

# **West Belconnen Project Preliminary Risk Analysis**

report prepared for:

**Riverview Group**

**28 February 2014**

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**Attachment 1: Strategic Environmental Assessment Study Area**

**Attachment 2: Response to Agency comments**

# 1. Introduction

## 1.1 Background

A T Adams Consulting Pty Limited has been engaged by the Riverview Group on behalf of the ACT Land Development Agency to complete a preliminary risk assessment (PRA) for a proposed project at West Belconnen. This PRA defines the scope of matters that are to be considered in a Strategic Environmental Assessment (SEA) that is to provide the basis for a rezoning of the land at West Belconnen. The land is proposed for rezoning by way of a variation to the Territory Plan under the procedures set out in Section 57 of the *Planning and Development Act 2008*.

The decision to prepare a Strategic Environmental Assessment (SEA) has been made pursuant to Section 99 of the (ACT) *Planning and Development Act 2007*. (the P&D Act). The SEA is required to cover a range of matters affecting both the human and non-human biological environment, that is, it will consider both social impacts and impacts on the natural environment. An assessment of certain matters of national environmental significance will also be made under Commonwealth legislation, this is discussed further below.

Following the initial decision this PRA was prepared as a draft (draft 140103) and circulated to ACT Government agencies. Substantial comments were received and the document has been amended to accommodate these. A summary of the comments received and the response that has been made in light of them is included at Attachment 2.

## 1.2 Assessment Process

A “strategic environmental assessment” is described in the P&D Act (cl. 99) as:

*“..... a comprehensive environmental assessment, suited to proposals in relation to major policy matters rather than individual development proposals.”*

The Act goes on to say at clause 100:

*“(1) The planning and land authority must prepare a strategic environmental assessment if the Minister directs the authority to prepare the assessment in relation to a matter relevant to the object of this Act or this Act otherwise requires the authority to prepare an assessment.*

*(2) The planning and land authority may prepare a strategic environmental assessment if satisfied that it is necessary or convenient to do so in relation to a matter relevant to the object of this Act.”*

In the case of West Belconnen the Planning and Land Authority has determined that a strategic environmental assessment (SEA) should be undertaken for the west Belconnen project in order to fully assess the impacts of rezoning the land for urban development and other purposes.

The SEA will satisfy the information requirements for exemption from requirements for environmental impact assessment (pursuant to section S211 of the P&D Act) of the project as it is implemented.

The P&D Act and *Planning and Development Regulations 2008* provide the statutory framework for the assessment of environmental impacts caused or having the potential to be caused by development in the ACT.

The Regulations prescribe a 5 step process for the preparation of an SEA:

*"A person developing a strategic environmental assessment must complete each of the following stages:*

*stage A—setting context and establishing baseline  
stage B—developing alternatives and deciding scope  
stage C—assessing environmental benefits and impacts  
stage D—consultation  
stage E—monitoring, if a decision is made at stage C that monitoring is required."*

This paper addresses Stage A of the above process. The regulations are prescriptive with regard to the specific matters that must be addressed during stage A as follows:

*"Stage A—setting context and establishing baseline*

*A person developing a strategic environmental assessment must, in completing stage A, set the context for the proposal and establish the baseline for the strategic environmental assessment by—*

- (a) screening the proposal; and*
- (b) establishing the environmental baseline; and*
- (c) identifying the environmental issues; and*
- (d) setting the objectives for the strategic environmental assessment"*

A risk-based approach is used in the ACT for scoping environmental impacts, with the use of a preliminary risk assessment dictated in the ACT Planning and Land Authority's (ACTPLA) publication: *Preparation of an Application for Scoping Guide* (ACTPLA undated)<sup>1</sup>.

The preparation of a PRA will satisfy requirements (a) to (d) above.

### **1.3 Purpose of this Report**

This report describes the project and sets out the current level of understanding of potential environmental impacts associated with the proposed project, by undertaking a review of existing information and completing a preliminary risk assessment.

The aim of the PRA is to identify risks which, if unmitigated, have the potential to cause significant environmental harm. These risks then become the subject for examination through the SEA process. The "scope" of the SEA will be defined to include the full spectrum of identified risks.

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<sup>1</sup> ACTPLA (undated) *Preparation of an Application for Scoping, Preparation of an Application for an Environmental Significance Opinion: A Guide* ACT Planning and Land Authority, Accessed online at: [http://www.actpla.act.gov.au/\\_data/assets/pdf\\_file/0017/21617/Application\\_for\\_scoping.pdf](http://www.actpla.act.gov.au/_data/assets/pdf_file/0017/21617/Application_for_scoping.pdf)

## 1.4 Assessment under the EPBC Act

The project is likely to impact on some matters of national environmental significance that will trigger a requirement for consideration under the Commonwealth Environment Protection and Biodiversity Conservation Act (the EPBC Act).

A decision has been made by the Commonwealth Department of the Environment to the effect that a Strategic Assessment (SA) in accord with the provisions of Part 10 of the EPBC Act is to be prepared. The matters of national environmental significance that are to be assessed by the EPBC SA process (Grassy Woodland, Pink Tailed Worm Lizard and Golden Sun Moth) are the same as those “species or ecological communities” that would otherwise require environmental assessment under the P & D Act SEA process.

To avoid unnecessary duplication of documentation and assessment processes the three matters of national environmental significance noted above will be assessed fully under the EPBC process; The ACT P&D Act assessment will not assess them but will refer to the EPBC process. The EPBC assessment will provide the basis for a subsequent application under section 211 of the P&D Act for exemption from further assessment with respect to these matters.

## 2. The West Belconnen Project

### 2.1 Purpose of the West Belconnen Project

#### Implementing the ACT Planning Strategy

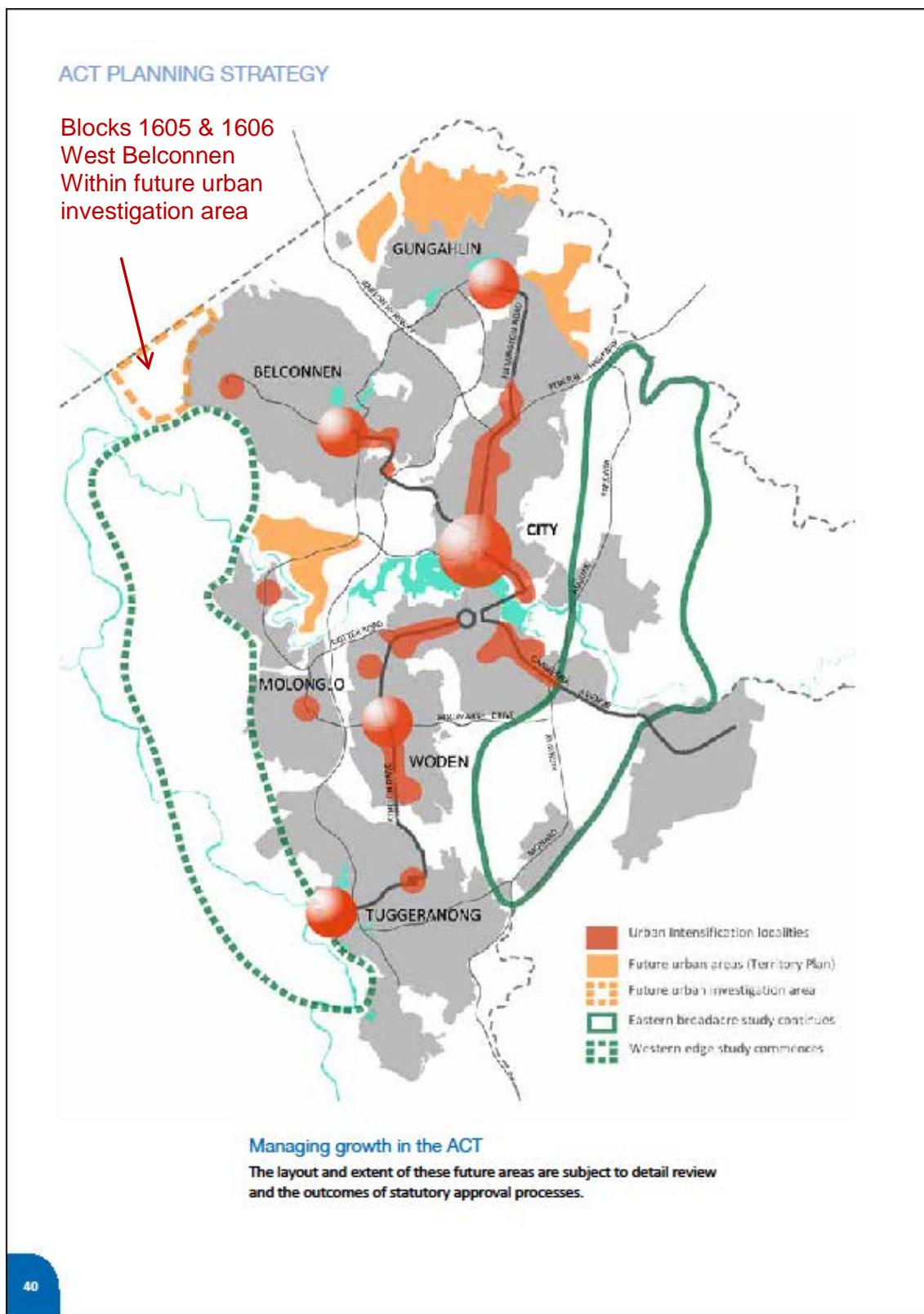
In line with the strategic planning intentions for the growth and development of Canberra a proposal is being formulated to rezone land at west Belconnen for development for residential and related urban uses. A portion of the West Belconnen site was identified for future residential development in the Canberra Spatial Plan, published in 2004 and the development potential has been confirmed in the Canberra Planning Strategy, published in September of 2012. In the Strategy the land is identified as being a “future urban investigation area” (ACT planning Strategy P 40, see Figure 1).

