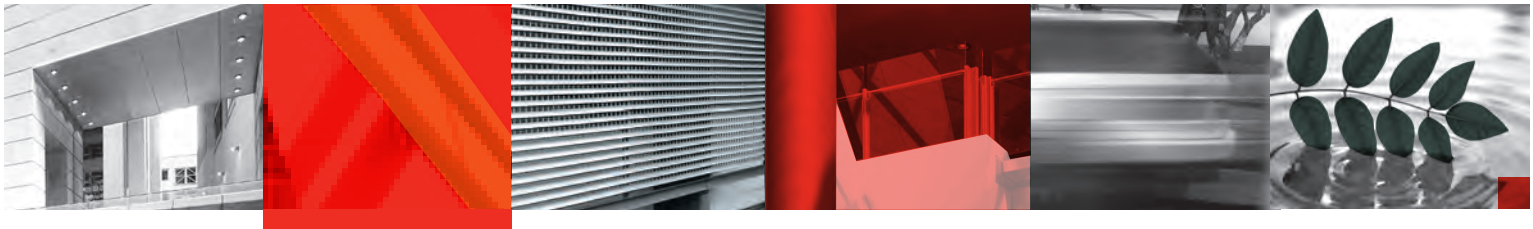


State Significant Development Environmental Impact Statement



North Penrith

Subdivision, Civil and Infrastructure Works (Stage 2A)

Submitted to Department of Planning & Infrastructure
On Behalf of Landcom



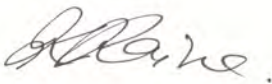
July 2012 ■ 10749

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JBA Urban Planning Consultants Pty Ltd operates under a Quality Management System. 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: Kate Raine

Signature



Date 26/07/12

This report has been reviewed by: Stephanie Ballango

Signature



Date 26/07/12

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Jo McDonald Heritage Management
- N** Contamination Report
Geotechnique
- O** Geotechnical Report
Geotechnique
- P** Noise and Vibration Assessment
Benbow
- Q** Concept Plan Specialist Report Summaries
Multiple Authors

Statement of Validity

Environmental Impact Statement prepared by:

Name	Kate Raine
Qualifications	BUrbRegPlan
Address	Level 7, 77 Berry Street, North Sydney
In respect of	Stage 2A Development Application for State Significant Development

Applicant name	Landcom
Applicant address	PO Box 237, Parramatta, NSW 2124

Land to be developed	North Penrith Development Project Site
Proposed development	Subdivision, civil and infrastructure works as described throughout this Environmental Impact Statement

Environmental Impact Statement	An Environmental Impact Statement (EIS) is attached.
---------------------------------------	--

Certificate	I certify that I have prepared the content of this EIS and to the best of my knowledge: ■ It is in accordance with Part 4 of the <i>Environmental Planning and Assessment Act 1979</i> and Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i>. ■ It is true in all material particulars and does not, by its presentation or omission of information, materially mislead.
-------------	--

Signature



Name

Kate Raine

Date

26 July 2012

Executive Summary

Purpose of the Report

Landcom has lodged a Development Application for the approval of the Minister for Planning and Infrastructure for Stage 2A of the North Penrith Development, being for principal subdivision, and civil and associated infrastructure works.

Under Schedule 2, Clause 11 of the SEPP SRD, development on the North Penrith Development site for the purposes of a principal subdivision establishing major lots or public domain areas, and the creation of new roadways and associated works is State Significant Development. This EIS has therefore been prepared to satisfy Part 4.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), *Environmental Planning and Assessment, Regulation 1979* and *State Environmental Planning Policy State and Regional Development 2011* (SEPP SRD).

The proposed development works have a total Capital Investment Value (CIV) of approximately \$3.142 million.

Stage 2A Site

The North Penrith Development site is the subject of a Part 3A Concept Plan for a transit oriented mixed uses development to accommodate 900-1,000 dwellings, employment generating uses, open space and associated infrastructure and facilities. A Stage 1 Project Application for the first phase of development has been approved and is currently under construction.

The former use and development on the Stage 2A land was for an army camp. The site has been progressively vacated and there are some basic improvement and road pavements scattered through-out the site.

The topography of the Stage 2A site rises from the south-west towards the heritage listed Thornton Hall, which is elevated approximately 10m higher than the lowest parts of the site. The vegetation on the Stage 2A land comprises predominantly scattered native trees including a community of Cumberland Plain Woodland, amongst cleared land of native and exotic pastures.

The site is owned by Landcom.

Project Outline

The proposed development involves the subdivision of the Stage 2A works comprising the following details:

- Subdivision to create various lots including:
 - 27 residential lots;
 - 3 integrated housing sites (with a proposed yield of 8 dwellings);
 - 1 super lot for apartments;
 - 1 heritage lot (Thornton Hall and curtilage);
 - 1 open space lot (Thornton Park); and
 - Road reserve (Mountain View Crescent);
- Site establishment and perimeter security measures;
- Establishment of environmental and safety controls and traffic control measures;
- Preparatory works, including trees/shrub removal, topsoil stripping and stockpiling for later reuse and the disposal of unsuitable topsoil material, and taking up and stockpiling existing concrete and asphalt hardstands and roads for later reuse in other stage of the construction works;

- Bulk earthworks – cut and fill, including importation of material to raise levels;
- Construction of roads and road intersections, and connections to existing or approved road intersections;
- Drainage and stormwater management infrastructure;
- Utilities servicing infrastructure - electrical, sewerage, telecommunications, potable water and gas;
- Lots formation;
- Retaining walls;
- Construction of Thornton Park and associated landscaping, consistent with the approved Thornton Park Indicative Landscape Plan;
- Erection of informative signage at different road entries to the wider site; and
- Site de-establishment and handover.

Planning Context

The Stage 2A Development Application is consistent with the relevant planning strategies and policy instruments including the following:

- Metropolitan Strategy and Draft South West Sub-Regional Strategy;
- State Environmental Planning Policy (State and Regional Development) 2011;
- State Environmental Planning Policy No.55 – Remediation of Land;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy (BASIX) 2004; and
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Environmental Assessment

This EIS provides an assessment of the environmental impacts of the project in accordance with the Director-General's Environmental Assessment Requirements. In addition, detailed investigations of the site's opportunities and constraints were comprehensively assessed within the Concept Plan submission. These existing studies have provided measures and the planning framework for the Stage 2A site, and have been reincorporated and further enhanced where appropriate for this assessment. Furthermore, Landcom has made provision to manage and minimise the undertakings for the potential impacts arising from the Stage 2A development.

The land is zoned R1 General Residential, R2 Low Residential and RE1 Public Recreation under Penrith City Centre LEP 2008. The proposed Stage 2A works are permissible with development consent and meet the objectives of the zonings. The Stage 2A Development Application for subdivision and civil and infrastructure works at the North Penrith Development has environmental planning merit in the following respects:

- it is consistent with the urban design principles established in the Part 3A Concept Plan for North Penrith, and particularly in providing:
 - a low scale residential subdivision pattern that respects the adjacent heritage items;
 - an accessible and connected grid network of streets with good linkages to the transport network, and other community facilities; and
 - Thornton Park which will protect and rehabilitate the existing Cumberland Plain Woodland;

- transport infrastructure initiatives are included in accordance with the North Penrith Concept Plan including pedestrian cycle path network and road infrastructure upgrades;
- the road network with the proposed road and traffic management works has capacity to accommodate traffic generated by Stage 2A;
- a water cycle management plan consistent with the principles of Water Sensitive Urban Design is included to ensure the quantity and quality of stormwater leaving the Stage 2A site meets statutory requirements and predevelopment flow levels;
- there is no flood risk as the Stage 2A residential lots will be above the 100 year ARI flood level;
- geotechnical constraints will be managed through measures in soil and water management plans prepared prior to construction, and the risk of unstable slopes arising from the bulk earthworks is very low and able to be managed;
- the site is subject to a Site Audit Statement confirming the site is suitable for the proposed residential and open space uses, and the risk of unexpected contamination can be appropriately managed;
- community infrastructure contributions are being provided for parks, road works, and cycleways which are to be dedicated to Penrith City Council; and
- a construction environmental management plan will be prepared prior to the commencement of works to manage the methods and impacts of construction activities.

Conclusion

The proposal delivers the next component of the North Penrith development in accordance with the approved Concept Plan. The development will facilitate the delivery of housing and will create Thornton Park and the heritage lot that will form the Thornton Park curtilage. The potential impacts of the development are able to be managed through proposed mitigation measures outlined in Section 7.0. Given the planning merits of the proposal, the proposed development warrants approval by the Minister for Planning and Infrastructure.

1.0 Introduction

This Development Application and Environmental Impact Statement (EIS) is submitted to the Minister for Planning and Infrastructure pursuant to Division 4.1 of the *Environmental Planning and Assessment Act, 1979* (EP&A Act). The Development Application seeks approval for Stage 2A of Landcom's North Penrith development for subdivision, and civil and infrastructure works, as described in Section 4.0 of this EIS.

The EIS has been prepared by JBA Urban Planning Consultants Pty Ltd (JBA), for the proponent, Landcom, and is based on plans and drawings provided by Craig and Rhodes (**Appendix A**); Brown Consulting (**Appendix B**); Place Design Group (**Appendix C**); Allen Jack and Cottier (**Appendix D**); and other supporting technical documents provided by the Landcom's expert consultant team (see Table of Contents).

The EIS describes the Development Application site, its environs and the proposed development, and includes an assessment of the proposal in accordance with the Director-General's Environmental Assessment Requirements (DGRs) issued on 16 April 2012 pursuant to Schedule 2 of the *Environmental Planning and Assessment Regulation, 2000* (EP&A Regulation) (**Appendix E**). It should be read in conjunction with the studies and other information appended to this report. The studies provide a technical assessment of the environmental impacts of the proposed development, and recommend proposed mitigation measures to manage potential environmental impacts associated with the proposal.

The lodgement of this Development Application by Landcom follows the approval of the North Penrith Development Concept Plan (MP10_0075) and Stage 1 Project Application (MP10_0078) by the Minister for Planning and Infrastructure on 9 November 2011 under the former Part 3A provisions of the EP&A Act. This Development Application also follows the rezoning of the North Penrith site on 25 November, 2011 via the State Significant Site process pursuant to the State Environmental Planning Policy (Major Projects) 2005. The site has been rezoned for residential, local centre, employment generating, and public recreational purposes. It is noted that a Modification Application for the Concept Plan was lodged with the Department of Planning and Infrastructure on 22 February, 2012 is currently under assessment.

This Development Application is informed by the detailed assessments included in the Concept Plan, State Significant Site listing and Stage 1 Project Application. This EIS should therefore be read in conjunction with the Environmental Assessment Report prepared by JBA (dated November 2010), the Preferred Project Report (PPR) for the Concept Plan Application and Stage 1 Project Application prepared by JBA (dated April 2011), and the Section 75W Modification Application for Mod 1 prepared by Landcom (dated February 2012).

Where relevant, information submitted with the Concept Plan and Stage 1 Project Application has been re-submitted in this EIS to assist in the assessment and determination of this Development Application.

1.1 Background

1.1.1 Approved Concept Plan

The approved Concept Plan provides for a transit-oriented and cohesive mixed use development incorporating residential, retail, commercial, business, civic, community, industrial and recreational uses.

It is supported by a suite of supporting documents prepared by specialist consultant reports which are appended to the approved Concept Plan, and summaries of which are provided at **Appendix Q** of this EIS for reference.

More specifically, the Concept Plan Approval approves the following development:

- land use type and distribution;
- approximately 900 – 1,000 dwellings, comprising a minimum of:
 - 100 seniors living/aged care dwellings;
 - 44 affordable/social housing dwellings; and
 - 44 adaptable dwellings;
- a range of dwelling typologies, building heights and densities;
- a Village Centre located adjacent to the Penrith Railway Station and centred around a public square;
- up to approximately 4,500m² of retail space and 10,650m² of business and commercial floor space;
- up to approximately 7,000m² of light industrial floor space;
- up to approximately 7 ha of open space and associated infrastructure;
- the retention and protection of land for Thornton Hall, a 19th Century homestead building and its associated curtilage;
- appropriate interpretation of the European and Aboriginal heritage values of the site including retention of Thornton Hall;
- an open space network (including water bodies) of approximately 7ha including the general location, level of embellishment and function of passive and active areas to serve the future residential and worker population;
- a road network and hierarchy for the site and a pedestrian, cycle and public transport network;
- a water cycle management strategy for the development; and
- strategies for the provision of other associated infrastructure including water and sewer (including a new sewer pumping station), power, telecommunications and gas.

Figure 1 illustrates the Indicative Master Plan approved under the Concept Plan.

The Concept Plan approval is underpinned by the North Penrith Design Guidelines that contain detailed controls for the future built form on the site. Condition B2 requires Landcom to make amendments to the approved Guidelines, which Landcom has undertaken and resubmitted to the Department of Planning and Infrastructure on 22 February 2012 for final endorsement (pending at the time of writing). This EIS has been prepared with regard to the approved and proposed amended controls of the Design Guidelines.

The approved Indicative Staging Plan specifies Landcom will deliver the North Penrith project in five (5) stages (Figure 44 of the Concept Plan EAR). However, the State Government has recently instructed Landcom to deliver 10,000 new lots in Western Sydney over the next 4 years - a 25% increase on previous targets. The North Penrith project forms part of this lot production program, which has prompted Landcom to review the staging. In the first instance, this has resulted in Landcom fast-tracking the area now defined as Stage 2A (formally Stage 2C), being the land the subject of this Development Application. Stage 2A offers the opportunity to accelerate lot production given this area can be delivered ahead of the major water bodies and drainage infrastructure approved under the Concept Plan. The revised staging is further addressed at Section 4.1 of this EIS.



Figure 1 – North Penrith Concept Plan - Indicative Master Plan

1.1.2 Staged Detailed Applications

Stage 1 Project Application

The EAR for the Stage 1 Project Application was submitted and subsequently approved concurrently with the Concept Plan. The Project Application Approval permits:

- staged-subdivision to create 120 lots comprising:
 - 97 future residential lots;
 - 1 sales centre lot;
 - 16 super lots;
 - 2 open space lots;
 - 1 sewer pumping station lot; and
 - 2 residue lots site preparation works;
- establishment of environmental and safety controls and traffic control measures; bulk earthworks and construction of retaining walls;
- internal and external road works;
- landscaping; and
- construction of a sales centre.

The Stage 1 Project Application works, currently under construction, create Speedway Circuit which provides vehicular access in to the Stage 2A works (discussed in further detail in Section 4.5).

Future Development Applications

Landcom has recently obtained the Director General's Environmental Assessment Requirements under Schedule 2, Clause 3(1) of the EP&A Regulation for the subsequent stages of the North Penrith Development, and is in the processes of preparing the respective EIS' for the future stages of the North Penrith project. A revised staging plan is provided at Section 4.0, Figure 6.

1.1.3 Part 3A Repeal & State Significant Development

The Concept Plan (and Stage 1 Project Application) were approved under transitional arrangements introduced as part of the State Government's Part 3A repeal on 1 October 2011.

The EP&A Act has subsequently been amended to establish the environmental assessment framework that now replaces the former Part 3A provisions. Under the new framework, certain classes of development identified in Schedules 1 and 2 of the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP) are "State Significant Development" for which the Minister for Planning and Infrastructure (or his delegate) is the consent authority.

The North Penrith Development site is listed as a site under Schedule 2 of the SEPP SRD. Schedule 2, Clause 11 provides that development on land identified as being within the North Penrith Site for the following purposes is State Significant Development:

- (a) *a principal subdivision establishing major lots or public domain areas, or*
- (b) *the creation of new roadways and associated works.*

The Stage 2A Development Application primarily relates to the second stage of subdivision and civil and infrastructure works at the North Penrith Development site, and accordingly satisfies the Schedule 2, Clause 11 criterion of the SRD SEPP. This has been confirmed through the issuance of Director General's Requirements on 16 April 2012 for Stage 2A pursuant to Schedule 2, Clause 3(5) of the EP&A Regulation (**Appendix E**).

1.2 Summary of Approval Sought

The Development Application seeks approval for the creation and construction of residential lots and associated services and infrastructure. In summary, this Development Application seeks approval for:

- Subdivision to create various lots including:
 - 27 residential lots;
 - 3 integrated housing sites (with a proposed yield of 8 dwellings);
 - 1 super lot for apartments;
 - 1 heritage lot (Thornton Hall and curtilage);
 - 1 open space lot (Thornton Park); and
 - Road reserve (Mountain View Crescent);
- Site establishment and perimeter security measures;
- Establishment of environmental and safety controls and traffic control measures;
- Preparatory works, including trees / shrub removal, topsoil stripping and stockpiling for later reuse and the disposal of unsuitable topsoil material, and taking up and stockpiling existing concrete and asphalt hardstands and roads for later reuse in other stage of the construction works;
- Bulk earthworks – cut and fill, including importation of material to raise levels;
- Construction of roads and road intersections, and connections to existing or approved road intersections;
- Drainage and stormwater management infrastructure;
- Utilities servicing infrastructure - electrical, sewerage, telecommunications, potable water and gas;
- Lots formation;
- Retaining walls;
- Construction of Thornton Park and associated landscaping, consistent with the approved Thornton Park Indicative Landscape Plan;
- Erection of informative signage at different road entries to the wider site; and
- Site de-establishment and handover.

The refurbishment and use of the heritage listed Thornton Hall does not form part of this application. This will be subject of a separate development application to Penrith City Council.

1.3 Project Team

An expert project team has been formed to deliver the project and includes:

Proponent	Landcom
Urban Planning	JBA Urban Planning Consultants
Subdivision Design	Craig and Rhodes
Civil Engineering	Brown Consulting
Landscape	Place Design Group
Ecological	Eco Logical
Traffic and Transport	Parsons Brinckerhoff
Heritage	Tanners Architects
Contamination and Remediation	Geotechnique
Geotechnical	Geotechnique
Stormwater and Drainage	Brown Consulting
Soil and Water	Brown Consulting
Noise and Vibration	Benbow
Environmental, Construction and Site Management	National Project Consultants

2.0 Site Analysis

2.1 Site Location and Context

The North Penrith Development site is located approximately 50km to the west of Sydney CBD on the northern side of the Penrith CBD. The Stage 2A site comprises 4.96ha and is located within the eastern portion of the North Penrith Development site, as shown in the Location Plan at **Figure 2**. An Aerial Photograph illustrating Stage 2A in the context of the North Penrith Development site is provided at **Figure 3**.

