, business park and industrial development within the Austral and Leppington North region.

2.2 Land Ownership and Legal Description

The Site is legally described as:

- Lots 1-5 and 10-13 DP 29104;
- Lot 141 and 142 DP 846961;
- Lot 8 DP 1156767;
- Lot 3 DP 531654;
- Lot 5 and 21-22 DP 19406;
- Lots 1-2 DP 876864; and,
- Bringelly Road Reserve.

Lots to the north of the existing Bringelly Road alignment being Lots 1-5 and 10-13 DP 29104 and Lot 141 and 142 DP 846961 are owned by the Trust who is the applicant of this application.

The remaining lots to the south of the existing Bringelly Road alignment are currently owned by the Minister for Planning or by the Minister for Transport. Though eventually all these lots will be under the ownership of the Minister for Planning[1]. After the realignment of Bringelly Road portions of these lots north of the new Bringelly Road alignment will be included in the revised boundary alignment for the WSP. Land owners consent from the Minster for Planning is included with this application.

2.3 Site Description

Existing Development

The Site is largely cleared of natural vegetation with some scattered trees in the western section shown at **Figure 2**. Existing development on the Site consists of five residences and associated farm sheds depicted on the aerial photo at **Figure 3**. Five small farm dams are located across the Site. Access to the lots is currently achieved from the lots frontage onto Bringelly Road (south) but it is noted that Bringelly Road is proposed to be realigned south of its current path between Stuart Road and Cowpasture Road.

[1] *Lots owned by the Minister for Transport have been transferred to Transport for NSW for the construction of the south west rail line and will be transferred back to the Office of Strategic Lands under the Minister for Planning's title following the rail line's completion.*

Topography

The Site slopes gently from south-west to north-east and drains into the Bedwell Park wetland area. The highest point is located in the most south-west corner of the Site at RL80m. The lowest point on the Site is RL54m in the north east corner of the Site. Existing grades are up to 20°. Existing topography and site conditions are shown on the plans at **Appendix B.**

Vegetation / Flora and Fauna

Preliminary GIS Mapping conducted by the Trust illustrates parts of the Site as containing a small parcel of Shale Plain Woodlands in the south west corner of the Site. This area of woodland has been identified as being of poor quality, isolated and low ecological value. To the area north of the Site (on adjoining land) is a more significant area of Shale Plains Woodland that forms part of an environmental bushland corridor and is identified as being of good quality and high ecological value. The proposed development does not directly impact on this area.

The remaining area within the Site is predominantly cleared of vegetation with isolated trees scattered across cleared grazing land as shown at **Figures 4**.

Heritage and Archaeology

There are no known Sites of European heritage or Aboriginal cultural heritage on the Site.

Bushfire Prone Land

The Site is largely classified as Bushfire Prone Land by Liverpool City Council due to the proximity of large areas of grassland and woodland surrounding the Site. Specific bushfire management, protection and mitigation strategies are included in the Bushfire Protection Assessment prepared by Ecological (**Appendix O**).

Figure 2 – Looking to the North across the Site

Figure 3 – Aerial Photo

Figure 4 – Site looking north from Bringelly Road

2.4 Surrounding Development

Currently, the surrounding development is comprised of small farming lots with single residential dwellings and ancillary farming structures. Beyond the Site's immediate adjoining land, residential estates have been developed within West Hoxton to the north and Horningsea Park to the east.

To the south of Bringelly Road, the South-West Rail Link (SWRL) is being constructed and forms the first stage in delivering critical infrastructure to provide for the future rollout of the Leppington Town Centre. Forming the area between Bringelly Road and the SWRL, the land will be dedicated as an environmental conservation area. South of the SWRL the land is proposed to be reserved for environmental living.

To the north and west of the Site, the land remains under the Western Sydney Parklands SEPP (2009). This land presents a mix of uses including lands dedicated under environmental conservation areas, small hobby lots and light industry farming uses. The Site is located one kilometre to the west of the proposed Leppington rail station and Leppington Major Centre. The Western Sydney Parklands SEPP provides a buffer from the subject Site to the proposed medium density residential lots of Leppington as zoned under the Growth Centres SEPP.

It is also adjacent to the proposed Sport and Active Recreation Hub and Tourism Hub in the Parklands as shown in **Figure 5** below, for which consultation is likely to commence in 2015.

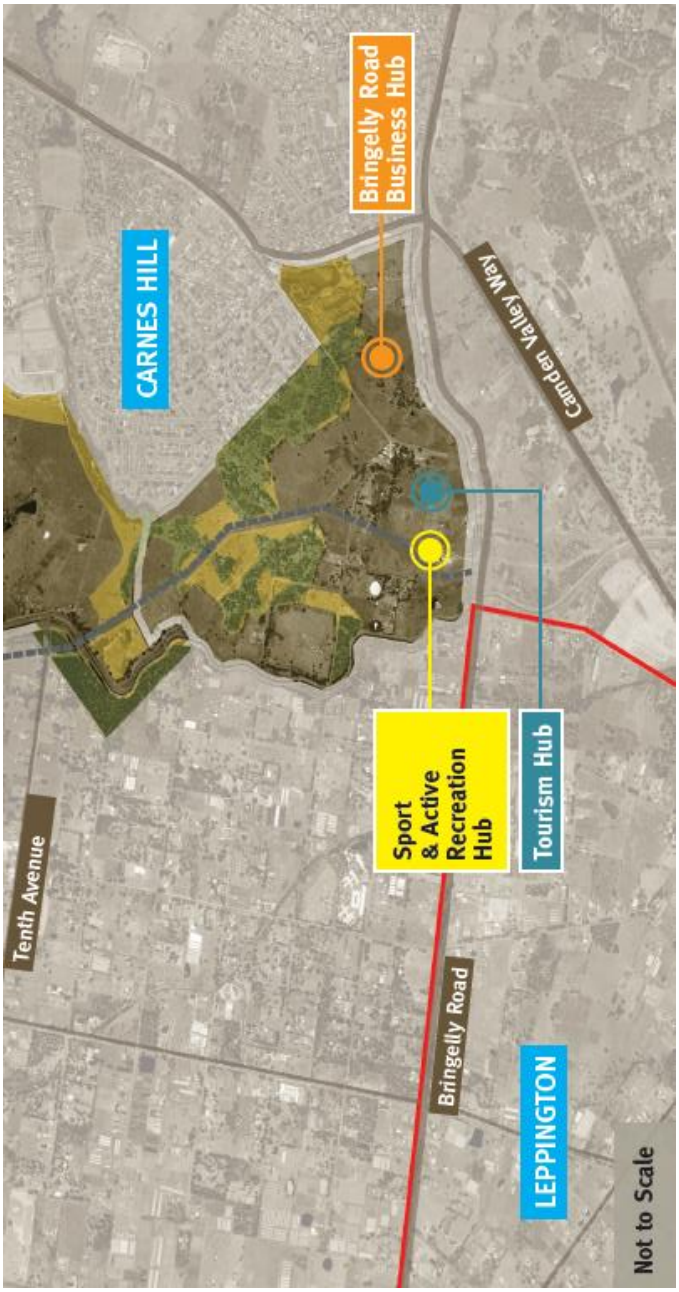

Figure 5 – Western Sydney Park Lands
Source: Plan of Management 2020 - Supplement – March 2014

3.0 Description of the Development

This chapter of the report provides a detailed description of the proposed development. This application seeks approval for subdivision and infrastructure works to facilitate the future development of the Site for large format retail, light industrial and service centre uses. The development will comprise the following components:

This application seeks approval for the following development:

- The subdivision of the Site into eight developable lots serviced off a common access road which generally utilises the current Bringelly Road reserve with a main access connected with re-aligned Bringelly Road;
- Demolition of existing structures on the Site;
- Bulk Earthworks – A bulk earthworks strategy has been prepared to accommodate the needs of future development with the aim of achieving a practical and balanced approach to earthworks relative to the Site topography and constraints and allowing for flexibility in the future staged development of the Site in response to market requirements;
- Site services and infrastructure – construction and delivery of utilities, services and stormwater management infrastructure to accommodate the future development of the Site;
- Internal access – the proposal will seek development approval for internal roads to provide access to and service the future development of the Site; and,
- Estate landscaping.

The proposed subdivision layout is dependent on the planned boundary adjustment for the construction of the realigned Bringelly Road by the Roads and Maritime Services (RMS).

The purpose of the proposed development is to facilitate the potential future use of the Site for large format retail (up to 50,000m^2 Gross Floor Area (GFA)), light industrial and service centre uses with flexibility to develop the estate with any combination of these uses as envisaged under the POM. As such, this development application includes preliminary concept plans that identify potential future building footprints and envelopes as demonstrated in the urban design drawings at **Appendix A**. Additionally site access, internal roads, loading areas and car parking areas are indicatively shown in order to demonstrate the development's capability and assess the potential impacts of the potential future use of the Site. It is important to note however that development for the use of individual lots, buildings and structures associated with the future development will be the subject of future separate development applications.

Figure 6 provides the Site Plan of the proposed development.

Figure 6 – Site Plan
Source: JBA

3.1 Objectives of the Proposed Development

The proposed development is for Site preparation works and subdivision to facilitate the potential future use of the Site for LFR, industrial and service development.

The Parklands Plan of Management 2020 Supplement (the POM Supplement) was adopted by the Minister for Environment, Minister for Heritage on 2 March 2014. The POM identifies the two percent of the WSP with the least ecological value to become the Site for business hubs to service local and regional communities.

The following, taken from the POM Supplement outlines the Trust's vision in developing the Site.

> *The* Western Sydney Parklands Act of 2006 *established the Trust as a self-funded agency and the Plan of Management 2020 sets out the principle that the Parklands be managed in a sustainable and viable manner in partnership with stakeholders and the broader community. The Plan was formally adopted by the Minister for Western Sydney on 25 January 2011 and referred to the steps necessary for the Trust to generate an income.*

This application seeks consent for subdivision and site preparation works to facilitate the potential future use of the Site for LFR, industrial or service development which will be the subject of future DAs. The proposed development forms one of the many Sites to be developed as a Business Hub. The Site will continue to be owned by the Trust with rental income contributed to the '$20 million per annum revenue required to service the facilities and activities of the Parklands'.

3.2 Proposed Subdivision

3.2.1 Layout and Urban Design

Consent is sought for subdivision of 8 superlots as shown in **Figure 5. Table 3** below outlines the proposed subdivision of the Site.

Table 3 – Subdivision

Proposed Lot	Lot Size (m^2)
1	13,579
2	10,550
3	50,931
4	54,349
5	6,317
6	22,629
7	3,810
8	26,653
Total Lot Area	188,810
Total Internal Road Area	19,885
Total Area	**208,695**

The Draft Plan of Subdivision prepared by Land Partners (**Appendix H**) provides details on the proposed subdivision and lot layout of the site. The Urban Design Masterplan (**Appendix A**) and Design Guidelines prepared by JBA (**Appendix G**) provide indicative details regarding Site coverage, built form setbacks and design philosophy for the proposed future development of the Site to demonstrate the capability of the site to accommodate these uses and potential GFA for the respective uses. The lot sizes and landscaped areas have been carefully designed and situated to deliver the best use of the Site and take advantage of the Site's high exposure and excellent positioning along a main arterial roadway.

3.2.2 Possible Future Land Uses

Under Clause 11 of the Parklands SEPP any development other than residential development may be carried out within the Western Parklands with consent, and under Clause 12 of the Parklands SEPP in determining an application for development the consent authority must consider the proposals consistency with the POM and Precinct Plan for the site.

Under the POM Supplement, the Site is within Precinct 16 which identifies potential land uses on the site of *large format retail, bulky good premises, warehouse, storage and distribution premises.* As such, this application seeks consent to prepare the Site for the future potential use of the Site for LFR[2], industrial and service centre uses which are considered to be most appropriate uses for the site and as envisaged in the POM Supplement. Development for the use of individual lots, buildings and structures associated with the future development will be the subject of future separate development applications, of which will be subject to future approvals processes for the construction and use of the Site.

At this stage the exact balance of the potential future land uses will be determined following expression of interest from the market. However it is estimated the Site will accommodate a maximum GFA for LFR of 50,000m^2, from 48,000m^2 for industrial uses, and service centre purposes. **Table 4** below outlines the estimated GFA for the respective land uses on the Site.

Table 4 – Potential future land uses and GFA

Land use	GFA (m^2)
Large Format Retail	Up to 50,000
Industrial	From 40,000
Service	500

Note that because industrial use has a higher Site coverage than LFR, if all the Site were to be industrial, the maximum GFA for the Site will be 118,000m^2 (i.e. not 50,000m^2 +48,000m^2). It is considered that the proposed GFA balance and allocation flexibility provides for appropriate market demands whilst managing the associated environmental impacts.

The key objective of the potential future land uses are to achieve a number of the aims of the Parklands SEPP of delivering a range of commercial uses consistent with the Metropolitan Strategy to deliver beneficial social and economic outcomes to Western Sydney.

[2] *Large Format Retail means any of the following:*

a) A building or place used primarily for the sale by retail, wholesale or auction of (or for the hire or display of) goods that are of such size or weight as to require a large area for handling, display or storage. The building or place may, but need not, include direct vehicular access to the site of the building or place by members of the public for the purpose of loading or unloading of such goods. The type of merchandise for sale, display and/or hire may include, but is not limited to, apparel, furniture and floor coverings, DIY and hardware, homewares, electrical products, whitegoods and home entertainment equipment, fabrics and soft furnishings, sports and camping goods..

b) Bulky Goods Premises.

3.3 Demolition

To facilitate the development of the Site, existing structures, hard stands and buildings will be demolished. Throughout the demolition of each of the buildings re-use and recycling of material will be maximised where possible, with waste disposal to landfill minimised.

A detailed Construction Management Plan will be prepared by the Site contractor prior to demolition works being undertaken and submitted to Council. The Construction Management Plan for the demolition works will include the following sub-plans:

- Vegetation Management Plan;
- Erosion and Sediment Control Plan;
- Traffic and Pedestrian management Plan;
- Noise and Vibration Management Plan; and
- Construction Waste Management Plan – including asbestos demolition and disposal management.

3.4 Bulk Earthworks

Engineering Plans prepared by Northrop illustrating the areas of the Site subject to earthworks including cut and fill are included at **Appendix B**. Proposed earthworks include grading for the provision of proposed lots and part of the road allotment, whereas the existing Bringelly Road will be formalised as shown on the cross sections at **Appendix B.** The proposed earthworks strategy is shown below at **Figure 7**. Grading is predominantly determined by stormwater drainage requirements to shed stormwater to the bio-retention basin located at Bedwell Park with the ultimate goal of maintaining or improving existing water quality. Earthworks have been designed to comply with Council's controls and the *Protection of the Environment Operations Act 1997* and with the main aim minimising the volume of certified fill imported to the Site.

The Geotechnical Investigation Report prepared by Coffee Geotechnics Pty Ltd at **Appendix P** provides an assessment of the existing soil, rock and groundwater conditions across the site and the design parameters of the bulk earthworks. Due to the Site slope, the individual lots will have different finished levels ranging from RL 61mAHD in the north-east and RL 8mAHD in the south-west. The varying levels are due to the existing services in Bringelly Road, which mean there is little flexibility to minimise retaining walls. Cuts of up to 8m high and fill of 8m deep is proposed, with batters and retaining walls constructed between each lot.