The proposal to rezone the land will be the subject of the SEA.

#### An Appropriate New Development Front

The west Belconnen project is an extension of the existing urban area of Belconnen. It provides a third development front within the ACT (in addition to Gungahlin and Molonglo). The site is well located and topographically well suited to development. It offers:

- The opportunity to create “A sustainable community of international significance in the nation’s capital”.
- The opportunity to bring best practice sustainability design, building and urban management techniques from world class developments such as the Currumbin Eco Village (in South east Queensland) and implement them over a broad suburban scale.
- Revenue to the ACT Government
- Capacity to offer a variety of housing products and ensure price competition.
- Competition for NSW estates that have recently entered the market, competing for ACT residents and land sales. Without this competition the NSW estates will attract revenue that would otherwise flow to the ACT. (If the NSW portion of the proposal proceeds then development in NSW will be “cost neutral” to the ACT)
- The location of the land and the low infrastructure costs relative to competing sites at east Molonglo and Gungahlin, means that land is expected to be cheaper than the average across Canberra. As a consequence the estate will be readily capable of meeting the Governments’ 20% affordability target with standard (rather than multi-unit) housing and in an economically viable fashion.
- Infrastructure costs lower than East Molonglo and much lower than Kowen (the third development front previously proposed in the 2004 Spatial plan), including engineering and social infrastructure.
- The site appears to be eminently suitable for urban development with appropriate topography and manageable environmental constraints.



**Figure 1 – ACT Planning Strategy**

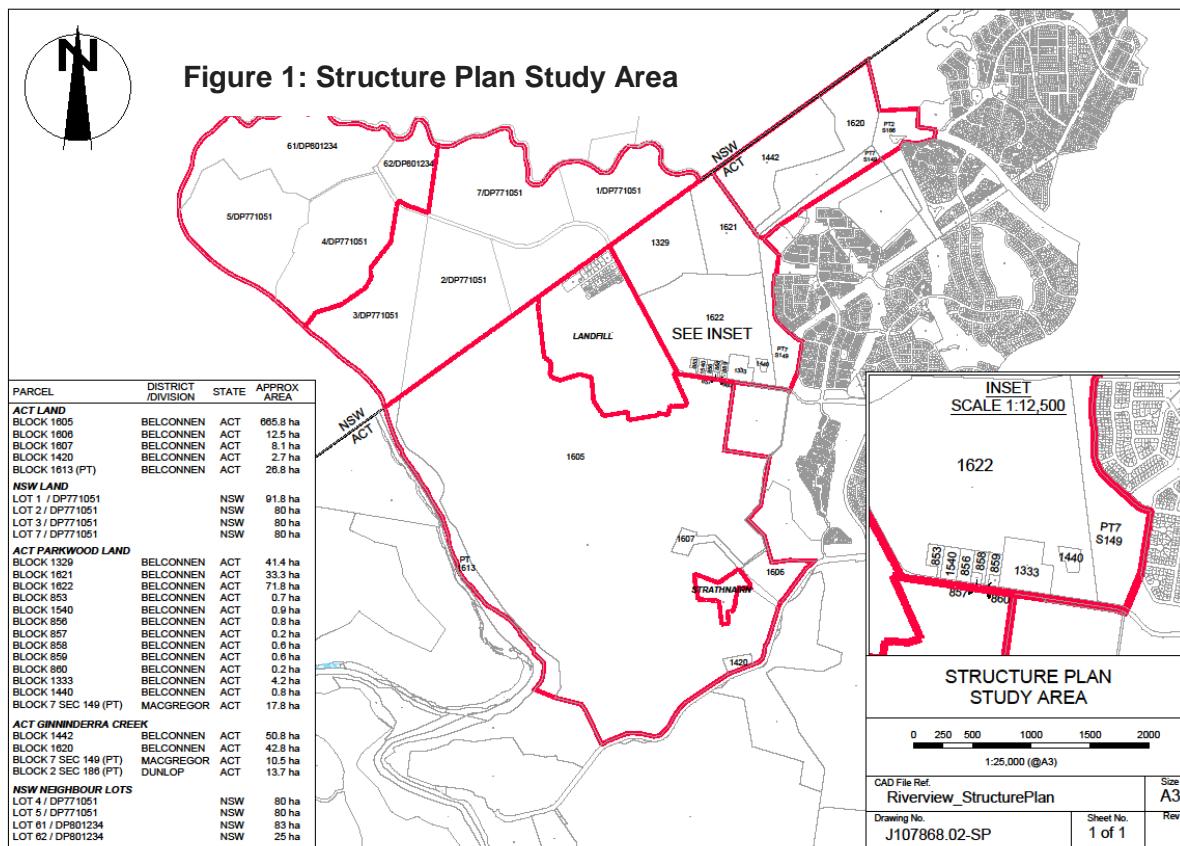
### 3. The Project Site and Surrounds

The project site includes all of Blocks 1605, 1606, 1607, 1420 and part of block 1613 Belconnen District. It is bounded:

- On the east by Stockdill Drive and the Belconnen Magpies Golf Course (a portion of which was recently rezoned for residential development)
- On the south by the Murrumbidgee River
- On the west by the ACT border
- On the north by the Canberra substation, Parkwood road and the Belconnen landfill site.

The total project site area is 716.5ha. This is subject to three separate territory plan zones as follows:

- Broadacre: 251.7ha
- Hills Ridges and Buffers: 173.2ha
- River Corridor: 291.6ha



Blocks 1605 and 1606 are currently held by Corkhill Brothers Pty Ltd as a rural lease. The lease term is for a period of 99 years with the River Corridor component being subject to a withdrawal clause which may be activated with 3 months' notice.

Block 1607 is unleased territory land that accommodates a sewer vent pipe and the bicentennial national trail. It is included because, under any likely development scenario this block would be reconfigured.

Block 1420 is occupied under lease by the Billabong Aboriginal Development Corporation. It is included because it would be poor planning practice to leave this site as an isolated small parcel zoned as “hills ridges and buffer” if the surrounding land is rezoned, and an urban zoning would be more appropriate for the current and potential future uses of this site. Part Block 1613 is included because it is part of the river corridor immediately adjacent to the Murrumbidgee River and should be incorporated in any planning for the river corridor.

The Corkhill Group also owns 332ha of land in NSW which is adjacent to the rural lease land. This land has urban development potential and has been identified in the Yass Shire Local Environment Plan as being subject to potential rezoning. This land, together with an area of neighbouring NSW land is bounded by the Murrumbidgee River and Ginninderra Creek; it is a “peninsula” that is only accessible from the ACT.

Immediately to the north of the site, across Parkwood Road, is an area of territory land which is largely unleased and undeveloped but which has possible urban potential and has been identified as such in the ACT Planning Strategy. This land is bounded by Parkwood Road, West Macgregor, Ginninderra creek and the Parkwood Egg farm adjacent to the ACT border.

The land immediately further north (principally block 1442) is bordered on its eastern and southern sides by Ginninderra Creek is known as the Jarramlee offset area and has been identified as an environmental offset area related to the development of the suburb of Lawson. It is not proposed for urban development however there is a possibility that Ginninderra Drive may connect through the area, subject to environmental considerations, and consequently it is included in the study area.

The Belconnen land fill site is central to the structure plan area between the block 1605 and Parkwood Road.

The ACT Planning and Land Authority has advised that proposals for rezoning blocks 1605 & 1606 should be set with a broader structure planning context that incorporates the surrounding land to the north and in NSW. The larger area that is proposed to be included in the initial structure planning exercise is depicted at Figure 1. A schedule of the land included in the study area, with tenure details is included as Attachment A.

## 4. The Project

### 4.1 Project Coverage

The proposal is for the development of the Project site for residential and related purposes. Of the total area of 716.5ha approximately 50% is expected to be zoned for river corridor or conservation purposes. The balance of the land is anticipated to yield approximately 4,500 dwellings. Development is intended to commence at Stockdill Road (the eastern boundary of the site), and extend westward in stages to the ACT/NSW border. Assuming a sales rate of approximately 300 dwellings per year the project will extend over a period of approximately fifteen years following commencement of sales.

Development potential will also be investigated for the NSW land contained within the "peninsula" created by the Murrumbidgee River and Ginninderra Creek, and the ACT Government land north of Parkwood Road extending from West Macgregor to the border. The Belconnen land fill site is central to the structure plan study area and the structure planning process will include consideration of the future use of the land fill site.

### 4.2 Structure Plan

Detailed resolution of the site design, numbers and sizes of blocks, provisions for schools, other community facilities, open space and the like will be subject to the outcomes of a structure planning process and subsequent detailed design for each stage. The first step will be the preparation of a structure plan; this will be a substantial document including plans and supporting technical reports that will provide the basis for proposals for rezoning the land under the Territory and National Capital plans.

### 4.3 Community Engagement

The Riverview group has been engaged with the local west Belconnen community and other interested stakeholder groups and individuals since 2007. This has led to a high level of awareness of the project and has also provided the opportunity for the community to become well informed on the scale and scope and objectives of the project, which have received a high level of acceptance. The project is likely to continue to attract community interest especially as it moves to more public processes which will include a program of pro-active engagement.

For this reason, effective stakeholder engagement is important and will be designed, managed and delivered in a highly skilled, responsive and professional manner. The approach to engagement on this Project is guided by seven key elements:

- The involvement of a broad range of stakeholders, reflecting and responding to the regional significance of the study area
- A commitment to a collaborative engagement process that will work closely with the multidisciplinary consultant team to embed the engagement process within the urban planning process:
  - Working with the urban design team to make engagement an active part of the design process
  - Integration of engagement with the Community and Sustainability Planning processes
  - Planning engagement to ensure alignment with commitments to the Green Star Communities program
- Synthesise engagement outputs and produce data meaningful to the planning process

- Designing a ‘cumulative’ process where the key ‘building blocks’ of the planning strategy (vision, design principles, scenarios, preferred options, etc.) are developed with input from key stakeholders
- A planned process of engagement that is carefully managed and is integrated with strategic communications
- A diverse range of engagement activities that provide an opportunity for a wide range of stakeholders to participate
- A focus on both the local and regional significance of the planning area.