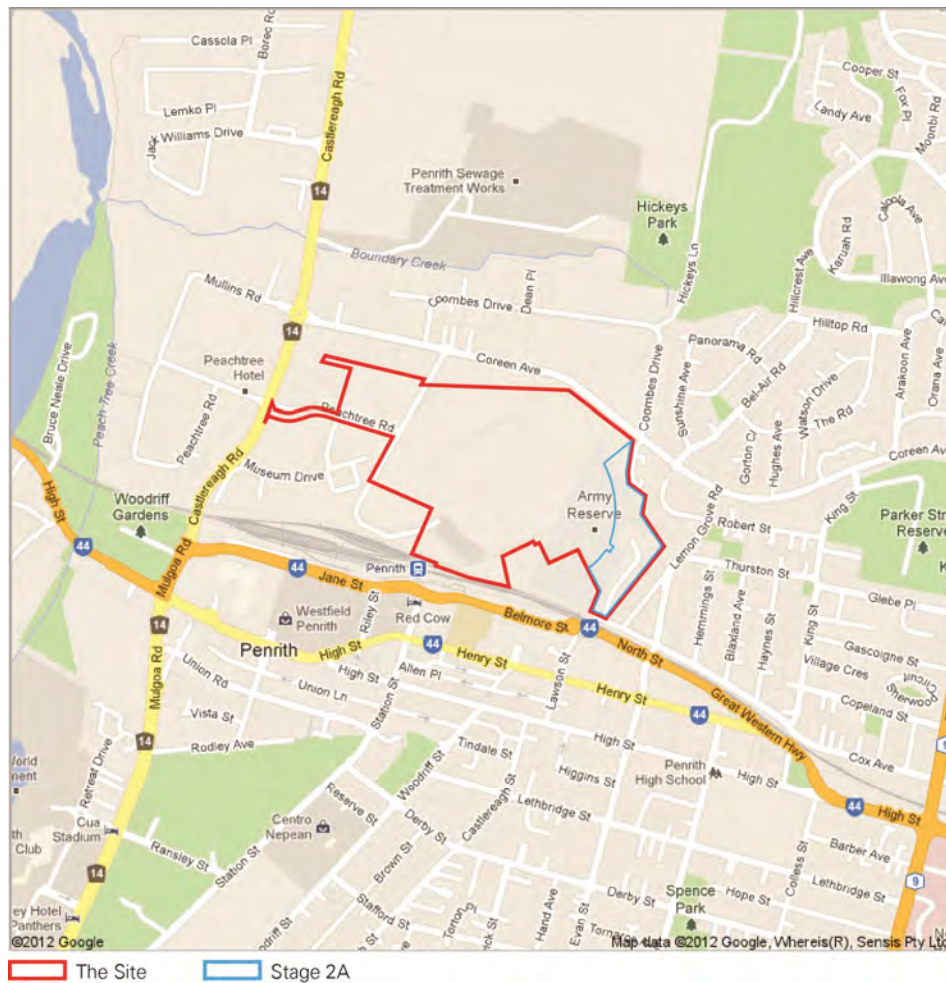


Figure 2 – Location plan



North Penrith Site

Figure 3 – Aerial Photo of Site

2.2 Legal Description and Land Ownership

Landcom owns the entire North Penrith Development Site, including the Stage 2A site.

Stage 2A straddles three (3) of the ten (10) allotments that make up the North Penrith Development site. The North Penrith Development site, and consequently Stage 2A site, are legally described as per the lots identified in **Table 1**, with Stage 2A lots being bolded. The area of each of the lots is also shown in **Table 2**. A site survey is attached at **Appendix F**.

Table 1 – Legal Descriptions and Areas of Lots Comprising the Site

Legal Description	Area
Lot 1 in DP 1020994	4,815m ²
Lot 2 in DP 1020994	1.357ha
Lot 4 in DP 1020994	987m ²
Lot 5 in DP 1020994	1.863ha
Lot 6 in DP 1020994	1,179m ²
Lot 3 in DP 1017480	2,795m ²
Lot 4 in DP 1017480	446m ²
Part Lot 1 in DP 33754	32.64ha
Lot 1 in DP 33753	1.977ha
Lot 1 in DP 532379	1.788ha
Total	40.6ha

Note: Stage 2A comprises only a portion of Part Lot 1 DP 33754.

2.3 Site Description

The existing topography of the Stage 2A site varies with relatively steep grades in the south ranging from approximately 6-13% falling from east to west and levelling off the north with an average grade of 3%.

Existing structures and buildings on the site include “Thornton Hall and Surrounds”, a locally listed heritage building (discussed in further detail below). Former building slabs and an internal road and service network remain over portions of the land, but otherwise the site is characterised by grass cover and disparate clusters of trees, including a patch of Cumberland Plain Woodland (also discussed in further detail below).

The Stage 2A site is currently only accessible from within the broader North Penrith Site from the north and The Crescent from the south. The internal road and pedestrian network approved under the Stage 1 Project Application, namely an extension of Speedway Circuit, will connect Stage 2A to Coreen Avenue north of the site.

Cumberland Plain Woodland

Cumberland Plain Woodland (CPW) is located on the site. CPW is listed as a critically Endangered Ecological Community (CEEC) under the NSW Threatened Species Conservation Act 1995 (TSC Act) and also under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), although the definitions as to what constitutes CPW under the TSC Act and the EPBC Act differ. While the CPW on the site is consistent with the listing for the vegetation community set out in the TSC Act, it is in a degraded state and isolated from other native vegetation.

The approved Concept Plan's findings concluded that the North Penrith project will not result in impacts on threatened flora or fauna species, including within the Stage 2A area. This is on the basis of Landcom's commitment to largely retain the CPW and implement measures to mitigate impacts to biodiversity values on the site (refer to Section 6.6 for further details).

Heritage and Archaeology

The approved Concept Plan provides a comprehensive discussion of the site's European and indigenous heritage values, and is supported by:

- a Statement of Heritage Impact;
- Heritage Interpretation Strategy;
- Non-Indigenous Archaeological Assessment;
- Brief Reassessment of the Site (Aboriginal Cultural Heritage)
- Aboriginal Heritage Management Plan for Aboriginal Site No. 45-5-2491.

Of particular relevance to the Stage 2A area are the following findings:

- Thornton Hall - a locally listed example of a Victorian residence which demonstrates the early development of the district. The residence has aesthetic significance for its prominent location on rising ground with views spanning almost 180 degrees from the north to the south west. Landcom proposes to retain Thornton Hall and create a heritage curtilage.
- The former driveway to Thornton Hall and remains of the former speedway which have been identified as opportunities for interpretation, and accordingly incorporated into the urban design.

- Limited potential for archaeological resources to remain based on the little intact evidence discovered during site inspections, and in any case the overall significance and research value of any potential archaeological resources is considered to be low.
- The presence of one known Aboriginal item in the north eastern portion of the site, which contains archaeological artefacts of Aboriginal cultural and scientific significance. The site is numbered 45-5-2491 on the Aboriginal Heritage Information Management System (AHIMS) database maintained by the Department of the Environment, Climate Change and Water (DECCW). Landcom has determined to retain the item and the surrounding trees thereby protecting other potential undiscovered artefacts which may be present on site.

Soil and Geotechnical Conditions

In preparation of the Concept Plan, a Site Audit Statement and Report was issued for the North Penrith site which demonstrated the site is suitable for the various proposed land uses sought and approved under the Concept Plan.

Further to the Concept Plan studies, a geotechnical report has been undertaken by Geotechnique that summaries the past findings.

Utilities and Infrastructure

The site is well serviced with utilities and infrastructure, however existing infrastructure on the development site is not adequate to service the proposed development and augmentation will be required to deliver key utilities services and provisions, in accordance with the site servicing strategy approved under the Concept Plan.

2.4 Surrounding Development

The Stage 2A site is bounded by:

- a portion of the Stage 1 Project Application site to the north, which is being constructed for residential purposes;
- existing dwellings which front Lemongrove Road to the east;
- The Crescent and the Western Railway Line to the south; and
- the existing Penrith Training Depot to the west.

3.0 Consultation

3.1 Council and Agency Consultation

In accordance with the DGRs, the Director-General is required undertake the following consultation at the following stages:

- relevant public authorities during preparation of the environmental assessment requirements. Comments and issues raised by these authorities and groups have been considered in preparing the DGRs, which are attached at **Appendix E**; and
- advertisement and exhibition of the Environmental Impact Statement and appended reports and documentation (pending).

In addition to the above, and as part of the Concept Plan, Landcom developed an on-going consultation strategy that encompasses Penrith City Council, Government agencies, the original design workshop participants, other community groups and Aboriginal groups. On-going meetings have been held with State Government Agencies, utility providers and Council on a range of matters associated with the Stage 2A Development Application area as the project has evolved. Many of these discussions have been in the context of the on-going North Penrith planning process.

Specifically in relation to this Development Application, Landcom:

- held three (3) meetings with Penrith City Council to discuss the Stage 2A plans prior to lodging the application. These meetings primarily focussed on issues relating to engineering design, landscape design, heritage and statutory planning.
- met with Roads & Maritime Services on 14 June 2012 to provide a general update on the status of the project, discuss the revising staging and commence discussions about the required intersection upgrades. Whilst Stage 2A was discussed briefly, no particularly issues were raised in relation to this Development Application.
- met with representatives from TNSW on 4 May 2012 to discuss a study relating to potential upgrades to Penrith Railway Station. This meeting followed an earlier discussion with RailCorp in November, 2011 about future operational planning for the station. Stage 2A was discussed in the context of a project update and Landcom's intended staging, and no specific issues were raised.
- intends to engage the Office of Environment and Heritage during the detailed design process of resolving the management of the indigenous site and associated significant plantings.

3.2 Community Consultation

Extensive consultation has been undertaken with the community, Council and Government agencies during the formulation of Concept Plan. Subsequently, Landcom distributed a newsletter to the community in December 2011 following approval of the Concept Plan. The newsletter advised the community of the approval milestone and discussed the program for upcoming Stage 1 works and future planning. Landcom continues to maintain a 1800 community information line and online feedback for members of the community. There has been minimal contact from the community since the last newsletter. Notwithstanding this, Landcom is committed to undertaking further detailed consultation with the indigenous community during the construction certificate and detailed design process in relation to the indigenous heritage and ecological issues within the C3 super lot. This is reflected in the Mitigation Measures at Section 7.0.

4.0 Description of Proposed Development

This Development Application seeks approval for the Stage 2A Development Application which primarily relates to the second subdivision phase of the overall North Penrith site. The following works are proposed, each of which are described in further detail below:

- Subdivision to create various lots including:
 - 27 residential lots;
 - 3 integrated housing sites (with a proposed yield of 8 dwellings);
 - 1 super lot for apartments;
 - 1 heritage lot (Thornton Hall and curtilage);
 - 1 open space lot (Thornton Park); and
 - Road reserve (Mountain View Crescent);
- Site establishment and perimeter security measures;
- Establishment of environmental and safety controls and traffic control measures;
- Preparatory works, including trees / shrub removal, topsoil stripping and stockpiling for later reuse and the disposal of unsuitable topsoil material, and taking up and stockpiling existing concrete and asphalt hardstands and roads for later reuse in other stage of the construction works;
- Bulk earthworks – cut and fill, including importation of material to raise levels;
- Construction of roads and road intersections, and connections to existing or approved road intersections;
- Drainage and stormwater management infrastructure;
- Utilities servicing infrastructure - electrical, sewerage, telecommunications, potable water and gas;
- Lots formation;
- Retaining walls;
- Construction of Thornton Park and associated landscaping, consistent with the approved Thornton Park Indicative Landscape Plan;
- Erection of informative signage at different road entries to the wider site; and
- Site de-establishment and handover.

The proposed development works have a total Capital Investment Value (CIV) of approximately \$3.142 million.

The refurbishment and use of the heritage listed Thornton Hall does not form part of this application. This will be subject of a separate development application to Penrith City Council.

4.1 Proposed Subdivision

A draft subdivision plan has been prepared by Craig & Rhodes at **Appendix A** and subdivision engineering plans have been prepared by Brown Consulting at **Appendix B** and is reproduced at **Figure 4**. In addition, a Building Envelopes Plan has been prepared by Allen Jack + Cottier, in accordance with Section 3.2(2) of the Design Guidelines and is attached at **Appendix D**.

This Development Application proposes to create 27 residential lots, 4 super lots, 1 open space lot to accommodate Thornton Park, and 1 heritage lot to create Thornton Hall's heritage curtilage. The proposed distribution of lot types by land use, range of lot typologies and mix is shown in **Tables 2** and **3** respectively.

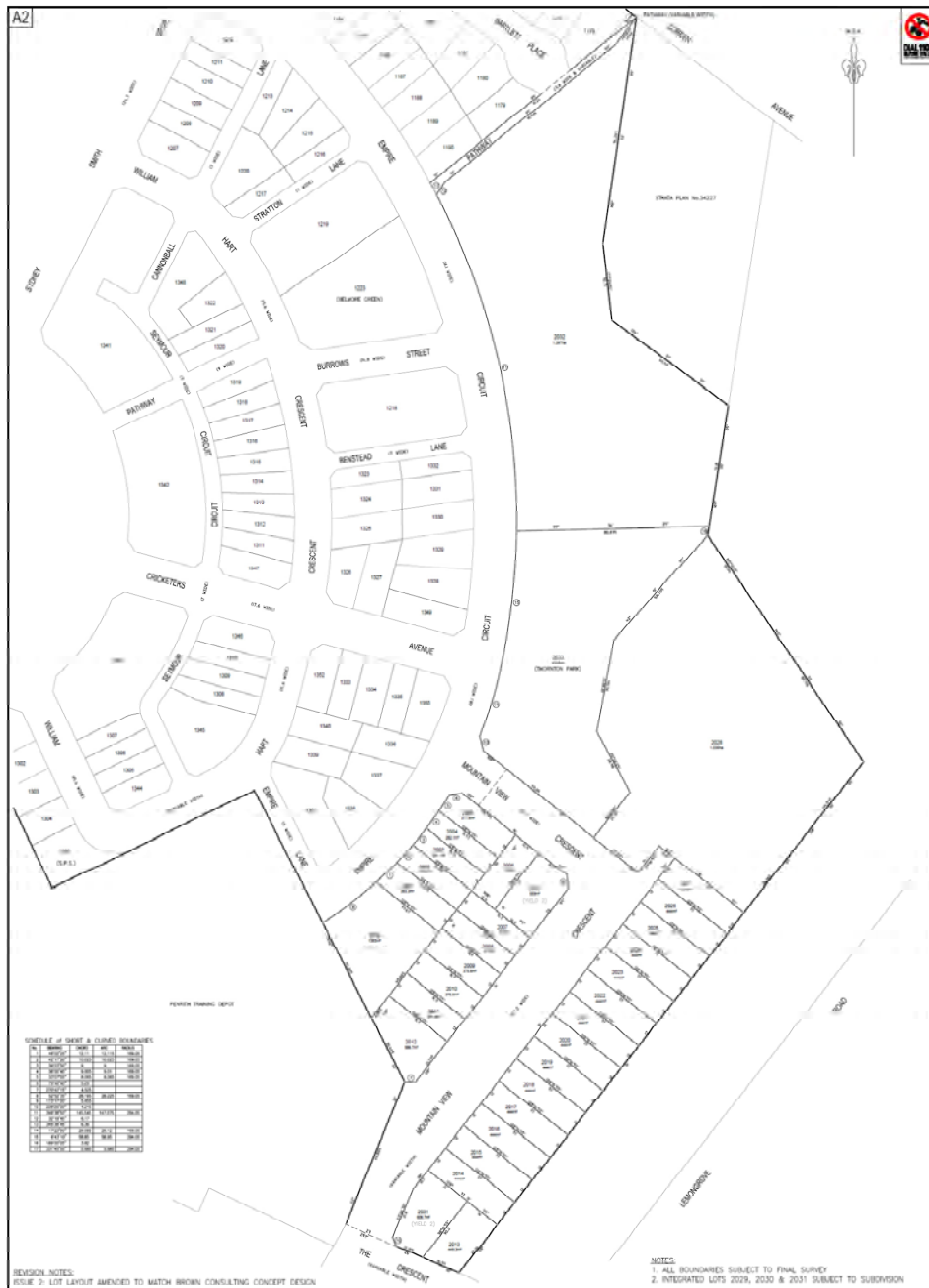


Table 3 – Proposed Lot Types and Mix

Lot Type (m ²)	No. of Lots	Dwelling Yield	% of Total Lots
Residential lots	27	27	34
Integrated housing lots	3	8	10
Super Lot (apartments)	1	44	56
Preferred ancillary dwellings	Not identified within the Concept Plan	Not identified within the Concept Plan	-
Total	30	79	100

4.2 Staging

As outlined at Section 1.0, the proposed extent of the Stage 2A works differ from the approved Indicative Staging Plan (Figure 44 of the approved Concept Plan EAR and reproduced below in **Figure 5**). The approved North Penrith Concept Plan indicates Landcom previously intended to seek approval for the remaining development at North Penrith through a single application and subsequently stage the construction works over 4 sub stages (i.e.: Stages 2A-2D). Since the Concept Plan approval, the State Government has instructed Landcom to deliver 10,000 new lots in Western Sydney over the next 4 years - a 25% increase on previous targets. The North Penrith project forms part of this lot production program, which has prompted Landcom to review the development strategy and staging to accelerate lot production to the market. Accordingly, Landcom is seeking to fast-track the area now defined as Stage 2A (formally Stage 2C) given this portion of the North Penrith site can be delivered ahead of the major water bodies and drainage infrastructure in the central area of the project. A revised staging plan for the development is provided at **Figure 6**, which will provide Landcom with more flexibility in the roll out of the development, appointment of contracts and also provide better alignment of development consents and associated utility approvals. Further the revised staging better facilitates the expeditious delivery of residential lots to the market by isolating particular site constraints, whilst minimising development assessment being held up by issues that are not relevant to individual sub stages.

The revised staging is not a significant departure from the approved Concept Plan or represents a "radical transformation", being the test for pursuing a modification to Part 3A Approval. In addition, the Stage 2A Development Application as now proposed by Landcom is consistent with Condition A2 of the approved Concept Plan which requires future development on the site "to be generally in accordance with" the exhibited Environmental Assessment (prepared by JBA, November 2010). Stage 2A is a subset of the Stage 2 works approved under the Concept Plan. As such the Stage 2A Development Application does not trigger the need for a modification to the approved Concept Plan under Section 75W of the EP&A Act (as preserved under the savings and transitional provisions introduced with the repeal of Part 3A).

Landcom intends to lodge separate applications for future stages, albeit noting that a number of these applications may be lodged concurrently, consistent with the revised staging plan for the development is provided at **Figure 6**.