The following provides a preliminary estimate by Northrop of the earthworks volumes for the Site with the assumption that cut to fill depths are based on the "as prepared Site" surface minus 3mm:

- Based on the proposed grading, and the above assumptions and exclusions, it is expected that earthworks volumes will be in the vicinity of:
  - Approximate cut = 176,507m^3
  - Approximate fill = 310,255m^3
  - Approximate balance (import material) = 153,748m^3

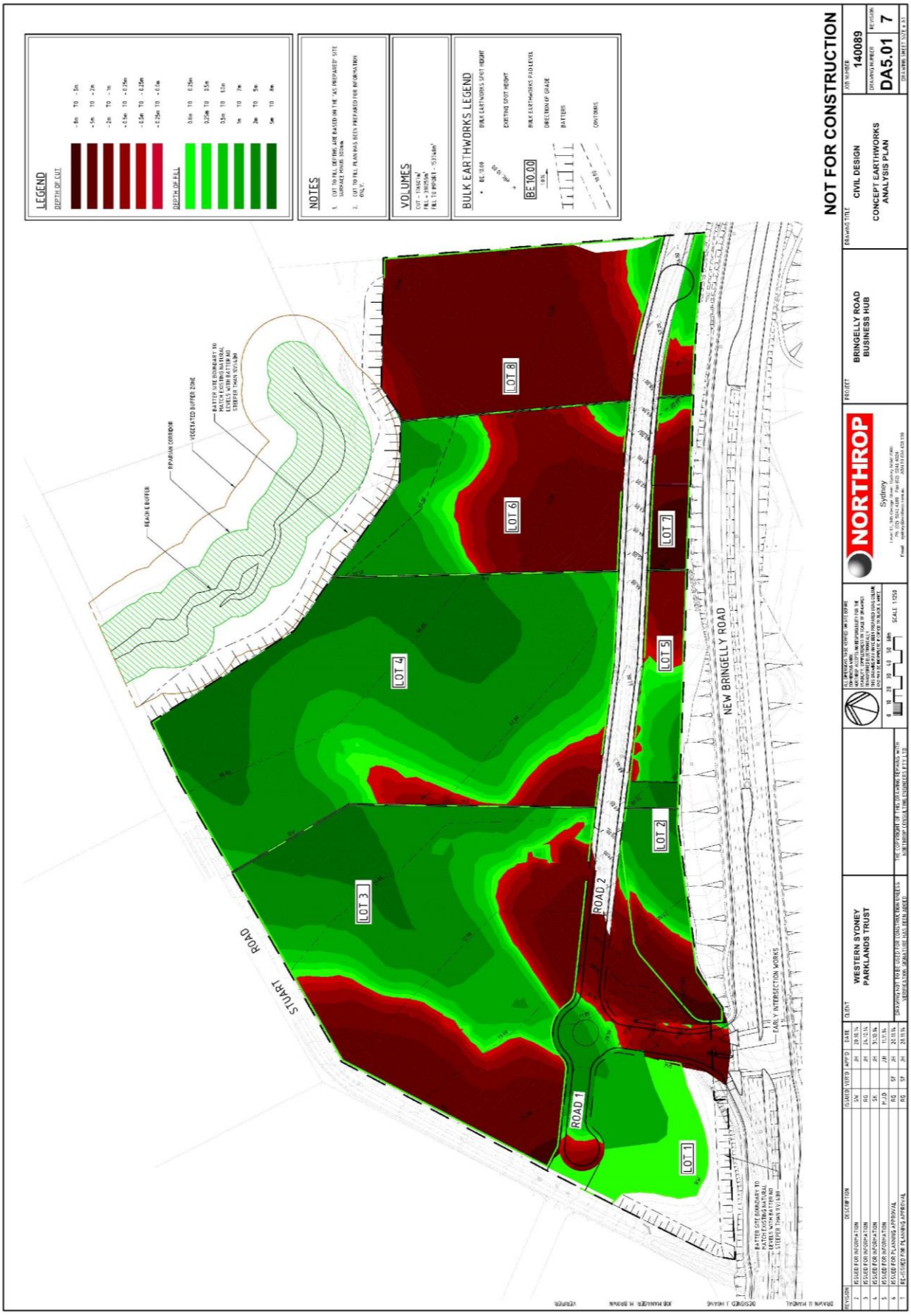

Figure 7 – Proposed Earthworks strategy
Source: Northrop

The proposed imported fill will be 'clean inert fill' material obtained from outside the Site which will be validated as Virgin Excavated Natural Material (VENM)[3], or Excavated Natural Material (ENM) that is capable of being validated as VENM.

Batter works and retaining walls are proposed to occur within the Site boundaries to the north of the new Bringelly Road construction, and around the perimeter of the Site, in addition to the batters between lots as shown on the Site Grading Plan at **Appendix B**. This is in order to grade and match existing levels with land surrounding the Site, aiming to minimise impacts on the adjoining properties, and to create developable and accessible lots across the Site.

The proposed subdivision comprises the importation of around 153,748m^3 of fill which is likely to occur as development requires. Fill will be brought in on Roads and Maritime Services approved roads and will be further detailed in a Construction Traffic Management Plan to be provided prior to the issue of a Construction Certificate.

3.5 Services and Infrastructure

3.5.1 Stormwater Infrastructure

The proposed stormwater management system for the Site is shown in the Engineering Drawings at **Appendix B** and described in Section 5.6 of the Civil & Environmental Engineering Report at **Appendix F**. The proposed system is a typical stormwater network of pits and pipes, and is designed to drain water to four proposed sub-catchments as shown on the Engineering Drawings. Sub-catchments A to C all flow to a drainage corridor (named Reach E), and then flow onwards to Bedwell Park wetland. Sub-catchment D however flows east where it leaves the Site under new Bringelly Road, into an RMS water quality basin to the south of Lot 8.

3.5.2 Services

As outlined in the Civil & Environmental Engineering Report (**Appendix F**), existing services in and around the Site are shown in Drawing DA 6.01 of the Engineering Drawings at **Appendix B.**

Internal service networks for wastewater, potable water, electricity, telecommunications, gas and inter-allotment drainage for the Site have been developed and are capable of servicing the Site. A full description and assessment of the provision of utility services both internal to the Site and in terms of regional capacity is at **Section 5.5.**

[3] ***virgin excavated natural material*** *means natural material (such as clay, gravel, sand, soil or rock fines):*

(a) that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities, and

(b) that does not contain any sulfidic ores or soils or any other waste,

and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved for the time being pursuant to an EPA Gazettal notice.

3.5.3 Water

During construction and operation of the Site the development will not draw upon any groundwater resources. Stored surface water from sedimentation dams or the Bedwell Park wetland will be used for dust suppression. During the operational phase of the development water will be harvested from roof water for on-potable use on lots.

3.6 Site Access and Parking

Operational Access

The road layout as prepared by Northrop includes two new roads to be constructed within the subdivision, with Road 1 following the current alignment of Bringelly Road. These roads form the basis of access for all proposed lots, with the central entry/exit point located along Bringelly Road.

Once completed it is intended to dedicate the internal roads not already in the ownership of Council, to Council.

It is envisaged that future loading and unloading for LFR uses will occur from a service loop road beginning at the western end of Road 1, connecting with Road 2. This will allow for forward direction entry and exit from the Site and on public roads. Detail of this access arrangement will form part of future development applications for individual lots.

Site parking

The proposed development seeks consent for the subdivision, Site preparation works and infrastructure to facilitate the future development of the Site across the eight lots. Parking demands for the use of the Site will be assessed with the proposed future developments on the Site, however there is sufficient land to cater for the anticipated traffic generation and parking requirements as indicatively shown on the Urban Design Masterplan prepared by JBA at **Appendix A**. As such no construction or allocation of parking is proposed under this application.

The proposed subdivision and Urban Design Guidelines (**Appendix G**) have designed the proposed individual lot areas to provide enough space to meet the Liverpool Development Control Plan 2008 or the Roads and Maritime Services requirements for parking spaces, being

- LFR: 333 car spaces (*1 space per 150sqm LFA*); and
- Industrial: 370 car spaces (*1 space per 300sqm factory/warehouse LFA*).

Pedestrian and Cycle Access

Footpaths will be provided from the new Bringelly Road to the Site's entrance and along proposed Roads 1 and 2. This will be connected to the proposed shared pathway along the northern side of the new Bringelly Road and traffic controlled pedestrian/bicycle lanterns crossing will be provided across Bringelly Road.

A footway connection will also be provided between the cul-de-sac bulb to Stuart Street and the existing shared path to the WSP.

The proposed footpaths will also connect into the regional pedestrian and cycle network.

3.7 Landscaping

The proposed development involves the removal of existing vegetation across the Site and replacement with estate landscaping. The proposed tree and vegetation plantings are outlined in the attached Landscaping Plans (**Appendix E**). Proposed planting will be native plantings to the north of the Site adjacent to the riparian corridor, planted verges along the proposed new roads, feature entrance plantings and landscaped terracing.

New street tree planting options include the tree species as shown on the Landscaping Plans:

- Spotted Gum (*Corymbia maculate);*
- Narrow-leaved Ironbark (*Eucalyptus crebra*);
- Thin-leaved Stringybark (*Eucalyptus eugenioides*);
- GreyBox (*Eucalyptus moluccana*); and
- Gorest Red Gum (*Eucalyptus tereticornis*).

All trees are capable of achieving a mature size of 20-35m height and 8-15m width. Within the riparian corridor Cabbage Tree (*Eucalyptus amplifora*) will also be planted, which is capable of achieving a mature height of 30m and width of 15m. This will act to form a buffer between the development and the riparian corridor. A range of native shrubs, accents, grasses and rushes, groundcovers and climbers are also proposed for the verges and street plantings.

The proposed street tree planting locations consider:

- public safety and the need to avoid hazards that may result from leaf and branch drop or obstacles in vehicular sight lines;
- provision of canopy shade; and
- scale and form of trees within the streetscape.

Additionally, as noted in the Civil & Environmental Engineering Report (**Appendix F**), hydromulching and hydroseeding of batters and stockpiles during earthworks, prior to the development of individual lots (subject to relevant approvals) to prevent wind and stormwater erosion of the Site.

3.8 Construction Management

Timeframes for works

The proposed importation of fill, earthworks and construction of infrastructure across the Site is anticipated to generate an average of 10 truck movements per hour, including trucks entering and exiting the Site to deliver fill material to the Site, and associated construction vehicles.

Construction hours will be in accordance with the EPA's Construction Noise Guidelines as follows:

- 7am – 6pm Monday – Friday;
- 8am – 1pm Saturday; and
- no work on Sundays and public holidays.

Vehicular Access and Security

Construction vehicles will enter and exit the Site from Bringelly Road only. Access will be restricted by a security gate with stabilised Site access from Bringelly Road. Parking for workers will be provided on Site in designated areas.

The Site will be fenced during work as shown on the Engineering Drawings at **Appendix B.** Construction works barriers, fences and Site hoardings will be provided and maintained.

A Traffic Management Plan will be prepared as part of the standard Construction Management Plan and Construction Environmental Management Plan prepared by the relevant contractor prior to the issue of a Construction Certificate outlining management of local traffic, including traffic controls (temporary signage, line marking, stop/go workers, etc).

3.9 Contamination

Coffey have prepared a Phase 1 Environmental Site Assessment for the Site (**Appendix I**). Coffey outline that the Site has a number of potentials sources of hazardous materials such as asbestos containing materials, lead paint and ozone depleting substances. Potential sources of contamination include:

- pest and weed control substances;
- unknown fill materials ;
- debris and surface waste along the south western boundary at Stuart Road and the triangular dam in the central western part of the Site;
- weathered building materials from buildings across the Site, including asbestos and lead paint;
- small volume chemical storage and use of storage and workshop areas.

While the Site is considered suitable for development, Coffey recommend that prior to the commencement of works additional investigations of ground water, soils in areas around building footprints and pasture areas, and management such as removal of debris and waste, occur as outlined in the appended Phase 1 Environmental Assessment at **Appendix I.**

In accordance with the Phase 1 Environmental Assessment, the proposed works include the decommissioning of the septic tank on Lot 1 DP29104 (90 Bringelly Road), and dangerous goods, including gas bottles observed on Lot 10 DP29104 (36 Bringelly road), will be appropriately disposed.

3.10 Contributions

The purpose of the proposed works under this application is to undertake Site preparation works including infrastructure provision for the future development and use of the Site. The WSPT will continue to own the Site, and funds raised through the future use and leases of the Site will directly assist in funding the WSP which is community recreational infrastructure, for the benefit of broader Western Sydney.

Development of the Site in the future may attract Section 94 contributions which if required will be payable subject to details of future development applications. Subsequent DAs for development will generate GFA, through which s94 contributions may be calculated under the Liverpool City Council Development Contributions Plan 2009.

4.0 Consultation

The Trust has been undertaking ongoing consultation over the past few years with many local and State agencies both in relation to POM and the Supplement and generally in relation to the development of the Business Hubs. This has contributed to form the basis for the proposal, of which many agencies are already aware of.

JBA was engaged by Western Sydney Parklands the Trust to undertake community and stakeholder engagement with immediate residents and identified stakeholders with regards to the proposed development. This engagement process, although a specified requirement identified as part of the Director Generals Requirements would ensure that both the community and stakeholders are involved during the engagement process. Several consultants have undertaken additional consultation with relevant parties during the preparation of their reports.

Active Community Consultation

The following community consultation was designed to inform local residents of the proposal and to notify and invite them to attend information sessions to learn more and provide feedback on the proposal.

- The distribution of approximately 150 postcards (shown in **Figure 8**) to neighbours in plain English. This consultation involved doorknocking to personally deliver the postcards and speak with neighbours.
- Providing a point of contact for any questions or concerns arising from the door-knock and letterbox drop;
- Direct mail letters to tenants and immediate neighbours including Cowpasture Road, Stuart Road and Tabletop Circuit.
- 2 x Information sessions located at Greenway Park Community Centre on Wednesday 10 September (between 4pm-6.30pm) and Saturday 13 September (between 10am and 12.30pm).

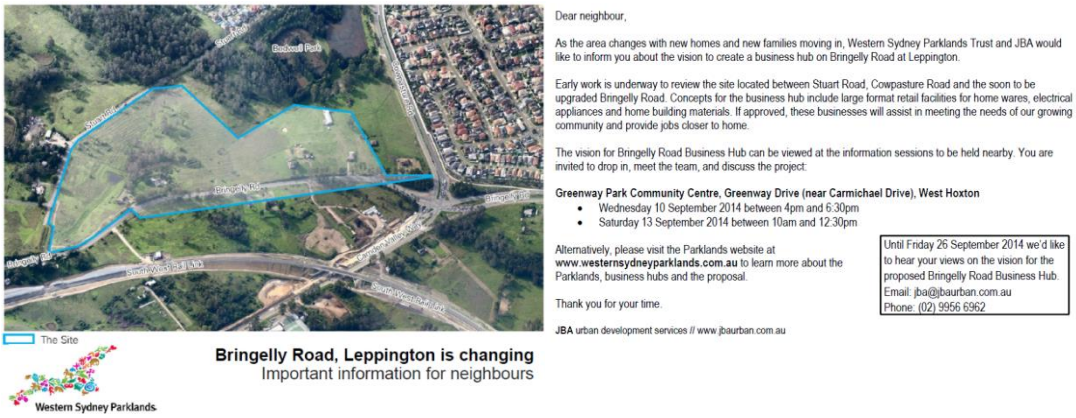

Figure 8 – Copy of post cards distributed to the community and stakeholders
Source: JBA

Stakeholder Engagement

Stakeholder engagement was carried out in the form of written communication and personalised briefings to inform each stakeholder of the proposal. This consultation extended further than the requirements specified by the Director Generals Requirements (DGR's) and included:

- Personalised letters/emails to stakeholders and individual briefings with stakeholders. Some of which included Liverpool Council officers and councillors, Camden Council, NSW Planning & Infrastructure staff, NSW Environmental Protection Authority, Department of Primary Industries, UrbanGrowth staff, Western Sydney Business Chamber, Transport for NSW, Roads and Maritime Services, Office of Environment and Heritage, emergency services (e.g. NSW Rural Fire Service) and utility authorities (e.g. Endeavour Energy, Sydney Water).
- This consultation was designed to allow the community three weeks to make comments. This feedback is included in the Communications Strategy.

Results of Engagement

Table 5 represents the attendance rates from the two information sessions on Wednesday 10 September and Saturday 13 September 2014 (see **Figure 9**).

The communications team were accompanied by a representative of Western Sydney Parklands the Trust on both sessions to assist in providing responses to the community.

Figure 9 – Saturday 13.9.14 - Information session
Source: JBA

Table 5 – Attendees of information sessions

Date	Time	Attendees
Wednesday 10 September 25, 2014	4-5 pm	1 person
	5-6.30pm	0 people
	Total	1 person
Saturday 13 September 2014	10-11am	13 people
	11am – 12.45pm	4 people
	Total	**17 people**
Total over all information sessions		**18 people**

Source: JBA

The issues that were raised can be seen within **Table 6** below. The main issues that were raised included access in and out of Stuart Road, operational traffic generation, potential future land use, questions regarding the starting date of the Bringelly Road upgrade and connectivity through cycle path connections.

Table 6 – Community concerns raised at the information sessions

Topic	Community Comments
Potential Land Uses	▪ Not in favour of the Site being used for light industrial uses ▪ Suggestion for kid's facilities ▪ Increased property values for neighbouring properties? ▪ Will this development blend into the surrounding parklands?
Access via Stuart Road	▪ Stuart Road should be sealed ▪ Safety concerns for two childcare centres that are located on the Stuart Road. ▪ Residents worried about increased traffic on Stuart Road as a result of the development
Access/traffic	▪ Creation of a 'U' shape road within the Site (instead of access through Stuart Road ▪ Creation of second road exit at Stuart Road (maybe at Cowpasture Road or at the main traffic lights). ▪ The need for two sets of traffic lights in and out of Stuart Road ▪ Question as to whether trucks would be diverted down Stuart Road?
Visual Amenity	▪ The design will need to incorporate landscaping ▪ Worried about what the proposal may look like
Connectivity	▪ Cycle way isn't that important because driving options are available ▪ The existing bike tracks aren't being used
Funding	▪ Suggestions as to alternative options to fund the parklands
Environmental	▪ The dam on the Site should be protected due to its use to assist in fire protection ▪ Although the Site contains vegetation of low ecological value. It would be good to see it replanted and extend the green belt.
Bringelly Road Upgrade	▪ When will this work take place?
Other comments	▪ The introduction of the new rail link at Leppington will create manic ▪ Stuart Road is used as a dumping ground for rubbish ▪ Train noise/road noise ▪ The proposal will bring lots of business ▪ Concerns about rubbish and bin collection

Source: JBA

The proposed development will be placed on public exhibition for 30 days in accordance with clause 83 of the *Environmental Planning and Assessment Regulation 2000*. During the public exhibition period Council, State agencies and the public will have an opportunity to make submissions on the project.

The most contentious issue raised by the public was a northern connection to Stuart Road which was proposed during the consultation period. The main concern related to potential traffic, noise and safety impacts. Following consultation the project team worked through a solution to amend the proposal so that no connection to Stuart Road is provided.

5.0 Environmental Assessment

This section of the report assesses and responds to the environmental impacts of the proposed DA. It addresses the matters for consideration set out in the DGRs (see **Section 1.4**).

The Mitigation Measures at **Section 6.0** complement the findings of this section.

5.1 Relevant EPIs, Policies and Guidelines

The relevant strategies, environmental planning instruments, policies and guidelines as set out in the DGRs are addressed in **Table 7**.