The project will include a comprehensive program of engagement activities that combines both face-to-face and e-consultation to maximise the opportunities for engagement and the range of voices heard throughout the process.

## 5. Environmental Impact Triggers

This PRA is being prepared as the initial step in an SEA process. The SEA process has been adopted because of the scale of the West Belconnen project which is a “major policy matter” that is most appropriately dealt with via the SEA process rather than by a series of individual assessments. The need for the SEA is not triggered by any individual act or impact, but rather by the overall scale of the project. The SEA will provide the basis for exemption (under Part 211 of the P&D Act) from the requirements for individual assessments that would otherwise be triggered. It is useful to understand the individual triggers that would apply if individual assessments were to be conducted.

Schedule 4 of the PD Act sets out the triggers and has been assessed for relevance against the project, and the following are considered to be the potential triggers for impact track assessment for West Belconnen that would apply in the absence of the SEA.

**Table 1 – Relevant Triggers for Impact Track Assessment under the P&D Act**

Part	Item	Development Type
4.2	1	<p>proposal for construction of a transport corridor including a major road, a dedicated bus way, a railway, or a light rail corridor, on any land, other than on land designated under the territory plan as a future urban area or in a transport and services zone, if the proposal is likely to have a significant adverse environmental impact on—</p> <p>(a) air quality so as to be detrimental to the health of persons in an adjoining residential, commercial or community facility zone; or</p> <p>(b) ambient noise or vibration so as to be detrimental to the health of persons in an adjoining residential, commercial or community facility zone</p>
	2	<p>proposal that involves—</p> <p>(a) electricity transmission line construction, including additions or realignment works, outside an existing easement or exceeding 500m in length, that are intended to carry underground or above-ground transmission lines with a voltage of 132kV or more .....</p> <p>(c) an electricity generating station (other than a coal electricity generating station) including gas, wind, hydroelectric, geothermal, bio-material, solar power or co-generation—</p> <p>(i) that is capable of supplying—</p> <p>(A) the amount of electrical power prescribed by regulation; or</p> <p>(B) if no amount is prescribed—4MW or more of electrical power; or</p> <p>(ii) in a location or of a kind or nature prescribed by regulation;</p> <p>or</p>
	3	<p>proposal for construction of a water storage dam—</p> <p>.....</p> <p>(c) in the river corridor zone under the territory plan unless the conservator of flora and fauna produces an environmental significance opinion that the proposal is not likely to have a significant adverse environmental impact; or</p>

		(d) on a continuously flowing river in a non-urban zone under the territory plan unless the conservator of flora and fauna produces an environmental significance opinion that the proposal is not likely to have a significant adverse environmental impact
	10	<p>proposal for a waste transfer station or recycling facility that sorts, consolidates or temporarily stores solid waste (including municipal waste) for transfer to another site for disposal, storage, reprocessing, recycling, use or reuse, if the transfer station—</p> <ul style="list-style-type: none"> <li>(a) is intended to handle more than 30kt of waste each year; or</li> <li>(b) will be less than 1km from the boundary of a residential block or unit in a residential or commercial zone; but</li> <li>(c) is not a small-scale waste management facility, on or near a residential block or near a residential unit, consisting of wheelie bins, small hoppers, or other small waste management bins or enclosures for the use of people living on the residential block or in the residential unit</li> </ul>
4.3	1	<p>proposal that is likely to have a significant adverse environmental impact on 1 or more of the following, unless the conservator of flora and fauna produces an environmental significance opinion that the proposal is not likely to have a significant adverse environmental impact:</p> <ul style="list-style-type: none"> <li>a. a species or ecological community that is endangered;</li> <li>b. a species that is vulnerable;</li> <li>c. a species that is protected;</li> <li>d. a species with special protection status;</li> <li>e. a species or ecological community if a threatening process has been declared under the Nature Conservation Act 1980, s 38 (4) in relation to the species or community;</li> <li>f. a species or ecological community if the flora and fauna committee has stated criteria for assessing whether the committee should recommend the making of a declaration under the Nature Conservation Act 1980, s 38 (Declaration of species, community or process) in relation to the species or community;</li> </ul> <p><i>Note Criteria are specified under the Nature Conservation Act 1980, s 35. An instrument under that Act, s 35 is a disallowable instrument and must be notified, and presented to the Legislative Assembly, under the Legislation Act.</i></p> <ul style="list-style-type: none"> <li>g. an endangered species, an endangered population, an endangered ecological community, a critically endangered species, a critically endangered ecological community or species presumed extinct under the Threatened Species Conservation Act 1995 (NSW), if the potential impact of the proposal will be on the species or community in New South Wales</li> </ul>
	2	<p>proposal involving—</p> <p>the clearing of more than 5.0ha of native vegetation on land that is designated as a future urban area under the territory plan unless the conservator of flora and fauna produces an environmental significance opinion that the clearing is not likely to have a significant adverse environmental impact</p>
	3	proposal for development on land reserved under s 315 for the purpose of a wilderness area, national park, nature reserve or special purpose reserve, unless the conservator of flora and fauna produces an environmental significance opinion that the proposal is not likely to have a significant adverse environmental impact
	4	<p>proposal that is likely to have a significant adverse environmental impact on—</p> <ul style="list-style-type: none"> <li>(a) a domestic water supply catchment; or</li> <li>(b) a water use purpose mentioned in the territory plan (water use and catchment general code); or</li> <li>(c) a prescribed environmental value mentioned in the territory plan (water use catchment general code) of a natural waterway or aquifer</li> </ul>
	6	proposal that is likely to have a significant adverse impact on the heritage significance of a

		place or object registered under the <i>Heritage Act 2004</i> , unless the heritage council produces an environmental significance opinion that the proposal is not likely to have a significant adverse impact
	7	proposal involving land included on the register of contaminated sites under the <i>Environment Protection Act 1997</i>
	8	proposal, other than on land in an existing urban area or land that is designated under the territory plan as a future urban area, with the potential to adversely affect the integrity of a site where significant environmental or ecological scientific research is being conducted by a government entity, a university or another entity prescribed by regulation

It is understood that a pending legislative change may alter the relationship between the triggers listed above and a strategic environmental assessment such that an approved SEA will be deemed to be sufficient information for development to proceed without the need to undertake the section 211 process.

## 6. Risk Assessment Method

### 6.1 Impact Categories and Level of Risk

An impact is a positive or negative effect of a development on a given area and/or resource that has been identified as important and significant.

Environmental impact assessment is the process of identifying, predicting, evaluating and mitigating the biophysical, social and other relevant impacts of development proposals prior to major decisions being taken and commitments made (IAIA 1999). The aim of the assessment is to ensure decision-makers consider environmental impacts before deciding whether to proceed with developments.

The probability of an impact actually occurring as a result of a development action is variable. In the case of some development actions there will be a high probability of a particular impact or number of impacts occurring; other development actions may cause no impacts. This variability is best determined and expressed in terms of the “risk” of an impact occurring. The categorization of impacts in terms of risk is useful because it enables the assessment process to focus more heavily on areas of high risk, with lesser attention being necessary for areas of lower risk. An important outcome of the environmental assessment process is to ensure that, where higher level risks are identified, steps are taken when the project proceeds to put mitigation measures in place to reduce these risks to acceptable levels.

If appropriate mitigation measures are not or cannot be taken then a decision may be made to not proceed with the project.

The proposed Territory Plan variation itself will have no environmental impacts as it is simply an amendment to a statutory instrument (the Territory Plan which is held in digital form). However adoption of the proposed Territory Plan variation will facilitate development of the site in accordance with the Structure Plan. The assessment therefore focuses on the environmental impacts of the implementation of the Structure Plan.

ACTPLA has prepared guidance for undertaking a risk based environmental impact assessment. This guidance proposes a three staged process, with stage one focused on evaluating the likelihood of a particular impact, and stage two focused on evaluating the consequence of a particular impact. Stage three combines these outputs to determine the risk associated with a particular impact.

Prior to undertaking the risk assessment it is firstly necessary to specify the full range of potential impacts that warrant consideration.

The specification of the areas of potential impact that are to be addressed in the SEA is a matter for judgment. The principal purpose of this scoping report is to define these areas of impact. This paper is circulated widely among relevant government agencies as a draft to ensure that, when finalised, it includes all impacts that warrant investigation.

The determination of areas of potential impacts provided in this Part draws heavily on the findings of a range of site investigations that have been conducted over a period of years, detailed in the references section of this report. The reader is advised to refer to all of these references for more detailed analysis of existing site conditions.

Based on this, areas of potential impact have been considered for a number of categories (Table 4.1).