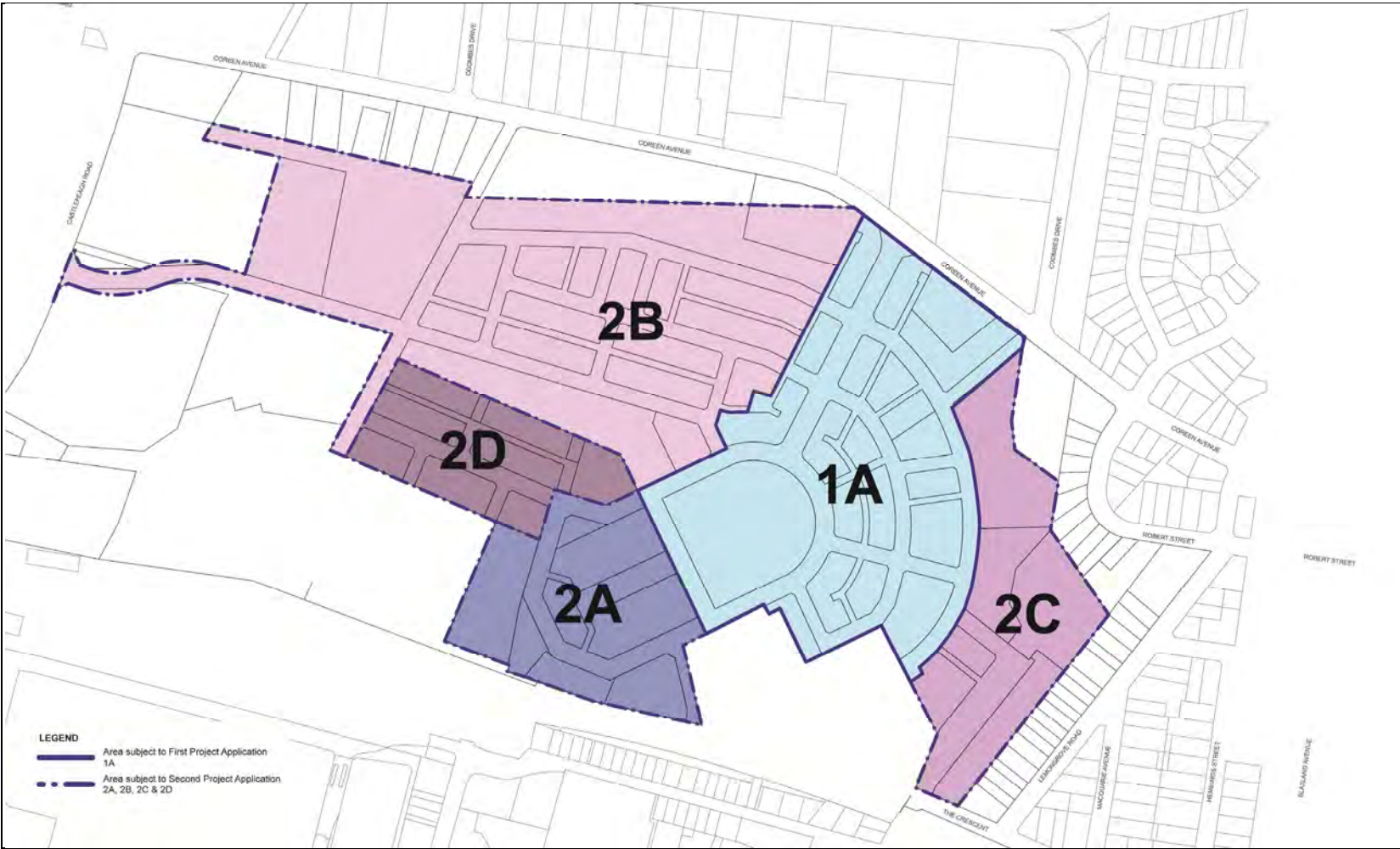


Figure 5 – North Penrith Concept Plan Approved Staging Plan (Source: Annand and Alcock)

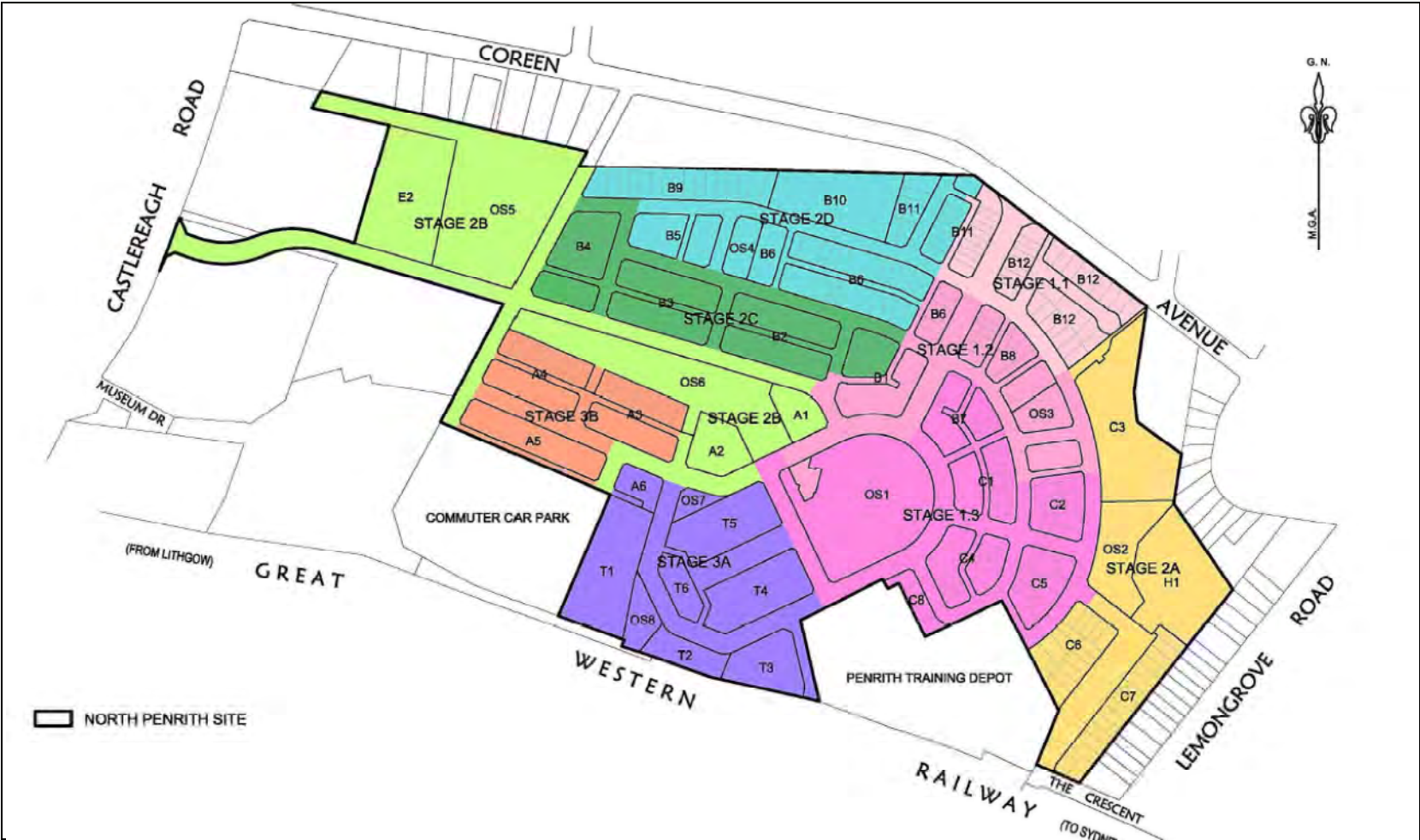


Figure 6 – North Penrith Revised Staging Plan

4.3 Demolition, Tree Removal and Site Preparation Works

The Stage 2A works propose demolition and removal of bitumen driveways, concrete slabs, structures and sheds associated with the site's former military uses. The demolition is proposed in order to make the site suitable for grading and levelling the land for urban development. In addition, it is proposed to remove approximately 100 trees for the preparation of site grading and retaining walls, and to open up the view corridor within the Thornton Park. A Demolition Plan (Drawing No. 901) and General Layout Plan (Drawing No. 001) included at **Appendix B** illustrate the extent of proposed work.

All demolition will be undertaken in accordance with Australian Standard AS2609– 2001: The Demolition of Structures, the *Occupational Health and Safety Act, 2000* and in accordance with current Work Cover requirements. All demolished materials are to be stockpiled on site. During the demolition works, the site will be fenced to ensure that only relevant staff and contractors are within the demolition and earthworks zone.

4.4 Earthworks

The Engineering Plans and Civils Report prepared by Brown Consulting detail the proposed earthworks (**Appendices B** and **G** respectively). Retaining walls and batters are also proposed throughout the Stage 2A site and are shown on the Site Regrading Plan.

The Site Regrading Plan (Drawing Nos. 601 and 602) and Site Regrading Section (Drawing No. 603) provide the existing and proposed surface levels, and shows the location, extent and quantities of proposed cut and fill volumes required to facilitate the development. The earthworks will facilitate the proposed stormwater management system and will regrade the site for the formation of road works and lot grading.

The Stage 2A design levels have been informed by the design levels approved (and under construction) for the Speedway Circuit and The Speedway/Mountain View Crescent intersection grading under the Stage 1 Project Application. Consequently, the site grading strategy proposes excavation up to 1.5m deep and fill up to 2.5m deep across the proposed residential lots. Limited cut and fill is proposed in Thornton Park, comprising filling an existing table drain and depression to avoid ponding. The estimates of cut and fill volumes for the entire Stage 2A works are shown in **Table 4** below.

Table 4 – Proposed cut and fill volumes

Cut Volume (m ³)	Fill Volume (m ³)	Balance (m ³)
4,900m ³	8,500m ³	3,600m ³

4.5 Landscaping and Public Domain

The Stage 2A Development Application includes 0.6317ha of open space/park proposed to be dedicated to Penrith City Council as illustrated in **Figure 7**. The Development Application seeks approval for the landscaping as described in the Landscape Concept prepared by Place Design Group, consistent with the parameters established by the approved Concept Plan (**Appendix C**).

The key landscape principles for Thornton Park are as follows:

- passive recreation facilities including bench seating, a rest area and lookout point;
- pedestrian access via stairs that will link a series of small elevated turf terraces;
- public art elements comprising interpretation of the Speedway Circuit and installation of new red/light interpretative art walls recognising the site's European and indigenous heritage values;
- protection of the existing Cumberland Plain Woodland, and rehabilitation/restoration through supplementary tree planting; and
- plantings of grasses and vibrant low maintenance garden plants framing the central terraces and interpretative art walls;

The heritage lot will not be created as formalised open space, rather it will serve as a buffer area around the heritage listed Thornton Hall.

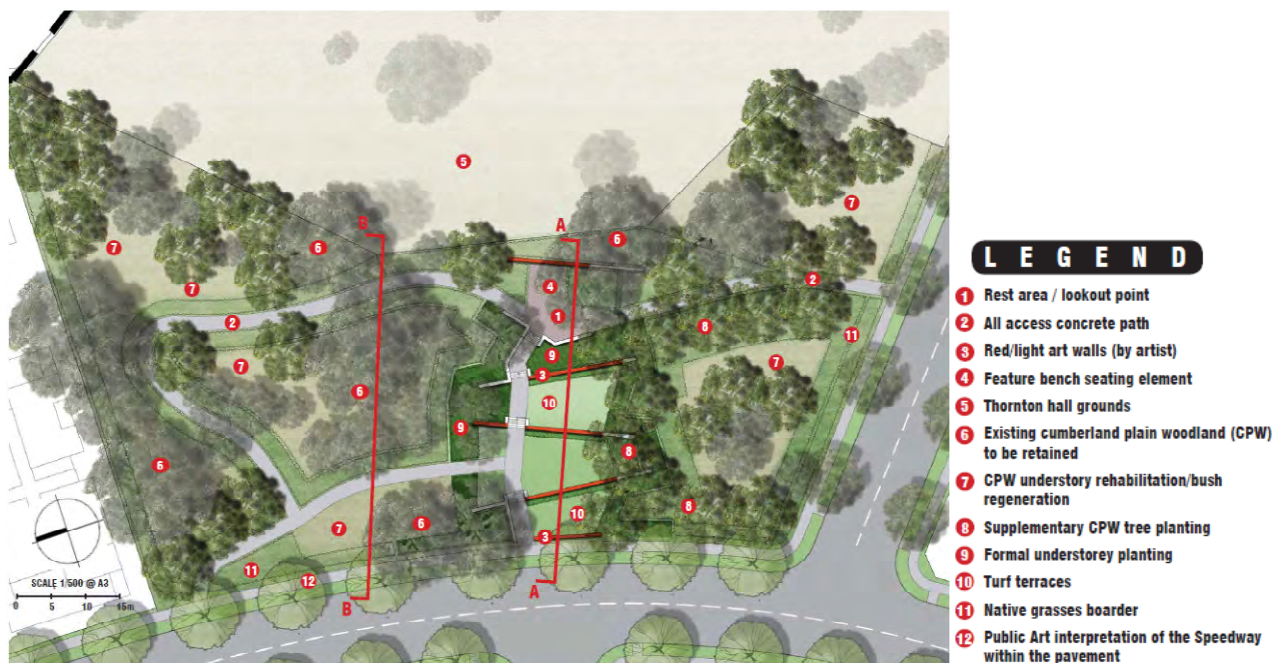


Figure 7 – Thornton Park - Indicative Landscape Concept (Source: Place Design Group)

4.6 Access and Parking

The approved Concept Plan includes a Road Hierarchy Plan that sets out the location, road typologies, public transport routes and pedestrian and cycle pathways approved for the Stage 2A site (Figure 39 of the Concept Plan). The Road and Drainage Design Plans prepared by Brown Consulting and attached at **Appendix B** are consistent with the approved Road Hierarchy Plan.

Access into Stage 2A will be via a new L-shaped local street named Mountain View Crescent and Mountain View Crescent West. The new street will be a dual carriageway when accessed off Speedway Circuit, but will transition into two split one way carriageways separated by a median and supporting retaining wall to address the grade change in this part of the Stage 2A site. The roads have been designed to accommodate two 2.3m wide parking lanes on the undivided section of road, and one 2.3m parking lane and 3.5m wide travel lane in the divided section, in addition to verges (1.5m wide) and footpaths (1.5-1.6m wide) on each side of the road.

No formal bicycle paths or bus routes are proposed in Stage 2A, as the bus and cycle routes do not pass through Stage 2A under the approved Concept Plan (see further discussion under Section 6.3 of this EIS). The proposed arrangements are shown on Page 10 of Landscape Concept prepared by Place Design Group at **Appendix C** and reproduced in **Figures 8 and 9**.

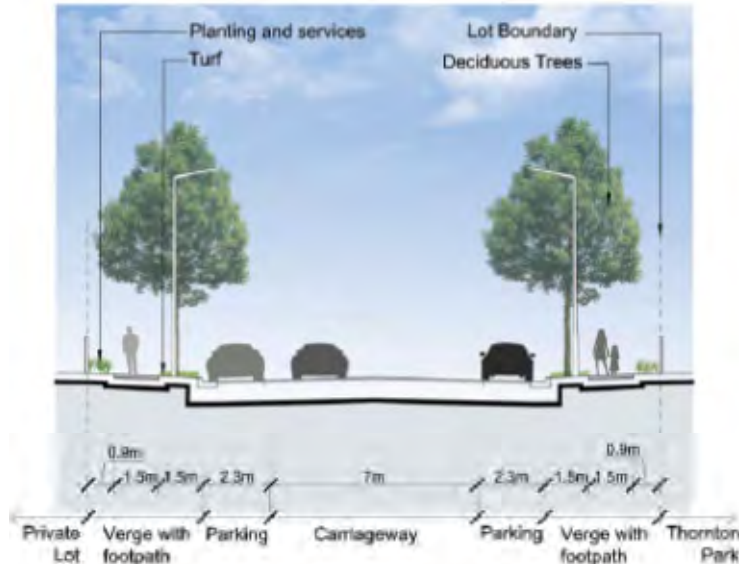


Figure 8 – Mountain View Crescent Cross Section (Source: Place Design Group)

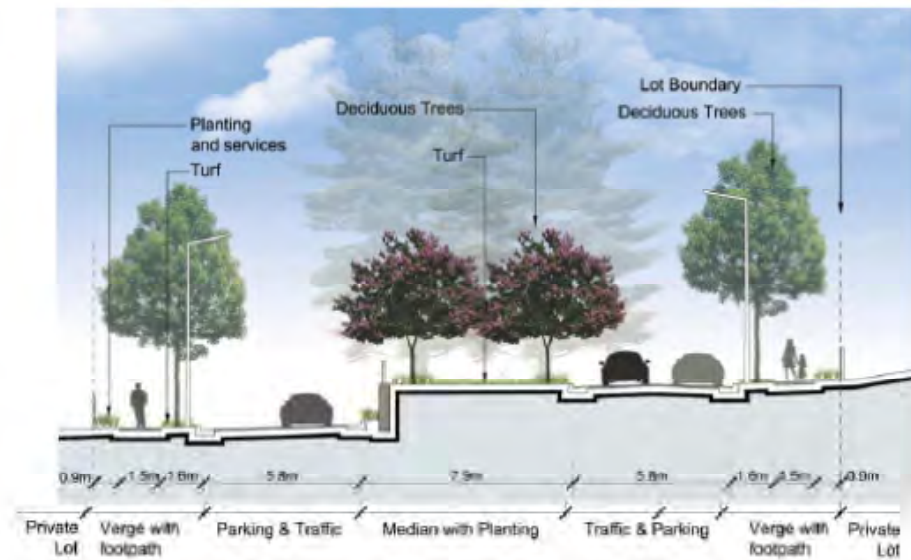


Figure 9 – Mountain View Crescent West Cross Section (Source: Place Design Group)

The configuration of Mountain View Crescent is a specific response to the layout and topography of the site, and as such does not fall within Penrith City Council's typical road standards. Council has been consulted prior to lodgement of the application and it is understood that Council supports the proposed road configuration.

Each residential lot is required to provide a minimum of one off street car parking space (refer to Section 3.7 of the Design Guidelines). Whilst the location and design of off street car parking is outside the scope of this Development Application, the proposed location of driveways to each of the residential lots is shown on the Road and Drainage Design Plans at **Appendix B**.

4.7 Water Cycle Management

The Stage 2A Development Application seeks approval for the construction of the stormwater management measures described in the Drainage Plan and Sediment and Erosion Control Plans prepared by Brown Consulting at **Appendix B**, including the following:

- surface runoff from lots and roads directed to the piped drainage system in Mountain View Crescent and Mountain View Crescent West;
- construction of earth bunds and pits to intercept overland flows from external catchments; and
- construction of a spoon drain behind the retaining wall to be constructed along the eastern boundary of Proposed Lot Nos 2013-2027 to divert the upstream catchment to existing drainage infrastructure within The Crescent.

4.8 Infrastructure and Services

Stage 2A servicing and infrastructure will be provided in accordance with the *'North Penrith Utilities Servicing Report'* approved under the Concept Plan. The Civils Report by Brown Consulting details the arrangements for the provision of utility services to the Stage 2A lots (see **Appendix G**).