Table 7 – Summary of consistency with relevant Strategies, EPIs, Policies and Guidelines

Instrument/Strategy	Comments
Strategic Plans	
NSW 2021: A plan to make NSW Number One	NSW 2021 intends to provide strategies and goals to improve the State's economy, services, infrastructure, government accountability and local environment and communities. The relevant goals to this DA include: ▪ Improve the performance of the NSW economy ▪ Drive economic growth in regional NSW ▪ Place downward pressure on the cost of living ▪ Protect our natural environment, and ▪ Enhance cultural, creative, sporting and recreation opportunities. This DA is consistent with the Strategy in that it facilitates the future development of LFR, industrial (warehouse and logistics), and service centre uses that will allow the Trust to maintain and increase access and the viability of the Western Sydney Parklands and to enhance existing assets and protect the environment. Further the proposed subdivision and infrastructure works will enable the growth of the economy of South Western Sydney through providing more employment land to meet demand, provide LFR development, provide jobs closer to home and support local and regional businesses.
A Plan for Growing Sydney	Leppington is identified as part of the Badgerys Creek Enterprise Corridor which will attract investment and stimulate employment-generating development, aligned with transport infrastructure. The site is in the vicinity of the Badgerys Creek Enterprise Corridor and with good access networks it is in a prime position to take advantage of the supporting industries, investment and activity that will be created. The proposal will contribute to achieving the four goals identified in the Plan through: ▪ ***Goal 1**: A competitive economy with world-class services and transport:* through providing employment opportunities closer to residential areas in Western Sydney and supporting the major focus of the Plan for jobs and services for outer suburban communities. ▪ ***Goal 2:** A city of housing choice, with homes that meet our needs and lifestyles:* providing employment opportunities on land that is not, and cannot be used for residential purposes, thus not competing with housing supply opportunities. ▪ ***Goal 3:** A great place to live with communities that are strong, healthy and well connected:* The proposed development will facilitate revenue raising development for the WSP to maintain and support the network of interlinked, multipurpose open and green spaces across Western Sydney. ▪ ***Goal 4:** A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources*: as identified in the POM and POM Supplement, the proposed development will allow for the protection and management of the WSP and to protect high conservation value land within the WSP.

Instrument/Strategy	Comments
Metropolitan Plan for Sydney 2036	The Metropolitan Plan for Sydney 2036 (The Metropolitan Plan) has been prepared to guide Sydney's growth to 2036 and act as a tool for coordination between Councils and the State government to deliver the action points. Two of the central objectives of the plan is to plan for 760,000 new jobs, with half planned for Western Sydney focusing on cities and centres and protect places of special cultural, open space and heritage value. The following actions are relevant to the proposal. ▪ Action H2.2 - Develop Western Sydney Parklands as a major asset for Western Sydney ▪ Action H2.4 - Provide and enhance regional open space in the Sydney region ▪ Action E2.2 - Ensure an adequate supply of retail, office space and business parks This DA is consistent with this Strategy as it assists in the maintenance and protection of the Western Sydney Parklands, appropriately locates additional employment lands in Western Sydney, contributes towards the delivery of the planned employment capacity in Western Sydney.
Draft Metropolitan Plan for Sydney 2031	The Draft Strategy is intended to guide the development of the Sydney Metropolitan area towards 2031 and beyond and aims to achieve the sustainable growth of Sydney, built around five key outcomes: 1) balanced growth; 2) a liveable city; 3) productivity and prosperity; 4) healthy and resilient environment; and 5) accessibility and connectivity. These strategic directions and key policy settings will be furthered through this DA as it promotes balanced growth through delivering employment lands in a high-demand and well serviced location, which will provide additional jobs in Western Sydney closer to where people live. Importantly this DA will facilitate the continuation and longevity of the broader Western Sydney Parklands through ensuring its economic feasibility and retaining future access for all.
South West Subregional Draft Subregional Strategy	The Sydney Metropolitan Strategy outlines seven key strategies for the development of Sydney over the next 25 years. A key aim of the draft subregional strategy is to provide for balanced growth, to build upon regional strengths and bolster opportunities, and to assist planning for regional facilities, within and between subregions. This DA is consistent with the Strategy in that it: ▪ will support the Western Sydney Parklands; ▪ provide South West Sydney specialised/industrial lands; ▪ assist the overall regional economic growth; ▪ provide employment with good access to major transport routes in South West Sydney; and ▪ improve opportunities and access to jobs for disadvantaged communities.
State Legislation	
EP&A Act 1979	The proposed development is consistent with the objects of the EP&A Act for the following reasons: ▪ this DA represents a balanced delivery of employment land with that of the conservation of natural areas of the Western Sydney Parklands for the purpose of promoting the social and economic welfare of the community and a better environment; ▪ the proposed development promotes the orderly and economic use and development of land through a balanced outcome that supports the ongoing viability of the Western Sydney Parklands, ensuring land for public purposes remains and is accessible; ▪ assists in the protection of the environment, through facilitating the protection of the remaining TRUST land and providing a source of income for their management and ongoing maintenance; and ▪ this DA has been carefully designed to be ecologically sustainable development, through water sensitive urban design, landscaping and design.

<table>
<tr><th>Instrument/Strategy</th><th>Comments</th></tr>
<tr><td></td><td>The proposed development is consistent with Division 4.1 of Part 4 the EP&A Act, as:
the development has been declared to have state significance;
the development is not wholly prohibited by an environmental planning instrument; and
the development has been evaluated and assessed against the relevant heads of consideration under section 79C.</td></tr>
<tr><td>EP&A Regulation 2000</td><td>The EIS has addressed the specification criteria within clause 6 and clause 7 of Schedule 2. Similarly, the EIS has addressed the principles of ecologically sustainable development through the precautionary principle (and other considerations), which assesses the threats of any serious or irreversible environmental damage (see Section 7.3).
As required by Clause 7(1)(d)(v) of Schedule 2, the following additional approvals will be required in order to permit the proposed development to occur.
<table>
<tr><th>Act</th><th>Approval Required</th></tr>
<tr><td colspan="2">Legislation that does not apply to State Significant Development</td></tr>
<tr><td>Coastal Protection Act 1979</td><td>N/A</td></tr>
<tr><td>Fisheries Management Act 1994</td><td>N/A</td></tr>
<tr><td>Heritage Act 1977</td><td>N/A</td></tr>
<tr><td>National Parks and Wildlife Act 1974</td><td>N/A</td></tr>
<tr><td>Native Vegetation Act 2003</td><td>N/A</td></tr>
<tr><td>Rural Fires Act 1997</td><td>N/A</td></tr>
<tr><td>Water Management Act 2000</td><td>N/A</td></tr>
<tr><td colspan="2">Legislation that must be applied consistently</td></tr>
<tr><td>Fisheries Management Act 1994</td><td>No</td></tr>
<tr><td>Mine Subsidence Compensation Act 1961</td><td>No</td></tr>
<tr><td>Mining Act 1992</td><td>No</td></tr>
<tr><td>Petroleum (Onshore) Act 1991</td><td>No</td></tr>
<tr><td>Protection of the Environment Operations Act 1997</td><td>No</td></tr>
<tr><td>Roads Act 1993</td><td>No</td></tr>
<tr><td>Pipelines Act 1967</td><td>No</td></tr>
</table></td></tr>
<tr><td>SEPP (State & Regional Development) 2011</td><td>Pursuant to Schedule 2 of the SRD SEPP, development within the Western Sydney Parklands with a Capital Investment Value (CIV) in excess of $10 million is considered to be SSD. The proposed development has a CIV of over $10 million, and is therefore identified as SSD and considered to be development of State and/or Regional Significance. This EIS has accordingly been prepared in support of the DA.</td></tr>
<tr><td>SEPP (Sydney Growth Centres) 2006</td><td>This SEPP aims to co-ordinate the release of land for residential, employment and other urban development in the North West and South West growth centres of the Sydney Region. A small portion of the Site (3.05 ha), south of and including the current Bringelly Road corridor, is subject to the zoning and land use provisions of the SEPP. This applicable area includes the current Bringelly Road (zoned SP2 Infrastructure) and land between the current and future Bringelly Road alignments (zoned E2 Environment Conservation). The proposed development is prohibited in these zoned under the Growth Centres SEPP provisions. Notwithstanding this, under Section 89E(3) of the Environmental Planning and Assessment Act 1979 (the Act), development consent may be granted for a State Significant Development that is partly prohibited by an environmental planning instrument.</td></tr>
<tr><td>SEPP 33 – Hazardous and Offensive Development</td><td>SEPP 33 applies to any proposals which fall under the policy's definition of 'potentially hazardous industry' or 'potentially offensive industry'. SEPP 33 is not considered to apply as the proposed development, being subdivision and infrastructure works, is not considered to fall under the definition of being an 'industry' and the proposed works do not constitute or permit in the future a potentially hazardous industry or a potentially offensive industry.
If, in the future a 'potentially hazardous' industry is proposed, this will be subject to future development applications and assessment under SEPP 33.</td></tr>
</table>

Instrument/Strategy	Comments
SEPP (Western Sydney Parklands) 2009	The proposed development is permissible with consent under the Clause 11 of the Parklands SEPP. The proposal supports the operational functionality of Parklands by providing the necessary funding stream for maintenance of ecological significant areas and the continued improvement of infrastructure supporting the parks recreational uses. Under Clause 12 of the SEPP (WSP) the consent authority must consider the a number of factors as applicable to the development when determining a development application for development on land in the Western Parkland including: ▪ the impact on utility services and easements, ▪ *the impact of carrying out the development on environmental conservation areas and the natural environment, including endangered ecological communities,* ▪ *the impact on the physical and visual continuity of the Western Parklands as a scenic break in the urban fabric of western Sydney,* ▪ *the impact on public access to the Western Parklands,* ▪ *consistency with:* – i) any plan of management for the parklands, that includes the Western Parklands, prepared and adopted under Part 4 of the Western Sydney Parklands Act 2006, or – ii) any precinct plan for a precinct of the parklands, that includes the Western Parklands, prepared and adopted under that Part, ▪ *the impact on surrounding residential amenity,* ▪ *the effect on drainage patterns, ground water, flood patterns and wetland viability,* ▪ *the impact on heritage items,* ▪ *the impact on traffic and parking.* Each of these elements are considered within this report and assessed in **Section 5.0.** The Minister for Western Sydney adopted the Parklands Plan of Management 2020 (the POM) on 25 January 2011. The POM provides the vision of the Parklands, and actions for the Trust to implement over the next decade to achieve the aims and objectives of the Parklands SEPP. This document outlines a number of strategic directions for specific areas throughout the Parklands. Pertaining to the proposal, a key objective of the POM is to develop new business opportunities which in turn will support the management and further development of the Parklands. As a result of this objective, the Trust engaged a number of consultants to prepare studies to ascertain the viability of developing Business Hubs in well serviced areas. The POM Supplement was adopted by the Minister for Environment, Minister for Heritage on 2 March 2014. The POM Supplement updates the Trust's achievements since 2010 in addition to presenting details on proposed Business Hubs and other revenue generating opportunities. The POM Supplement directly identifies potential land uses for the Site including LFR, bulky good premises, warehouse, storage and distribution premises. This DA is consistent with the POM and the POM Supplement as it: ▪ facilitates the development of potential land uses as identified within the POM Supplement, ▪ will generate an appropriate commercial return and add to the amenity of adjacent communities; ▪ will generate additional employment and training opportunities for local and regional communities; ▪ be undertaken in a manner that will minimise the environmental impact of such development; and ▪ occurs on a Site with low environmental and recreational values. This proposal is considered to be entirely consistent with the objectives of the WSP SEPP.
SEPP 55 – Remediation of Land	The proposed development has been used historically for grazing purposes. The Phase I Environmental Site Assessment prepared for the Site (see **Appendix I**) demonstrates the Site is suitable for the proposed development.

Instrument/Strategy	Comments
SEPP 64 – Advertising and Signage	SEPP 64 applies to advertising and signage within NSW. It aims to ensure that advertising and signage is compatible with the desired amenity and visual character of an area; provides effective communication in suitable locations; and is of high quality design and finish. No signage is proposed under this application. This application seeks approval for subdivision and infrastructure works to facilitate the future development of the Site for LFR, industrial (warehouse and logistics), and service centre uses. Future uses and associated signage will be subject to future applications.
SEPP (Infrastructure) 2007	The Site is located adjacent to two classified roads (Bringelly Road and Cowpasture Road) and is therefore subject to the provisions of the State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP). Under clause 101 of the Infrastructure SEPP, there are several considerations for development with a frontage to a classified road. These have been considered in the design development (see **Section 5.3**). As the proposed development is in excess of 10,000m^2 it is considered to be a traffic generating development under Schedule 3 of the Infrastructure SEPP and is therefore required to be referred to the RMS.
Local Planning Instruments and Controls	
Liverpool Local Environmental Plan 2008	The provisions in the Liverpool Local Environment Plan 2008 do not apply to the Site as they are otherwise overridden by Parklands SEPP and Growth Centres SEPP.
Liverpool Development Control Plan 2008	Clause 11 of the State and Regional Development SEPP states that Development Control Plans do not apply to SSD. Notwithstanding this, the relevant provisions of Liverpool DCP 2008 have be considered with regard to the design and layout of the development and in the preparation of the Site specific urban design guidelines which will apply to future development on the Site. Particularly the proposed streetscape and layout aims to not detrimentally affect the amenity of nearby residential development and provides a corner Site development that incorporates visually significant elements in order to promote a strong and legible character.
Guidelines	
Development Near Rail Corridors and Busy Roads – Interim Guidance	Bringelly Road west of Cowpasture Road is not identified as busy road under the RMS *Traffic Volume Maps For Noise Assessment For Building On Land Adjacent To Busy Roads* (Map 14) despite the future Bringelly Road upgrades potentially being classified as a busy road in the future. Further the site does not adjoin the rail corridor. It is thus considered that this guideline does not apply. Additionally, as this application does not seek consent for the use or construction of buildings it is not considered that acoustic testing or assessment in accordance with the guidelines is required for the proposed development. Should future development be considered to be impacted by noise and air pollution by road or rail infrastructure, appropriate built form controls and acoustic assessments may then be required.

5.2 Economic Impacts

5.2.1 Retail Demand and Economic Impacts

The Retail Demand and Economic Impact Assessment prepared by Hill PDA (**Appendix J**) provides an assessment of the proposed economic impacts of the future development of the Site for LFR. It was not considered that a demand and impact assessment is relevant for the industrial and service centre uses.

The following sections assess the various elements of the economic assessment as required under the DGRs (as outlined in **Section 1.4**).

Nature of intended future land uses

The intended future land uses include large format retail of up to a maximum of 50,000m^2 GFA, and industrial and service centre uses with flexibility to develop the estate with any combination of these uses. Ancillary food and drink premises are proposed, however only when developed in conjunction with other permissible uses.

Supply and demand for LFR

Part A of the HillPDA Retail Demand and Economic Impact Assessment provides an assessment of the supply and demand of LFR as facilitated by the proposal. The report outlines that:

- the South West Growth Centre is forecast to grow by a net population increase of 300,000 in addition to new retail centres and employment lands;
- the population of the Site's main trade area (the South West Region) is to expected to increase by 522,234 residents – or a 127% growth;
- this growth translates into:
  - an estimated growth in retail expenditure from $5.4b to $14b from 2012 to 2036; and
  - on the basis of population growth alone, an increased demand for over 1.2 million square metres of additional retail floorspace within the South West Subregion, of which 300,000m^2 is required for LFR.

The Retail Demand study provides an assessment of existing and future retail provision in the South West Region including the regional city[4] of Liverpool CBD; major centres of Campbelltown Macarthur, and the planned Leppington North; town centres of Carnes Hill, and planned centres of Edmondson Park and East Leppington. Additionally, an assessment of the existing 'out of centre' LFR clusters and centres in the locality are provided including:

- Crossroads Homemaker Centre (Camden Valley Way, Casula);
- Warwick Farm Homemaker centre (Sappho Road, Warwick Farm);
- Orange Grove Megacenta (Orange Grove Road, Warwick Farm);
- Blaxland Road (Campbelltown Macarthur CBD); and
- Gregory Hills (intersection of Camden Valley Way and Gregory Hills Drive).

Based on an assessment of these centres, and the LFR clusters, HillPDA estimate that approximately 247,000m^2 of LFR is currently provided in the South West Region, with approximately 100,000m^2 planned or pipeline LFR floorspace in the South West Subregion including:

- Leppington North – 60,000m^2 of LFR floorspace (beyond 2021);
- Homemaker Centre Gregory Hills – 30,000m^2 of LFR floorspace of which 9,600m^2 will be completed by December 2014; and
- Camden Valley Business Units - 10,667m^2 of a variety of commercial and LFR tenancies (to be completed by 2015).

Based on this existing and future demand LFR floorspace assessment, HillPDA provide the following summary (reproduced at **Table 8**) which concludes that there will be a undersupply of 27,000m^2 LFR floorspace in 2016 and155,000m^2 in 2026 (if no additional supply is developed).

[4] *As identified by the draft South West Subregional Strategy (NSW Department of Planning and Environment)*

The HillPDA study concludes that there is *'significant growth in demand for LFA in the South West Region'*, with the significant increase in population in the Region, there will be an unmet demand of around 75,000m^2 of LFR floorspace (taking into account for possible additional supply in Gregory Hills and Leppington North of approximately 80,000m^2). HillPDA conclude that this proposal is 'uniquely positioned' to meet the unmet LFR demand in the Region.