**Table 4.1– Areas of Potential Impact**

<b>Area of Potential Impact</b>	<b>Specific Matter at West Belconnen</b>
Biodiversity and nature conservation	<ul style="list-style-type: none"> <li>• Pink Tailed Worm Lizard</li> <li>• Golden Sun Moth</li> <li>• Superb Parrot</li> <li>• Swift Parrot</li> <li>• Little Eagle</li> <li>• Yellow Box Red Gum Grassy Woodland</li> <li>• Other endangered or vulnerable species or ecological communities</li> <li>• River Corridor</li> <li>• Woodland birds</li> <li>• Habitat fragmentation</li> </ul>
Metropolitan context	<ul style="list-style-type: none"> <li>• National Capital Plan</li> <li>• Territory Plan</li> <li>• Growth and change of the city</li> </ul>
Land release program	<ul style="list-style-type: none"> <li>• Land supply</li> </ul>
Cross border	<ul style="list-style-type: none"> <li>• Economic and fiscal</li> <li>• Social and community services</li> <li>• Emergency services</li> <li>• Infrastructure services</li> </ul>
Economic	<ul style="list-style-type: none"> <li>• Impact on existing retail activities, esp Kippax</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>• Utilities (electricity, water, sewer, gas, telecoms)</li> </ul>
Transgrid facilities	<ul style="list-style-type: none"> <li>• 330kv power lines</li> <li>• Canberra substation</li> <li>• Switching station</li> </ul>
Contamination	<ul style="list-style-type: none"> <li>• On site contamination from past farm activities</li> <li>• Effect of Belconnen land fill runoff</li> </ul>
Belconnen land fill	<ul style="list-style-type: none"> <li>• Various site activities, potential impact on nearby residential use.</li> </ul>
Heritage	<ul style="list-style-type: none"> <li>• Belconnen Farm heritage precinct</li> <li>• Indigenous heritage</li> <li>• European heritage (other than Belconnen farm)</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>• Belconnen road network</li> <li>• Public transport</li> <li>• Active transport</li> </ul>
Geotechnical	<ul style="list-style-type: none"> <li>• Site conditions: suitability for urban development</li> </ul>
Catchment management	<ul style="list-style-type: none"> <li>• Murrumbidgee River water quality &amp; quantity</li> <li>• Ginninderra Creek water quality &amp; quantity</li> <li>• Flooding (Ginninderra creek)</li> <li>• Surface water</li> <li>• Groundwater</li> </ul>
Social and community	<ul style="list-style-type: none"> <li>• Demographics potential for social disruption to Belconnen community</li> <li>• Social and community facilities and services</li> <li>• Recreation facilities</li> <li>• Education facilities</li> <li>• The quantum and timing of the development in the context of metropolitan and regional housing supply.</li> </ul>
Landscape & Visual	<ul style="list-style-type: none"> <li>• Views from existing residential areas</li> <li>• Views from greater metropolitan area</li> </ul>

Area of Potential Impact	Specific Matter at West Belconnen
Bushfire	<ul style="list-style-type: none"> <li>• Potential risk for new urban areas</li> <li>• Effect on existing urban areas</li> <li>• Impact of bushfire management strategies on other values especially biodiversity</li> </ul>
Trees	<ul style="list-style-type: none"> <li>• Ecological and aesthetic value</li> </ul>
Air Quality	<ul style="list-style-type: none"> <li>• Impacts from urban development e.g. wood heaters.</li> </ul>
Zoonosis	<ul style="list-style-type: none"> <li>• Parkwood poultry farm</li> </ul>
Odour	<ul style="list-style-type: none"> <li>• Effect of Belconnen landfill</li> <li>• Effect of Parkwood Poultry facility</li> <li>• Effect of Belconnen trunk sewer vents and LMWQCC</li> </ul>

## 6.2 Risk assessment method

Risk, in this PRA, is the combination of the **consequences** of an event (the “seriousness” of the impacts if they occur) and the **likelihood** of its occurrence (the chances of the event actually occurring).

Using the risk matrix below (Figure 4.1), the consequence and likelihood of each element of risk identified was determined, and combined to determine a risk rating. The risk matrix adopted for this PRA is as per ACTPLA’s ‘Preparation of an Application for Scoping’ Guide. In order to facilitate the readers interpretation of the matrix and obtain a good understanding of the actual risk position, information is included on work already undertaken which in some cases is significant. A tentative assessment of the actual likely risk following consideration of this information is also provided as a guide. This will be subject to rigorous evaluation through the SEA process. This also allows a clear indication to be given as to where further research is likely to be needed to inform the SEA, subject to circulation and commentary on this report.

Risk matrix and criteria for Likelihood and Consequence is derived from:  
 ACTPLA (undated) *Preparation of an application for scoping; Preparation of an application for an Environmental Significance Opinion, A guide*

Online:  
[http://www.actpla.act.gov.au/\\_\\_data/assets/pdf\\_file/0017/21617/Application\\_for\\_scoping.pdf](http://www.actpla.act.gov.au/__data/assets/pdf_file/0017/21617/Application_for_scoping.pdf)

LIKELIHOOD	
Remote (R)	Extremely rare or previously unknown to occur
Unlikely (U)	Unlikely to occur during the Project
Possible (P)	Possible under exceptional circumstances
Likely (L)	May occur during the Project or beyond the Project
Almost Certain (C)	Expected to occur during the Project or beyond the Project

CONSEQUENCE					
	Insignificant (F)	Minor (I)	Moderate (D)	Major (J)	Catastrophic / Significant (S)
Community Consequence Descriptions	Negligible complaints or concerns	Public concern limited to local complaints	Local public or media attention and complaints	Attention from media or heightened concern from community	Adverse national media or public attention
	People largely unaffected	Temporary and localised effects on peoples livelihoods	Widespread and temporary, or, localised and permanent effects on peoples livelihoods	Widespread and temporary, or, localised and permanent effects on livelihoods and/or displacement of people	Entire villages, communities or groups are displaced and livelihoods are affected
Environmental Consequence Descriptions	Impacts such as localised or short term effects on habitat, species or environmental attributes.	Onsite release with minor environmental impacts.	Onsite release and some detrimental effects.	Resulting in off-site release and some detrimental effects.	Resulting in permanent offsite detrimental effect.
	Negligible environmental impacts	Localised, long term degradation of sensitive habitat, species or environmental attributes.	Localised and irreversible habitat damage or loss of habitat, species or environmental attributes.	Widespread and persistent changes to habitat, individual species or environmental attributes.	Loss of a significant portion of a valued species or loss of effective ecosystem function on a widespread scale.
Health /Safety Consequence Descriptions	No detectable change	Some minor detectable change	Change requiring basic treatment or medical attention	Change resulting in medical treatment and hospitalisation	Significant / life threatening change
	No Injuries	First Aid treatment	Medical treatment, lost time injuries, plant damage	Extensive injuries, plant damage	Multiple deaths or deaths, permanent significant injury
Economic	Minimal losses	Several thousand dollars lost revenue or remediation costs	Half million dollars in lost revenue or remediation costs	One million dollars in lost revenue or remediation costs	Several million dollars in lost revenue or remediation costs

CONSEQUENCE					
	Insignificant (F)	Minor (I)	Moderate (D)	Major (J)	Catastrophic / Significant (S)
Remote (R)	Negligible (N)	Negligible (N)	Very Low (L)	Low (W)	Medium (M)
Unlikely (U)	Negligible (N)	Very Low (L)	Low (W)	Medium (M)	High (H)
Possible (P)	Very Low (L)	Low (W)	Medium (M)	High (H)	Very High (V)
Likely (L)	Low (W)	Medium (M)	High (H)	Very High (V)	Extreme (E)
Almost Certain (C)	Medium (M)	High (H)	Very High (V)	Extreme (E)	Extreme (E)

Figure 4.1 – Risk Prioritisation Matrix Summary

## 7. Determination of Risks

Key to 'risk rating' in **Table 5.1** (refer to **Figure 4.1** for the explanation of 'likelihood' and 'consequence').

Code	N	VL	L	M	H	VH	E
Meaning	Negligible	Very Low	Low	Medium	High	Very High	Extreme

**Table 5.1 Preliminary Risk Assessment**

Item	Area of potential impact	Specific risk area at West Belconnen	Potential effects	Likelihood	Consequence	Risk Rating (Without mitigation measures)	WB Ref#	Date	Author	Action required as part of SEA	Likely risk following SEA and mitigation
				C	J						
1	Biodiversity and nature conservation	Pink Tailed Worm Lizard	Known to exist on project site. Potential for habitat destruction.	C	J	E	417	Jan-09	Mills	Nominate appropriate reserve and management regime	VL
							418	Jul-09	Mills		
		Golden Sun Moth	Known to exist in or near project site. Potential for habitat destruction.	C	D	VH	825	May-13	Osborne & Wong	No action required, research has shown moths not present on site.	
2							824	May-13	Rowell		

			C	D	VH			Proposal to extend Ginninderra Drive across jarramlee offset area has potential to impact on known moth habitat. Research is required to determine if road is feasible and appropriate alignment	Subject to research outcomes
3	Superb Parrot	Known to exist near project site. Potential for nest hollow destruction.	C	D	VH	417	Jan-09	Mills	VL
						418	Jul-09	Mills	
						829	Feb-13	Mills	
						830	Mar-13	Mills	
						831	Jul-13	Mills	
4	Swift Parrot	Known to exist near project site. Potential for forage plant destruction	C	D	VH	417	Jan-09	Mills	VL
						418	Jul-09	Mills	
						829	Feb-13	Mills	
						830	Mar-13	Mills	
						831	Jul-13	Mills	
5	Little Eagle	Known to exist on project site. Potential for disturbance.	C	D	VH				Review past research
6	Yellow Box Red Gum Grassy Woodland	Known to exist on project site. Potential for habitat destruction	C	J	E	417	Jan-09	Mills	VL
						418	Jan-09	Mills	
						826	May-13	Nash & Hogg	

7	Other endangered or vulnerable species or ecological communities	None known to exist following extensive field investigations.	R	I	VL	417	Jan-09	Mills	No action required, research has shown no other rare or endangered species or communities are present on site.	VL
						418	Jul-09	Mills		
						829	Feb-13	Mills		
						830	Mar-13	Mills		
8	River Corridor	Requires preservation as public land and part of National Capital open space system. Potential for degradation of river corridor values due to proximate urban development.	C	J	E	417	Jan-09	Mills	Nominate appropriate reserve and management regime.	VL
						418	Jul-09	Mills		
						829	Feb-13	Mills		
						830	Mar-13	Mills		
						831	Jul-13	Mills		
						825	May-13	Osborne & Wong		
						826	May-13	Nash & Hogg		
9	Woodland birds	Woodland and river corridor presumed to provide living and dispersal habitat - may be impacted by development.	C	D	VH				Preservaiton of woodland and river corridor as above will also preserve bird habitat.	VL
10	Habitat fragmentation	Potential fragmentation and connectivity of habitat,impacts on bioregional planning	C	D	VH				To be considered in determination of reserve areas.	VL

11		West belconnen area not specifically identified as an urban use investigation area, currently contravenes the National Capital Plan in this respect.	C	J	E		Review proposal against national capital plan, consult with National Capital Authority.
12	Metropolitan planning context	National Capital Plan	Portion of West belconnen site identified as buffer to possible future development in NSW, proposed development would overtake buffer.	C	D	VH	Review role of buffer especially in context of this proposal which proposes a holistic development across the border with compatible uses on the NSW side, consult with NCA
13		National Capital Open Space System objectives may be compromised by river corridor proposals.	P	J	H		River corridor configuration and management arrangements to ensure that NCOSS objectives are met, consult with NCA.