4.9 Waste Management

Waste will be managed in accordance with the NSW Government's Waste Reduction and Purchasing Policy. Demolished materials which are deemed appropriate for re-use will be loaded and stockpiled accordingly using an excavator with heavy rigid truck tippers. Any demolished materials considered unfit for re-use and recycling and requiring disposal shall be loaded wholly within the site and carted to an approved waste handling facility.

A Construction Environmental Management Plan (CEMP), consistent with that approved for the Stage 1 Project Application, will be prepared for the Stage 2A works prior to commencement of works and will provide detailed waste management practices and procedures. The CEMP approved for the Stage 1 Project Application is provided at **Appendix H** for reference.

5.0 Director-General's Environmental Assessment Requirements

On 16 April 2012, the Director-General of the Department of Planning and Infrastructure issued the requirements for the preparation of the Stage 2A EIS. The DGRs are attached at **Appendix E** and replicated in **Table 6**. **Table 6** also identifies where each of the Stage 2A DGRs has been addressed in this report and the accompanying technical studies.

Table 5 – Director General's Requirements

[illegible]

Requirement	Location in Environmental Assessment	
4. Earthworks - Provide a detailed survey showing existing and proposed levels and proposed quantities of cut and fill necessary for proposed works; - Details on the source of fill including types of materials and their source; and - Details of the location for the disposal of excess cut and the methodology of transportation to this location.	Section 4.3	Appendix B Appendix G
5. Urban Design Design quality, with specific consideration of the overall site layout, axis, vistas and connectivity, open spaces and edges, primary elements, gateways.	Sections 4.1, 4.4, 4.5, 6.2, 6.3, 6.4 and 6.5	Appendices A-D, I, and J-K
6. Ecologically Sustainable Development (ESD) - 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 design, construction and ongoing operation phases of the development. - 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 water sensitive urban design.	Sections 4.6, 6.6 and 6.11	Appendices B and G
7. Noise - Identify the main noise generating sources and activities at all stages of construction, and any noise sources during operation. Outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land. - Outline measures to minimise and mitigate the potential noise impacts on future occupants of the site from identified noise generating sources, including the Railway line. - Relevant Policies and Guidelines: - NSW Industrial Noise Policy (EPA) - Interim Construction Noise Guideline (DECC)	Section 6.10	Appendix O
8. Transport and Accessibility (Operation) - Detail access arrangements at all stages of operation and measures to mitigate any associated traffic impacts. - Describe the measures to be implemented to promote sustainable means of transport including public transport usage and pedestrian and bicycle linkages in addition to addressing the potential for implementing a location specific sustainable travel plan. - Demonstrate consistency with the Concept Plan in regards to traffic generation and any potential need for upgrading or road works, including upgrade works for the Parker Street, Oxford Street, Coreen Avenue and Richmond Road intersection. - Relevant Policies and Guidelines: - Guide to Traffic Generating Developments (RTA) - EIS Guidelines – Road and Related Facilities (DoPI) - NSW Planning Guidelines for Walking and Cycling.	Sections 4.5 and 6.3	Appendix I
9. Transport and Accessibility (Construction) Detail access arrangements at all stages of construction and measures to mitigate any associated pedestrian, cycleway or traffic impacts.	Section 6.13	Appendix H

Requirement	Location in Environmental Assessment	
10. Heritage A statement of significance and an assessment of the impact on the heritage significance of any heritage items and/or conservation areas should be undertaken in accordance with the guidelines in the NSW Heritage Manual, including Thornton Hall.	Sections 2.3 and 6.4	Appendices J-K
11. Aboriginal Heritage The EIS shall 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 2010.	Sections 2.3, 3.2 and 6.4	Appendices J-K
12. Sediment, Erosion and Dust controls (Construction and Excavation) Detail measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles. ■ Relevant Policies and Guidelines: ■ Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom) ■ Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA).	Section 6.13	Appendices, B and H
13. Utilities In consultation with relevant agencies, the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure shall be addressed.	Section 4.7	Appendices B and G
14. Staging Details regarding any staging of the proposed development and consistency with the overall staging of the redevelopment of the North Penrith site outlined in the Concept Plan approval and justify any variations (if proposed).	Section 4.1	-
15. Contributions Address Council's Section 94 Contribution Plan and/or details of any Voluntary Planning Agreement.	Section 6.12	-
16. Drainage Drainage associated with the proposal, including stormwater and drainage infrastructure.	Sections 4.6 and 6.6	Appendices B and G
17. Servicing and Waste Identify, quantify and classify the likely waste streams to be generated during construction and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	Section 4.8	-
Consultation ■ Penrith City Council ■ Roads and Maritime Services ■ RailCorp ■ Transport NSW ■ Office of Environment and Heritage ■ Deerubbin Local Aboriginal Land Council, other registered Aboriginal stakeholders in the North Penrith area and the Aboriginal community.	Section 3.0	-

6.0 Environmental Assessment

This section of the report assesses and responds to the environmental impacts of the proposed development. It addresses the matters for consideration set out in the DGRs (see Section 5.0) and is also benchmarked against the parameters established under the approved Concept Plan. Accordingly, this EIS should be read in conjunction with Landcom's Environmental Assessment Report (prepared by JBA, November 2010) and Preferred Project Report (prepared by JBA, April 2011), however for reference purposes each of the following sections provides a summary of the approved Concept Plan's Findings prior to providing an assessment of the specific Stage 2A works. The Mitigation Measures at Section 8.0 complement and support the findings of this section.

6.1 Statutory Context

The following key planning strategies and policy instruments are relevant to the Stage 2A Development Application:

- Metropolitan Strategy and Draft South West Sub-Regional Strategy;
- State Environmental Planning Policy (State And Regional Development) 2011;
- Penrith City Centre Local Environmental Plan 2008;
- State Environmental Planning Policy No.19 – Bushland in Urban Areas;
- State Environmental Planning Policy No.55 – Remediation of Land;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy (BASIX) 2004; and
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

In addition, Thornton Hall is identified as being of heritage value under the Penrith City Centre LEP 2008 and the Register of the National Estate. Further, the CPW is identified under the *Threatened Species Act, 1997* and the *Environmental Protection and Biodiversity Conservation Act, 1999*.

The approved Concept Plan Environmental Assessment Report provides an assessment of the Concept Plan proposal in relation to key planning strategies and policy instruments. An assessment of the proposal against the provisions of existing SEPPs and Section 117 Directions is provided at Appendix W of that EAR.

The Stage 2A Development Application is consistent with the Concept Plan proposal and is therefore considered to comply with or meet all relevant requirements. Key matters of specific relevance to the Stage 2A Development Application development are summarised in **Table 7** below.

Table 6 – Consideration of Relevant Policies, Guidelines and Environmental Planning Instruments

Instrument/Strategy	Comments
Strategic Plans	
NSW State Plan (NSW 2021)	The Plan articulates the State's response to Housing Affordability. It acknowledges the impact of housing supply on affordability and recognises that there is a need to ensure competitive tension in the supply of land so there is a continuing flow of new properties to the market. The State Plan does not include specific goals for housing and land supply but refers to the goals set in the Metropolitan and Regional Strategies.
Metropolitan Plan for Sydney 2036 and Draft North-West Subregional Strategy	The Strategic Justification for the North Penrith Development is addressed in the EAR accompanying the Concept Plan and State Significant Site proposals. This includes consideration of the overall project in relation to the Sydney Metropolitan Strategy and the Draft North West Sub-Regional Strategy.

Instrument/Strategy	Comments	
	The North West Sub-Regional Strategy aims to ensure that adequate land is available and appropriately located to sustainably accommodate the projected housing and employment needs of the region's population over the next 25 years. The North Penrith Development site is identified as a key site earmarked for residential and employment generating uses. The commencement of the works proposed in this Stage 2A Development Application will contribute towards delivery residential lots, consistent with the land use framework established for the site. The project will also support and promote transit oriented development in proximity to the Western rail line, and establish the new Thornton Park and heritage lot securing long term agreed conservation outcomes.	
	The purpose of the North West Sub-Regional Strategy is to ensure that adequate land is available and appropriately located to sustainably accommodate the projected housing and employment needs of the Region's population over the next 25 years. The approved North Penrith Concept Plan facilitates the delivery of approximately 1,000 residential dwellings and will deliver various opportunities for employment generating development. North Penrith's Stage 2A will provide the necessary infrastructure and public domain embellishments to encourage and facilitate future built development, consistent with the Concept Plan approval.	
EP&A Act and EP&A Regulation		
EP&A Act	The proposed development is consistent with the objects of the EP&A Act, particularly for the following reasons: ▪ it allows for the orderly and economic development of land; ▪ it is development for public purposes (i.e.: Thornton Park) and will facilitate the delivery of a key aspect of the public domain; ▪ it seeks to protect the environment including threatened populations; and ▪ provides for the provision and maintenance of affordable housing.	
EP&A Regulations	The EIS has addressed the specification criteria within Schedule 2, Clauses 6 and 7 of the EIS. The EIS has also 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.	
Permissibility		
Penrith City Centre LEP 2008	Part 7 clause 49 and 50 Land Use Zoning	The Stage 2A site is zoned Part R1 – General Residential, Part R2 – Low Residential Density and Part RE1- Public Recreation. The proposed development for the purposes of subdivision works and public domain works is permissible within the relevant zonings and meets the zone objectives.
	Height of buildings	No buildings are proposed and as such the height of building clause does not apply.
	Clause 54 - Heritage	The site forms part of the curtilage around Thornton Hall, which is a locally listed heritage item. The proposed development will create the Thornton Hall curtilage, however, the restoration of the Hall will be subject of a separate development application.
State Environmental Planning Policies		
SEPP (State and Regional Development) 2011	State Environmental Planning Policy (State and Regional Development) 2011 identifies development that is State Significant Development and for which the Minister for Planning and Infrastructure is the consent authority. The proposed development is on the North Penrith Development Site and falls into a class of major development described in Schedule 2, Clause 11 of the SEPP.	

Instrument/Strategy	Comments
SEPP 55	SEPP 55 provides controls and guidelines for the remediation of contaminated land. In particular, this Policy aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. Before determining a development application that changes the use of land, a planning authority must consider whether the land is contaminated and be satisfied that it is suitable in its current state or will be suitable, after remediation for the proposed development. A Site Audit Statement and Report has been issued for the North Penrith site indicating its suitability for the various proposed land uses sought by the range of uses approved under the Concept Plan. Contamination is also addressed in Sections 2.3 and 6.9 and Appendix M of this EIS.
SEPP (Infrastructure)	The SEPP Infrastructure 2007 (ISEPP) provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency. The Stage 2A Development Application includes infrastructure works as described in Section 4 of this EIS and is not inconsistent with the ISEPP.
SEPP (BASIX) 2004	The SEPP BASIX operates in conjunction with the Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the implementation of water conservation and energy efficiency targets in the design and construction of housing in NSW. SEPP (BASIX) will apply to future applications for the design and construction of housing in Stage 2A at North Penrith.
SEPP (Exempt and Complying Development Codes) 2008	The SEPP streamlines assessment processes for development that complies with specified development standards including dwelling houses. The Policy provides exempt and complying development codes that have State-wide application including the General Exempt Development Code which identifies types of development that are of minimal environmental impact that may be carried out without the need for development consent. The General Housing Code identifies types of complying development including dwelling houses on lots of at least 200m ² that may be carried out in accordance with a complying development certificate issued by either an accredited private certifier or Council. The General Housing Code in the SEPP will apply to the design and construction of housing in Stage 1 on allotments of at least 200m ² .

6.2 Consistency with the Concept Plan

The DGRs specifically require Landcom to "*demonstrate consistency with the Concept Plan (MP 10_0075) and that the relevant future environmental assessment requirements identified in the Concept Plan approval and Statement of Commitments have been met, including those identified as being required prior to Stage 2C (sic) given the changes to the staging plan*".

This EIS and the following sections in their entirety respond to the above requirement. **Table 7** below summarises compliance with the approved future environmental assessment requirements and Statement of Commitments specifically.

Table 7 – Stage 2A's Compliance with Approved Future Environmental Assessment Requirements and Statement of Commitments

Approved Concept Plan Condition / Statement of Commitment	Stage 2A Proposal	Compliance
PARTS A & B - ADMINISTRATIVE TERMS OF APPROVAL AND MODIFICATIONS TO CONCEPT PLAN		
A1 Development Description Except as modified by this approval, Concept Plan approval is granted only to development solely within the Concept Plan area as described in the document titled "North Penrith State Significant Site Study, Concept Plan and Stage 1 Project Application" report prepared by JBA Planning dated November 2010, as amended by the "Preferred Project Report - North Penrith Mixed Use Development" dated April 2011, prepared by JBA Planning Consultants to facilitate the following development: a) 1000 residential dwellings b) 4,500 m² of retail floor space, c) 10,650 m² of commercial floor space, d) 7,000 m² of light industrial floor space e) 7 hectares of open space; and f) Associated estate works and infrastructure.	Stage 2A is the next stage of the North Penrith development, and will contribute to the overall maximum yield approved under the Concept Plan. consistent with	✓
AZ Development in Accordance with Plans and Documentation (1) The development shall generally be in accordance with the following plans and documentation (including any appendices therein): . "North Penrith State Significant Site Study, Concept Plan and Stage 1 Project Application" report prepared by JBA Planning dated November 2010, as amended by Preferred Project Report for the North Penrith Mixed Use Development prepared by JBA Urban Planning Consultants dated April 2011. The indicative subdivision plan produced by Craig and Rhodes, ref 07210113 (02), dated 13.04.2011 Except for otherwise provided by the Department's modifications of approval set out in Schedule 2, Part B and further assessment requirements set out in Schedule 2, Part C. In the event of any inconsistencies between the modifications of this concept approval and the plans and documentation described in Part A, Schedule 2, the modifications of this concept approval prevail. In accordance with Section 75P(2)(a) of the Act, where there is an approved Concept Plan, any approval given under Part 4 of the Act, must be generally consistent with the terms of the approval of the Concept Plan.	Stage 2A is consistent with the plans approved under the Concept Plan. A minor departure from the approved road network is proposed as discussed in Section 6.4.	✓
A5 Approval Authority In the event that the Council is the consent authority for any future applications on the site, any reports specified in the Statement of Commitments to be submitted to the Director General for approval, shall be instead be required to be approved by the Council.	Noted. Not applicable to Stage 2A given the consent authority is the Minister for Planning and Infrastructure.	N/A
A6 Approvals by the Director General If any of the terms of the approval specify that an agreement is to be made between the proponent and a government agency or council, all parties to the agreement are to act reasonably. If no agreement is reached within 3 months of the commencement of negotiations, the issue can be referred to the Director General for a decision. Full details of the discussions and the dispute are to be provided in order for the Director General to make a decision.	Not applicable to Stage 2A.	N/A

Approved Concept Plan Condition / Statement of Commitment	Stage 2A Proposal	Compliance
A7 Lapsing of Approval Approval of the Concept Plan shall lapse 10 years after the determination date in Part A of Schedule 1, unless an application is submitted to carry out a development for which concept approval has been given.	Stage 1 has been approved and is currently under construction. The lapsing of the Concept Plan approval is therefore no longer an issue.	N/A
B1 Concept Plan Drawings All plans submitted with the Concept Plan, including but not limited to- the indicative subdivision plans; the land use plan; the yield block plan; and illustrative concept plan are to be modified to be consistent with the following: 1) The lots north of the commuter car park, referred to as block A5 and the southern parts of blocks A3 and A4 on the indicative subdivision plan are to be super lots as shown on the indicative subdivision plan produced by Craig and Rhodes, ref 07210113 (02), dated 13.04.2011. 2) The maximum height of buildings plan shall be amended so that the 10m building height restriction continues from Thornton Hall (Thornton Park) to the edge of the oval, including part of lots 1112 and 1113 (as labelled in the Stage 1 Subdivision Plan).	Not applicable to Stage 2A.	N/A
B2 Design Guidelines Prior to the determination of any future development approval on the site, the proponent shall submit modified Design Guidelines (referred to as Development Control Plan in the proposal documentation) to the Department for approval. Condition goes on to specify a range of amendments.	The revised Guidelines were submitted to Department of Planning and Infrastructure in February 2012 and are pending approval. There are no amendments specified in Condition B2 that specifically relate to Stage 2A. Notwithstanding this Section 6.3 demonstrates Stage 2A's compliance with the relevant provisions of the Design Guidelines as do other sections of this EIS.	✓
B3 Opportunity Site The Design Guidelines shall include specific controls for the opportunity site identified in Figure 14 of the Draft DCP. The controls shall promote higher residential densities and a mix of uses that achieve high levels of activity and pedestrian movement and are appropriate within 400m within a railway station. The Concept Plan drawings (in Appendix B of the PPR) and the figures in the Draft DCP (in Appendix of the EA) shall be amended to show this precinct as a mixed use area.	Not applicable to Stage 2A.	N/A
B4 Minimum Lot Size The minimum lot sizes shown on the "Lot Size Plan" in Appendix B of the PPR do not apply to strata subdivisions.	Not applicable to Stage 2A.	N/A
B5 Road Names The road names shown in the Concept Plan are indicative only. The road names shall be determined in consultation with and approved by Council.	Noted.	N/A
B6 On-Street Car Parking The On-Street Car Parking Strategy submitted with the Preferred Project Report is indicative only. The restrictions to on-street parking, provided in accordance with Condition 1 above, shall be determined in consultation with and approved by Council.	Not applicable to Stage 2A.	N/A