Table 8 – LFR demand and supply in the South West Subregion

(GLA m^2)	2012	2016	2026	2036
LFR Demand***	240,100	289,300	417,200	566,300
Existing Supply 2014	247,000	247,000	262,000	342,000
Planned Supply Additions		15,000*	80,000**	
Total Supply	247,000	262,000	342,000	342,000
Residual Demand**	-6,900	27,300	75,200	224,300

Source: Hill PDA Bringelly Road Business Hub Retail Demand and Economic Impact Assessment

** Assumes extant DA for the Narellan Homemaker centre (and 50% is taken up by bulky goods retailers) and the first stage of Gregory Hills will be completed by 2016*

*** Assumes the balance of Gregory Hills and Leppington North completed by 2026.*

*** LFR including includes fabrics and soft goods, sports and camping stores, DIY and hardware and bulky goods such as furniture, floor coverings, housewares and electrical appliances.*

***** Demand less supply – negative number denotes oversupply.*

Economic impacts of the proposal on existing and planned retail/commercial centres

Part B of the HillPDA Retail Demand and Economic Impact Assessment provides an assessment of potential economic impacts of a proposed 50,000m^2 additional LFR floorspace at the Bringelly Road Site to existing and proposed retail centres in the South West Region (including Leppington Major Centre and Edmondson Park Town Centre).

Assumptions and scenarios

In assessing the potential economic impacts of the potential future use of the Site HillPDA have made the following turnover assumptions and scenarios as outlined in **Table 9.**

Table 9 – Estimated Turnover of Proposal

Stage	GLA	Year completed	Sales*	Retail sales
Stage 1	30,000m^2	2017-18	$3,500/m^2	$99m**
Stage 2 (Total)	Stage 1 (30,000m^2) + 20,000m^2	2019-20	$3,500/m^2	$175m

Source: Hill PDA Bringelly Road Business Hub Retail Demand and Economic Impact Assessment

**generally in line with industry averages*

*** measured in 2013 dollars*

Economic impact on existing centres

HillPDA note that the expected turnover as identified in **Table 9** should be assessed in the broader context of anticipated LFR expenditure growth within the Region. Based on the context of expected population growth in the South West Region, between 2014 and 2021 the Region is expected to experience an expenditure growth of $320m (i.e. more than 40% growth). On this basis, it is concluded that rather than redirecting sales away from surrounding existing and planned centres, the potential additional LFR will capture sales in its own right without significantly impacting surrounding centres which will also continue to experience growth in demand from new households.

HillPDA have prepared a bespoke gravity model to examine the extent of trade redirected from existing centres and retail clusters (see table on p.36 of **Appendix J**).

This assessment confirms that in 2017-2018 no centre or retail cluster will experience trading levels of more than 10% below a 'do nothing' scenario as a result of the potential future LFR development. This is with Hoxton Park Airport experiencing the greatest difference in trading levels of 8-9% lower than the 'do nothing' scenario. HillPDA assess that this degree of impact is not significant[5]. Over time the Site is expected to capture $175m of the $360m 2014-2021 growth in South West Region LFR expenditure. As such it is considered that even with the potential future LFR development, all centres will experience growth in trade to 2021.

Economic impact on proposed centres

Proposed Edmondson Park Town Centre and North Leppington Major Centre are new centres proposed in the South West Growth Centre. These two centres will experience the following economic impacts from the potential future development as outlined in **Table 10**. Overall HillPDA conclude that competition between Edmondson Park and the Site is considered to be minor, and 'more complementary than competitive'.

Table 10 – Comparison of impact on proposed centres

Centre	Characteristics	Access	Location	Comments
Bringelly Road Business Hub	▪ *Maximum 50,000m² LFR* ▪ *Ancillary food and drink* ▪ *Service and industrial uses*	*Private vehicle/car* *Bus stop within walking distance*	*LFR/industrial/ service*	
Edmondson Park Town Centre	▪ 2 supermarkets ▪ Discount department store ▪ Specialty retail	Train station nearby	Traditional retail centre	▪ Edmondson Park Town Centre will have limited retail offer in LFR categories ▪ Competition between Edmondson Park and the Bringelly Road development is considered to be minor, and 'more complementary than competitive'.
Leppington North	▪ 120,000m² of retail space ▪ 25ha or approximately 60,000-70,000m² LFR (zoned B5 Business) ▪ Department stores, supermarkets, apparel stores etc.	Train station nearby	Traditional retail centre	▪ The Bringelly Road development, if approved, is likely to be delivered before any LFR zoned land at Leppington North. ▪ If approved, the Bringelly Road proposal will serve the needs of the first residents of the South West Region before sufficient population exists in the Region to support the 'financial and commercial viability of LFR at Leppington North'. ▪ HillPDA consider that competition between Leppington North Major Centre and this Bringelly Road development will be complementary rather than detract from future Leppington North retail.

Source: Hill PDA Bringelly Road Business Hub Retail Demand and Economic Impact Assessment

[5] *Based on NSW Land & Environment Court consultancy reports, a loss of trade of the following percentage will generate the following impacts:*

< 5% - insignificant impact

5% -10% - moderate impact

10% -15% - moderate to high impact

> 15% - strong or significant impact

Cumulative impacts

It is not expected that the proposal will generate any negative cumulative impacts with consideration of other existing and proposed LFR within the Region as:

- HillPDA has ascertained that there is a growing demand for LFR in the South West Region of around 300,000m^2 to 2036. This is in addition to the 900,000m^2 of traditional retail floorspace within traditional retail centres.
- This demand for floorspace in the Region is unmet by existing, proposed and LFR zoned land in the region.
- There is also a growing increase in the expected retail expenditure in LFR and traditional retail centres, which will be unmet by existing, proposed and retail/ LFR zoned land in the region.
- The Growth Centres SEPP identifies areas for LFR within Leppington North (25ha of land), however as discussed previously, due to the timeframes in delivering Leppington North, the Bringelly Road proposal will serve the needs of the first residents of the South West Region before sufficient population exists in the Region to support the 'financial and commercial viability of LFR at Leppington North'.

It is considered that the proposal will not threaten the existing retailing/commercial activities, nor will it impact proposed activities or standard traditional centres as there is greater demand for LFR in the region than there is supply.

Economic Benefits

The potential future development of the Site for LFR will have a number of beneficial economic impacts both on a local scale and a broader Regional scale. These are summarised below.

- Construction Impacts

  HillPDA estimate that the total economic activity generated by the construction of the proposal is $241m which is generated by the multiplier effects of:
  - an estimated construction cost of $73m[6];
  - a further $47m generated in activity in production induced effects; and
  - $49m in consumption induced effects.
- Construction related employment

  HillPDA estimate that 208 job years[7] will be directly generated by the construction of the development.
  Indirectly, an additional 557 job years will be generated when identified employment multipliers for first round, industrial support and consumption induced effects are considered.
- Post Construction Employment and Value Add
  - Employment: A total 667 fulltime and part time retail operation jobs will be generated by both Stage 1 and 2 of the development.
  - Salaries: HillPDA estimate the combined annual employees' salaries will be approximately $23m.
  - Industry Value Add: Hill PDA estimate an industry value add of $29m per annum.

[6] *"Based on $1,000/m^2 for construction, $4,000 per car space (1 space per 35m^2 of retail GFA), an allowance of 15% of the above costs for on-Site works, loading areas, landscaping and external works and around $200/m^2 for fitout."*

[7] *One job year = one full-time job for one full year*

- Economic Benefits to WSP

  The proposed development will facilitate the provision of a sustainable income stream to fund the operations, maintenance and improvements to the greater Parklands area.

5.2.2 Sequential Site Assessment

MacroPlan Dimasi have conducted a sequential Site assessment in accordance with the requirements of the NSW Department of Planning and Environment *draft Centres Policy Planning for Retail and Commercial Development* (2009) (draft centres Policy) for the purpose of this SSD application which is included in their report at **Appendix D**. The sequential test is used to assess whether there are any alternative sequentially preferable Sites to the Bringelly Road Business Hub location.
In considering 'out-of-centre' commercial proposals, the draft Centres Policy requires the following steps to be taken:

> *"Step 1: Firstly, it must be demonstrated that there are no suitable Sites within an existing or planned new activity centre than can satisfy the demand to be accommodated. This may be achieved by adjusting future intensions for a centre and could include:*
>
> - *increasing height and floor space controls,*
> - *permitting a broader mix of uses, or*
> - *actions to facilitate Site availability or Site consolidation.*
>
> *Step 2: Secondly, it must then be demonstrated that there are no suitable Sites in an edge-of-centre location than can satisfy the demand to be accommodated.*
>
> *Step 3: Thirdly, an out-of-activity centre Site that can satisfy the demand to be accommodated may be considered if it meets the Site Suitability Criteria and is consistent with relevant local or regional planning strategy".*

As explained in the report, the availability and suitability of Sites zoned B5-Business Development ('the B5 zone') was assessed. Given the potential LFR, light industrial and service/ancillary uses, the B5 zone is the best comparable zone for the development. MacroPlan Dimasi's findings are set out in **Table 11** and confirm that there are no sequentially preferable Sites for the proposed development to the proposed Site.

Table 11 – Key findings of the Sequential Site Assessment

Centre	Detail	Findings
Crossroads	▪ Zone: B5 – Business Development ▪ Area: 27.8ha ▪ Lots: 6 large lots ▪ Occupants: – Crossroads Homemaker Centre – Costco Retail Warehouse	▪ Crossroads Homemaker Centre and Costco take up all developable land in this B5 zone precinct with no vacant land available. ▪ Surrounding land is zoned B6 – Enterprise Corridor and IN3 – Heavy Industrial neither support the potential floor plates in this application, and prohibit LFR or are not ideal for light industrial uses. ▪ The IN3 zoned land, while vacant, is strategically important industrial land precinct and is unsuitable for rezoning. ▪ Summary: no vacant land available, and existing uses are fully operational.

Centre	Detail	Findings
Hoxton Park	▪ Zone: B5 – Business Development ▪ Area: 3.47ha ▪ Lots: 1 lot ▪ Occupant: – Masters Home Improvement Store	▪ The precinct is fully occupied by Masters and Masters at-grade car parking. ▪ The Site is surrounded by IN1 – General Industrial land which is almost completely occupied by two distribution centres leased to Woolworths Ltd and owned by Mirvac. ▪ The only unoccupied IN1 lot is too small to support the potential development concept or warrant rezoning. ▪ Other surrounding land uses include public recreation zoned land and residential zoned land which are unsuitable for LFR and light industrial uses. ▪ Summary: no vacant parcels available.
Leppington North Precinct	▪ Zone: B5 – Business Development ▪ Area: approx. 25ha ▪ Lots: 17 lots ▪ Occupants: Existing uses (homes, farms)	▪ Indicative Layout Plan for Leppington North earmarks four fragmented precincts as B5 zoned land. With two in the north of the suburb collectively 5.3ha, and two in the south totalling 24.9ha. ▪ Two parcels in the south are collectively and individually too small. ▪ Two parcels in the north are incongruous, and unable to be combined as they are separated by an area designated as future public recreation land. ▪ Fragmented land ownership, existing uses and development make the potential development of this location, in the manner proposed in this application, unfeasible. ▪ Summary: Size of each parcel and individual constraints of each lot mean the proposed concept would be unable to be developed at this Site.
Orange Grove	▪ Zone: B5 – Business Development ▪ Area: 17.0ha ▪ Lots: 3 lots ▪ Occupants: – Liverpool Megacenta – Liverpool Markets	▪ This precinct is almost entirely occupied, with vacant land fragmented and too small to accommodate the proposed development concept. ▪ Surrounding land includes B6 - Enterprise Corridor land which is occupied by fast food developments and a Dan Murphy's. This area is too small for the potential future uses under this application. ▪ To the south is a large IN1 – General Industrial precinct however vacant space within this precinct is incongruent and too small. The costs involved with rezoning, demolishing and amalgamating Sites is impractical for the purpose of this development. ▪ Summary: Insufficient land available in B5 zoned land, other neighbouring land is an unfeasible option.
Turner Road	▪ Zone: B5 – Business Development ▪ Area: 58.3ha ▪ Ownership: 2 owners ▪ Occupants of south parcel: – Masters Home Improvement Store – The Central Hills Business Park (has approval for new multi-tenant LFR of 30,000m^2) ▪ Occupants of north parcel: Nil.	▪ Primary location for future LFR in the southern part of the South West growth Centre. ▪ Is 15km south of the Bringelly Road Site. ▪ This precinct will play an important role for the Turner Road Precinct and is considered to be needed in addition to the proposed development at Bringelly Road Business Hub to meet the future LFR demand to 2026. ▪ Summary: The Turner Road site is too far away from the BRBH, and is required in the future to meet demand for LFR generated by the future South West Growth Centre population growth.

5.2.3 Nett Community Benefit

MacroPlan Dimasi present an assessment of the effects of the future development of the site for LFR, light industrial and service centre uses on nett community benefit in the report at **Appendix D**.

In summary the potential future development is considered to result in nett community benefit which will generate a number of social and economic benefits for the local area. These are:

- provision of commercial returns for the Trust to self-fund the future of the Parklands;
- funds to improve the Parklands, including major recreational facilities, bike and walking tracks, tourism and sports facilities and the upgrade and maintenance of major environmental and wildlife corridors;
- convenient access to open space and increased amenity in the region;
- ensuring sufficient supply of LFR floorspace to meet local and sub-regional demand;
- provision of additional LFR competition and increased choice for consumers;
- ensuring the right type of uses are provided at the right location at the right time to meet consumer needs;
- local employment and consequent economic multiplier impacts; and
- reduction in vehicle kilometres travelled by locating employment and shopping closer to residential areas.

It is considered that the overall potential economic impact of the proposal will:

- have negligible overall economic impacts on existing and planned centres and current out of centre retail;
- be complementary rather than competitive; and
- meet otherwise unmet demand for LFR in the South West Growth Centre.

5.3 Layout and Urban Design

The proposed development including site preparation works and subdivision aims to prepare the Site for the future potential LFR, light industrial and service centre uses.

The lots will be filled and graded to create a pad which is capable of being developed in the future for LFR, light industrial and/or service centre uses. The Urban Design Masterplan (**Appendix A**) provides an indicative layout of the future development of the site to demonstrate that the proposed subdivision lot layout can accommodate the development of the Site with regards to built form aspects such as building setbacks, site coverage, and parking. It outlines that the subdivision layout is capable of providing adequate access and connectivity to the site, and also responds to the constraints and opportunities of the Site.

The subdivision layout is considered to provide enough flexibility in size and orientation to allow for market responses to determine the final built form and use of the site. The supporting transport, economic and servicing assessment reports provided with this application and discussed later in **Section 5.0** demonstrate that the proposed layout and design of the Site, is not only capable of accommodating the expected future use of the Site, but also that any potential impacts generated are able to be mitigated.

The subdivision also responds to the Site's constraints of environmentally sensitive areas to the north by presenting the necessary built form setbacks; the proposed Bringelly Road to the south by identifying the appropriate setbacks and site access requirements are capable of being achieved; and residential land uses to the east and west. For instance, in response to consultation feedback, a site access point from Stuart Road was removed from the proposal following concern from the public of the associated potential traffic and amenity impacts.

The proposed lot layout and design aims to provide lots which can meet the future needs of future potential LFR, light industrial or service centre tenants. The Urban Design Guidelines (**Appendix G**) provide guidance in the design and assessment of future buildings and roads within the Site which are likely to be developed by future tenants. The guidelines seek to:

- encourage high quality, innovative development which meets the needs of future occupants;
- facilitates the efficient and orderly development of the Business Hub;
- maintains sufficient flexibility to meet market demand; and
- provides for the environmental amenity of the Precinct.

In this manner the guidelines provide certainty that following the proposed bulk earthworks and subdivision of the Site, the potential future land uses and the associated built form can be accommodated within the proposed subdivided lots.

5.4 Traffic and Access

5.4.1 Construction Traffic

The import of fill and construction works is likely to occur after the construction of the new Bringelly Road alignment. This intersection will be a signalised intersection and the improvements will ensure that the surrounding road network and key intersections will be able to perform satisfactorily to bring fill and construction vehicles to the Site.

As the new road has not yet been constructed the extent of impacts, both cumulative and individually cannot be fully understood. Nonetheless, prior to the issue of a Construction Certificate, a Traffic and Pedestrian Management Plan prepared by a suitably qualified person shall be submitted to for approval by Council. The Plan shall address, but not be limited to, the following matters:

- ingress and egress of vehicles to the Site,
- loading and unloading, including construction zones,
- source of fill and proposed haulage routes,
- predicted traffic volumes, types and construction vehicle routes, and,
- pedestrian and traffic management methods.

5.4.2 Traffic Characteristics

Transport and Traffic Planning Associates (TTPA) undertook an Assessment of Potential Access and Traffic Implications for the Bringelly Road Business. The report is at **Appendix K**.

