Environmental Impact Statement

State Significant Development Application SSD_6848

Stage 3B Redevelopment of Lismore Base Hospital and the Staged Construction of a New Hospital Carpark

Submitted to the NSW Department of Planning and Environment
On Behalf of Health Infrastructure

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Report Revision History

Revision	Date Issued	Prepared by	Reviewed by	Verified by
01 - Preliminary Draft	1/12/14	**Melanie Krzus** *Associate*	**Chris Outtersides** *Director*	
02 - Final Draft	10/12/14	**Melanie Krzus** Associate	**David Ryan** Executive Director	**David Ryan** *Executive Director*
03 - Final	29/01/15	**Melanie Krzus** Associate	**David Ryan** Executive Director	

This document is preliminary unless approved by a Director of City Plan Strategy & Development.

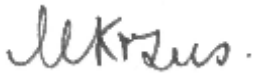
CERTIFICATION
This report has been authorised by City Plan Strategy & Development, with input from a number of other expert consultants, on behalf of the Client. The accuracy of the information contained herein is to the best of our knowledge not false or misleading. The comments have been based upon information and facts that were correct at the time of writing this report.

Declaration and Certification

I certify that I have prepared the content of this Environmental Impact Statement (EIS) and to the best of my knowledge:

- it is in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000;
- it contains all available information that is relevant to the environmental assessment of the development to which the statement relates; and
- the information contained in the statement is neither false nor misleading.

Prepared By



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** Any reference to "3B" below relates to the Stage 3B development. Any reference to "carpark" below relates to the hospital carpark development.*

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2	Site Surveys - 3B	Newton Denny Chapelle	09.07.14
3	Site Survey - Carpark Site	Newton Denny Chapelle	13.10.14
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1. Executive Summary

This Environmental Impact Statement (EIS) has been prepared by City Plan Strategy and Development Pty Ltd (CPSD) on behalf of NSW Health Infrastructure (HI) and is submitted to the Minister for Planning in support of a State Significant Development Application (SSDA) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) and State Environmental Planning Policy State and Regional Development 2011 (SEPP SRD).

It relates to the "Stage 3B" redevelopment of Lismore Base Hospital (LBH) and the construction of a new hospital carpark. Works proposed include demolition, bulk excavation, tree removal, site preparation, the construction of new buildings, a new helipad, landscaping, the closure of the southern end of Little Uralba Street, Torrens-Title subdivision and "staging" of the construction of various components of the development.

The proposal has a Capital Investment Value (CIV) of more than $30 million and is therefore classified as State Significant Development (SSD) pursuant to Schedule 1 of the State Environmental Planning Policy State and Regional Development (SEPP SRD).

This EIS responds to the Secretary's Environmental Assessment Requirements (SEARs) issued for the proposal on 19 December 2014. In accordance with those SEARs, this EIS provides an assessment of the environmental impacts of the proposed development and sets out the undertakings made by HI to mitigate and manage any potential impacts arising from the development.

All identified impacts are addressed in this EIS and are considered to be capable of being ameliorated through the implementation of appropriate mitigation measures, as set out in Section 10 of this EIS.

LBH is a major referral hospital in the Richmond Clarence Health Service Group (RC HSG) of the Northern NSW Local Health District (NNSW LHD) and the proposed Stage 3B development will provide critical contemporary healthcare services to satisfy the most pressing requirements identified within the LBH 2012 Clinical Services Plan and 2014 Service Statement. Importantly, this proposal strongly aligns with Commonwealth, NSW, and NSW Health strategic objectives for the provision of improved health services to regional, rural and remote communities.

In addition, the proposed new hospital car park will result in the provision of additional car parking to meet the demands that will be generated by the ongoing redevelopment of LBH and specifically, the demand generated by the previously approved Stage 3A development. It was a requirement of the Stage 3A approval to provide 110 car parking spaces prior to occupation and the proposal meets this demand with additional supply for the proposed and future LBH developments.

An assessment of potential environmental risk and impact has been carried out in accordance with the SEARs. The assessment demonstrates there are no significant environmental impacts or risks associated with the proposed development. Where applicable, a range of mitigation measures have been identified to ensure that risk is minimised and any potential adverse impacts are mitigated.

The EIS fulfils the requirements of the EP&A Act and addresses all relevant matters for consideration prescribed by the SEARs, demonstrating that the impacts of the proposal can be satisfactorily managed or mitigated. In light of the above, and the benefits of the proposal, we recommend that consent be granted to the proposed development.

2. Introduction

2.1 Purpose of this EIS

The proposed Stage 3B redevelopment of LBH and associated hospital carpark development is identified as SSD under SRD SEPP

Part 4.1 of the EP&A Act applies to SSD and requires that an EIS be prepared to accompany development applications in respect of SSD.

This EIS has been prepared to address a range of relevant matters for consideration as required under the EP&A Act 1979 and EP&A Regulation 2000, including the following:

- Details of the proposed development, including analysis of feasible alternatives;
- Assessment of potential environmental impacts of the proposed infrastructure in accordance with the SEARs issued on 19 December 2014;
- Measures proposed to mitigate any adverse impacts on the environment; and
- Justification for the development and recommendation for planning approval.

This EIS has been prepared in accordance with Clauses 6 and 7 of Schedule 2 of the EP&A Regulation 2000.