Approved Concept Plan Condition / Statement of Commitment	Stage 2A Proposal	Compliance
PART C. FURTHER ENVIRONMENTAL ASSESSMENT REQUIREMENTS		
C1 Road Works - Site Access The following intersections (identified in the Instrument of Approval) (which provide direct access to the site) shall be constructed or upgraded by the proponent. The detailed design of the intersections shall be included with the relevant application as identified in the table below (identified in the Instrument of Approval). The works shall be completed to the satisfaction of the RTA or Council prior to the issue of a Subdivision Certificate for the relevant stage.	Not applicable to Stage 2A.	N/A
C2 Road Works- Regional Improvements 1) The upgrade to the Parker Street, Richmond Road, Coreen Avenue and Oxford Street intersection shall be undertaken to accommodate the traffic generation from the North Penrith development in its entirety prior to the occupation of the 100th lot. Alternatively, this contribution may be in the form of a monetary contribution. 2) The design of the upgrade of the Parker Street, Richmond Road, Coreen Avenue and Oxford Street intersection shall be submitted to the RTA for approval.	Not applicable to Stage 2A.	N/A
C3 Dedication of Open Space and Community Facilities 1) Approximately 2 hectares of public open space and drainage reserves, as identified on the Landscape Concept Master Plan dated October 2010, is to be dedicated to Council free of cost as part of relevant subdivision certificates. 2) The temporary sales centre shall be converted into a community facility shall be dedicated free of cost to Council prior to the occupation of the 400th dwelling, or at a time mutually agreed by the proponent and Council. 3) The landscaping and embellishment of public open space and the fit out of the community facility including the landscaping of its surrounds shall be completed prior to dedication to Council and maintained by the proponent to the satisfaction of Council for a period of 3 years after dedication.	Predominantly not applicable to Stage 2A. However, landscaping of Thornton Park is proposed to be completed and maintained for 3 years before being dedicated to Penrith City Council.	✓
C4 Development Contributions 1) Contributions shall be made to Penrith City Council for the purposes of district open space facilities at a rate as shown below (identified in the Instrument of Approval). The contributions are to be paid to Council prior to a Construction Certificate being issued for this development (the rates are subject to quarterly reviews). If not paid within the current quarterly period, this contribution will be reviewed at the time of payment in accordance with the adopted Section 94 plan.	Refer to Section 6.13 which reaffirms Landcom's commitment to pay Section 94 levies in accordance with Condition C3.	✓
C5 Drainage 1) Further detailed design and assessment of the operation of the central drainage canal shall be submitted with the relevant Stage 2 development application. The canal should be designed so that it does not require topping up from external sources. 2) Stormwater runoff shall not be discharged into the rail corridor. This shall be addressed in the relevant development application in Stage 2B.	Not applicable to Stage 2A.	N/A
C6 Flooding Prior to the determination of any development approval for infrastructure works in Stage 2, the proponent shall submit a further assessment of flooding behaviour that includes: 1) An assessment of the impact of filling on site on flood levels at adjoining properties; and 2) An assessment of the impact of climate change on flooding behaviour, changes to temperature, rainfall and evaporation and the impact this may have on flood levels on and adjoining the site and the stormwater management strategy.	Not applicable to Stage 2A. Refer to Section 6.8 which demonstrates that the Stage 2A site is not flood affected.	N/A

Approved Concept Plan Condition / Statement of Commitment	Stage 2A Proposal	Compliance
C7 Construction Environmental Management Plan The Construction Environmental Management Plan submitted with the Concept Plan is approved in concept only. A Construction Environmental Management Plan for each stage of development shall be developed in consultation with and approved by Council.	Noted. Refer to Section 6.14 for relevant assessment.	✓
C8 Sewerage Treatment plant Final detailed design of the on-site sewerage pumping station is to be undertaken in consultation with and approved by Sydney Water.	Not applicable to Stage 2A.	N/A
C9 Cumberland Plain Woodland Replanting in areas where Cumberland Plain Woodland is to be removed should be with plants grown from local provenance seed. Details are to be submitted with the development application for Stage 2C.	Refer to Section 6.5. Local provenance seed is proposed for replacement planting where CPW is to be removed.	✓
C10 Aboriginal Heritage A Section 88B instrument (or other suitable means) is to be provided to protect the aboriginal heritage item in Lot C3. Details are to be submitted with the development application for Stage 2C.	Refer to Section 6.6. A Section 88B Instrument is proposed to be created at Subdivision Certificate when engineering detailed design has been completed.	✓
C11 Fencing on Coreen Avenue The details of fencing and/or landscaping to be provided for residential lots adjoining Coreen Avenue shall be submitted to Council for approval as part of future development applications for those lots.	Not applicable to Stage 2A.	N/A
C12 Assessment of Interface with Adjoining Development Further assessment of the interface of the development with adjoining industrial land uses shall be submitted with the relevant Stage 2 development application.	Not applicable to Stage 2A.	N/A
STATEMENTS OF COMMITMENT		
Landcom will provide local infrastructure contributions in accordance with Table 7 at Section 6.13 of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated October 2010, and as amended by Table 7 at Section 4.8.2 of the Preferred Project Report prepared by JBA Planning dated April 2011 (subject to SoC No. 2 below).	Refer to Section 6.13.	✓
Landcom will continue to work with the RTA to define the exact scope and cost of works for the intersections nominated in Table 7 at Section 4.8 of the Preferred Project Report prepared by JBA Planning dated April 2011. Notwithstanding this, the proportion of proposed works/upgrades required to be paid by Landcom and the timing by which Landcom must deliver the works shall be provided consistent with the percentages and timing identified in Table 7 at Section 4.8 of the Preferred Project Report prepared by JBA Planning dated April 2011.	Not applicable to Stage 2A.	N/A
Landcom will promote housing diversity in Penrith by including a wide mix of dwelling types and sizes for a range of household types within the development.	Refer to Section 6.3 for assessment.	✓
Landcom will produce a mix of properties for sale and/or rent that include a proportion that are affordable for households within the very low, low, and moderate income bands (based on Affordable Housing SEPP definitions).	Not applicable to Stage 2A	
Future applications shall consider the Development Control Plan included at Appendix D of the Preferred Project Report prepared by JBA Planning dated April 2011, as relevant.	Section 6.3 demonstrates Stage 2A's compliance with the relevant provisions of the Design Guidelines as do other sections of this EIS.	✓
Landcom will convene a Design Review Panel comprising Landcom, Penrith City Council and the project architect.	Noted.	N/A

Approved Concept Plan Condition / Statement of Commitment	Stage 2A Proposal	Compliance
Development on the site will include uses that generate at least 783 full time jobs.	Noted. Not applicable to Stage 2A.	N/A
Landcom and Penrith City Council are to enter into a Memorandum of Understanding (MOU) to jointly explore higher order employment outcomes that compliment and do not compete with the Penrith CBD. Consideration of such a use must consider what potential impacts may be generated by this type of development including (but not limited to) matters regarding traffic, service infrastructure, stormwater, flooding (including evacuation), heritage and social and economic impacts. Where unsustainable, detrimental or significant impacts are associated with taking forward the proposal then Council and Landcom may agree not proceed with the search to secure a tenant, or the scope of what may be feasible will be re-scoped.	Not applicable to Stage 2A.	N/A
Landcom will provide a community pavilion in accordance with the plans attached at Appendix A, B and C of the Preferred Project Report prepared by JBA Planning dated April 2011.	Not applicable to Stage 2A.	
Landcom will convert the community pavilion into a publicly accessible community centre in accordance with the plans attached at Appendix C of the Preferred Project Report prepared by JBA Planning dated April 2011 and dedicate it to Penrith City Council.	Not applicable to Stage 2A.	
Landcom will construct and embellish the land zoned public recreation on the Open Space Concept Plan Master Plan in accordance with the plans at Appendix X of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated October 2010 prior to dedicating it to Council.	Refer to Section 4.4 and Appendix C.	✓
The Concept Plan identifies the heritage values of Thornton Hall. The Future Project Application will implement the design, layout and landscape values which recognise the identified heritage values of the site.	Refer to Sections 4.4, 6.5 and Appendices J - L.	✓
An archival recording of the place will be undertaken prior to work commencing.	Refer to Section 6.5 and Appendices J - L	✓
An Interpretation Strategy prepared in conjunction with a Public Art Strategy will be submitted in conjunction with subsequent Project Applications to ensure that opportunities to recognise the site's heritage values through landscaping and public art are fully realised.	Refer to Sections 4.3 and 6.5 and Appendices J - L	✓
Prior to commencing works within the vicinity of Thornton Hall (i.e.: the area denoted as H1 on the Indicative Subdivision Plan map) and Coombewood (ie: the area shown as OS5 on the Indicative Subdivision Plan map), Landcom will investigate and record any European archaeological remains within the areas utilising current best practice methodologies.	Refer to Section 6.5 and Appendices J - L	✓
Landcom will consider the views of the Aboriginal community when determining the management regime and interpretation of the mapped and identified indigenous artefact identified as No. 45-5-2491.	Refer to Section 6.5 and Appendices J - L	✓
Landcom commits to implementing public art throughout the site in the locations illustrated on the Opportunities Plan and generally in accordance with the Public Art Strategy attached at Appendix Z of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated October 2010.	Refer to Section 4.3. Public art elements are proposed comprising interpretation of the Speedway Circuit and installation of new red/light interpretative art walls recognising the site's European and indigenous heritage values	✓
Landcom will prepare a street and place naming strategy for future open space and streets throughout the site.	Noted. Post construction.	✓
A Construction Environmental Management Plan (CEMP) is to be prepared which includes a site-specific construction traffic management plan.	Refer to Section 6.14 and Appendices B and H.	✓
Landcom will carry out the road works identified in Road Hierarchy Plan and dedicate those works on a stage by stage basis to Penrith City Council.	Refer to Section 4.5 and 6.4 and Appendix I.	✓
The widened kerbside lanes along the public transport (ie: bus) corridor to Coreen Avenue, and the Station Square (OS8) adjacent to the station and the land reserved for the bus underpass of the Western Railway Line are considered to be works in kind as they are in excess of the bus requirements for this project and are included to benefit the transport needs of other developments and the broader community.	Not applicable to Stage 2A.	N/A

Approved Concept Plan Condition / Statement of Commitment	Stage 2A Proposal	Compliance
Landcom will undertake road works and upgrades to the following intersections: - Parker St/Oxford St/Coreen Ave/Richmond Road; - Coreen Avenue/Coombes Drive (eastern intersection); - Coreen Avenue/new site entrance road (Sydney Smith Drive); - Coreen Avenue & commuter car park road (Daniel Woodriff Drive); - Castlereagh Road/Coreen Avenue; and - Castlereagh Road/Peachtree Road.	Not applicable to Stage 2A.	N/A
In addition to the above, Landcom will provide the following transport related works in kind: The widened kerbside lanes along the public transport corridor to Coreen Avenue, and the interchange facilities in the plaza adjacent to the station to promote the use of transit for travel; Land reserved for a bus underpass of the Western Rail Line to promote the future development of the CBD bus network; Direct and safe cycle and pedestrian routes from Coreen Avenue to Penrith Station (northern side); A wide plaza and good pedestrian access from Penrith Station to the new commuter car park; and Landcom will provide an upgraded access road to the commuter car park.	Not applicable to Stage 2A.	N/A
Landcom will consult with the RTA in the design and construction of RTA owned and managed road works and upgrades and where necessary enter into a works authorisation deed. Landcom will pay the applicable administration and plan checking fees where relevant during these consultations.	Not applicable to Stage 2A.	N/A
The estimated cost of the proposed road network upgrades, the apportionment to the North Penrith project on the basis of traffic growth contribution, and the proposed timings are shown in Table 3.3 of the document titled Testing of RTA and Penrith Council Requested Intersection Changes and Parking Strategy prepared by Parsons Brinckerhoff and dated 22 March 2011 at Appendix G of the Preferred Project Report prepared by JBA Planning dated April 2011. Landcom commits to continuing to work with the RTA to confirm the final scope and costs of the nominated works identified in that Table.	Not applicable to Stage 2A.	N/A
Commercial premises will provide cyclist end-of-trip facilities in accordance with the Planning Guidelines for Walking and Cycling (NSW Planning, December 2004).	Not applicable to Stage 2A.	N/A
Landcom, through conditions on its future sales and tenancy agreements, will produce Transport Access Guides for new residents and require commercial tenants to produce a Workplace Travel Plans for their employees and clients.	Not applicable to Stage 2A.	N/A
Landcom will prepare a Bushland Plan of Management for the Cumberland Plain Woodland within OS2 (Thornton Park). This Plan will include a suggested planting palette that preferences local plantings and seed banks over other resources in the Penrith LGA or broader Western Sydney.	Refer to Section 6.6 and Appendix M for assessment.	✓
Landcom will create a positive covenant over the trees within Block C3 to protect: the Cumberland Plain Woodland; and indigenous archaeological values.	Refer to Section 6.6 and Appendix M for assessment.	✓
Stormwater Infrastructure for the Concept Plan will be provided in accordance with the Stormwater Management Strategy and Stormwater Management Report Worley Parsons at Appendix N of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated October 2010.	Refer to Section 6.7 and Appendix C for assessment.	✓
The targets for annual post development loads are: 85% for Total Suspended Solid (TSS); 65% for Total Phosphorus (TP); 45% for Total Nitrogen (TN); and 90% for Gross Pollutants (GP).	Refer to Section 6.7 and Appendix C for assessment.	✓

Approved Concept Plan Condition / Statement of Commitment	Stage 2A Proposal	Compliance
WSUD features will be maintained in accordance with Managing Urban Stormwater: Treatment Techniques (1997), published by the Environment Protection Agency (EPA).	No WSUD measures proposed for Stage 2A. Refer to Section 6.7 and Appendix C for assessment.	✓
Development on the site will be in accordance with the objectives of the NSW Government's Flood Prone Land Policy and the Flood Plan Development Manual 2005 published by the then Department of Infrastructure, Planning and Natural Resources (DIPNR) and will integrate with the State Emergency Service's regional evacuation strategy.	Not applicable to Stage 2A.	✓
The final ground surfaces will be at or above the regional 100 year ARI flood level of RL 25.4m (AHD).	Refer to Section 6.8 and Appendix G for assessment.	✓
The minimum habitable floor level for the site will be RL 25.9 AHD, being a 0.5m freeboard above the 1 in 100 year annual recurrence interval (ARI) flood event (in accordance with the Regional Flooding Assessment by Worley Parsons at Appendix O of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated October 2010.	Refer to Section 6.8 and Appendix G for assessment.	✓
Landcom will continue to work with a Site Auditor in recognition that there may be a requirement for further assessments, particularly relating to the importation of fill and the possibility of unexpected finds. Site Audit Statements will be prepared for individual Project Applications.	Refer to Section 6.10 and Appendix N for assessment.	✓
The Construction Environmental Management Plan (CEMP) is to include a site-specific Unexploded Ordnance Protocol (UOP). The UOP is to be implemented throughout the construction works under the responsibility of the Principal Contractor.	Refer to Section 6.10 and Appendix N for assessment.	✓
The CEMP is to include a site-specific Unexpected Finds Protocol (UFP). The UFP is to be implemented throughout the construction works under the responsibility of the Principal Contractor.	Refer to Section 6.10 and Appendix N for assessment.	✓
After removal of the existing concrete slabs, a suitably qualified environmental engineer/scientist will inspect the exposed ground for indicators of contamination. Sampling and testing might be required.	Refer to Section 6.10 and Appendix N for assessment.	✓
Remediation and validation pursuant to an unexpected find or contamination found after removal of concrete slab. If remediation is required, a specific Remediation Action Plan (RAP) will be prepared. The remediation works will be carried out in accordance with the RAP. Validation of the remediated area by the environmental engineer/scientist will be carried out after completion of remediation works.	Refer to Section 6.10 and Appendix N for assessment.	✓
Any identified ash/coal materials will be tested to confirm the contamination status. The ash/coal materials with concentrations of analytes within the assessment criteria can be re-used on-site. To mitigate the potential for site occupiers to have aesthetic-based concerns and/ or because the materials may be unsuitable as a planting medium, ash/coal materials will not be placed near-surface in any location in the site.	Refer to Section 6.10 and Appendix N for assessment.	✓
In the event groundwater extraction is envisaged for any purpose, then further groundwater assessment will be undertaken to verify the suitability of the groundwater for the specific use.	Refer to Section 6.10 and Appendix N for assessment.	✓
Further sampling, testing and assessment of the groundwater inside the northern site boundary, which is in the vicinity of the Mobil fuel storage and distribution depot, will be undertaken to confirm that the site is not impacted by any contamination inflow from the Mobil depot. The further assessment will be undertaken prior to lodgement of the Project Application for that part of the site.	Refer to Section 6.10 and Appendix N for assessment.	✓
The crushed concrete and asphalt will be assessed according to The Recovered Aggregate Exemption 2010 under the "Protection of the Environment Operation (Waste) Regulations 2005", prior to re-use.	Refer to Section 6.10 and Appendix N for assessment.	✓
With reference to a comment by the Site Auditor in the Site Audit Statement, the design specification and construction approach for the refurbishment of Thornton Hall is to recognise the potential presence of lead paint attention. The CEMP is to describe the measures to be taken when carrying out work in and around Thornton Hall to safeguard construction workers and the environment.	Refer to Section 6.10 and Appendix N for assessment.	✓

Approved Concept Plan Condition / Statement of Commitment	Stage 2A Proposal	Compliance
The Virgin Excavated Natural Material (VENM) classification will be reassessed in the event of the following observations during construction activities: - foreign matter being found mixed with the soil; - soil staining and discoloration being identified within the stockpile; - odours emanating from the stockpile.	Refer to Section 6.10 and Appendix N for assessment.	✓
With reference to a comment by the Site Auditor in the Site Audit Statement, the soil in the stockpile should not be used on the surface of residential areas.	Refer to Section 6.10 and Appendix N for assessment.	✓
A Construction Environmental Management Plan (CEMP) is to be prepared which includes a site-specific Soil and Water Salinity Management Plan. The Soil and Water Salinity Management Plan is to be implemented throughout the construction works under the responsibility of the Principal Contractor.	Refer to Section 6.14 for assessment.	✓
Further targeted investigations will be required to confirm the detailed design, including ascertaining the suitability of soils for re-use on the site.	Refer to Section 6.14 for assessment.	✓
The CEMP is to include measures to ensure imported fill is suitable for the intended use on site.	Refer to Section 6.14 for assessment.	✓
Development requiring excavation or other ground penetration of greater than 2m and within 25m of the rail corridor will be required to be supported by: - a Geotechnical and Structural Report, and Excavation and Construction methodology that meets RailCorp's requirements. - detailed cross section drawings showing ground surface, rail tracks, sub soil profile, proposed basement excavation and structural design of sub ground support adjacent to the rail corridor. - a services search confirming the existence and location of any rail services/utilities; - drainage diagrams that confirm discharge will be directed away from the railway corridor; and - any electrolysis risk	Not applicable to Stage 2A.	N/A
Any proposed fencing or landscaping within 20m of the rail corridor will be supported by RailCorp endorsement.	No fencing proposed at this stage.	✓
During the detailed design process road grades shall be designed to minimise the amount of fill required at the site, where possible, to assist in providing a more sustainable outcome and also reduce the extent of retaining walls required at the property boundaries.	Minor amount of retaining walls proposed due to topography of Stage 2A.	✓
Additional geotechnical investigations are required to confirm the extent of excavated cut volumes that can be placed as engineering fill within the site.		✓
Testing of the existing asphalt and concrete slabs should be undertaken to determine their respective suitability for re-use in the road profile of the internal road network.	Proposed during construction works. Can be reinforced as a condition of consent.	✓
Future development shall be generally consistent with the findings and the recommendations of the Noise and Vibration assessment at Appendix DD of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated October 2010.	Refer to Section 6.11 and P Appendix P for assessment.	✓
Landcom will appoint Penrith City Council as the authority to issue Subdivision Certificates for future stages of the project.	Required prior to Construction Certificate. Can be reinforced as a condition of consent.	✓
Landcom will obtain the relevant approvals and licenses from relevant utility and service providers (including Sydney Water Corporation) that are required to undertake the development. In particular, Landcom will obtain a Section 73 Certificate(s) and engage a Water Servicing Coordinator as required and relevant.	Required prior to Construction Certificate. Can be reinforced as a condition of consent.	✓

6.3 Urban Design Concept and Subdivision

6.3.1 Concept Plan Approval

The location and interrelationship of subdivision patterns, road networks, pedestrian and cycle movement, community facilities and open space for Stage 2A are underpinned by a number of key urban design principles that drive the planning and development for the site. These include:

Village Centre Focus of Activity

- A focus of business and community activity in the Village Centre with a mix of retail, commercial and community uses adjacent to the main rail/ bus interchange providing employment opportunities and meeting the business services and retail needs of the community.
- The urban and built form of the Village Centre has a main street focus and is pedestrian friendly.