Existing Traffic

TTPA's report provides an assessment of the existing traffic conditions on Bringelly Road to the west of Camden Valley Way which is considered to be satisfactory at the present time. These are:

- AADT: 9,090
- AM Peak: 700
- PM Peak: 800

Bringelly Road upgrade

RMS is proposing to upgrade Bringelly Road for the 10km length between Camden Valley Way and The Northern Road. This will be undertaken in stages between 2016-2036. Upgrades will integrate with new road projects in the local area currently being constructed or proposed. The proposed road upgrade includes:

- 2 lanes each way to the south of the proposed Site between 2016-2031;
- supplementary turning lanes at intersections and 3 lanes each way after 2031;
- access intersection to the Site projected and designed for only minor movements into the WSP Site;
- traffic signals at the intersection of Bringelly Road and the Site access, at the Cowpasture Road (south) intersection and other intersections to the west;
- Bus Priority measures and a bus stop adjacent to the Site; and
- Pedestrian and cyclist shared path along the northern Site of the road.

Projected SIDRA traffic volumes for the upgraded intersection along Bringelly Road reveals that from 2016 – 2036 the level of service will progressively decrease from 'A' – Good, to 'C' – Satisfactory as a result of increasing traffic demands in the area.

Traffic Generation

Traffic generated by this type of development is difficult to calculate given the various potential uses, and mix of uses, proposed on the Site. The TTPA assessment presents a scenario which calculates the worst-case projected traffic generation based on a mix of LFR, service and light industrial uses. **Table 12** outlines the projections for the scenario.

Table 12 – Projected traffic generation scenarios

	Traffic Generation Scenario		
Mix	LFR: 50,000m^2/ Light Industry: 48,000m^2/ Service 500m^2		
	AM	**PM**	**WEND**
Total In/Out	536	1064	1818
Passing Trade	128	287	550
Total Additional	508	977	1518

Source: Transport and Traffic Planning Associates

TTPA outline that passing trade/drop in trips, dual use visitation, are low morning peak activity (LFP) are identified as having the most significant increase in traffic generation.

This data has been further assessed using SIDRA modelling to measure the operational performance of the ultimate access intersection to the Site. TTPA evaluate two designs of the proposed road upgrade:

- the RMS current design - with 4 lanes with expansion to 6 lanes with single right turn lane and limited access road capacity; and
- an alternative (ultimate) design - with 4 lanes with expansion to 6 lanes with two right turn lanes and 3 egress lanes (two right turn) and left turn slip lanes.

The assessment concludes that the current RMS design has inadequate capacity to service the potential future use of the site and the road design would also not adequately provide space for large trucks serving the Site for the potential uses.

RMS have expressed concern regarding having two right turn lanes into the Site, as detailed in the TTPA report. As such an assessment using 80% 'take up' of the development Site, with the provision of one right hand lane was undertaken. Through this assessment it is apparent that the intersection will operate satisfactorily with the proposed one right turn ingress lane and two through lanes in each direction on Bringelly Road.

Conclusion

TTPA's report overall conclude that the current design of the Bringelly Road upgrade will not accommodate the proposed development. Overall their investigations conclude that:

- *the proposed access intersection on Bringelly Road will satisfactorily accommodate the highest order traffic demand outcome for development for the circumstances of:*
  - *projected 2026 traffic volumes and 80% "take up" of development with one right turn ingress lane*
  - *projected 2031 traffic volumes and 100% development with two right turn lanes*
- *there will not be any adverse traffic implications for the Camden Valley Way, Bringelly Road and Cowpasture Road intersection subject to the already envisaged upgrading works*
- *there will be suitable and appropriate provisions for cyclists, pedestrians and public transport services*

5.5 Infrastructure and Utilities

The DGRs require the following in relation to infrastructure and utilities:

In consultation with relevant agencies and through the preparation of an integrated water/infrastructure management plan/s, detail the existing capacity and any augmentation requirements of the utilities for the development, including water and waste water supply, staging of infrastructure, and any potential impacts on environmental performance.

Northrop have prepared a Civil & Environmental Engineering Report (**Appendix F**) which outlines the integrated water/infrastructure management plan for the Site, including details on the existing capacity and augmentation for the development.

The following **Table 13** provides a summary of the proposed servicing of the development as outlined in the Northrop report. It also notes any potential impacts on environmental performance associated with the provision of infrastructure.

Table 13 – Site utilities and infrastructure

Infrastructure Utilities	Provision	Comments and Potential Impacts
Water – Sydney Water		
Potable Water	▪ Drinking water main is available for connection from the northern side of the existing Bringelly Road carriage way. ▪ Investigations show that the water main has capacity to supply the proposed development.	If major infrastructure is proposed that clashes with Sydney Water assets, the asset may need to be realigned. No expected environmental performance impacts.
Waste Water	▪ The Site is not a Sydney Water recycled effluent area. Recycled water will not be provided to the Site. ▪ The Site is not serviced by waste water reticulation however the residential development to the north and east of the site is serviced. The proposed development will be required to be serviced via an extension to the existing waste water reticulation servicing the residential development. A number of connection points have been identified as shown in Figure 5 of Northrop's report.	Waste water infrastructure will be sized and configured according to the *Sewerage Code of Australia WSA 02-2002-2.2 (Sydney Water Edition 1 – Version 3).* There are no expected environmental performance impacts.
Electricity – Endeavour Energy		
Electricity	Northrop outline the following works will be required on Site to establish an electricity supply: ▪ Installation of a new supply: size 3MVA which allows for shopping centre (including major supermarket), major restaurants, light industrial units, street lighting with some contingency allowed for heavy industry or other major consumer. ▪ Provide at least one (and possibly two) new zone 11kV feeder from the existing Prestons Zone Substation to a number of Site Kiosk substations (approx. distance to the Zone substation is 2.5km), refer Figure 6. It may be possible to use a duplicate underground duct being installed as part of the Bringelly Road upgrade by RMS. the Trust will liaise with RMS on this issue. ▪ Installation of a number of kiosk substations around the Site. ▪ Further works needed to carry out final certification of level 3 design ready for construction; ▪ Resubmission of application to update supply offer. A more accurate maximum demand would need to be provided when the type of use is known. This may reduce the overall capacity, however, a feed from the zone substation will be required for the anticipated demand. ▪ Level 3 design works.	The proposed supply is capable of being accommodated in the Site. Appropriate standards and codes will be followed in the installation of electricity. There are no expected environmental performance impacts
Gas – Jemena		
Gas supply	▪ A 550mm diameter gas main runs along the existing Bringelly road. As a primary main this means it cannot be relocated and has an exclusion zone in which no permanent structures can be erected. ▪ A gas main also runs down Camden Valley Way. ▪ In order to service the Site, the future demand will be calculated and existing main would be extended accordingly.	There are no expected environmental performance impacts
Telecommunications - Telstra		
Telecommunications	▪ It is estimated approximately 100 lines will be required for the Site. Telstra can service the development in approximately 3 months from an application being made. ▪ Prior to construction the developer will be required to nominate if NBN (fibre) connection is required.	There are no expected environmental performance impacts

Source: Northrop – Bringelly Road Business Hub Civil & Environmental Engineering Report.

5.6 Regional Open Space Impacts

The DGRs (**Appendix C**) require *an assessment of the loss of open space within the Western Sydney Parklands in relation to regional open space requirements for the South West Growth Centre, and in particular the Austral/Leppington North precincts.*

The development of all proposed Business Hubs within the Parklands represents two percent of the total Parklands, with the Bringelly Road Business Hub representing approximately 0.4% of the total Parklands. The POM identifies that

> *'revenues generated from land rent from the long term leases of the Business Hubs will be used to fund the maintenance of existing facilities and the provision of additional park infrastructure.'*

The two percent of the Parklands identified for development have the least ecological value and are generally located on the Parklands' margins, adjacent to motorways, major arterial roads and regional employment areas. Through developing a small percentage of the Parklands for economic generating land uses the WSP will be able to contribute to both the business and social aims and whilst continuing to contribute to the environmental conservation outcomes of Western Sydney.

The development of two percent of the Parklands will bring in approximately $2.2 billion to the Western Sydney economy to 2034 and provide *social outcomes of having more employment opportunities closer to Western Sydney residents.*

The Bringelly Road Site is the southernmost of the proposed Business Hubs of the Trust and forms a gateway to the broader Parklands area. The Site was selected as it was considered to meet the four criteria outlined in the Parklands Plan of Management for identifying Business Hub Sites and land uses:

1. Land uses should not only generate an appropriate commercial return but also add to the amenity of adjacent communities.
2. Land uses must generate additional employment and training opportunities for local and regional communities.
3. Development must be undertaken in a manner that will minimise the environmental impact of such development.
4. The development of Business Hubs will only be permitted to occur on Sites with low environmental and recreational values.

The location is suitable for the development of LFR and light industrial with the potential to provide a variety of local jobs in close proximity to future residential development, and will complement the activities proposed for the nearby Leppington Major Centre.

While the development of the Business Hub will result in a reduction in the overall regional open space, it is considered to be minor reduction when considered in the context of the overall WSP and associated economic and social benefits of the proposed development.

5.7 Flooding

A Flood Assessment was undertaken by Northrop which is included in the Civil & Environmental Engineering Report which assesses the existing Site conditions and the proposed development (**Appendix F**). The report provides a detailed hydrological and hydraulic assessment of the development. The following provides a summary and assessment of the report's findings.

The Civil & Environmental Engineering Report provides an assessment of the Bewsher Consulting *Cabramatta Creek Floodplain Management Plan*', prepared for Liverpool Council in 2011. The assessment outlines that flooding associated with Bedwell Park wetland, floods Cowpasture Road in the 100 year flood event. This is the result of blockage of outlets by organic debris and the location of the lower basin (Pond 1) above the spillway level.

With the proposed development these flood impacts will increase with stormwater peak flows and runoff volumes. The flooding impacts will be reduced to restrict post-development flows to that of pre-development flows for all events up to the 1:100 year ARI. This will be achieved through the use of rain tanks and on Site detention (OSD) tanks for lots and roads. Modelling undertaken by Bewsher provides the top water level in a 1:100 year ARI flood event of 53.2m AHD, with the Predicted Maximum Flood (PMF) 0.3m above this level. Northrop have estimated a slightly higher PMF of 0.5m to accommodate increased rainfall due to climate change. With the lowest design level of the development at 58m AHD, the development is not considered to be flood affected as it will sit above the 54.5m flood heights.

Northrop further state that the proposed filling of the Site will not affect the hydraulic behaviours of the Bedwell Park wetland or the inflow into Pond 2. As such it is considered there will be no adverse impacts to the potential flood affectation on other development or priorities in the flood plain. Only land within the WSP will be impacted, which is a forested drainage reserve.

5.7.1 Flood evacuation

All lots will be designed above the 1:100 year ARI flood level with 500mm of freeboard. Flood flows will be conveyed from the Site using minor and major drainage systems. Northrop conclude that flooding of the Site is 'highly improbable'

5.7.2 Groundwater

Northrop's Civil & Environmental Engineering Report (**Appendix F**) outlines that Site investigations of the groundwater at the Site by Coffey indicate that both '*Upper or Regolith (Soil)'*, and *'Lower or Fractured (Bedrock) Aquifer Systems'* are encountered on the Site.

While no groundwater will be extracted as a result of this proposal, the construction Site will involve both cut and fill across the Site. This will impact the Upper Aquifer System by 'truncating it intermittently'. Northrop outlines that surface groundwater flows are expected to be transient in nature and rainfall-dependent, as opposed to standing water levels. As such any resulting groundwater flows from cutting can be controlled with conventional surface water drainage systems.

The development of the Site including the general paving of a substantial part of the Site will result in a decrease in the recharge of the groundwater. As such surface water will be appropriately treated to prevent pollution of the groundwater

Northrop concludes that groundwater will not be adversely impacted by the proposed development other than reductions in local recharge. Additionally the

quality of groundwater is not expected to be impacted by the proposal, nor will any reliant groundwater ecosystems by affected.

5.8 Stormwater Management (operational)

A Stormwater Management System has been prepared by Northrop and is included in the Civil & Environmental Engineering Report at **Appendix F**. The proposed stormwater runoff management strategy for the proposed development is shown at **Figure 10**

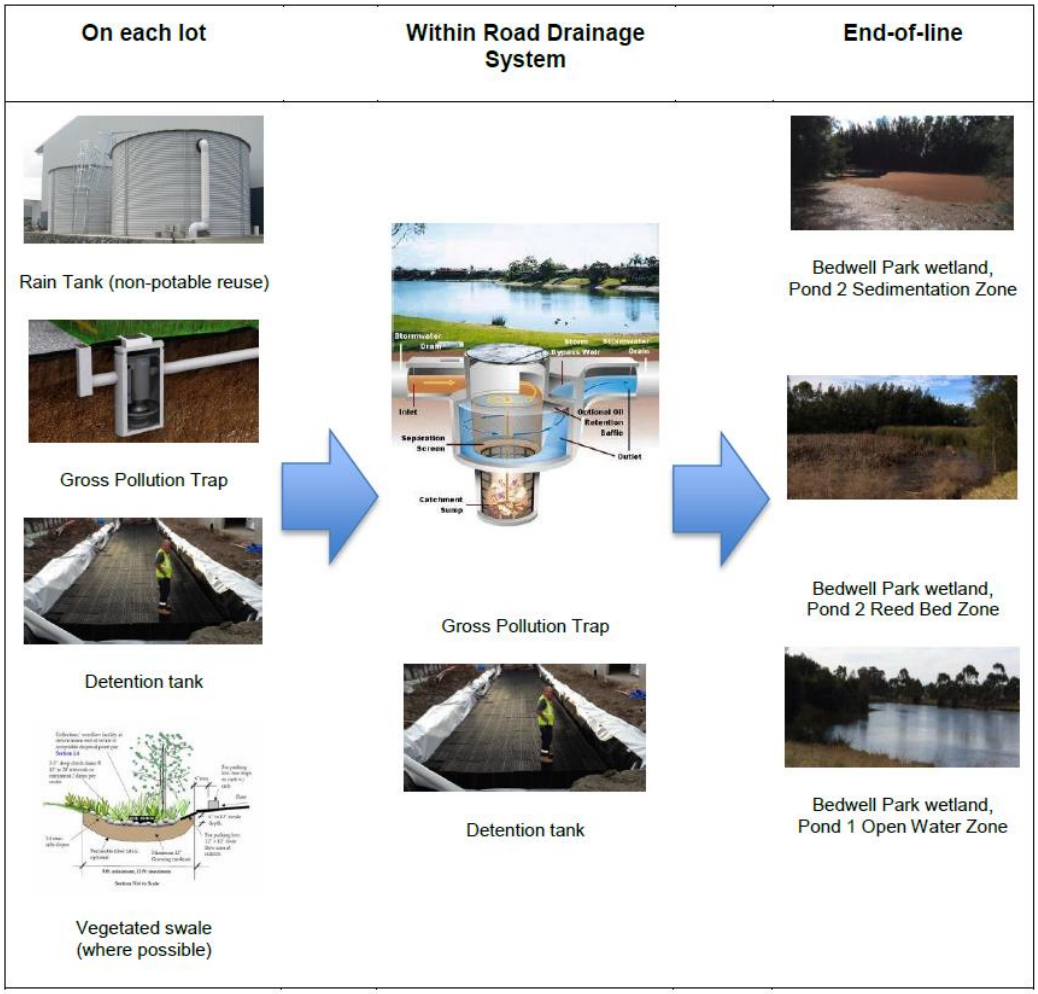

Figure 10 – Proposed stormwater runoff management strategy
Source: Northrop – Bringelly Road Business Hub Civil & Environmental Engineering Report

Stormwater quantity

The prposed stormwater drainage system consists of a network of pits and pipes that drain into sub-catchments A-D (shown on Drawing DA 7.02 at **Appendix B**). This system will cater for low flows, while major flows and flood events will flow over overland flow routes. The Site will have one overflow path to the east of the Site.

Once developed, Lots 3, 4, 6 and 8 will have their own OSD which will slow flows to a maximum Permissible Site Discharge for each sub-catchment. Lots 1, 2, 5 and 7 will flow to a combined OSD. Table 5 of Northrop's report (**Appendix F**) outlines the permissible Site discharges for each of the OSD tanks. The final location and sizing of the tanks will be subject to detailed design of each of the development proposals for each lot.

The stormwater management plan has been developed in consideration of the requirements of *Managing Urban Stormwater – Soils & Construction*, Volume 1, 2004 (Landcom).

Stormwater quality

Stormwater will be 'compartmentalised and incrementally managed' across the development and will use the natural treatment capacity of Bedwell Park Wetland. The proposed stormwater management system considers Water Sensitive Urban Design and Water Cycle Management Best Practice methods.

All components of the stormwater system, including rainwater tanks, gross pollutant traps at each lot and on roads, swales at each lot and the Bedwell Park wetland, work together as shown at **Figure 10** to detain and reduce flow, retain coarse and fine pollutants and assimilate hydrocarbons and dissolved and microscopic pollution. The proposed treatment of stormwater at the outset and at each stage of the development is considered appropriate for the proposed development, and is consistent with the water quality ANZECC water quality guidelines (ANZECC, 2000) as required by the DGRs.

The proposed stormwater quality management plan will achieve best practice target pollution reductions of 80%:65%:45% (Total Suspended Solids:Total Phosphorus:Total Nitrogen).

Overall, Northrop consider that:

> *The proposed stormwater treatment system which includes the Bedwell Park wetland is perfectly configured to accept, assimilate and treat the pre-treated runoff from the proposed development.*

5.9 Construction Erosion and Sediment Control

The Civil & Environmental Engineering Report prepared by Northrop and included at **Appendix F**, and the Engineering Drawings at **Appendix B** outline the proposed erosion and sediment control measures to be installed during the proposed works.