14		Broadacre area in national capital plan proposed for development as residential, extinguishes the last remaining broadacre area (in NCP) on west side of city. Implications for employment creation activity on west of city.	C	J	E					Broadacre/employment lands issue to be addressed as part of structure planning process.	Subject to research outcomes
15	Proposal accords with strategic direction of Territory Plan	If proposal in conflict with strategic direction it is unlikely to be ultimately approved.	P	I	L					Review proposal against territory plan objectives	Subject to research outcomes
16	Proposal accords with the ACT Planning Strategy.	If proposal in conflict with planning strategy it is unlikely to be ultimately approved.	P	I	L					Review proposal against ACT planning Strategy	Subject to research outcomes
17	Yass valley Shire plan and Sydney-Canberra Corridor Strategy	If proposal in conflict with strategic corridor strategy the NSW component is unlikely to be ultimately approved.	P	I	L					Review proposal against Sydney canberra Corridor Strategy.	Subject to research outcomes

18	Land release strategy	The quantum and timing of the development in the context of metropolitan and regional housing supply.	Potential over or under supply of residential land.	P	D	M	62	Dec-11	Macroplan	Regional demographic analysis required to determine role of west Belconnen within regional growth patterns and housing needs.	Subject to research outcomes			
							63	Aug-10	Macroplan					
							64	Dec-11	Macroplan					
							715	Jun-10	Macroplan					
19	Cross border	Economic & fiscal	Negative impact on territory finances	L	J	VH	659	May-09	Access Economics	Research and consultation with ACT and NSW governments and Yass Council has demonstrated that all cross border matters are able to be resolved satisfactorily. ACT Government agreement to proceed with the project is based on this premise.	VL			
		Social and Community services	Possible overloading of territory services.				65	Aug-10	Macroplan					
							497	May-08	Pitney Bowes					
							782	Jan-11	Elton					
21		Emergency services	Potential inability to provide cross border emergency services.	L	S	E	177	Jun-08	Lindsay Taylor					
		Infrastructure services	Possible overloading of territory infrastructure.				492	Oct-10	ISG					
23	Economic	Impact on existing retail activities, esp Kippax	Potential deleterious impact on economic viability of retail and business activities by establishment of competing activities in new urban area.	C	J	E	65	Aug-10	Macroplan	Impacts on nearby centres insufficiently known. Research required to demonstrate acceptable levels of impact on nearby centres.	Subject to research outcomes			
							497	May-08	Pitney Bowes					
24	Infrastructure	Utilities (electricity, water, sewer, gas, telecoms)	Potential for new urban area to put unmanageable strain on existing trunk services.	L	J	VH	476	Apr-11	Sellicks	Earlier research and consultation with agencies has demonstrated feasibility. Confirmatory investigations and consultation with agencies will be	VL			

							479	Nov-10	Sellicks	undertaken.	
							754	Feb-09	Sellicks		
25	Transgrid facilities	330kv Power Lines	Electromagnetic impact on residential use	L	D	H				Transgrid requirement for 60m easements for overhead power lines will be adopted.	VL
26		Canberra substation	Electromagnetic & noise impact on residential use	L	D	H				Study to be undertaken to determine appropriate buffer	Subject to research outcomes
27		Switching station	Electromagnetic impact on residential use	L	D	H				A separate study is under way to determine a site and buffer requirements and any associated power lines.	
28	Contamination	On site contamination from past activities	Potential for contaminated sites to affect future residents.	L	J	VH	96	Dec-09	GHD	Information from GHD report currently covers only part of the site. GHD work to be re-confirmed and balance of site to be researched.	Subject to research outcomes
29		Effect of Belconnen Land Fill	Potential for runoff and leachate from landfill site to pollute water and groundwater on site and consequently impact on future residents. Include consideration of aggressivity of groundwater.	C	J	E				Past research to be reviewed and further research proposed if required	Subject to research outcomes
30	Belconnen land fill	Various site activities	Potential for site activities to impact on nearby residential use.	C	J	E	669	Feb-12	GHD	Past research to be reviewed and further research to be undertaken to confirm buffer requirements	Subject to research outcomes
							670	Feb-12	GHD		

						677	Mar-09	GHD	around landfill site.	
						714	Jul-10	GHD		
31		Belconnen Farm heritage precinct	Belconnen farm included on ACT heritage register, potential for development to impact on heritage values.	C	J	E	752	Jun-12	Eric Martin	VL
32	Heritage	Indigenous heritage	Potential for disturbance of indigenous archaeological sites. Potential for disturbance of indigenous cultural values associated with site topographical features.	L	J	VH	458	Feb-11	Eric Martin	Field research and assessment required.
33		European heritage (excl. Belconnen farm)	Potential for disturbance of european cultural values associated with the site.	P	D	M	458	Feb-11	Eric martin	Research has indicated no potential impacts. Confirmatory research and report required.
34	Transportation	Belconnen road network	Potential for increased traffic on Belconnen road network to exceed capacities.	C	J	E	76	Mar-11	ISG	Further analysis required to refine and quantify impacts, specify ameliorative measures; arterial and local roads.
							76	Mar-11	ISG	
							492	Oct-10	ISG	
							1000	May-13	SMEC	

35		Public transport	No current services	C	D	VH	806	May-13	MR Cagney	Further analysis required to determine appropriate routes, to be input to master planning process to ensure appropriate road widths etc.	Subject to research outcomes
36		Active transport	No current provision	C	D	VH				Analysis required to determine appropriate cycling and walking routes and facility standards ad hierarchies, to be input to master planning process	Subject to research outcomes
37	Geotechnical	Site conditions: suitability for urban development	Potential for site conditions to exist that are unsuitable for urban development.	U	I	M				Urban capability assessment of site required.	Subject to research outcomes
38	Catchment management	Murrumbidgee River	Potential for impact on Murrumbidgee River water quality and quantity.	C	J	E				Water sensitive urban design required to ensure appropriate water quality and quantity outcomes.	Subject to research outcomes
39		Ginninderra Creek	Potential for impact on Ginninderra Creek water quality and quantity.	C	J	E				Water sensitive urban design required to ensure appropriate water quality and quantity outcomes.	Subject to research outcomes
40		Flood potential	L	D	H					Flood study required	Subject to research outcomes

41		Surface water	Surface runoff across site	L	D	H			Water sensitive urban design required to ensure appropriate water quality and quantity outcomes.	Subject to research outcomes
42		Ground water & water extraction	potential depletion of groundwater resource.	L	D	H			Determine whether water extraction is to be required. If so research potential impacts	Subject to research outcomes
43	Social and community	Demographics - potential for social disruption to Belconnen community	Potential for social dislocation to be caused by introduction of a "new" community to west Belconnen not integrated sufficiently with existing community.	P	J	H	497	May-08	Pitney Bowes	Community plan and Stakeholder engagement strategy required to ensure appropriate community outcomes. SEA to be conducted with appropriate stakeholder engagement and to assess proposed community plan.
44		Social and community facilities and services	Potential for demands on existing social and community facilities and services in Belconnen to increase beyond capacities.	L	J	VH	497	May-08	Pitney Bowes	Community plan required to ensure appropriate community outcomes.

45		Education facilities	Potential for demands on existing education facilities and services in Belconnen to increase beyond capacities.	L	J	VH	497	May-08	Pitney Bowes	Community plan including consideration of education requirements required to ensure appropriate community outcomes.
46		Recreation facilities	Potential for demands on existing recreation facilities and services in Belconnen to increase beyond capacities.	L	J	V	497	Jun-08	Pitney Bowes	Community plan including consideration of recreation requirements required to ensure appropriate community outcomes.
47	Landscape & visual	Views from existing residential areas	Potential for view quality to be diminished by introduction of urban development in place of existing farmland.	P	I	L				View analysis to be conducted.
48		Views from greater metropolitan area	Potential for view quality to be diminished by introduction of urban development in place of existing farmland.	P	I	L				View analysis to be conducted.

49		Impact of bushfire management strategies on other values especially biodiversity	Damage to biodiversity values	C	J	E				Research & report required
50	Bushfire	Potential risk for new urban areas	Potential bushfire hazard for new urban development.	C	S	E	400	Mar-11	Ecological	Review and confirm previous findings regarding bushfire protection methods to be incorporated in design.
							402	Mar-11	Ecological	
51		Effect on existing urban areas	Potential for levels of bushfire hazard for existing Belconnen urban development to be altered.	P	S	VH				Research and report required.
52	Trees	Ecological and aesthetic value	Potential for existing trees to be destroyed.	C	D	VH	417	Jan-09	Mills	Arborist survey of trees within developable area required to identify health and aesthetic status of trees.
							418	Jul-09	Mills	
							829	Feb-13	Mills	
							830	Mar-13	Mills	
							831	Jul-13	Mills	
53	Air quality	Air pollution due to urban activity	Potential for effects on health	P	J	H				Research and report required.