Transit Oriented, Accessible and Connected Development

- Higher density housing is provided within walking distance of the Village Centre, rail station and bus/rail interchange.
- Public transport and arterial roads upgrades give access connections to and from other business centres, employment lands and community facilities in surrounding localities.
- A hierarchy of roads and paths provide clear and convenient access links throughout the precinct and particularly between key urban places.
- A cycleway network link destination points and open spaces.
- Creation of a safe walkable community.

Community Places

- A series of community spaces with distinct identity is embedded in the urban structure.
- Community and social infrastructure is incorporated into the precinct including a multi-purpose community facility, local neighbourhood parks and public art.
- Streets and public spaces are designed for formal and informal social engagement.
- A safe and secure environment is provided with high levels of passive surveillance of the public domain.

In addition, as outlined earlier detailed Design Guidelines (**Appendix C**) and a Landscape Strategy (**Appendix D**) have been prepared for the North Penrith Development including the Stage 2A area.

These documents address:

- housing density and diversity;
- subdivision;
- building envelopes;
- building design and articulation;
- private open space and landscaping;
- fencing;
- garages, site access and parking;

- visual and acoustic amenity;
- development in proximity to the rail corridor;
- Specific Provisions - Key Sites; and
- Specific Provisions - Ancillary Dwellings.

Development within Stage 2A is required to demonstrate compliance with both the Concept Plan and the relevant provisions of the approved Design Guidelines.

6.3.2 Stage 2A Assessment

Urban Design

The Stage 2A Development Application is consistent with the urban design principles and layout of the Concept Plan. In particular, the proposed road layout and subdivision pattern is consistent with that approved under the Concept Plan. Accessible linkages to the approved Stage 1 and future Stages are provided. In addition, the proposed Stage 2A subdivision delivers:

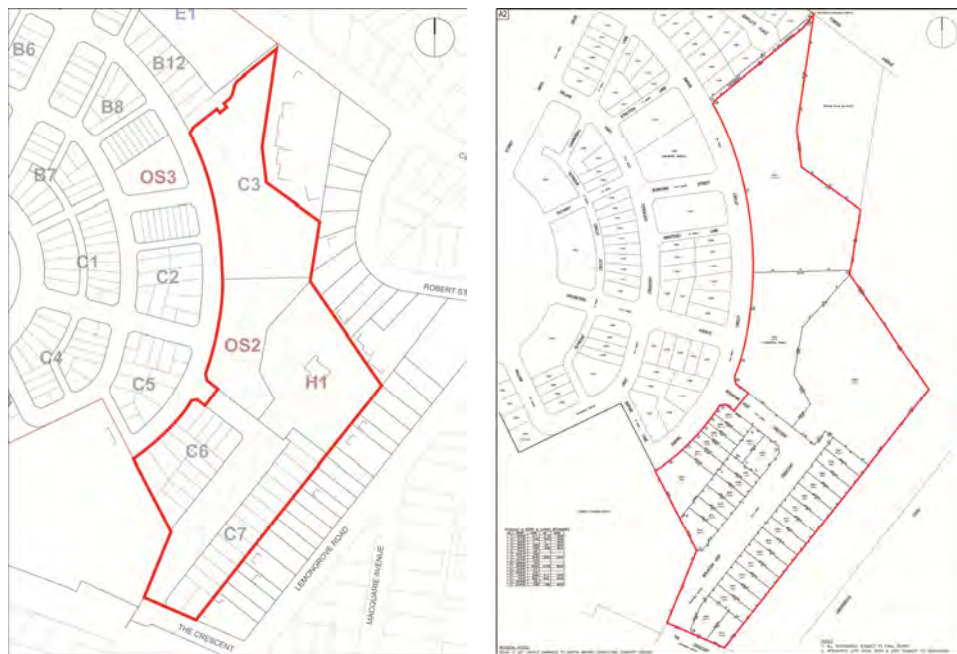
- view corridors between Thornton Hall and the Blue Mountains to the west as established under the Concept Plan through the creation of Mountain View Crescent and Mountain View Crescent West;
- connectivity to Thornton Park and the heritage curtilage; and
- orientation of all lots to the front street for natural surveillance.

Subdivision Layout and Size

The proposed subdivision yields five less lots than approved under the Concept Plan. However, the subdivision form and layout is generally consistent with the Indicative Subdivision Plan and dwelling targets approved under the Concept Plan and Design Guidelines as shown in **Figure 10**. Section 3.1(1) of the Design Guidelines indicates that precincts C1-C7 should deliver between 153 and 169 dwellings. Noting that the Stage 1 Project Application has already approved subdivision for 70 dwellings within precincts C1-C7, Stage 2A will deliver 31 residential lots, ultimately capable of accommodating 79 dwellings and consequently bringing the total number of dwellings to 149 (i.e.: 70 dwellings from Stage 1 + 79 dwellings from Stage 2A). Proposed Lot 2032 is earmarked for future apartments and provides the opportunity to deliver higher densities to achieve the 153-169 target yield. The dwelling targets established by the Design Guidelines are therefore satisfied.

There is no minimum lot size prescribed for the North Penrith site under the Penrith City Centre LEP 2008 or the Concept Plan. However, the North Penrith Design Guidelines require residential lots within the R1 zone to have a general lot depth between 25-30m and a minimum lot width of 4.5m (Section 3.2(4)). In addition, any lots with an area of less than 235m² and a lot width of less than 8m are to be accompanied by plans for proposed dwellings (Section 3.2(1)).

The Building Envelope Plan at **Appendix D** reflects the objectives and controls of the Design Guidelines and identifies the required setbacks, preferred location of the Principal Private Open Space and solar access requirements can be achieved.



Concept Plan Indicative Subdivision Layout

Stage 2A Proposed Layout

Figure 10 – Comparative Subdivision of Concept Plan and Stage 2A Layouts
(Source: Craig and Rhodes)

All proposed residential lots are greater than the minimum lot dimensions required by the Design Guidelines, with lot depths ranging from 28.795 - 37m and lot widths ranging from 9-16m. The smallest proposed lot is 281.1m² (Lot No. 2003) and therefore dwelling plans are not required to accompany the Stage 2A Development Application. Proposed Lots 2014 - 2027 which back onto the existing residential allotments fronting Lemongrove Road are 37m deep and have been designed to ensure they are sufficiently deep enough to achieve the setbacks identified within the Design Guidelines. Proposed Lot 2013 which is oriented north south is 25.96m deep and 16m wide and is also adequately sized to comply with the built form controls in the future.

6.4 Transport and Accessibility

6.4.1 Concept Plan Approval

The Road Hierarchy Plan (Figure 39 of the Concept Plan and reproduced in **Figure 11** below) nominates the location and road typologies to be constructed within Stage 2A. Under the approved Concept Plan, Mountain View Crescent West is envisaged as a dual carriageway with a slip road access arrangement to service residential lots. Both streets are approved under the Concept Plan as "*streets with footpaths*" and do not form part of the formal bicycle network (refer to Figure 42 of the approved Concept Plan) given Stage 2A's location on the periphery of the site, topography and lack of connections to existing bikeways which are along Coreen Avenue. In addition, neither street is identified as a bus route under either the approved Road Hierarchy Plan (Figure 11 below), the Interim Bus Route or Long Term Bus Route approved under the Concept Plan - Figures 40 and 41 of the Approved Concept Plan and reproduced below in **Figures 12 and 13**). Consequently, the Stage 2A road network is not required to make provision for bus routes or bus stops.

A Transport Management and Accessibility Plan (TMAP) was undertaken for the entire North Penrith Development by Parsons Brinckerhoff (refer Section 8.7 of the Concept Plan and summary at **Appendix Q** of this EIS).

The approved TMAP outlines a strategy for managing traffic and transportation at North Penrith through the progressive implementation of local and regional road and intersection upgrades, public transport initiatives, and pedestrian and cycling initiatives.

More specifically, the Concept Plan commits Landcom to:

- delivering the road works identified in the Road Hierarchy Plan and dedicating those works on a stage by stage basis to Penrith City Council; and
- undertaking a range of road works and intersection upgrade works that have been apportioned to reflect the respective impact of the North Penrith Development.

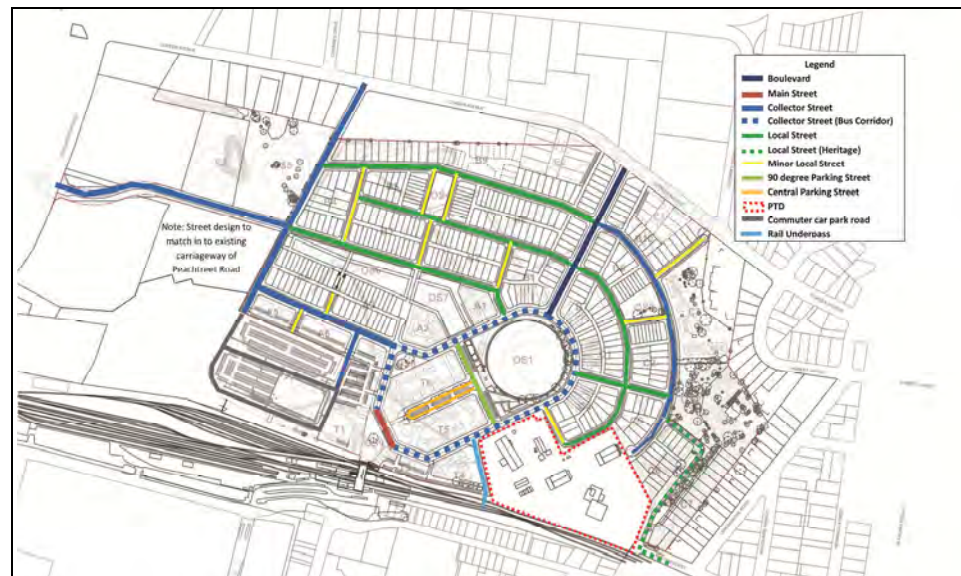


Figure 11 – Approved Road Hierarchy Plan
(Source: Figure 39 of Approved Concept Plan, Parsons Brinckerhoff)

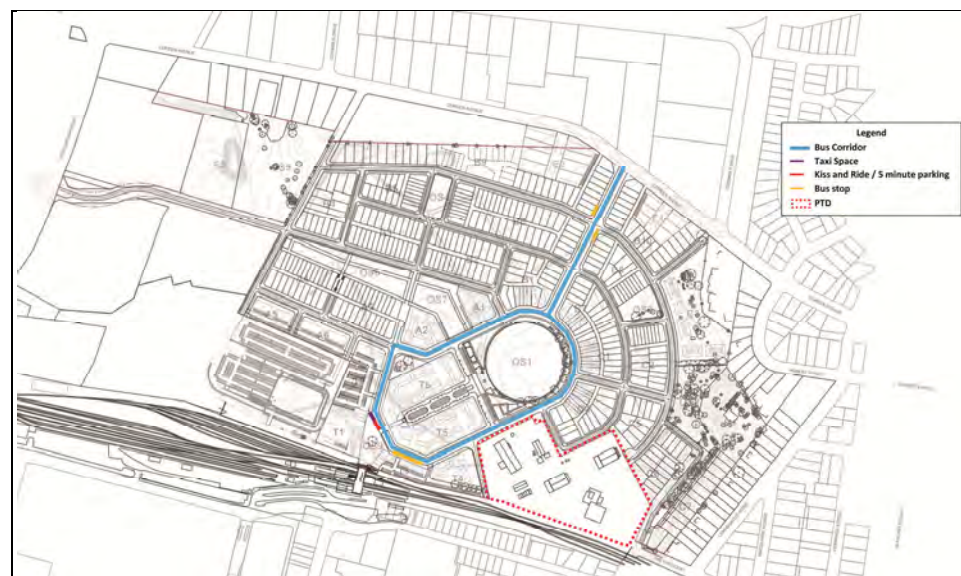


Figure 12 – Interim Bus Route
(Source: Figure 40 of Approved Concept Plan, Parsons Brinckerhoff)

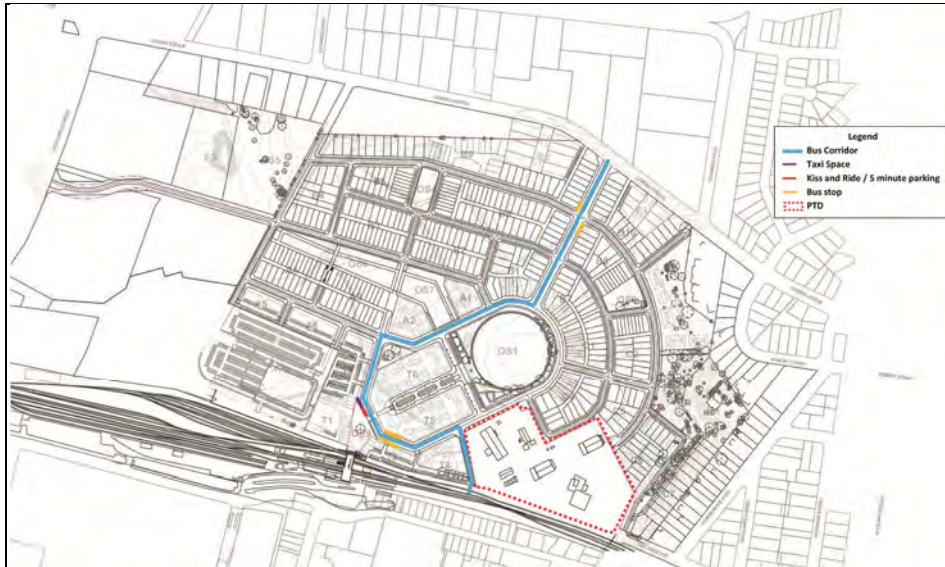


Figure 13 – Long Term Bus Route
(Source: Figure 41 of Approved Concept Plan, Parsons Brinckerhoff)

6.4.2 Stage 2A Assessment

Impacts on Road Network

Parsons Brinckerhoff has prepared a supplementary Traffic Impact Assessment for Stage 2A to quantify the potential traffic impacts and assess the cumulative impact of Stage 2A of the North Penrith Development (**Appendix I**).

The proposed subdivision yields five less lots and results in 17 fewer vehicle trips per typical weekday than that approved under the Concept Plan. The reduction in vehicle trips is consequently expected to reduce queuing lengths and delays at the Stage 2A site's intersections. Stage 2A can therefore cater for the predicted traffic flows in terms of access to, and from, Mountain View Crescent and The Crescent and does not trigger any road works or intersection upgrades under the approved Concept Plan.

The configuration of Mountain View Crescent West differs from that approved under the Concept Plan, and is a direct response to a suggestion made by Penrith City Council to reconsider the approved dual carriageway and slip access road configuration. The redesign has resulted in two key departures from the approved Concept Plan:

- wider street reserves than approved, however the additional widths assists with the turning movements of garbage trucks and allows for the separation of traffic movements; and
- the addition of the central median has necessitated the introduction of a U-turn facility at either end of the central median to allow residents to travel in both directions with only a short detour.

Parsons Brinckerhoff has reviewed these revisions and concluded that there are no significant impacts arising, subject to the provision of U-turn facilities at either end of Mountain View Crescent West for vehicles up to 8.8m in length and the installation of a Stop sign to clarify which movements have priority (refer to Drawing No. 801 at **Appendix B**). Landcom has also agreed to Council's request to undertake a road safety audit (during the Construction Certificate design process) for the non-standard road design outcome as reflected in the Mitigation Measures at Section 7.0.

Driveways and Car Parking

Each proposed residential lot is sufficiently sized to accommodate an off-street car parking space as required by the Design Guidelines. Mountain View Crescent and Mountain View Crescent West have also been designed to accommodate on-street car parking for visitors.

The proposed driveway arrangements for residential lots comply with Sections 3.7(7) and (8) of the approved Design Guidelines on the basis that they:

- have been located with regard to lot widths, future dwelling design and orientation, street gully pits and tree bays;
- maximise on-street car parking, particularly through the widened street reserves and formalised parking bays on undivided sections of Mountain View Crescent; and
- satisfy the requirements of AS 2890.1-2004.

In addition, Mountain View Crescent has been designed to comply with AMCORD and Australian Standard AS2890.5-1993 On-street Parking.

Pedestrian and Cycle Access

The Stage 2A Development Application proposes footpaths on both sides of Mountain View Crescent and Mountain View Crescent West, consistent with the Concept Plan Approval. The only exception to this is along Proposed Lot No. 2031, in front of which is situated a heritage listed tree that is proposed to be retained. Alternative provisions are therefore made for pedestrians to cross Mountain View Crescent via a pedestrian refuge.

As outlined above, Stage 2A does not form part of the approved bicycle network. Notwithstanding this, the roads and footpaths are wide enough to be used by cyclists and therefore Stage 2A does not compromise cycling if desired by residents and visitors to the North Penrith site.

Construction Traffic Impacts

Construction traffic volumes and routes for Stage 2A are not able to be determined at this point but are expected to be less than that generated by the Stage 1 development, and is therefore considered to have a negligible impact on the local road network.

To manage the impacts of construction traffic on the locality, a detailed construction traffic management plan will form part of the Construction Environmental Management Plan (CEMP) for the development prior to commencement of works. The content of the construction traffic management plan will be generally consistent with that approved under the Stage 1 Project Application.

6.4.3 Conclusion

The Stage 2A investigations conclude that the proposed road system is generally consistent with the Road Hierarchy Plan approved under the Concept Plan and is able to cater for traffic generated by the development, particularly as the DA proposes less dwellings than approved under the Concept Plan. No significant traffic generation is expected and as such Stage 2A can proceed without the need for any road upgrades.

Stage 2A is located on the eastern edge of the North Penrith site, and is recognised under the approved Concept Plan, as offering limited demand for public transport and cyclist facilities. The road layout is therefore not required to provide bus routes, bus stops or dedicated cycle paths.