Due to the existing Site conditions and the proposed works on Site, the construction and earthworks have the potential for erosion (both wind and water) which has the potential to impact adjoining properties, the efficiency of the development, and natural environments including the water quality downstream. During the construction phase stormwater management, quality in particular, will be phased with each stage of development. In the Civil & Environmental Engineering Report at **Appendix F**, Northrop outline that the earthworks and drainage construction phase of the development will adhere to a number of practices as outlined below. These measures are also shown on the Soil & Water Management Plan for the Site earthworks and drainage (Drawings DA2.01 and DA2.02 in the attached drawing set of **Appendix B**).

Mitigation Measures

To counteract erosion impacts associated with the proposed vegetation removal and stripping of topsoils over the Site Northrop recommend that the Construction Stormwater Management mitigation measures be undertaken. Proposed mitigation measures have been designed to conform to the requirements of *Managing Urban Stormwater - Soils & Construction*, Volume 1, 2004 (Landcom), and include:

- conducting earthworks in stages so minimum areas are exposed to wind and rainfall at any given time;

- diverting of upstream flows around bare and exposed surfaces wherever possible;
- directing placement of cut material to minimise stockpiling of spoil;
- facilitating revegetation of stockpiles by separating soil for alter use;
- using water carts to control wind erosion;
- following a hierarchy of erosion and sediment controls of:
  - at source erosion and sediment controls, including: sediment fencing; hydromulching/hydroseeding of batters and stockpiles, filter fabric and hay bale filtering at pits;
  - conveyance erosion and sediment controls, including: grassed flow paths, hay bale check dams, etc;
  - end of line erosion and sediment controls, including sedimentation basins.
- minimising transport/hauling path lengths within Site;
- altering work practices during periods of high wind; and
- washing down pond or rubble access from construction vehicles "tracking of material off the Site".

5.10 Flora and Fauna

A Flora and Fauna Assessment has been prepared by EcoLogical Australia and is included at **Appendix L**. A summary of the assessment and proposed mitigation measures are provided below.

The aim of the Flora and Fauna Assessment is to respond to the DGR requirements relating to Item 13. Flora and Fauna (see **Section 1.4**).

Methodology

A detailed database and literature review was undertaken for the proposal that made use of datasets, literature, maps and interpretation guidelines relating to the ecological values and constraints of the Site. Interrogation of database records for the locality included:

- BioNet (Atlas of NSW Wildlife) (OEH 2014) using a 10 km radius search area;
- EPBC Act Protected Matters Search Tool (DoE 2014) using a 5 km radius search area;
- Biometric Vegetation Types database (DECC 2008);
- Liverpool City Council Biodiversity Management Plan (ELA 2012); and
- Native Vegetation Interpretation Guidelines for Western Sydney Vegetation (NPWS 2002).

The number and age of records of threatened species, populations, ecological communities (TECs) and migratory species recorded within the locality under the search tools was used to assess the likelihood of their occurrence within the land. The results of the analysis of databases indicated that a number of threatened ecological communities and threatened species have been recorded or are likely to occur within a 10 km radius of the subject Site. EcoLogical then undertook a likelihood of occurrence analysis table which was assembled by:

- *"reviewing historical and recent records;*
- *reviewing the available habitat at the study and surrounding areas;*
- *reviewing the ecological and biological literature pertaining to each species; and*
- *applying expert knowledge of each species".*

This analysis identified the following threatened and migratory species which have the potential to use the Site:

- *Miniopterus schreibersii oceanensis* (Eastern Bentwing Bat);
- *Mormopterus norfolkensis* (East Coast Freetail Bat);
- *Myotis macropus* (Large-footed Myotis);
- *Meridolum connivens* (Cumberland Plain Land Snail);
- *Gallinago hardwickii* (Latham's Snipe);
- *Ardea alba* (Great Egret); and
- *Ardea ibis* (Cattle Egret).

A terrestrial field survey was undertaken by EcoLogical on 8 July 2014 to:

- validate the NPWS (2002) vegetation mapping;
- determine whether existing native vegetation (ENV) and TEC were present;
- to assess vegetation condition; and
- search for potential threatened flora and/or habitat.

The field survey recorded all opportunistic fauna observations of *potential foraging, roosting, breeding, nesting trees of nocturnal birds, amphibians, reptiles and mammals.* This included all direct and indirect signs of potential occupancy of the Site.

The field survey, in conjunction with desktop analysis of the Site, formed the basis for the impact assessments made in the Flora and Fauna Assessment.

5.10.1 Impacts to Flora and Fauna

Ecological performed an analysis of the potential impacts on threatened flora and fauna considered 'known, likely or with potential to occur' at the Site in accordance with the DGRs, Draft Guidelines for Threatened Species Assessment (DEC and DPI 2005) and the NSW Offsetting Principles (OEH 2014). Additionally, Significant Impact Criteria (SIC) tests were undertaken in accordance with the EPBC Act in regards to nationally significant threatened flora and fauna considered 'known, likely or with potential to occur' at the Site. These assessments are included in the Flora and Fauna Assessment at **Appendix L.**

Based on these assessments EcoLogical has determined that *no threatened flora, fauna or migratory species were recorded within the subject Site*. Additionally, *due to the small scale of impacts, disturbed nature of the Site, high mobility of the three microbat species, snipe and egret, and the number of alternative habitat in the area, the proposed works will not significantly impact upon any threatened or migratory fauna species.*

Threatened flora species

The Site contains 1.87 ha of Grey Box - Forest Red Gum (GB-FRG), grassy woodland on flats of the Cumberland Plain, Sydney Basin, which is equivalent to the classification of Cumberland Plain Woodland (CPW) under the *Threatened Species Act 1995* (TSC Act 1995). GB-FRG is listed as a critically endangered ecological community (CEEC) under the TSC Act 1995.
Nine small patches of GB-FRG grassy woodland were identified at the Site ranging in size from 0.01 ha to 0.69 ha shown on the map at **Figure 11**. The Flora and Fauna Assessment (at **Appendix L**) notes that this flora species occur from sparse disturbed woodland, scattered paddock trees and derived native shrub land and is generally dominated by:

- *Eucalyptus moluccana* (Grey Box); and
- *E. tereticornis* (Forest Red Gum).

Less frequent species include:

- *E. crebra* (Small-leaved Ironbark);
- *E. eugenioides* (Thin-leaved Stringybark); and
- *Corymbia maculata* (Spotted Gum).

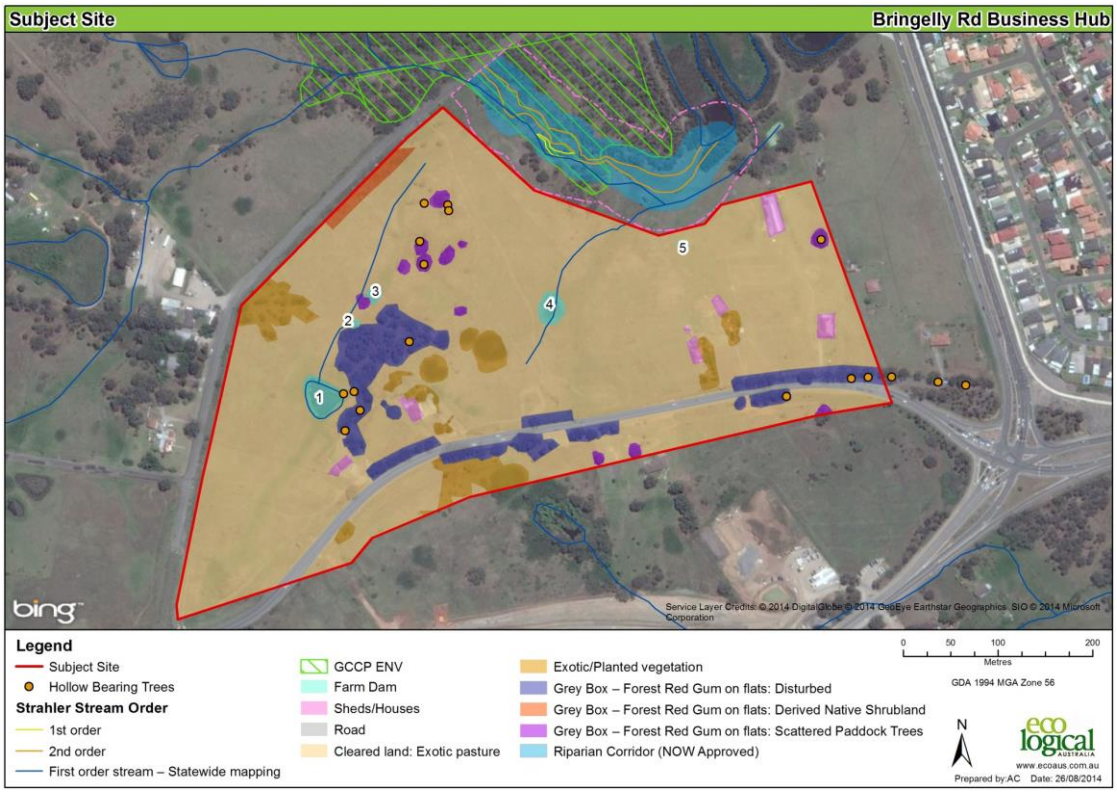

Figure 11 – Landuse, vegetation community and fauna habitats mapped on the subject Site. Dams are labelled 1–5
Source: EcoLogical

To meet the condition thresholds under the EPBC Act criteria for CPW, native plant species must contribute to 50% of the perennial vegetation cover. EcoLogical have assessed however that *in its present condition, this CPW failed to meet the condition thresholds under the EPBC Act* (see assessment in Table 4 of **Appendix L**). This is due to the domination of exotic plant species across the Site including *Paspalum dilatatum* (Caterpillar Grass), *Chloris gayana* (Rhodes Grass) and *Pennisetum clandestinum* (Kikuyu), in addition to a number of noxious weeds including *Eichhornia crassipes (*Water Hyacinth) and *Opuntia stricta* (Common Prickly Pear). As such the CPW across the Site is not considered to be a 'Threatened Species' under the EPBC Act.

The proposed development will clear the CPW and exotic species across the Site, though as the vegetation present on Site is does not meet the criteria under the EPBC Act for threatened species Ecological conclude that significant impacts due to the proposed works are unlikely to occur to CPW.

Threatened Fauna Species

The field survey discovered thirteen fauna (two exotic and 11 native) species consisting of nine birds, two amphibians, one fish and one reptile as detailed in the

Flora and Fauna Assessment at **Appendix L**.. Threatened and migratory fauna that have the potential to use Site are:

- *Miniopterus schreibersii oceanensis* (Eastern Bentwing Bat);
- *Mormopterus norfolkensis* (East Coast Freetail Bat);
- *Myotis macropus* (Large-footed Myotis);
- *Ardea alba* (Great Egret);
- *Ardea ibis* (Cattle Egret); and
- *Gallinago hardwickii* (Latham's Snipe).

During field surveys no threatened fauna or migratory species were recorded within the subject Site. Further, the field survey concluded that there is *a limited range of fauna habitat features … present in the study area which provide potential foraging, roosting, breeding and nesting resources for fauna species.*

The dams and riparian zone on Site offer a potential habitat for aquatic fauna. EcoLogical expected to find TSC Act and EPBC Act listed *Litoria aurea* (Green and Golden Bell Frog (GGBF) as the two dams in the west of the Site *consisted of clear, unshaded water with plentiful emergent, floating and riparian vegetation.* However during the field survey EcoLogical discovered that the dams were ridden with the introduced *Gambusia holbrooki* (Plague Minnow or Mosquito Fish), making it unlikely GGBFs would be in the area as the Plague Minnow preys on frog eggs and tadpoles and is recognised as a 'key threatened process' to the GGBF.

Other potential habitats for fauna species on the Site include a dense ground cover of Kikuyu which would provide 'foraging and migration' habitat for the GGBY and *Gallinago hardwickii* (Latham's Snipe), however the presence of the Plague Minnow ruled out the possibility of the habitat likely supporting GGBF. It could however support the Latham's Snope and other migratory birds such as Great Egret and Cattle Egret.

Other expected potential threatened fauna included the Cumberland Plain Land Snail, however EcoLogical conclude that due to extensive grazing and under scrubbing, habitat including leaf or bark litter were cleared making it unlikely for the survival of the species on the Site.

As a result of the proposed development, potential foraging, roosting/sheltering, and breeding habitat for fauna will be removed such as hollow bearing trees. EcoLogical conclude that:

> *Due to the small scale of impacts, disturbed nature of the Site, high mobility of the three microbat species, snipe and egret, and the number of alternative habitat in the area, the proposed works will not significantly impact upon any threatened or migratory fauna species.*

Indirect impacts

The Flora and Fauna Assessment (at **Appendix L**) notes that there are also indirect impacts that may result from the proposed development. These include:

- Noise

  Noise during the construction phase has the potential to discourage microbats and other threatened fauna to the Site. Despite this however this could be advantageous by discouraging fauna from using the Site before the removal of any fauna habitat.

- Weed invasion

  The proposal may contribute to the spread of noxious weed species and exotic species if not managed appropriately

- Erosion and sedimentation

  Exposure of soil will make the Site vulnerable to erosion and sedimentation which may impact surrounding flora and fauna.

5.10.2 Mitigation Measures

It should be noted upfront that despite the proposed clearing of the Site, the principal aim of this proposal is to facilitate the future development of the Site to solely fund the operation, maintenance and protection of the Western Sydney Parklands, which exhibits and protects a number of threatened flora and fauna species and potential habitats for fauna species. It is considered that known occurrences of threatened flora and fauna in the Parklands will be protected through the numerous supporting mitigation measures enshrined in the legal, statutory planning framework.

The foremost mitigation measures for the protection of threatened species and communities associated with the proposed development is both the utilisation of 'pre-clearance protocols' and offsets. Preclearance protocols will assist in direct impacts of fauna while offsets will act as a 'surrogate for habitat loss / or gain during the offsetting process'.

To mitigate potential impacts to vegetation and habitat EcoLogical recommend the following measures:

- Pre-clearance protocols.
  - On-Site supervision of habitat tree felling and relocation of fauna: a*n ecologist will be required to be present onSite when felling of the hollow bearing trees to undertaken and inspect hollow(s) once tree is on ground.*
  - Soft felling operations: *involves an excavator or bulldozer giving the tree a few 'nudges' before felling, in the hope to dislodge or encourage any fauna that may be present, to move out of their hollows and flee form the tree before it is felled.*
  - Habitat re-emplacement: *retention of hollow bearing limbs* [to be] *reattached to trees in nearby areas of Western Sydney Parklands.*
  - Dam dewatering supervision: *OnSite supervision by suitably qualified ecologist should be undertaken at the time of dam dewatering.*

- Implementation of an erosion and sediment control plan.
- Inclusion of the above protocols in a Construction Environmental Management Plan
- Offsets:

  The DGRs require that where impacts can not be avoided, these impacts must be offset. EcoLogical has estimated that approximately 44 Biobanking 'ecosystem credits', or 4.4ha of vegetation of the same type and condition are needed to meet the requirements of the NSW Offset Principles. If deemed necessary, *a Biodiversity Offset Strategy will be prepared for the residual impacts of 1.82 ha of CPW vegetation to more accurately quantify the appropriate offset requirements.*

These measures are either implemented by the proposed development or will be carried out as a consequence of implementing the abovementioned conservation and management strategies for the Site.

Summary of Assessment

The Flora and Fauna Assessment (**Appendix L**) concludes:

- *No threatened flora, fauna or migratory species were recorded within the subject Site.*
- *The threatened Eastern Bentwing Bat, East-coast Freetail Bat and Large-footed Myotis as well as the migratory Great Egret and Latham's Snipe have the potential to use the Site … due to the hollow bearing trees and dense riparian vegetation … recorded within and adjacent to the subject Site.*
- *No evidence of the Eastern Bentwing Bat, East-coast Freetail Bat and Large-footed Myotis, Great Egret or Latham's Snipspecieswas founf on the Site*
- *Impacts to TECs and threatened flora and fauna species were considered against relevant guidelines … Due to the small scale of impacts, disturbed nature of the Site, high mobility of the three microbat species, snipe and egret, and the number of alternative habitat in the area, the proposed works will not significantly impact upon any threatened or migratory fauna species.*
- *Where impacts could not be avoided, it is a requirement of the DGRs to offset these impacts. An estimate has been provided that approximately 44 Biobanking 'ecosystem credits', or 4.4ha of vegetation of the same type and condition would be sufficient to meet the requirements of the NSW Offset Principles. A Biodiversity Offset Strategy will be prepared for the residual impacts of 1.82 ha of CPW vegetation to more accurately quantify the appropriate offset requirements.*

Further to this, the implementation of proposed mitigation measures and management strategies will provide an integrated approach to the proposed development and will ensure that the development will not have any significant impacts to any threatened flora or fauna species or endangered ecological communities on the Site or the adjoining riparian corridor or parklands.

5.11 Construction Noise and Vibration

A Construction Noise and Vibration Assessment has been undertaken by Acoustic Logic and is included at **Appendix M**.

This assessment was undertaken to provide an evaluation of the likely impacts of construction noise and vibration generated by the equipment resulting from the construction works and traffic movements on the Site. The assessment looks at the potential impact on nearby residential receivers during the proposed construction hours. The proposed works will be undertaken during normal daytime construction hours (see **Section 3.10**).

Potentially affected noise receivers include residential properties to the northeast, east, south and west of the Site as identified by Acoustic Logic at **Appendix M** and reproduced at **Figure 12**.