54	Zoonosis	Effect of Parkwood Poultry facility	Potential effect of Parkwood Poultry facility, e.g. bird flu	P	J	H				Research and report required.	Subject to research outcomes
55	Odour	Effect of Belconnen landfill	Potential for landfill odour to impact on future residents.	P	J	H	669	Feb-12	GHD	Assessment of odour impact of landfill activities on potential nearby residential development required utilising previous studies and additional research as required; identify buffer requirements and or ameliorative measures where appropriate.	Subject to research outcomes
							670	Feb-12	GHD		Subject to research outcomes
							677	Jan-12	GHD		Subject to research outcomes
56	Odour	Effect of Parkwood Poultry facility	Effect of Parkwood Poultry facility	P	J	H				Assessment of odour impact of poultry facility on potential nearby residential development required, identify ameliorative measures where appropriate.	Subject to research outcomes
57		Potential impact of Belconnen trunk sewer vents and LMWQCC	Potential for odour impacts on potential residential development.	P	J	H				Assessment of odour impact of sewer vent facilities on potential nearby residential development required, identify ameliorative measures where appropriate; proposed development all outside Territory Plan 1km radius LMWQCC buffer.	Subject to research outcomes re sewer vents

The preliminary risk ratings are prepared on the basis that the risks have not been subject to avoidance or mitigation. Through the course of the SEA process proposed measures to mitigate these risks will be examined critically to determine whether or not the risks are able to be adequately mitigated.

**The project scope will include each of the above risks.**

## 8. References

ACTPLA (undated) *Preparation of an Application for Scoping, Preparation of an Application for an Environmental Significance Opinion: A Guide ACT Planning and Land Authority*, Accessed online at:  
[http://www.actpla.act.gov.au/\\_data/assets/pdf\\_file/0017/21617/Application\\_for\\_scoping.pdf](http://www.actpla.act.gov.au/_data/assets/pdf_file/0017/21617/Application_for_scoping.pdf)

### Background reports and data:

WB Ref#	Report	Date	Author
62	Submission to Draft ACT Planning Strategy, prepared for Riverview Group	Dec-11	MacroPlan Australia Pty Ltd
63	Addendum to West Belconnen Economic Report, Prepared for The Riverview Group, Draft	Aug-10	MacroPlan Australia Pty Ltd
64	Submission to Draft ACT Planning Strategy, Executive Report, prepared for Riverview Group	Dec-11	MacroPlan Australia Pty Ltd
65	West Belconnen Residential Economic Impact Assessment, Prepared for Riverview Group, Preliminary Draft	Aug-10	MacroPlan Australia Pty Ltd
76	WEST BELCONNEN URBAN DEVELOPMENT, Road Infrastructure Requirements for 4500 Lots, For Riverview Group, Draft Report	Mar-11	ISG
96	The Riverview Group, Report for West Belconnen Estate, Stage One Environmental Site Assessment (Amended)	Dec-09	GHD
177	West Molonglo Urban Development Project, Discussion Paper on Infrastructure & Servicing Issues, Under A.C.T & NSW Planning Legislation, Prepared for CBRE (V) Pty Ltd on behalf of The Riverview Group	Jun-08	Lindsay Taylor Lawyers
417	FLORA AND FAUNA ASSESSMENT, PRELIMINARY ASSESSMENT, LAND AT WEST MOLONGLO AND GINNINDERRA CREEK, NEW SOUTH WALES, AUSTRALIAN CAPITAL TERRITORY	Jan-09	Kevin Mills & Associates, Ecological and Environmental Consultants
418	FURTHER FLORA AND FAUNA STUDIES, LAND AT WEST MOLONGLO AND GINNINDERRA CREEK NEW SOUTH WALES, AUSTRALIAN CAPITAL TERRITORY	Jul-09	Kevin Mills & Associates, Ecological and Environmental Consultants

WB Ref#	Report	Date	Author
458	BELCONNEN WEST BLOCKS 1605 & 1606, Advice on Heritage Matters, Prepared by Eric Martin and Associates For The Riverview Group (Issue 2)	Feb-11	Eric Martin & Associates
476	WEST BELCONNEN, PROPOSED SUBDIVISION COSTING REPORT For THE RIVERVIEW GROUP Job# 80833	Apr-11	Sellick Consultants
479	West Belconnen Proposed Subdivision Options and Costing Report for the Riverview Group	Nov-10	Sellick Consultants
492	WEST BELCONNEN URBAN DEVELOPMENT, Transport Infrastructure Requirements, For Sellick Consultants & Riverview Group, Final Report	Oct-10	ISG
497	Social Economic Overview	May-08	Pitney Bowes MapInfo Australia Pty Ltd
659	Memo from Access Economics re: Impact of West Molonglo Land Release on ACT Government Finances	May-09	Access Economics Pty Ltd
669	Proposed West Belconnen Development and the WBRMC Buffer Zone	Feb-12	GHD
670	Riverview Group, Report for West Belconnen Residential Development, Risks posed by Adjacent Landfill Discussion Paper	Feb-12	GHD
677	The Riverview Group, Disposal of Residual Waste in the ACT, Options Paper	Jan-12	GHD
687	The Riverview Group, Report for West Belconnen Solar facility - feasibility Report	Mar-09	GHD
714	Proposed Belconnen Urban Development Suggested approach to address the buffer zone around Belconnen Landfill	Jul-10	GHD
715	WEST BELCONNEN RESIDENTIAL ASSESSMENT Prepared for Riverview Group	Jun-10	MacroPlan Australia Pty Ltd

WB Ref#	Report	Date	Author
752	DRAFT Belconnen Farm Conservation & Management Plan	Jun-12	Eric Martin & Associates
754	West Molonglo Residential Development, Existing Services Investigation	Feb-09	Sellick Consultants
771	Spring creek water quality Certificates of Analysis, West Belconnen landfill	various	ALS Environmental Division, Water Resources Group
782	Service delivery to the NSW side of the West Belconnen development: Practical Issues for discussion - DRAFT		Elton Consultants
783	ATTACHMENT 1 - RIVERVIEW CROSS-BORDER SERVICE DELIVERY TABLE - 17-01-11	Jan-11	Elton Consultants
806	West Belconnen Development Transport Planning, Riverview Group, Final Report	May-13	MRCagney Pty Ltd
824	West Belconnen Golden Sun Moth surveys, October to December 2012	May-13	Alison Rowell
825	The extent of habitat for the vulnerable Pink-tailed Worm Lizard ( <i>Aprasia parapulchella</i> ) in the West Belconnen – Ginninderra Creek investigation area - confirmatory distribution surveys and mapping	May-13	Will Osborne and David Wong, Institute for Applied Ecology, University of Canberra
826	West Belconnen Woodland Areas Confirmatory Ecological Assessment	May-13	K Nash & D McC Hogg
829	FLORA AND FAUNA SURVEYS AND ASSESSMENTS WEST BELCONNEN PROJECT AREA THE RIVERVIEW GROUP	Feb-13	Kevin Mills & Associates
830	FLORA AND FAUNA STUDIES DRAFT LAND OFF PARKWOOD ROAD AND GINNINDERRA CREEK YASS VALLEY COUNCIL NEW SOUTH WALES	Mar-13	Kevin Mills & Associates
831	TARGETED BIRD SURVEYS AND ASSESSMENTS, WEST BELCONNEN PROJECT AREA	Jul-13	Kevin Mills & Associates
400	Bushfire management principles	Mar-11	Ecological

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WB Ref#	Report	Date	Author
402	Overview of Bushfire Protection West Belconnen project	Mar-11	Ecological
1000	Road Network Impacts of West Belconnen Development	May-13	SMEC

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## Attachment 1

### Strategic Environmental Assessment Study Area

PARCEL	DISTRICT/ DIVISION	STATE	APPROX AREA	TENURE
ACT LAND				
BLOCK 1605	BELCONNEN	ACT	665.8 ha	Leasehold (Riverview)
BLOCK 1606	BELCONNEN	ACT	12.5 ha	Leasehold (Riverview)
BLOCK 1607	BELCONNEN	ACT	8.1 ha	Territory land
BLOCK 1420	BELCONNEN	ACT	2.7 ha	Leasehold (Billabong Aboriginal Development Corp)
BLOCK 1613 (PT)	BELCONNEN	ACT	26.8 ha	Territory land
NSW LAND				
LOT 1 /DP771051		NSW	91.8 ha	Freehold (Reid & Stevens)
LOT 2 /DP771051		NSW	80 ha	Freehold (Reid & Stevens)
LOT 3 /DP771051		NSW	80 ha	Freehold (Reid & Stevens)
LOT 7 /DP771051		NSW	80 ha	Freehold (Reid & Stevens)
ACT PARKWOOD LAND				
BLOCK 1329	BELCONNEN	ACT	41.4 ha	Leasehold (Pace)
BLOCK 1621	BELCONNEN	ACT	33.3 ha	Unleased Territory land
BLOCK 1622	BELCONNEN	ACT	71.8 ha	Unleased Territory land
BLOCK 853	BELCONNEN	ACT	0.7 ha	Unleased Territory land
BLOCK 1540	BELCONNEN	ACT	0.9 ha	Leasehold (ACT Government)
BLOCK 856	BELCONNEN	ACT	0.8 ha	Leasehold
BLOCK 857	BELCONNEN	ACT	0.2 ha	Unleased Territory land
BLOCK 858	BELCONNEN	ACT	0.6 ha	Leasehold
BLOCK 859	BELCONNEN	ACT	0.6 ha	Leasehold
BLOCK 860	BELCONNEN	ACT	0.2 ha	Unleased Territory land
BLOCK 1333	BELCONNEN	ACT	4.2 ha	Leasehold

BLOCK 1440	BELCONNEN	ACT	0.8 ha	Leased (ACTEW)
BLOCK 7 SEC 149 (PT)	MACGREGOR	ACT	17.8 ha	Unleased Territory land
<b>GINNINDERRA CREEK LAND</b>				
BLOCK 1442	BELCONNEN	ACT	50.8	Unleased Territory land
BLOCK 1620	BELCONNEN	ACT	42.8	Unleased Territory land
PT. BL. 7 SEC 149	MACGREGOR	ACT	10.5	Unleased Territory land
PT. BL. 2 SEC 186	DUNLOP	ACT	14	Unleased Territory land
<b>NSW NEIGHBOUR LOTS</b>				
LOT 4 /DP771051		NSW	80 ha	Freehold
LOT 5 /DP771051		NSW	80 ha	Freehold
LOT 61 /DP801234		NSW	83 ha	Freehold
LOT 62 /DP801234		NSW	25 ha	freehold
<b>LANDFILL</b>				
BLOCK 1586	BELCONNEN	ACT	108 ha	Unleased Territory land