Notwithstanding this, the proposed Stage 2A road network is wide enough to accommodate cyclists and also proposes 1.5-1.6m wide paths for pedestrians, thereby promoting a walkable and bicycle-accessible environment.

The preparation of a detailed construction traffic management plan will ensure the impacts of construction works on the public domain, particularly to vehicular and pedestrian traffic, are minimised and appropriately managed, where required.

6.5 Heritage

6.5.1 Concept Plan Approval

The North Penrith Conservation Management Plan and Heritage Impact Statement (a summary of which are provided at **Appendix Q** of this EIS) approved as part of the Concept Plan establish the requirement to:

- retain Thornton Hall within a 1.035ha (approx.) curtilage comprising a parkland setting;
- protect identified views to and from Thornton Hall;
- protect the Aboriginal archaeological site recorded within the North Penrith site (being AHIMS Item No. 45-5-2491 located near the north eastern boundary of the North Penrith site) in accordance with the approved Aboriginal Plan of Management (Appendix U of the approved Concept Plan); and
- explore opportunities to reinterpret the European and indigenous heritage values of the site through public art and other initiatives.

Residential development is permitted immediately adjacent to the Lemongrove Road Heritage Conservation Area. There are no specific controls/requirements relevant to the proposed scope of Stage 2A works.

The approved Statements of Commitment require Landcom to undertake the following in relation to the site's heritage values:

- implement the design, layout and landscape values which recognise the identified heritage values of the site;
- undertake an archival recording of the place prior to work commencing;
- prepare a detailed Interpretation Strategy in conjunction with a Public Art Strategy to ensure that opportunities to recognise the site's heritage values are fully realised; and
- investigate and record any European and/or indigenous archaeological remains within the vicinity of Thornton Hall (i.e.: the area denoted as H1 on the approved Indicative Subdivision Plan).

6.5.2 Stage 2A Assessment

European Heritage

Tanners Architects has prepared a Statement of Heritage Impact (**Appendix J**) and Heritage Interpretation Strategy (**Appendix K**) specifically for Stage 2A.

The Statement of Heritage Impact assesses the impacts of the Stage 2A works on Thornton Hall and the Lemongrove Road Heritage Conservation Areas against the Conservation Management Plan.

The Statement concludes the Stage 2A works, and particularly the creation of Thornton Park, will not have any heritage impacts on the basis that:

- the proposed works are consistent with the scope of heritage works and impacts already approved and deemed acceptable under the Concept Plan and its supporting Statement of Heritage Impact;
- the proposed works satisfy the requirements of clause 54 of the Penrith City Centre LEP 2008 (Heritage Conservation) and Section 5.0 of the Design Guidelines (Thornton Hall);
- Stage 2A will deliver the recommended curtilage for Thornton Hall;
- Mountain View Crescent West interprets the original driveway to Thornton Hall, and creates enhanced views to Thornton Hall beyond those approved under the Concept Plan;
- the proposed landscaping works and road alignments facilitate the establishment of clear view corridors to and from Thornton Hall, and will improve and contribute to its setting; and
- there are no physical works proposed to Thornton Hall itself.

The Heritage Interpretation Strategy indicates that the proposed Stage 2A interpretive elements are consistent with the principles established under the Heritage Interpretation Strategy approved as part of the Concept Plan. In particular, the proposed landscaping works (Thornton Park curtilage and planting along the remnant section of the Speedway); sculptural displays such as the Thornton Park Interpretative Wall and Aboriginal Stories; and other interpretative media (including street and place naming that make specific reference to the history and uses of the site) provide interpretation that is integral to the site.

In addition, the Stage 2A works to create Thornton Park are consistent with Section 5.0 of the Design Guidelines as follows:

- an appropriate curtilage around Thornton Hall is being created and will be maintained consistent with the applicable principles set out in Section 5.0(2) and Figure 24 of the Design Guidelines;
- screening will continue to be provided by existing trees, with limited thinning of trees proposed to reinforce the view corridor between Thornton Hall and the rest of the site,
- the new landscape design will enhance the setting of Thornton Hall and reinforce view corridors as provided at **Appendix C**;
- the lots backing onto the existing residential allotments fronting Lemongrove Road are deep enough to achieve the setbacks identified within the Design Guidelines.

Indigenous Heritage

The Stage 2A site includes the development of land within the known Aboriginal Site (identified as AHIMS No. 45-5-2491). Whilst no built structures are proposed as part of this Development Application, earthworks and site grading are proposed. The approved Concept Plan contemplated new built form, open space and part of a road into AHIMS No. 45-5-2491 and concluded that development of the Aboriginal Site was acceptable subject to future works complying with the approved Aboriginal Management Plan (reproduced at **Appendix L**).

Representatives of Aboriginal groups were consulted in the preparation of the Aboriginal Management Plan and advised at the time that AHIMS No. 45-5-2491 is small and not in pristine condition (refer to **Appendix L**).

They also advised that the Aboriginal Site has already been subject to clearing, agricultural uses and the construction of farm dams and as such these activities have had a substantial impact on subsurface deposits. Accordingly, AHIMS No. 45-5-2491 is considered to exhibit low scientific significance and low public significance (i.e. little potential to educate the public about Aboriginal culture). Notwithstanding this, the approved Aboriginal Management Plan recommended Landcom interpret the history and significance of the Aboriginal Site as part of future development, with regard to the views of the Aboriginal community. Landcom has provided an option for this interpretation within the curtilage of Thornton Park (OS-2) as illustrated on the Landscape Plans at **Appendix C**.

The Stage 2A works, and specifically those proposed to and within the vicinity of the Aboriginal Site, is acceptable. Site interpretation of the history and cultural significance of the Aboriginal site are proposed consistent with the recommendations of the approved Aboriginal Heritage Management Plan, and will continue to be refined through the detailed design of the development. In addition, Landcom proposes to create a Section 88B instrument at Subdivision Certificate stage to protect AHIMS No. 45-5-2491, consistent with Condition C10 of the approved Concept Plan. Creation of the Section 88B instrument now (as required by Condition C10) is considered premature given it limits the opportunity to resolve any detailed engineering or overland flow issues DoPI or Penrith City Council may identify during assessment of the Stage 2A works. Deferring creation of the S88B instrument to the Subdivision Certificate will provide an opportunity to adopt the detailed design that Landcom and its consultant team is currently in the process of undertaking.

Landcom reiterates its commitment to protecting the site's heritage values and has incorporated the approved Statements of Commitment into the Mitigation Measures at Section 7.0.

6.6 Tree Removal and Ecological Impacts

6.6.1 Concept Plan Approval

An Ecological Assessment was prepared by Eco Logical Australia for the North Penrith Development (see Sections 3.8, 6.11 and Appendix P of the Concept Plan. Refer to summary at **Appendix Q** of this EIS). The Assessment provided an assessment of flora and fauna within the site and surrounding areas and to identify potential constraints and opportunities associated with the entire North Penrith development. The Concept Plan assessment concluded that the impacts of the development, as proposed in the Concept Plan, are sustainable.

Of specific relevance to the Stage 2A Project, the Concept Plan Statement of Commitments required Landcom to:

- prepare a Plan of Management and suggested planting palette prior to commencement of works for the Cumberland Plain Woodland within OS2 (Thornton Park);
- create a restriction to the use of land over the trees within Block C3 to protect the Cumberland Plain Woodland and indigenous archaeological values.

6.6.2 Stage 2A Assessment

Cumberland Plain Woodland (CPW), an endangered ecological community listed under the *Threatened Species Conservation Act 1995* (TSC Act) has been identified within the Stage 2A site and particularly the area proposed to be developed as Thornton Park.

The Stage 2A works will result in the loss of approximately 9 trees being removed within the area of Cumberland Plain Woodland that will form Thornton Park.

The area of CPW being modified requires thinning of the canopy and management of the understorey to provide the view corridor requirements established under the Concept Plan. The thinning will be offset by enhanced extensive weed management and rehabilitation through seed collection of remnant native planting. The Indicative Planting Palette prepared by Place Design Group at **Appendix C** identifies the proposed species, heights, spacing and pot sizes of replacement CPW planting. The indicative species list at Page 12 of Appendix C specifically addresses Condition C9 of the approved Concept Plan by confirming that replanting of Cumberland Plain Woodland species will be undertaken with plants grown from local provenance seed sourced from the local area to maintain the genetic integrity of the community.

The Engineering Plans at **Appendix C** indicate that the depression running through the Thornton Park lot will be filled and regraded to a maximum 0.15m around the base of existing trees accordance with the approved Worley Parsons Stage 1 Construction Drawings. The placement of fill within the area identified as being Cumberland Plain Woodland is not strictly consistent with Landcom's commitment to create a Section 88B instrument to protect Cumberland Plain Woodland, however it is noted that the Engineering Plans are notated with a commitment to additional ecological assessment. Landcom's Mitigation Measures at Section 7.0 accordingly identify that Landcom will undertake further assessment of the quantum and extent of fill in the Thornton Park lot as part of the detailed design process.

The proposed subdivision works will also require the removal of approximately 90 existing trees within the alignment of Mountain View Crescent, which are identified for retention in the Design Guidelines. Despite the Design Guideline requirements, the tree removal is considered acceptable on the basis that:

- Most of the existing trees previously identified for retention sit on top of a 1 metre high crib retaining wall. The level of cut and fill works required to achieve suitable grading for the development mean it is simply not feasible to retain these trees because of the impacts within the root zone.
- The existing trees currently function to obscure views to Thornton Hall, and in this regard their removal will establish a clear view axis, consistent with the requirements of the Statement of Heritage Impact approved under the Concept Plan.
- The location of the existing trees within the road reservation requires the creation of a 'slip' access road for the lots on the eastern side (as approved under the Concept Plan). In pre-lodgement discussions with Penrith City Council has advised that the approved road configuration is considered inefficient and undesirable. The split carriageway proposed by this Development Application is the preferred road design outcome, but does necessitate the removal of the existing trees which cannot be located within the central median.
- The trees are generally not in keeping with the overall streetscape approach adopted throughout the development; their removal will enable Landcom to undertake replacement street tree planting that is consistent with the approved Concept Plan Landscape Concept (Appendix X of the Concept Plan) and the Stage 2A Thornton Park Landscape Concept prepared by Place Design Group (**Appendix C**).

While it is recognised that the removal of these trees will result in some short-term loss of visual amenity, the replacement with selected street tree plantings and overall improvement to the design of Mountain View Crescent will compensate for this loss and result in an improved outcome in the longer term. Landcom has discussed the tree removal with Penrith City Council and Council has indicated support for the proposed road layout and consequential tree removal.

In summary, the Stage 2A site is generally consistent with the ecological assessment approved under the Concept Plan, as confirmed by the statement prepared by Eco Logical Australia at **Appendix M**). Landcom will implement through Construction Environmental Management Plans and other mechanisms a suite of measures to reduce the potential impacts on areas of ecological value adjacent to the site, including:

- signage identifying the location of critically endangered ecological communities and notifying liability for prosecution under State and Commonwealth legislation;
- installation of sediment control devices;
- use of sterile cover crops in spray grass applications;
- regular weed management along interfaces;
- provision of an environmental site induction for contractors on site; and
- inclusion of environmental protection requirements in contracts.

6.7 Water Cycle Management

6.7.1 Concept Plan Approval

The conceptual stormwater drainage networks approved under the Concept Plan are integral to the bulk earthworks strategy for the site (see summary at **Appendix Q** of this EIS). In summary, the North Penrith Development requires the provision of approximately 11,000m³ of detention volume to attenuate post-development peak flow rates back to pre-development levels prior to discharging into existing drainage infrastructure.

The volume of storage is provided above the constructed wetland and within the central canal, located in future stages of the Development.

A suite of WSUD measures have been approved to reduce the average annual pollutant loads for Total Suspended Solids (TSS), Total Phosphorus (TP), Total Nitrogen (TN) and Gross Pollutants (GP). Measures include rainwater tanks, bio-retention sales, gross pollutant traps, sedimentation basins and constructed wetlands. These WSUD measures are strategically located throughout the broader North Penrith development to provide a treatment train approach to stormwater quality management. No WSUD are specifically identified for Stage 2A, on the basis that the site area is relatively small (compared to the overall catchment which is largely located outside the North Penrith site), there are limited residential allotments proposed and Stage 2A and Thornton Hall are the highest parts of the North Penrith site. Rather, the Water Cycle Management Strategy approved under the Concept Plan is limited to drainage lines throughout Stage 2A as shown in Figure 43 of the approved Concept Plan and reproduced at **Figure 14** below.

Landcom has committed to undertaking the stormwater works in accordance with the approved strategy and has also committed to achieving the following average annual post development pollutant loads:

- 85% for Total Suspended Solid (TSS);
- 65% for Total Phosphorus (TP);
- 45% for Total Nitrogen (TN); and
- 90% for Gross Pollutants (GP).

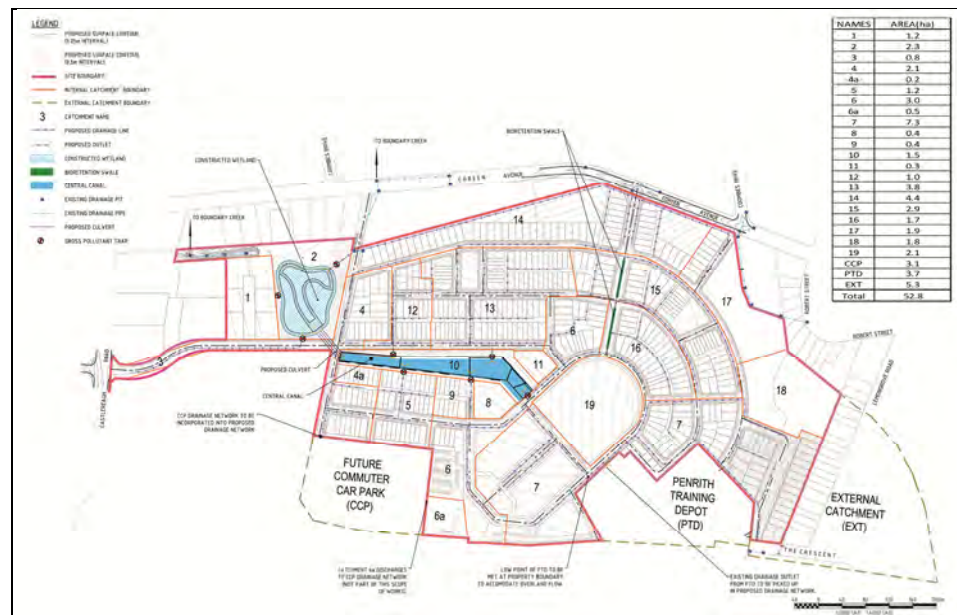


Figure 14 – Water Cycle Management Strategy
(Source: Figure 43 of Approved Concept Plan, Worley Parsons)

6.7.2 Stage 2A Assessment

Brown Consulting has prepared a drainage concept for Stage 2A consistent with parameters of the conceptual stormwater drainage approved under the Concept Plan's and the detailed design documentation approved for Stage 1 (**Appendices B and G**).

The concept drainage strategy for Stage 2A provides an integrated system to cater for external catchments, proposed connections, defined catchment boundaries and inter-allotment drainage requirements. A proposed pit, pipe, and channel drainage system is proposed along the retaining wall running adjacent to the boundary on the high side of the site (eastern boundary). This system will capture the flows, from storm events up to and including the 100 year ARI, generated from the residential lots off Lemongrove Road and convey a portion of the external catchment to the internal North Penrith Drainage system.

Remaining flows will be directed south to the existing drainage infrastructure in The Crescent. This proposed method of conveyance is consistent with the approved Regional Flooding Assessment approved as part of the Concept Plan (refer to Sections 3.7 and 8.12 and Appendix O of the Concept Plan). The internal drainage assessment has been based on the Probabilistic Rational Method following guidelines set by Penrith Council for fraction impervious factors, time of concentrations etc. for the assumed catchments as well as Stage 1 documentation and best management practices. Further detailed design and calculations during preparation of the Construction Certificate documentation will be undertaken using the drainage analysis and design software programs DRAINS as committed to in the Mitigation Measures at Section 7.0.

All water quality and quantity devices will be located within public reserves or road ways. The future transfer of ownership of the land and these devices will form part of an agreement between Landcom and Penrith City Council.

6.8 Flooding

6.8.1 Concept Plan Approval

A Flood Risk Assessment was undertaken by Worley Parsons for the Concept Plan (see Sections 3.7 and 8.12 and Appendix O of the Concept Plan and summary at **Appendix Q** of this EIS). The assessment demonstrated that flooding impacts of the site represent a constraint to development over the majority of the site.

However, the site's flooding constraints can be overcome through:

- the proposed bulk earthworks strategy to raise the site to or above the regional 100 year ARI flood level of RL 25.4m (AHD);
- adoption of a 0.5m freeboard above the RL 25.4 AHD flood planning level.

6.8.2 Stage 2A Assessment

The management of any potential flooding in the Stage 2A area is covered in the Civils Report prepared by Brown Consulting (**Appendix G**). The report concludes that there is no flood risk associated with the Stage 2A site on the basis that the minimum RL observed on the Stage 2A site is approximately RL 29.4m at the north western end of the proposed super lot (Lot No. 2032). This level already exceeds the minimum habitable floor level of RL 25.9m established under the Concept Plan.

6.9 Contamination

6.9.1 Concept Plan Approval

Numerous investigations have been undertaken into the presence of contamination and unexploded ordnance (UXO) on the site. As outlined in Section 2.3, a Site Auditor's Statement has been issued for the North Penrith Development (including Stage 2A) confirming that the site is suitable for the proposed development.

The Concept Plan included a number of commitments relating to on-going investigations, monitoring and management as part of a comprehensive program through subsequent stages. A summary is provided at **Appendix Q** of this EIS

6.8.2 Stage 2A Assessment

Site Suitability

Based on the results of investigations, remediation and validation works and the Site Audit considers that the site is suitable for the proposed residential and open space land uses, subject to:

- further assessment of any groundwater extracted during construction works;
- any existing stockpiles on the site not being used on the surface of residential areas; and
- flaking of paint in Thornton Hall that could contain lead, should be considered (it is noted however, that works to Thornton Hall do not form part of this application).

The site specific Contamination Report prepared by Geotechnique for the Stage 2A works, and attached at **Appendix N**, has recommended:

- screen testing be undertaken to confirm that ash materials found on site are not contaminated; and
- further investigations be undertaken to determine the presence of contamination after removal of existing bitumen/roadways, and carrying out of remediation of required.

Management of Unidentified Contamination

Any potential, and as yet, unidentified contamination within the site will be managed as follows:

- ongoing investigations (where required) in accordance with relevant NSW EPA/DECCW Guidelines including but not limited to NSW EPA Site Auditor Guidelines;
- remediation of any additional impacted areas identified through current investigations and during construction works;
- preparation of validation reports; and
- provision of a Site Audit Statement (SAS) by a NSW DECCW Accredited Contaminated Land Site Auditor and in accordance NSW EPA Site Auditor Guidelines with respect to the site suitability for the proposed development; and
- implementation of an Unexpected Finds Protocol prior to the issue of a Site Audit Statement.