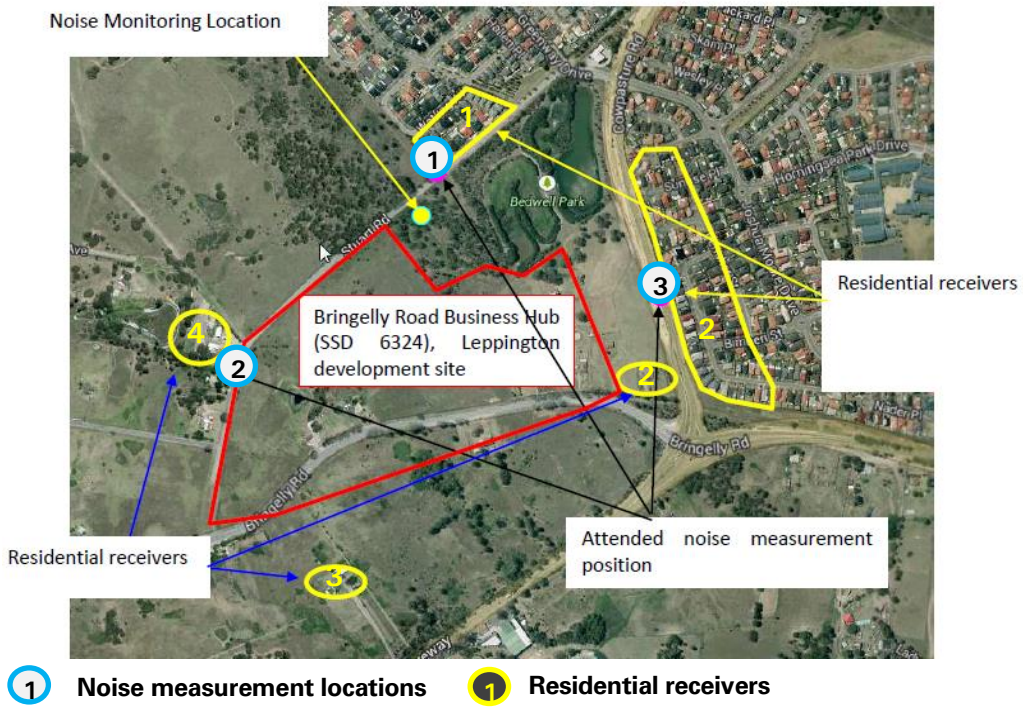

Figure 12 – Potentially affected noise receivers
Source: Acoustic Logic

5.11.1 Existing Environment

In determining likely noise impacts arising from the proposed development, existing background noise levels and the expected duration of the works must be determined.

The Relevant Guideline for measuring background noise levels and receiver goal noise levels is the NSW Construction Noise Guideline developed by the NSW Environmental Protection Authority (EPA) and with the Australian Standard AS2436-1981 "*Guide to Noise Control on Construction Maintenance and Demolition Sites*"(AS2436-1981) and NSW EPA "*Interim Construction Noise Guideline*" (ICNG).

Background noise measurements have been carried out at representative residential premises along Stuart Road and Cowpasture Road shown at **Figure 9** above. Noise monitoring was undertaken using CEL-593 Type 1 Sound Level Analyser between 3.30pm and 5pm on the 4th of August 2014. These measurements have been used to determine the background noise level and to calculate the corresponding noise goal for the noise sensitive receivers around the Site. Noise level predictions reflect a worst case scenario taking into account noise level distance losses and equipment noise levels (see Table 6 of **Appendix M**). The background noise levels are identified in **Table 14** over page.

It should further be noted that there are no 'future' residential receivers expected in the immediate future during construction who will be impacted by the proposed development.

Table 14 – Background noise levels

Noise measurement location	Background Noise Level $L_{90\ (15min)}$ dB(A)
Location 1 – Stuart Road East	44
Location 2 – Stuart Road West	42
Location 3 – Cowpasture Road	56
Noise Monitoring Location	38

Source: Acoustic Logic

5.11.2 Noise Sources and Generation

The predicted noise levels at the nearest noise sensitive premises have been determined based on the list of equipment expected to be used during the construction phase of the project. Main noise and vibration generating sources and activities at all stages of construction include:

- Bobcats;
- Cement mixing truck;
- Concrete pumps;
- Concrete vibrator;
- Drilling.
- Excavators with and without hammers;
- Excavators;
- Hammering;
- Scissor lifts; and
- Trucks.

A number of assumptions have been made to provide realistic noise scenarios related to the area of works and number of truck movements per day. The numbers proposed within the Construction Noise and Vibration Assessment are taken to be worst case scenarios whereby all the plant is running continuously.

As outlined in the Construction Noise and Vibration Assessment, *most of the construction work activities will not adversely impact surrounding receivers with the exception of … high noise activities such as hammering, sawing and concrete pumping and the like.*

5.11.3 Construction Noise Impact Assessment

The project receiver goal noise level is based on the background noise level, which is determined from background noise monitoring at the nearest noise sensitive receivers. The noise goal may be exceeded, however where it does exceed construction noise sources must be strictly managed in compliance with the ICNG and AS2436-1981. Under the ICNG the noise goal for sensitive residential receptors is based on the background noise level plus 10 dBA. **Table 15** outlines the Receiver Goal Noise Levels for each Residential Receiver.

All residential receivers are a significant distance from the nearest proposed Site boundary (all in excess of 40m from the proposed Site boundary or nearest area of construction).The residential houses to the northeast (Residential Receiver 1) and the west (Residential Receiver 4) of the Site will be the closest to the construction activities being approximately 40m from the Site boundary or construction area and therefore considered the worst case location where the greatest noise impacts are expected.

Construction will be undertaken during daytime hours only. The construction noise assessment considers both excavation and construction works. **Table 15** below outlines the expected worst case scenario, or greatest impact of constructed noise levels to be experienced at each of the four residential areas based on the proposed excavation and construction activities and compares them with the Receiver Goal Nosie Levels as discussed above. The highest predicted noise levels at the nearest noise sensitive receivers at Receivers 1 and 4 are approximately 66 dB(a) $L_{Aeq\ (15min)}$ due to excavation activities.

Table 15 – Predicted Noise Receiver Levels

Residential Receiver	External Sound Level dB(a) $L_{Aeq\ (15min)}$		Receiver Goal Noise Level dB(a) $L_{Aeq\ (15min)}$
	Excavation Activities	Construction Activities	
Receiver 1 – North east of the Site	Up to 66	Up to 62	54
Receiver 2 – East of the Site	Up to 63	Up to 60	54
Receiver 3 – South of the Site	Up to 57	Up to 54	66
Receiver 4 – West of the Site	Up to 66	Up to 62	52

While the External Sound level exceeds the Receiver Goal Noise Level in some locations, it is considered acceptable as the construction activities will occur during daytime hours only, will be temporary in nature and will be managed where practically possible as outlined **Section 5.11.5**.

Overall Acoustic Logic conclude that:

> *Based on the location of the proposed development and the proposed activities to be conducted on the Site noise … is expected to generally comply with the criteria detailed in [their] report.*

5.11.4 Vibration Impact Assessment

Acoustic Logic assessed the effects of vibration on structures and amenity as a result of the proposed construction using the German Standard DIN 4150-3 (1999-02): "Structural Vibration – Effects of Vibration on Structures" and British Standard BS 6472:1992 "Guide to Evaluation of Human Exposure to Vibration in Buildings (1Hz to 80Hz)".

Acoustic Logic outline that, *based on the distances between the boundary of the proposed Site and the surrounding residential receiver's vibration will not exceed the project criteria.*

As such it can be concluded that there is unlikely to be any adverse impacts associated with vibration as a result of the proposed development. Nonetheless Acoustic Logic propose a number of vibration impact mitigation measures as detailed below.

5.11.5 Mitigation Measures

Acoustic Logic have presented a number of mitigation measures to reduce potential impacts of noise and vibration associated with the proposed works on nearby residential areas. These are outlined below.

Monitoring and Reporting

The following monitoring and reporting measures are provided by Acoustic Logic to manage the impact of construction noise:

- Conduct vibration and noise measurements/monitoring at potentially worst affected receivers during periods when the impact from construction is greatest, when activities may have the potential to impact surrounding receivers;
- A reporting system be implemented with information including:
    1. A register of complaints received/communication with the local community with information as detailed below.
    2. Where noise/vibration complaints require noise/vibration monitoring, results from monitoring.
    3. Any noise exceedences occurring including, the actions taken and results of follow up monitoring.
    4. A report detailing complaints received and actions taken shall be presented.
    5. All monitoring and reporting shall be conducted in conjunction with the conditions of consent.
- The person(s) responsible for complaint handling and contact details for receiving of complaints shall be established on Site prior to construction works commencing, with contact details displayed at the Site for the public; and

  If a noise complaint is received the complaint should be recorded on a Noise Complaint Form.

Construction Noise

The following mitigation measures are provided by Acoustic Logic to limit the impact of construction noise, especially at Residential receiver Locations 1 and 4:

- utilisation of alternate appliances of processes when particular activities or construction appliance is found to generate noise levels that exceed the criteria;
- the use of acoustic barriers (10 or 15mm plywood) with a double paled or lapped and capped fencing construction, located between the source and the receiver win a position which blocks line of sight;
- the use of silencing devices such as, engine shrouding or special industrial silencers fitted to exhausts;
- the formulation of work practices to reduce noise generation, for instances locating fixed plant items away from residential receivers;
- specially treat a piece of equipment including wrapping hydraulic hammers, screening areas of impact from excavation equipment, and treatment to saw or impact equipment using shrouds; and
- regular maintenance of equipment.

5.12 Air Quality and Odour

There are no expected adverse air quality or odour impacts associated with the proposed development. Air Quality Management and Monitoring will be included in a construction management plan be implemented prior to issue of a Construction Certificate to detail preventative measures to minimise the impact of construction activities, including dust emissions, and monitoring measures to ensure that air quality issues are promptly identified and addressed. This management plan will take into consideration the *Protection of the Environment Operations (Clean Air) Regulation 2002* and relevant EPA/NSW Office of Environment and Heritage policies and guidelines.
Preventative measures to prevent impacts on air quality and odour may include activities such as:

- implementing a watering regime on any uncovered soils;
- stabilise worked areas as soon as possible after earth works have been completed (e.g. revegetation, fencing and bunding); and
- remove mud from truck wheels and remove mud or soil tracked onto public roads at Site entries.

5.13 Heritage

There are no known Sites of European heritage or Aboriginal Cultural heritage on the Site. In response to the DGRs, Dominic Steele Consulting Archaeology (DSCA) have assessed the impacts of the proposed development associated with any Aboriginal and Historical Heritage on the Site. A copy of their report is included at **Appendix N**.

As neither the Site nor surrounding area is of heritage significance or listed as a heritage item under local, State or Commonwealth registers, the assessment provided by DSCA assesses the likelihood or potential for archaeological remains of Aboriginal cultural or European heritage.

Aboriginal Heritage

The Archaeology Assessment at **Appendix N** outlines that no archaeological Sites or objects are documented or known to occur within the Site. This is due to the fact that the Site was not frequently visited by Aboriginal people in the past. DSCA outline that *there appears to be no readily identifiable reason to expect that the property itself would have been subject to intensive or repeated visitation and use by Aboriginal people in the past that would have created substantial and significant archaeological deposits.*

Despite this there is the possibility that the Site was sporadically visited by people as they moved through the Site to other destinations, and before European settlement there may have been artefacts scattered across the Site. However the Site has been disturbed over time through various post-European settlement activities such as clearing, grazing and intensive market gardening and the Archaeological Assessment concludes that the Site at best retains 'low archaeological potential'

European Heritage

The Archaeology Assessment at **Appendix N** outlines the history and early European uses of the Site. Settled after Governor Macquarie's visit to the area in 1810, the area of Bringelly was subdivided into pastoral estates and the first road network was established in 1826, including Bringelly Road. Uses consisted of clearing, farming, building and land improvement including dam excavation and drainage provision, however *in situ* archaeological features or deposits with any pre 1930s buildings are limited due to extensive levels of disturbance.

As early European use of the Site reflects similar use of the land as at present, the potential for physical (archaeological) remains on the Site is low considering the Site has been 'considerably impacted upon by ongoing agricultural use'. As such DSCA considers that the Site *is unlikely to yield a significant sample of archaeological material sufficient integrity that can provide us with substantial new information that may not be able to be sourced from other documentary-based avenues of research.* .

Mitigation measures

As there is low potential for significant archaeological heritage Sites or items across the Site, there are no expected heritage impacts on which to impact. Should any Aboriginal or European 'relics' of significance be found, the *NSW Heritage Act 1977* contains controls for the appropriate management for the protection and salvage of any heritage items.

5.14 Bush Fire Risk

The subject Site is identified as bushfire prone land. As the proposal does not involve residential subdivision, the provisions of Section 100B of the *Rural Fires Act* 1997 do not apply. The DGRs require *an assessment of the level of hazard posed to future development by the land or adjacent land and how the hazards may change as a result of development* (see **Section 1.4**).

A Bushfire Protection Assessment (BPA) has been accordingly prepared in relation to the proposed development by Ecological Australia (refer to **Appendix O**). As required by the DGRs, the Bushfire Assessment Report has had due regard to the requirements contained in the *Planning for Bushfire Protection 2006 (Rural Fire Service)* (PBP) *and in particular the provision of access (including perimeter roads) and provision of water supply for fire fighting purposes.*

Bushfire Hazard Assessment

EcoLogical have undertaken an assessment of the level of hazard posed to future development by the land or adjacent land and how the hazards may change as a result of development. It should be noted again that the proposed development consists only of subdivision and Site preparation works, infrastructure and landscaping. No buildings will be constructed under this application. The BPA does however provide recommendations for future development with regards to construction standards.

The Site currently consists of cleared grassland with scatted trees. This vegetation is proposed to be cleared. To the north and north-west is woodland[8] with >0.5° downslope, while to the west and south is grassland, and grassland and managed land respectively, both with >0.5° downslope. In all other directions residential development affords protection to the Site from bushfire threat.

EcoLogical outline the Asset Protection Zone (APZ) considerations to satisfy the objectives of the PBP for commercial development. A 'defendable space' of a minimum 10m is recommended *to provide an area within the APZ that provides an environment in which a person can undertake property protection after the passage of a bushfire within some level of safety.*

The proposed development will provide appropriate APZ and 'defendable spaces' via Stuart Road to the west, Bringelly Road to the south, and APZ within lot boundaries to the north and north-west.

[8] *Shale Plains Woodland and Shale Hills Woodland which both are identified as Cumberland Plain Woodland which is a Grassy Woodland in accordance with page 310 of Keith (2006). For the purposes of applying PBP, the vegetation is categorised as "woodland" (EcoLogical Bushfire Protection Assessment –**Appendix O**).*

EcoLogical's assessment of the level of hazard posed to future development by the Site concludes that the specific objectives of PBP for non-residential development are satisfactorily addressed through the implementation of the recommended bushfire protection measures. EcoLogical conclude that the bushfire protection measures outlines in their assessment comply with PBP and the requirements under Section 79BA of the EP&A Act.

Mitigation Measures

The BPA concludes that subject to the implementation of the below recommended bushfire protection requirements, an adequate standard of bushfire protection for the proposed development will be provided, which is appropriate for the issue of a Bushfire Safety Audit:

- a minimum 15m APZ is to be provided adjoining the Riparian Corridor and woodland to the north;
- a minimum 10m APZ is to be provided to the west and south, which can be provided by Stuart Road and Bringelly Road respectively;
- implementation of a APZ management plan including:
  - no tree or tree canopies within 2m of the dwelling rooflines;
  - shrubs and trees in the ABZ is acceptable if they are
    1. Well spread out and do not form a continuous canopy;
    2. Not species that retain dead material or deposit excessive quantities of ground fuel in a short period or in a danger period; and
    3. Located far enough away from the building so that they will not ignite the building by direct flame contact or radiant heat emission.
  - Landscaping or plantings should be local endemic mesic species or of low flammability.
- future development within 100m of the bushfire hazard should incorporate ember protection consistent with the requirements of BAL 12.5;
- all permanent APZs are to be established and maintained in accordance with the fuel management specifications of *Planning for Bushfire* (PBP), published by the RFS;
- a 0.5m clearance is to be maintained between any above ground power line conductors and tree branches; and
- public roads, reticulated water, parking, fire hydrants, electricity and gas are to comply with the relevant sections of PBP and Australian Standards

5.15 Waste Management

A Civil & Environmental Engineering Report has been prepared by Northrop and is included at **Appendix F** which outlines the proposed waste management strategy for the Site.

While there are no amounts of waste expected from the proposed works, there is the possibility of a number of waste generators from the Site such as:

- off-cuts from construction materials and ancillary items such as packaging and discarded containers for adhesives etc;
- any fill audited as unsuitable for use on the Site; and/or
- contractor waste generated by employees on the Site.

To ensure the proper and safe disposal of waste, Northrop's Civil & Environmental Engineering Report has provided an assessment of the proposed waste from the Site, which is included at **Appendix F**. The report outlines the waste management and strategies which will be implemented during the construction and earthworks

program, including the stockpiling of construction materials waste (likely in a skip) to be transported off Site for recycling or disposal. Materials will be reused or recycled where practical. Details of servicing arrangement for construction, and management of waste will be further refined and submitted to Council prior to the issue of a Construction Certificate in the form of an Environmental Management System and subsequent Construction Environmental Management plan to be prepared by the contractor.