## Attachment 2

### Response to Agency comments

Response to Agency comments on draft 130914	
Comment	Response
ACTEW Water	
An onsite meeting between ACTEW Water representatives and various other stakeholders took place on Friday 18th October 2013.	This and subsequent meetings and discussions will lead to an agreed strategy for water supply.
ActewAGL	
Developer is required to submit the request for "Preliminary Network Advice" form to <a href="mailto:enworks@actewagl.com.au">enworks@actewagl.com.au</a> (available on ActewAGL website) prior to commencement of any development activity to negotiate the connection of new and/or relocation of existing electricity assets.	Site development that may involve connections and relocations will be the subject of a future development application. No works are currently proposed.
The relocation or removal of existing electrical infrastructure (not including street lights) will be carried out by ActewAGL Electricity Distribution at the developer's expense. The developer will be responsible to liaise with ActewAGL Electricity Distribution in relation to the installation / extension of the electricity networks to electrically service the proposed redevelopment and meet any associated costs for these works. It may be necessary for ActewAGL Electricity Distribution to install a substation on the site to provide electricity supply. Developer are reminded that ActewAGL Electricity Distribution may have other existing electricity plant on the site and a Location Advice should be obtained from Dial Before You Dig (telephone 1100) before any construction takes place.	Site development that may involve relocation or removal of infrastructure etc. will be the subject of a future development application. No such works are currently proposed.
TAMS Parks Service Fire Management	
Table 5.1 should also include as a risk 'potential impact of bushfire management strategies on other values especially biodiversity' likelihood is Almost Certain and Consequence is Major and therefore risk is Extreme. Action required is 'Research and report required'.	Tables 4.1 & 5.1 amended to include this risk (Table 5.1 item 40)
The other risk ratings and mitigation measures relating to bushfire management appear appropriate.	
Conservation Planning & Research	
Conservation Planning and Research (CPR) has read the Preliminary Risk Assessment (PRA) and considers that it generally identifies the key potential biodiversity	Noted

impacts and rates risk appropriately.  However there are a few omissions that need to be addressed.	
1. In relation to the Golden Sun Moth, the risk assessment states that no action is required as survey has shown moths are not present on the site. However the identified study area includes Jarramlee and West Macgregor which together support the second largest Golden Sun Moth population in the ACT. CPR understands that there is a proposal for a road connection to be constructed across this important habitat. Ideally a road connection from Belconnen to Riverview would occur without the loss of significant habitat, but there is a high risk that important Golden Sun Moth habitat will be lost.	This risk added to table 5.1 (item 2)
2. A number of the actions of the SEA include to nominate appropriate reserve and management regime, equally important and a phrase that should be added in at these locations is to "prevent significant indirect impacts".	The text has been amended to read: "Nominate a management regime that ensures prevention of significant impacts."
3. The riparian corridor and box gum woodland remnants are likely to be important habitat, both in a living and dispersal sense, for threatened and/or regionally declining woodland birds and a separate row should be added to incorporate this feature.	This item has been added to tables 4.1 & 5.1 (item 8)
Environment Protection Authority	
The Environment Protection Authority (EPA) have reviewed the document and request the following updates:	Tables 4.1 and 5.1 have been amended to include the landfill odour risk and also reference to previous GHD studies. (Table 5.1 items 44 – 46)
The document does not sufficiently address Air Quality issues for the area. Air quality issues must be addressed.	
The section relating to odour must be updated to include potential odour impacts of landfill and waste facilities.	
The studies should determine appropriate buffer distances and mitigation or management measures for all of the above issues specific to the area.	
Table 4.1 Area of potential impact  • At the column for 'catchment management'. The table is required to draw reference to the potential impact to water resources (groundwater and surface water) from water extraction. Suggested wording in the column 'Specific Matter for West Belconnen' could include "groundwater and surface water resources"	No groundwater extraction is proposed.

This issue continues into table 5.1 risk assessment	
<ul style="list-style-type: none"> <li>At the column 'Specific Risk for West Belconnen' a row is required for 'groundwater and surface water resources'</li> <li>At the column 'potential effects', suggested wording could include "potential impact of water extraction on surface water and groundwater volumes of Ginninderra and Lower Molonglo Water Management Areas"</li> <li>The proponent is required to demonstrate that consideration of potential water extraction from the development has been addressed, in particular, relative to volumes of water available within the Ginninderra and Lower Molonglo Water Management Areas. By way of background, there are virtually nil amounts of groundwater available for taking within these two water management areas.</li> </ul>	
Please also note the following:	
The EPA is aware of the presence of 2 sheep dips within block 1605 Belconnen. Other areas of environmental concern which have not been recorded by the EPA associated with rural activities may also exist within the blocks. These may include fuel storage and dispensing facilities, waste disposal sites associated with municipal and chemical waste disposal, hazardous materials storage (eg. pesticides/herbicides, lubricants etc.) and hazardous materials contained in building structures and fittings (eg. asbestos, PCB's, lead etc.)	The contamination risk is included. The proponent is aware of two sheep dips and has commissioned specialist consultants to review the whole site, including discussions with farm operators to obtain unrecorded information.
The ANZECC 1992, Guidelines for the Assessment and Management of Contaminated Sites and the Contaminated Sites Environment Protection Policy (EPP), November 2000 list sheep dips and associated rural activities as activities associated with land contamination.	Noted
The ACT Government's 1995 Strategic Plan for managing contaminated sites and the Contaminated Sites EPP recommend that prior to potentially contaminated land being used for other purposes an assessment by suitably qualified consultants and independent audit by an accredited contaminated land auditor would be required to ensure the area is suitable for the proposed and permitted uses.	The contamination assessment that is being undertaken will include an audit by an accredited assessor.
An assessment, and remediation as required, must be conducted in accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999 and the ACT's Contaminated Sites EPP and any other relevant guidelines endorsed by the ACT EPA. The results of the assessment must be independently audited by an accredited ACT EPA auditor and the findings of the	Noted

audit endorsed by the ACT EPA prior to a change in use at the site.	
To ensure a site is suitable for the proposed and permitted land use(s) an assessment must be undertaken to determine the level of risk associated with the past activities at the site.	Noted
To ensure accurate recording and auditing of the results of an assessment a review by an independent auditor must be undertaken to confirm the results of the assessment and certify that the site is suitable for the proposed land use.	Noted, see note above
Michael Brice in Licensing and Investigations unit TAMS should be referred to for feedback regarding biosecurity and zoonosis issues relating to the Parkwood Pace Farms facility and the introduction of urban development nearby the facility as the document does not appear to address potential issues.	A specialist consultant (Consulting Environmental Engineers Pty Ltd, Ian Wallis) has been commissioned to determine an appropriate buffer for the Pace facility based on odour impacts.
Education & Training Directorate	
The ACT Education and Training Directorate considers there is a potential extreme level of risk associated with the Riverview property development. The property development will require further infrastructure spending to accommodate the enrolments generated from the development. ETD supports the suggested community plan to include consideration of education requirements.	Noted, however the risk has been rated as "very high" rather than "extreme".
ACT Heritage Unit	
The risk assessment for Belconnen Farm is appropriate. The identified mitigation measures in Section 5 are also appropriate noting that the Heritage Council has not yet approved the Conservation Management Plan for Belconnen Farm by Eric Martin & Associates (CMP). At such time as the CMP is approved, there may be qualifications in the Heritage Council's approval of the CMP that should be taken into consideration for future management of Belconnen Farm.	Noted
While Belconnen Farm is registered on the ACT Heritage Register, the Heritage Unit (the Unit) is not aware of a specific cultural heritage study for the subject area as a whole. Document 458 (Belconnen West Blocks 1605 & 1606 -Advice on Heritage Matters by Eric Martin & Associates, Issue 2, 28	Eric Martin & Associates have been commissioned to further examine european heritage over all of the site (excluding the Belconnen Farm Precinct where the heritage assessment is complete) and Biosys have been engaged to examine indigenous heritage matters across all of the site. This research is currently underway. (Table 5.1 items 26 – 28)

<p>February 2011} considers only places already nominated to or registered on the ACT Heritage Register. The document does not adequately serve to identify all potential European Cultural Heritage values that may exist in the subject area. Consequently, there is likelihood for disturbance of as yet unrecorded European cultural heritage values. The Unit recommends that a focussed study of the subject area be undertaken to determine if any European cultural heritage values may exist in the subject area and what actions are required as part of the Strategic Environmental Assessment (SEA) to mitigate the potential risks.</p>	
<p>The identified mitigation measures in Section 5 suggested for Aboriginal heritage are appropriate, and the Unit agrees that field research and assessment will be required as part of the SEA.</p>	Noted
<p>National Capital Authority</p>	
<p>Table 4.1 of the Preliminary Risk Assessment report identifies potential impacts of the development, and while it does recognise the 'National Capital Plan' in general, it should more explicitly identify impacts on the NCOSS, Broadacre Areas and Areas Under Investigation for Urban Use.</p>	See below
<p>Areas under investigation for urban use and NCOSS</p> <p>The National Capital Plan (the Plan) already recognises an area in West Belconnen as subject to investigation for urban use – it is in a slightly different location to the Riverview proposal, and the NCA is not too concerned in this regard. However, it is important to investigate impacts on the NCOSS in the area. The NCOSS currently provides a buffer between Belconnen and the ACT/NSW border, and the Plan specifically notes that fundamental to the consideration of the West Belconnen area for urban development is the need to retain an open space buffer separating West Belconnen from possible future urban development in NSW. There is more in the Plan about the role of the NCOSS in this area (particularly in providing recreation opportunities if West Belconnen is developed, and in framing the urban areas), but in the first instance the proponent should address whether the open space separation is still a relevant consideration.</p>	Noted, table 5.1 amended (Table 5.1 item 10)