Unexploded Ordinance

The Stage 2A area generally incorporates maintenance areas and storage areas and did not include training activities which could result in the presence of Unexploded Ordinance (UXO). Based on the results of investigations carried out to date, Geotechnique considers that the site is suitable for the proposed residential and open space land use as the areas where potential UXO are likely to be encountered are outside the Stage 2A site. Notwithstanding this, there is the potential for unexpected finds during development given the site's historical military use. Accordingly, an Unexpected Finds Protocol will be developed to document the procedures, management and reporting requirements where UXO and SAA are encountered.

6.10 Geotechnical

6.10.1 Concept Plan Approval

Numerous investigations have been undertaken into the geotechnical, hydrogeological and soil characteristics of the site. These were summarised and augmented in the Concept Plan (refer to Sections 3.5 and 8.11 and Appendices K and L of the Concept Plan and summary at **Appendix Q** of this EIS). The assessment identified that there are unlikely to be risks associated with subsurface conditions, or actual or potential Acid Sulfate Soils. However, potential geotechnical constraints to the development of the site have been identified in relation to:

- the presence of uncontrolled fill in some areas of the North Penrith site that may not be suitable; and
- piling to depths below 5m which is likely to encounter groundwater.

6.10.2 Stage 2A Assessment

Geotechnique has prepared a Geotechnical Report included at **Appendix O**.

The report assesses the existing ground and groundwater conditions to determine the suitability of the Stage 2A and concludes that neither of the constraints identified during the Concept Plan assessment render the site unsuitable for development. Geotechnique has recommended:

- a Soil and Water Salinity Management Plan be implemented throughout the construction of works;
- detailed geotechnical investigations during the detailed design and construction phases to determine the suitability of existing soils on the site for re-use as fill material; and
- a geotechnical assessment of the imported fill to ensure it is suitable for the proposed uses on site.

These recommendations are incorporated as Mitigation Measures in Section 7.0.

6.11 Noise & Vibration

6.11.1 Concept Plan Approval

Landcom has committed to carrying out the North Penrith Development in a manner consistent with the findings and recommendations of the Noise and Vibration Assessment attached to the approved Concept Plan.

6.11.2 Stage 2A Assessment

The DGRs require Landcom to:

- identify the main noise generating sources and activities at all stages of construction, and any noise sources during operation;
- outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land;
- outline measures to minimise and mitigate the potential noise impacts on future occupants of the site from identified noise generating sources, including the railway line; and
- consider relevant policies and guidelines such as the NSW Industrial Noise Policy (EPA) and the Interim Construction Noise Guideline (DECC).

The approved Noise and Vibration Impact Assessment undertaken by Benbow for the Concept Plan addressed these matters and accordingly is attached at **Appendix P**. A summary of its findings as relevant to Stage 2A as provided below.

Rail Noise and Vibration

The approved Concept Plan recognises that existing rail noise levels already exceed the design criteria for residences at all locations across the North Penrith site (refer to Table 4-6 of Appendix P). Accordingly, whilst the proposed Stage 2A lots can proceed, the design of the residential dwellings closest to the railway line will need to consider these exceedances and adopt a range of design measures as outlined in the Building Design section of the Noise and Vibration Impact Assessment and Section 3.8(6) of the Design Guidelines.

Consistent with the requirements of Section 3.9(1) of the Design Guidelines, the siting of residential lots within 60m of the rail corridor must address the *Interim Guidelines for Applicants - Consideration of Rail Noise and Vibration in the Planning Process* (RailCorp).

Guiding factors in terms of managing and ameliorating the issue of railway noise at the proposed residential lots have been considered by the Noise and Vibration Impact Assessment. The Assessment has concluded that the siting of the lots along the railway corridor is consistent with the RailCorp Guidelines and are recommended to be incorporated into the built form (refer to Building Design Section of the Assessment, pg. 89).

In addition, safe working distances can be achieved in accordance with BS 6472 (human response) and BS 7385 (cosmetic damage) to minimise potential vibration impacts from vibration intensive construction plant. As such, no specific recommendations have been provided in this regard.

Impacts of Traffic Noise on New Development

The Crescent has not been identified as a source of road traffic noise. In fact, only Coreen Avenue has been identified as a potential noise source for the North Penrith Development. Consequently, noise levels are not predicted to exceed the daytime (60dBA) or night time (55dBA) noise criteria and accordingly noise mitigation measures will not be required for residences in the Stage 2A area.

Impacts of Traffic Noise on Existing Development

The noise assessment also considered the noise contribution on existing residences surrounding the North Penrith site. Benbow has concluded that the acoustic impacts on these residences will be insignificant and well below the 1dBA 'allowance' specified by the ECRTN because the additional traffic on Coreen Avenue attributed to the overall North Penrith development. In any case, Stage 2A's contribution to increased traffic noise levels is very low.

Construction Noise

The impacts of typical noise levels generated by construction equipment that would typically be used for the type of works proposed in Stage 2A have been assessed. The loudest construction period is expected to be during the earthmoving phases in various sections of the site. This could impact on existing residences to the east along Lemongrove Road.

Benbow's initial calculations show that the relevant construction noise criterion could be complied with. A Preliminary Construction Environmental Management Plan (CEMP) was prepared for the Stage 1 Project Application works to mitigate the noise and vibration impacts generated as a result of those comparable construction activities. The principles and range of measures set out in the Stage 1 CEMP are applicable to the Stage 2A works. Accordingly, Landcom is committed to preparing and implementing a detailed CEMP prior to commencement of works that will incorporate the following noise mitigation measures for Stage 2A:

- construction activities that are likely to be audible at any residence will not occur outside the hours of 7.00am-6.00pm Monday to Friday and 8.00am-1.00pm on Saturday;
- location of out of hours site access;
- noisy activities such as earthworks in close proximity to residences will where possible be programmed to avoid early mornings and Saturdays, and where practical, consideration will be given to surrounding residential receivers when planning the construction program;
- spoil quantities will be managed to avoid additional truck movements provide additional fill or remove excess spoil;
- diesel powered machines such as trucks, bobcats and excavators will be switched off if not required for more than a few minutes rather than left idling unnecessarily;

- machines used on site will be maintained in good condition to minimise noise emissions. Excessively loud machines will be repaired, modified or removed from the site;
- sound pressure level measurements will be conducted on all plant prior to works beginning on-site;
- a representative from the construction contractor will be available to respond to questions and complaints from the community in a timely manner.
- reverse alarms will be controlled to the minimum sound level consistent with safety by replacing, shielding or relocating the alarm unit on noisy machines.

6.11.3 Conclusion

The Noise and Vibration Impact Assessment approved as part of the Concept Plan was undertaken in accordance with the Environmental Criteria for Road Traffic Noise (EPA 1999)(ECRTN) and Development Near Rail Corridors and Busy Roads - Interim Guideline (Department of Planning). The Assessment concluded that noise impacts associated with the development of Stage 2A can be managed or mitigated through the inclusion of construction management measures and ultimately acoustical considerations and treatments during detailed design of the ultimate built form. The Assessment also found that there is no risk of vibration impacts associated with Stage 2.

Landcom's commitment to responsibly manage construction noise impacts is reflected in the Mitigation Measures at Section 7.0 through the preparation and implementation of a Stage 2A CEMP.

6.12 Environmentally Sustainable Development

6.12.1 Concept Plan Approval

An assessment of the proposed sustainability measures was undertaken as part of the Concept Plan (see Concept Plan Section 6.4). Landcom's sustainability strategy considered a range of factors comprising:

- retention of core ecological communities within the site and provision of conservation and open space connectivity with a long term ownership and maintenance regime;
- water sensitive urban design measures that will improve water quality, and form a critical component of the site's urban design;
- adoption of potable water supply conservation target and identification of integrated options for water supply, wastewater and stormwater servicing;
- conservation in energy demand by facilitating orientation of lots that can ensure optimal solar access;
- reduction in travel distances and improved mode share split by (amongst other things):
 - providing a street network with a high level of connectivity and permeability;
 - locating the majority of dwellings within 400 metres walking distance of public transport services and nodes;
 - providing an interconnected network of pedestrian priority streets and open space corridors to encourage walking between residences and facilities; and
 - providing a system of on-street and off-street cycle ways to encourage bicycle usage.

6.12.2 Stage 2A Assessment

The sustainability strategy for Stage 2A is on-going and must be considered in the context of the staged planning process set up by the Concept Plan framework. The ESD opportunities approved under the Concept Plan have been incorporated into the design and technical assessments of the Stage 2A area, where applicable. In particular Stage 2A delivers the following ESD outcomes:

- delivery of Thornton Park, ensuring the first step in the heritage conservation of Thornton Hall;
- rehabilitation and restoration of the Cumberland Plain Woodland within Thornton Park;
- key road and infrastructure connections, stormwater and civil works, that contribute to the site's overall service delivery; and
- provision of rainwater tanks on each residential lot which will retain stormwater runoff for re-use in toilet flushing and for outdoor irrigation.

In addition, the Stage 2A works satisfy the ESD requirements of the approved Design Guidelines as follows:

- retention of identified trees within Thornton Park;
- enhancement of the heritage characteristics of Thornton Hall;
- protection of environmental heritage through incorporation of heritage features and vistas into the road alignment and open space network; and
- provision of a subdivision layout that:
 - is consistent with the target yields required by the Concept Plan;
 - contributes to the realisation of the North Penrith Development as a transit oriented development that recognises its proximity to public transport, the Penrith CBD and employment opportunities;
 - provides a range of lot sizes to accommodate a range of affordable housing forms and typologies that meet the needs of a diverse range of age groups and family types; and
 - facilitates solar access and high amenity.

6.13 Contributions

6.13.1 Concept Plan Approval

Condition C4 of the North Penrith Concept Plan establishes the contributions framework applicable to the North Penrith Development. The subdivision of Stage 2A will attract the payment of contributions to Penrith City Council for district open space facilities.

6.13.2 Stage 2A Assessment

Landcom intends to meet its obligations with respect to development contributions via a combination of carrying out of works-in-kind, dedication of land free of cost and provision of material public benefits. The proposed scope of local contributions is in the following table.

Table 8 – Local community infrastructure contributions

Contribution	Specification and Timing
Thornton Park (OS2) – Passive Area – local park	▪ Embellishment to be generally in accordance with the specifications identified in the North Penrith Village Environmental Assessment Landscape Concept Plan prepared by Place Design Group and dated October 2010. ▪ Timing to be agreed with Penrith City Council.
Roads & Traffic ▪ Mountain View Crescent ▪ Mountain View Crescent West	▪ As per specifications in the Road Design Plans prepared by Brown Consulting at Appendix B.

Land designated as Public Open Space is to be transferred into the ownership of Penrith City Council and will ultimately need to be managed in accordance with a Plan of Management prepared in accordance with *the Local Government Act 1993*.

The North Penrith Concept Plan identifies that a Bushland Plan of Management will need to be developed by Landcom prior to commencement of works relating to Thornton Park and will incorporate measures to retain CPW values through retention of trees, maintenance of the existing native understorey, and location passive and active facilities cognisant of existing CPW values. Landcom has reiterated its commitment to the protection of CPW in the Mitigation Measures at Section 7.0.

6.14 Construction Management

A Construction Environmental Management Plan will be prepared prior to commencement of works. The Plan will include measures to manage the methods and impacts of construction, and address the following matters:

- management responsibility and reporting, and key personnel and responsibilities including workplace health and safety officers;
- environmental management including management of:
 - construction traffic in accordance with the Transport Management and Accessibility Plan at **Appendix I**;
 - noise and vibration in accordance with the Noise and Vibration Impact Assessment at **Appendix O**;
 - erosion and sedimentation in accordance with the draft soil and water management plan at **Appendix B**;
 - air quality and dust; and
 - vegetation.
- workplace health and safety policy and on-site safety requirements including risks and control methods, safe work method statements, traffic management, electrical power supply and safety, signs, protective equipment and clothing, fire prevention, communication, public safety, inspections and safety audits, site inductions and visitors, plant and equipment;
- site emergencies including procedures for evacuation, fire, injury, crime, flood, storm, dust, first aid and incident reporting; and
- management of unexploded ordnance.

7.0 Mitigation Measures

Subject	#	Commitment	Responsibility / Timing
Consistency with Concept Plan	1	In undertaking the Stage 2A works, Landcom will implement the relevant Statements of Commitment approved under the Concept Plan.	To be demonstrated by the proponent during relevant stage of project.
Local Infrastructure Contributions	2	Landcom will construct and embellish the Thornton Park Open Space lot in accordance with the plans at Appendix C prepared by Place Design Group and dated June 2012.	To be demonstrated by the proponent prior to issue of the Subdivision Certificate.
	3	Landcom will provide local infrastructure contributions in accordance with Condition C4 of the Concept Plan Approval.	To be demonstrated by the proponent prior to issue of the Occupation Certificate (consistent with Landcom's Section 75W to the Concept Plan dated February 2012).
	4	Landcom will maintain any local infrastructure contributions that are to be dedicated to Penrith City Council for a period of 36 months from the date of practical, completion of the works, unless otherwise agreed by Landcom and Penrith City Council (and subject to SoC No. 3 below).	To be demonstrated by the proponent prior to issue of the Subdivision Certificate.
Ecological and Heritage Attributes	5	During the detailed design process and preparation of construction drawings, Landcom will consult with Penrith City Council and the Office of Environment and Heritage in relation to the quantum and extent of fill within the Thornton Park lot to ensure the ecological values of the Cumberland Plain Woodland are protected.	To be demonstrated by the proponent prior to issue of the Construction Certificate.
	6	Landcom will continue to consult with Penrith City Council and the Office of Environment and Heritage in relation to the ecological and archaeological attributes of the Thornton Park lot.	To be demonstrated by the proponent prior to issue of the Construction Certificate.
	7	Landcom will create a S88B Instrument over the trees within the Thornton Park lot to protect: ■ The Cumberland Plain Woodland; and ■ Indigenous archaeological values, particularly the Aboriginal Site known as AHIMS No. 45-5-2491.	To be demonstrated by the proponent prior to issue of the Subdivision Certificate.
Traffic and Access	8	Landcom will carry out the road works identified in Engineering Plans at Appendix B prepared by Brown Consulting dated June 2012 and dedicate those works on to Penrith City Council.	To be demonstrated by the proponent prior to issue of the Construction Certificate.
	9	Landcom will undertake the road works in accordance with the recommendations of the Parsons Brinckerhoff Traffic Impact Statement at Appendix I and dated 20 June 2012.	To be demonstrated by the proponent prior to issue of the Construction Certificate.
	10	Landcom will undertake a road safety audit to verify that the design of Mountain View Crescent West raises no safety issues.	To be demonstrated by the proponent prior to issue of the Construction Certificate.
Drainage and Stormwater	11	Stormwater infrastructure will be provided in accordance with the Drainage Plans at Appendix B prepared by Brown Consulting dated June 2012 and the Civils Report prepared by Brown Consulting at Appendix G dated June 2012.	To be demonstrated by the proponent prior to issue of the Construction Certificate and during works.
Construction Impacts	12	A Construction Environmental Management Plan (CEMP) is to be prepared which includes a site-specific Soil and Water Salinity Management Plan. The Soil and Water Salinity Management Plan is to be implemented throughout the construction works under the responsibility of the Principal Contractor.	To be demonstrated by the proponent prior to issue of the Construction Certificate.

Subject	#	Commitment	Responsibility / Timing
Contamination	13	After removal of the existing concrete slabs, a suitably qualified environmental engineer/scientist will inspect the exposed ground for indicators of contamination. Sampling and testing might be required.	To be demonstrated by the proponent during works.
	14	Landcom will continue to work with a Site Auditor in recognition that there may be a requirement for further assessments, particularly relating to the importation of fill and the possibility of unexpected finds.	To be demonstrated by the proponent prior to issue of the Construction Certificate.
	15	The Construction Environmental Management Plan (CEMP) is to include a site-specific Unexploded Ordnance Protocol (UOP). The UOP is to be implemented throughout the construction works under the responsibility of the Principal Contractor.	To be demonstrated by the proponent prior to issue of the Construction Certificate.
Geotechnical Matters	16	Further targeted investigations will be required to confirm the detailed design, including ascertaining the suitability of soils for re-use on the site. The CEMP is to include measures to ensure imported fill is suitable for the intended use on site.	To be demonstrated by the proponent prior to issue of the Construction Certificate.

8.0 Conclusion

The proposed North Penrith Development provides the opportunity to create a new mixed uses community immediately north of the Penrith CBD, and in doing so implement the key objectives and outcomes of the Draft North West Subregional Strategy associated with accommodating population and employment growth outcomes. The North Penrith Development Concept Plan creates the planning and development framework for the key component of the Draft North West Subregional Strategy. Overall justification for the proposed North Penrith Development has been established in the Concept Plan. This environmental impact statement provides further detailed assessment and justification for the development of the Stage 2A area, consistent with the Concept Plan.

The Stage 2A Development Application has environmental planning merit in the following respects:

- it is consistent with the zoning and development controls applicable to the site under the Penrith City Centre LEP and Design Guidelines;
- it is consistent with the urban design principles established in the Part 3A Concept Plan for North Penrith, and particularly in providing:
 - a low scale residential subdivision pattern that respects the adjacent heritage items;
 - an accessible and connected grid network of streets with good linkages to the transport network, and other community facilities; and
 - Thornton Park which will protect and rehabilitate the existing Cumberland Plain Woodland;
- transport infrastructure initiatives are included in accordance with the Concept Plan including pedestrian cycle path network, and road infrastructure upgrades;
- the road network with the proposed road and traffic management works has capacity to accommodate traffic generated by Stage 2A;
- a water cycle management plan consistent with the principles of Water Sensitive Urban Design is included to ensure the quantity and quality of stormwater leaving the Stage 2A site meets statutory requirements and predevelopment flow levels;
- there is no flood risk as Stage 2A is above the 100 year ARI flood level;
- geotechnical constraints will be managed through measures in soil and water management plans prepared prior to construction, and the risk of unstable slopes arising from the bulk earthworks is very low and able to be managed;
- the site is subject to a Site Audit Statement confirming the site is suitable for the proposed residential and open space uses, and the risk of unexpected contamination can be appropriately managed;
- community infrastructure contributions are being provided for parks, road works, and cycleways which are to be dedicated to Penrith City Council; and
- a construction environmental management plan will be prepared prior to the commencement of works to manage the methods and impacts of construction activities.

Given the above planning merits, Landcom requests the Minister for Planning and Infrastructure approves the Stage 2A development application.