5.16 Visual Impacts

While the resulting land form is permanent and will be further developed in the future, the proposed works under this application are preparatory in nature, with the land form temporarily undeveloped and exposed earth immediately seeded and covered.

Road layouts and design, and street light installation will comply with relevant Council and Australian Standards, with landscaping designed to improve amenity of the area and lights designed to reduce light spill.

Assessment

The visual impact of the proposed works is assessed considering both the visual effect[9] of the proposed works and the visual sensitivity[10] of surrounding areas. It is considered that the proposed visual impacts of the proposed works will temporarily have an overall moderate impact considering the moderate visual effect on residences nearby and adjacent to the Site (i.e the appearance of undeveloped lots) , and the moderate sensitivity of the surrounding area.

The Site will temporarily display a high contrast between the landform of the proposed works and the existing Site conditions, however with the progressive development of Site in the future, it is considered it will cause minimal impact over the life of the development of Bringelly Road Business Hub. The Site, being lower than the new Bringelly Road and buffered by the riparian corridor to the north-east is considered not to have a large impact on other surrounding land uses due to the large separation distances between them and the busy nature of Bringelly Road.

The key objective of the proposed works is to facilitate the future development of the Site which will provide a high level of amenity for future employees and the local community. With the future development of the Site however it is considered that there will be an overall low visual impact in the long term considering the low visual effect and visual sensitivity of adjacent land uses.

Mitigation measures

To mitigate the potential visual impacts of exposed earth and undeveloped cleared land, a number of mitigation measures will be implemented including:

- the proposed works will include the planting of established, hardened off trees and vegetation progressively across the Site as earthworks are completed;
- the landform will be appropriately treated and landscaped in the short term to reduce potential visual impacts during construction, such as fencing, , as further outlined in the Construction Management section of the Civil & Environmental Engineering Report at **Appendix F**;

[9] *the comparison of the proposed development and the existing visual environment surrounding the Site*

[10] *the extent of the change to the existing landscape as viewed from surrounding areas and users*

- the Site will be developed to aim to reduce the level of impact on adjacent land uses to the east and north east of the Site such as minimising the time of the proposed works in proximity to residential areas; and
- the Site will be temporarily seeded as soon as feasible as outlined in the Civil & Environmental Engineering Report (**Appendix F**).

5.17 Cumulative Impacts

Construction is likely to occur after the construction of the new Bringelly Road alignment. As such, no construction traffic or other potential construction impacts such as noise and dust will overlap with construction traffic associated with development in the new roadway.

5.18 Social Impacts

The social impacts arising from the project relate to the impacts of the development on residents in the vicinity of the Site and the indirect benefits through the conservation of the greater WSP.

The social impact of the proposed development should be looked at in the context of the whole WSP. The development of a small portion (0.4%) of the Parklands will contribute to the financial viability of the parklands, and ensure the Parklands are open and accessible by the public in the future.

Additionally, on a local level, the proposed development prepares the Site for future employment generating development, and will meet the economic demands of South Western Sydney into the future.

The impacts identified in the preceding sections principally relate to increased construction impacts which will generate temporary impacts to adjacent residents and the local area. In implementing the proposed mitigation measures the impacts of construction will be reduced for the following reasons:

- the main positive social impacts associated with the proposed works include the additional jobs generated during the construction works;
- the increased economic activity within the local area; and
- the ultimate provision of sustainability of managed open space in the WSP.

6.0 Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 16** below. These measures have been derived from the previous assessment in **Section 5.0** and those detailed in appended consultants' reports.

Table 16 – Mitigation Measures

Mitigation Measures
FLOODING & GROUNDWATER
▪ Through the use of rain tanks and on Site detention (OSD) tanks for lots and roads will reduce flooding impacts by restricting post-development flows to that of pre-development flows for all events up to the 1:100 year ARI. Conventional surface water drainage systems will reduce the impacts of intermittently truncating the Upper Aquifer System.
STORMWATER MANAGEMENT
▪ All components of the stormwater system, including rainwater tanks, gross pollutant traps at each lot and on roads, swales at each lot and the Bedwell Park wetland, work together to detain and reduce flow, retain coarse and fine pollutants and assimilate hydrocarbons and dissolved and microscopic pollution
EROSION AND SEDIMENT CONTROL
▪ Conducting earthworks in stages so minimum areas are exposed to wind and rainfall at any given time. ▪ Diverting of upstream flows around bare and exposed surfaces wherever possible. ▪ Directing placement of cut material to minimise stockpiling of spoil. ▪ Facilitating revegetation of stockpiles by separating soil for alter use. ▪ Using water carts to control wind erosion. ▪ Following a hierarchy of erosion and sediment controls of: – At source erosion and sediment controls, including: sediment fencing; hydromulching/hydroseeding of batters and stockpiles, filter fabric and hay bale filtering at pits; – Conveyance erosion and sediment controls, including: grassed flow paths, hay bale check dams, etc; – End of line erosion and sediment controls, including sedimentation basins. ▪ Minimising transport/hauling path lengths within Site. ▪ Altering work practices during periods of high wind. ▪ Washing down pond or rubble access from construction vehicles "tracking of material off the Site".
FLORA AND FAUNA
▪ Pre-clearance protocols. ▪ On-Site supervision of habitat tree felling and relocation of fauna: an ecologist will be required to be present onsite when felling of the hollow bearing trees to undertaken and inspect hollow(s) once tree is on ground. ▪ Soft felling operations: involves an excavator or bulldozer giving the tree a few 'nudges' before felling, in the hope to dislodge or encourage any fauna that may be present, to move out of their hollows and flee form the tree before it is felled. ▪ Habitat re-emplacement: retention of hollow bearing limbs [to be] reattached to trees in nearby areas of Western Sydney Parklands. ▪ Dam dewatering supervision: Onsite supervision by suitably qualified ecologist should be undertaken at the time of dam dewatering. ▪ Implementation of an erosion and sediment control plan. ▪ Inclusion of the above protocols in a Construction Environmental Management Plan ▪ Offsets: The DGRs require that where impacts can not be avoided, these impacts must be offset. EcoLogical has estimated that approximately 44 Biobanking 'ecosystem credits', or 4.4ha of vegetation of the same type and condition are needed to meet the requirements of the NSW Offset Principles. If deemed necessary, a Biodiversity Offset Strategy will be prepared for the residual impacts of 1.82 ha of CPW vegetation to more accurately quantify the appropriate offset requirements.
NOISE AND VIBRATION
Construction Noise Reporting and Monitoring ▪ Conduct vibration and noise measurements/monitoring at potentially worst affected receivers during periods when the impact from construction is greatest, when activities may have the potential to impact surrounding receivers. ▪ A reporting system be implemented with information including: ▪ A register of complaints received/communication with the local community ▪ Where noise/vibration complaints require noise/vibration monitoring, results from monitoring. ▪ Any noise exceedences occurring including, the actions taken and results of follow up monitoring. ▪ A report detailing complaints received and actions taken shall be presented.

Mitigation Measures
NOISE AND VIBRATION CONTINUED…
▪ All monitoring and reporting shall be conducted in conjunction with the conditions of consent. ▪ The person(s) responsible for complaint handling and contact details for receiving of complaints shall be established on Site prior to construction works commencing, with contact details displayed at the Site for the public. ▪ If a noise complaint is received the complaint should be recorded on a Noise Complaint Form. <u>Construction Noise & Vibration Mitigation</u> ▪ Utilisation of alternate appliances of processes when particular activities or construction appliance is found to generate noise levels that exceed the criteria. ▪ The use of acoustic barriers (10 or 15mm plywood) with a double paled or lapped and capped fencing construction, located between the source and the receiver win a position which blocks line of sight. ▪ The use of silencing devices such as, engine shrouding or special industrial silencers fitted to exhausts. ▪ The formulation of work practices to reduce noise generation, for instances locating fixed plant items away from residential receivers. ▪ Specially treat a piece of equipment including wrapping hydraulic hammers, screening areas of impact from excavation equipment and treatment to saw or impact equipment using shrouds. and Regular maintenance of equipment.
AIR QUALITY AND ODOUR
▪ Implementing a watering regime on any uncovered soils. ▪ Stabilise worked areas as soon as possible after earth works have been completed (e.g. revegetation, fencing and bunding). ▪ Remove mud from truck wheels and remove mud or soil tracked onto public roads at Site entries.
BUSHFIRE
▪ A minimum 15m APZ is to be provided adjoining the Riparian Corridor and woodland to the north. ▪ A minimum 10m APZ is to be provided to the west and south, which can be provided by Stuart Road and Bringelly Road respectively. ▪ Implementation of a APZ management plan including: – No tree or tree canopies within 2m of the dwelling rooflines; – Shrubs and trees in the ABZ is acceptable if they are 1. Well spread out and do not form a continuous canopy; 2. Not species that retain dead material or deposit excessive quantities of ground fuel in a short period or in a danger period; and 3. Located far enough away from the building so that they will not ignite the building by direct flame contact or radiant heat emission. ▪ Landscaping or plantings should be local endemic mesic species or of low flammability. ▪ Future development within 100m of the bushfire hazard should incorporate ember protection consistent with the requirements of BAL 12.5. ▪ All permanent apzs are to be established and maintained in accordance with the fuel management specifications of *Planning for Bushfire* (PBP), published by the RFS. ▪ A 0.5m clearance is to be maintained between any above ground power line conductors and tree branches. ▪ Public roads, reticulated water, parking, fire hydrants, electricity and gas are to comply with the relevant sections of PBP and Australian Standards.
WASTE MANAGEMENT
▪ Stockpiling of construction materials waste (likely in a skip) to be transported off Site for recycling or disposal. ▪ Materials will be reused or recycled where practical. ▪ Details of servicing arrangement for construction, and management of waste will be further refined and submitted to Council prior to the issue of a Construction Certificate in the form of an Environmental Management System and subsequent Construction Environmental Management plan to be prepared by the contractor.
VISUAL IMPACTS
▪ The proposed works will include the planting of established, hardened off trees and vegetation progressively across the Site as earthworks are completed. ▪ The landform will be appropriately treated and landscaped in the short term to reduce potential visual impacts during construction, such as fencing. ▪ The Site will be developed in a manner that aims to reduce the level of impact on adjacent land uses to the east and north east of the Site such as minimising the time of the proposed works in proximity to residential areas; and ▪ The Site will be temporarily seeded as soon as feasible.

7.0 Justification of the Proposal

In general, investment in major projects can only be justified if the benefits of doing so exceed the costs. Such an assessment must consider all costs and benefits, and not simply those that can be easily quantified. As a result, the EP&A Act specifies that such a justification must be made having regard to biophysical, economic and social considerations and the principles of ecologically sustainable development.

This means that the decision on whether a project can proceed or not needs to be made in the full knowledge of its effects, both positive and negative, whether those impacts can be quantified or not.

The proposed development is for Site preparation works including infrastructure and servicing. The assessment must therefore focus on the identification and appraisal of the effects of the proposed change over the Site's existing condition.

Various components of the biophysical, social and economic environments have been examined in this EIS and are summarised below.

7.1 Social and Economic

The proposed works will facilitate the future delivery of LFR, service and industrial development that will result in:

- the provision of additional jobs and a large number of employment opportunities not only for Leppington, but also the South Western Sydney region and the Greater Sydney Metropolitan area;
- a source of funding for the Trust and contribute to the financial viability of the Parklands, and ensure they are open and accessible by the public in the future; and
- future development that will meet the demand for LFR in the South West Region, and potential economic impacts on existing and planned retail centres will be negligible.

7.2 Biophysical

The environmental impact assessment of the proposed development has demonstrated that:

- the proposed earthworks will result in no detrimental impacts on flooding, hydraulic behaviour of the wetland, or on groundwater;
- provision of a stormwater management system will achieve the Water Quality Objective for Cabramatta Creek Wetland to reduce the amount of diffuse and point source pollutants entering the wetland to improve water quality and visual amenity;
- provision of a stormwater management system that will minimise impacts on downstream watercourses;
- any excavation is not expected to reduce the groundwater table depth or quality;
- the proposed works, in the context of the surrounding WSP and in accordance with the POM and POM Supplement have an acceptable impact on flora and fauna. Further clearing of vegetation and associated works for the proposed development is unlikely to have a significant impact upon threatened species, communities and habitat of conservation significance;

- there are no expected impacts to any identified heritage items;
- the predicted noise impacts to adjoining residences will be minimised by the implementation of range of measures detailed in the Construction Noise and Vibration Assessment (**Appendix M**); and
- the proposed works adjacent to the riparian corridor through the Site will provide compatible and connecting habitat and buffer to the Bedwell Park Wetland.

7.3 Ecologically Sustainable Development

The EP&A Regulation lists 4 principles of ecologically sustainable development to be considered in assessing a project. They are:

- The precautionary principle;
- Intergenerational equity;
- Conservation of biological diversity and ecological integrity; and
- Improved valuation and pricing of environmental resources.

An analysis of these principles follows.

Precautionary Principle

The precautionary principle is utilised when uncertainty exists about potential environmental impacts. It provides that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. The precautionary principle requires careful evaluation of potential environmental impacts in order to avoid, wherever practicable, serious or irreversible damage to the environment.

This EIS has not identified any serious threat of irreversible damage to the environment and therefore the precautionary principle is not relevant to the proposal.

Intergenerational Equity

Inter-generational equity is concerned with ensuring that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. The proposal has been designed to benefit both the existing and future generations by:

- implementing safeguards and management measures to protect environmental values;
- facilitating job creation in close proximity to future residential areas; and
- ensuring the WSP has the financial support to be maintained and enhanced into the future for use by future generations

The proposal has integrated short and long-term social, financial and environmental considerations so that any foreseeable impacts are not left to be addressed by future generations. Issues with potential long term implications such as waste disposal would be avoided and/or minimised through construction planning and the application of safeguards and management measures described in this EIS and the appended technical reports.

Conservation of biological diversity and ecological integrity

The principle of biological diversity upholds that the conservation of biological diversity and ecological integrity should be a fundamental consideration.

The proposal would not have any significant effect on the biological diversity and ecological integrity of the study area as outlined in the Flora and Fauna Assessment (**Appendix L**). Further, the development of the Site is strategically chosen as outlined in the Trust's POM and will ensure the longevity and financial viability of the WSP to conserve higher quality areas of ecological integrity and biological diversity.

Improved valuation, pricing and incentive mechanisms

The principles of improved valuation and pricing of environmental resources requires consideration of all environmental resources which may be affected by a proposal, including air, water, land and living things. Mitigation measures for avoiding, reusing, recycling and managing waste during construction and operation would be implemented to ensure resources are used responsibly in the first instance.

Additional measures will be implemented to ensure no environmental resources in the locality are adversely impacted during the construction or operational phases.

8.0 Conclusion

The Environmental Impact Statement (EIS) has been prepared to consider the environmental, social and economic impacts of the proposed development. The EIS has addressed the issues outlined in the Director-General's Requirements (**Appendix C**) and accords with Schedule 2 of the EP&A Regulation.

The Western Sydney Parklands Trust proposes to develop the Site, in accordance with that envisaged by the Plan of Management to facilitate the achievement of the Trust's objective to *'Develop new business opportunities to support the management and further development of the Parklands'*.

The EIS has considered and assessed a range of environmental issues including economic impacts on existing retail centres, impacts on flora and fauna, traffic, heritage, landscaping, flooding and stormwater, construction noise and vibration impacts, air quality and cumulative impacts.

Having regard to the overall environmental assessment undertaken as part of the EIS, the proposed redevelopment is not considered likely to give rise to any significant adverse cumulative impacts on the environment. The assessment has demonstrated that with appropriate mitigation measures, that any environmental impact during filling of the Site can be mitigated through current best practices. Furthermore, it has also been demonstrated that the proposed development is suitable to the Site in that:

- the potential future use of the Site for LFR, light industrial and serve uses will not generate any unacceptable or adverse impacts on other retail or LFR within the South West Region;
- the potential future use of the Site will not generate any adverse traffic impacts that cannot be appropriately mitigated;
- the proposed earthworks will result in no detrimental impacts on flooding, hydraulic behaviour of the wetland, or on groundwater;
- the provision of a stormwater management system will achieve the Water Quality Objective for Cabramatta Creek Wetland to reduce the amount of diffuse and point source pollutants entering the wetland to improve water quality and visual amenity;
- the provision of a stormwater management system will minimise impacts on downstream watercourses;
- any excavation is not expected to reduce the groundwater table depth or quality;
- the proposed works, in the context of the surrounding WSP and in accordance with the POM and POM Supplement have an acceptable impact on flora and fauna. Further clearing of vegetation and associated works for the proposed development is unlikely to have a significant impact upon threatened species, communities and habitat of conservation significance;
- there are no expected impacts to any identified heritage items;
- the predicted noise impacts to adjoining residences will be minimised by the implementation of range of measures detailed in the Construction Noise and Vibration Assessment (**Appendix M**); and
- the proposed works adjacent to the riparian corridor through the Site will provide compatible and connecting habitat and buffer to the Bedwell Park Wetland.

The redevelopment will not give rise to any adverse impacts in terms of the biophysical, social, and economic environment. The redevelopment satisfies the

four principles of ecological sustainable development required to be assessed by the *Environmental Planning and Assessment Regulation 2000*.

Overall the proposal will facilitate employment development as envisaged in the Trust's POM and will assist in achieving employment forecasts for southwest Sydney. Furthermore the proposal, with the implementation of proposed mitigation measures will not give rise to detrimental impacts. On this basis, we have no hesitation in recommending the proposal be approved.