Broadacre Areas	Table 5.1 amended
The area of Broadacre land at West Belconnen is the last Broadacre land in the west of the city. Concern was raised during consultation on the Molonglo and North Weston amendment (and related Territory Plan variation) regarding the loss of Broadacre land at North Weston. The loss of Broadacre land at North Weston was partially compensated for by retaining (and adding to) Broadacre land in the West Belconnen area. This land is now potentially part of the Riverview urban development. The loss of Broadacre land should be addressed specifically.	
Table 4.1 also recognises impacts on biodiversity and nature conservation. It identifies specific matters to be addressed, but these are primarily individual species or ecological communities. They may be addressed through investigating impacts on individual species, but other conservation matters should be considered, including potential fragmentation and connectivity of habitat, and bioregional planning (especially as the development has the potential to cross jurisdictional boundaries). The NCA notes that impacts on the River Corridor will be addressed specifically and supports this. The Plan contains principles and policies for River Corridors and these should be addressed in any consideration.	Tables 4.1 and 5.1 amended
Table 5.1 outlines the risk assessment. The NCA's understanding is that the proponent has determined the proposal being inconsistent with key objectives of the Plan as a 'low' risk. The risk assessment indicates a likelihood rating of 'possible' (that the proposal is unlikely to be approved if it is in conflict with key objectives of the Plan). The NCA suggests that this is 'likely' or even 'almost certain'. It's difficult to determine the consequence given the criteria used. In any case, the NCA would suggest a higher risk rating, given that urban development in significant portions of the Riverview area would be inconsistent with both some of the key objectives and the more detailed criteria of the Plan as it currently stands.	Table 5.1 has been adjusted
Territory & Municipal Services Directorate	
TAMS has reviewed the Preliminary Risk Assessment (PRA) for the proposed West Belconnen development. The scope and potential impact of urban development in this area and on the supporting infrastructure has raised concerns that TAMS would need to see addressed before supporting the rezoning.	See below
In response to the three PRA issues where comment is requested:	

<ul style="list-style-type: none"> <li>in addition to the potential impacts given in the PRA, there are other major impacts which need to be addressed that are highlighted in this response</li> <li>the risk ratings given need to be reviewed taking into consideration the potential impacts of the development raised in this response</li> <li>mitigation measures do not fully address the issues raised in this response particularly in relation to the expected overloading of territory infrastructure.</li> </ul> <p>The following comments are more specific and detail the areas of TAMS concerns.</p>	
<p><b>1. Aggressivity of Groundwater</b></p> <p>GHD report (December 2009) stated that the site (Blocks 1605 and 1606) had been used for rural purposes, crops and grazing since 1960's. The report also raised concerns that contamination may exist adjacent to the sheep dip and sheep spraying area raising the possibility for leachate, groundwater and landfill gas to migrate from the West Belconnen Resource Management Centre. The second GHD report (February 2012) identified the West Belconnen Land fill Site as a significant source of contaminants both on-site and off-site through migration over time. This report states that the mandatory 500 m buffer distance from the landfill site may be reduced if appropriate action is taken to ensure no adverse impacts on the new residential developments.</p> <p>The Report includes a number of water analysis certificates related to the landfill site with results of analyses varying from 2011 to 2013. However, there is no summary of test results or recommendations provided to indicate the trend of water test results.</p> <p>The water quality data required to estimate the aggressivity of water to concrete and steel is missing from these certificates. The Langelier Saturation Index (LSI) is one of the tests that show the probability of corrosion potential in underground structures i.e. concrete piles, pumps or underground car parks. There is no mention of LSI and the Spalling Corrosion Index (SCI) in the water analysis report to calculate the OCI to determine the aggressivity of existing groundwater to concrete.</p> <p>Table 1 from the ACI Materials Journal Paper shows the data required to estimate aggressivity of water to concrete and steel. TAMS would require on-site data readings for the items in Table 1 to enable an understanding of the aggressiveness of the groundwater at various locations within the proposed development area.</p>	<p>The proposal at this stage is for rezoning only of the land. In this context it is necessary to establish the overall suitability of the land for urban development and this process includes an assessment of possible contamination across the site. Detailed assessment of ground conditions that may affect individual building sites, and ameliorative measures that may be necessary on such sites, will be dealt with as development applications are prepared and assessed for individual sites.</p>

Table 1: Ground water Parameters required (table available in file)	
2. Traffic	
2.1 Cross Border Traffic Connections  Elton (January 2011) identified that the NSW portion of the proposed development is isolated from other NSW centres with the only available access through ACT for all local and NSW State Government services. The proposed development will significantly increase traffic volumes on ACT major arterial roads including Ginninderra Drive, Southern Cross Drive, Horse Park Drive and Drake Brockman Drive and associated feeder roads.	This risk has been identified as warranting further assessment. (table 5.1 item 29)
2.2 Local network traffic  The associated traffic reports have examined that part of the local network and intersections most likely to be impacted by the development. The reports indicate that a number of the intersections will have inadequate capacity and substandard level of service by 2021 based on projected low growth scenarios. With the advent of the proposed development, these intersections will be inadequate and need be reviewed in detail with options for improvement developed based on cost and benefit analyses and staged prioritisation for the works.  The suburb of Holt is already experiencing a level of rat running traffic associated with the nearby development in West Macgregor; the volume of rat running will increase with the proposed development. Additional mitigation measures will need to be examined to deter this activity on lower category roads.  Consideration must be given to upgrading pedestrian and cycling facilities and public transport connectivity to encourage alternative options of travel.	This risk has been identified, "action required" column amended to refer to both arterial and local roads. (table 5.1 item 29)
3. Infrastructure	
3.1 Maintenance cost of Pavements  Increased traffic volumes will result in increased maintenance costs.  ACT current practice is to reseal arterial road pavements once every 20-25 years. ISG (March 2011) forecast estimated traffic growth in 2021 of about 15,500 vehicles/day traffic on Drake Brockman Drive (east of Spofforth St.) and 16,500 vehicles/day on Stockdill Drive (west of Spofforth St.) and 10,500 vehicles/day on Southern Cross Drive (west of Spofforth St.).  These increased traffic volumes will impact on pavement life reducing resealing schedules and increasing maintenance costs.	Noted, these impacts will be referenced in traffic analysis.

<p><b>3.2 Storm water</b></p> <p>The quality of surface water from the development should be checked before its release to the existing stormwater infrastructure. GHD Report (February 2012) identifies mitigation strategies of pollutants in the surface water from WBRMC which should be implemented and maintained.</p> <p>The water quality of the waterways in the development should minimise the mobilisation of pollutants and should maintain rural characteristics.</p>	<p>"Catchment management" is identified as an area of potential impact and detailed water sensitive urban design studies will be undertaken to ensure positive outcomes. (table 5.1 items 32,33)</p>
<p><b>3.3 Streetlight Globes and Columns:</b></p> <p>The lamps and especially lamp colour used in the NSW portion should be the same as specified in TAMS DS-12. The NSW portion of streetlights extends into ACT roads and the differences in colour can affect driver comfort. Additionally TAMS specifies lamp life that cuts down unnecessary maintenance and lamp outages. TAMS approach is to use energy efficient globes that result in energy savings and minimise Greenhouse gas emissions.</p> <p>TAMS Category of lighting V (Arterial and Major roads) and Category P (Minor collector and local roads) is designed to AS 1158 and Roads ACT categories outlined in the TAMS Design Standards for Urban Infrastructure, Street lighting, Section 12.</p> <p>TAMS has an approved suppliers list for luminaires and poles and recommends that NSW jurisdiction adopt this approach standardising the type of poles and luminaires in the network that need to be maintained and thereby minimising maintenance costs.</p>	<p>Noted, specification of lighting infrastructure will be the subject of subsequent approvals at EDP and subdivision application stages in the ACT and NSW respectively.</p>
<p><b>3.4 Landfill</b></p> <p>Further consideration must be given to any encroachment on existing landfill.</p> <p>Proposed encroachment within the present 500m buffer zone will require testing to determine the extent of any methane migration through the soil.</p> <p>This topic was covered in the ESDD Cabinet Submission on the proposed development and must be part of the ESDD, EPA submission.</p>	<p>The impact on surrounding residential areas of various landfill site activities has been identified as a potential risk and will be investigated further. Methane specifically included in studies. (Table 5.1 item 25)</p>
<p><b>3.5 Public transport</b></p> <p>Based on the findings in the MRC Report, TAMS Public Transport/ Action will require further discussions and details before any commitment is undertaken or given on items such as extension of existing services and types of vehicles to be used. Transport corridors need to be defined with agreed road widths for public transport throughout the development. Placement of bus stops, turnarounds if required and items such as bike n ride and park n ride facilities must be agreed by TAMS as part of TAMS support for the development.</p>	<p>Tables 4.1 &amp; 5.1 amended to include reference to public transport. (Table 5.1 item 30)</p>

<p>3.6 Bushfire</p> <p>Table 5.1 must include the following item as an identified risk:</p> <p>'Potential impact of bushfire management strategies on other values especially biodiversity'.</p> <p>Likelihood is 'Almost certain', Consequence is 'Major' and Risk is 'Extreme'. Action required is 'Research and report required'.</p>	<p>Tables 4.1 &amp; 5.1 amended to include this risk (nb this item duplicated from above) (Table 5.1 item 40)</p>
<p>Transact</p>	
<p>Transact have reviewed the documents for Blocks 1605 and 1606 Belconnen (Riverview) - Rezoning consultation and have not objections to the draft PRA.</p>	<p>Noted</p>