2.2 Structure of this EIS

This EIS is structured as follows:

Table 1: Structure of EIS

Section	Description
1 Executive Summary	Summary of the EIS
2 Introduction	Overview of the EIS and background to the proposal.
3 Site Analysis	Analysis of the two (2) development sites.
4 Description of the Development	Description of the two (2) key components of the proposed development, being the Stage 3B development of LBH and the hospital carpark development. This section also summarises the other alternative schemes that were considered.
5 Secretary's Environmental Assessment Requirements	An overview of the SEARs issued by the Department of Planning and Environment on 19 December 2014.
6 Statutory Planning Considerations	Consideration of the relevant statutory planning considerations including relevant Acts, SEPPs and LEP as they apply to the site and proposed development.
7 Strategic Planning	Consideration of the relevant strategic planning considerations as they

Considerations	apply to the site and proposed development.
8 Environmental Impact Assessment	Addresses the key issues identified in the SEARs and undertakes an impact assessment.
9 Section 79C Evaluation Summary	Consideration of relevant matters for consideration under Section 79C of the EP&A Act.
10 Mitigation Measures	Provides a compilation of proposed mitigation measures as directly relevant to the proposed Stage 3B development and hospital carpark.
11 Conclusion	Summarises the key issues and provides a recommendation to approve the proposed development as outlined in this SSDA and EIS.

2.3 The Sites

There are two (2) sites that are the subject of this SSDA and EIS, both located within the town of Lismore in northern New South Wales (NNSW) and both located within close proximity to each other (directly opposite).

They are summarised in the table below.

Table 2: Proposed Sites

Site	Brief Description	Legal Description
Lismore Base Hospital	The Stage 3B development is proposed in the south eastern corner of the existing LBH, fronting Uralba Street and Little Uralba Street. The site also comprises land directly to the east of LBH including the southern end of the Little Uralba Street carriageway and 9, 11, 15 and 15A Little Uralba Street.	▪ Lot 1 DP 511444 (LBH); ▪ Lot 21 DP 589890 (LBH); ▪ Lot 22 DP 589890 (LBH); ▪ Lot 4 DP 18615 (9 Little Uralba Street); ▪ Lot 3 DP 381334 (11 Little Uralba Street); ▪ Lot A DP 340182 (15 Little Uralba Street); and ▪ Lot B DP 340182 (15A Little Uralba Street). The site also comprises the southern end of the Little Uralba Street carriageway.
Hospital Carpark Site	The site comprises land to the south of LBH with a primary frontage to Uralba Street and secondary frontage to Dalziell Street. The site has the	▪ Part of Lot 1 DP 1178195 (University Centre/67 Uralba Street); ▪ Lot 394 DP 755718 (69 Uralba Street); ▪ Lot 14 DP 1073227 (24 Dalziell

	following street addresses: ▪ 67 & 69 Uralba Street; and ▪ 24, 26 & 28 Dalziell Street.	Street); ▪ Lot 15 DP 1073227 (26 Dalziell Street); and ▪ Lot 16 DP 1073227 (28 Dalziell Street).

2.4 Relevant Planning History

The relevant planning history for LBH is below:

- Stage 1: MP 06_0078 was approved on 25 January 2007 for a three (3) storey mental health facility with 48 beds at the northern end of the campus. This building has been constructed. This approval also included car parking, vehicular access and landscaping.

- Stage 2: MP 07_0136 was approved on 29 October 2008 for a three (3) storey integrated cancer centre with links to the main clinical hospital buildings (Block A) and associated infrastructure and landscaping. This centre has been constructed and is located along Hunter Street on the western boundary. This stage also approved parking.

- Stage 3: Stage 3 comprises a range of "sub-stages", including the proposed works. The relevant parts of Stage 3 that have been approved are below:

  - Stage 3A early works. "Development without consent" works were approved by HI under Clause 58 of the Infrastructure SEPP for the following:

  a) Demolition of Block H, Block J and Block T;

  b) Demolition of car parking within the undercroft area of the mental health unit building (Block Z) and removal of at grade car parking;

  c) Construction of facilities for the pathology unit within the undercroft of Block Z;

  d) Construction of temporary facilities for the maternity unit to the east of Block A; and

  e) Removal of 95 trees and shrubs surrounding the demolished buildings and within the footprint of the proposed new building.

  All of these works have been undertaken on-site.

  - Stage 3A main building works. This comprised site preparation works, construction of a new part 3 and part 5 storey hospital building with linkages to the existing hospital, to accommodate the emergency department, renal services, mortuary and peri-operative shell and a level of plan above the "shell". Stage 3A also included refurbishment works to Level 4 of Block C, public domain and road works, landscaping and signage for the new building. These works were approved as SSD by the Minister for Planning and Environment on 13 March 2014. Construction is currently being undertaken on-site of Stage 3A.

  - Lismore City Council issued development consent for the demolition of existing dwellings, structures and vegetation on 9, 11, 15 and 15A Little Uralba Streets on 7 May 2014 under DA 5.2014.46.1.

The latter two (2) consents are the most relevant to the proposal as they involve works within the footprint of the Stage 3B development.

There are no known relevant planning consents for the carpark site, with the exception of a demolition order issued by Lismore City Council as set out in Section 2.4 of this EIS.

2.5 Project Objectives

The proposed Stage 3B and hospital carpark developments form part of a wider program for the delivery of improved healthcare and associated services in the Northern New South Wales Local Health District (NNSW LHD).

The overall aims of this project are to:-

- Implement contemporary models of care to better meet the needs of the community;
- Expand capacity to respond effectively to projected demand for urgent and immediate care needs;
- Meet the health care needs of the growing aged population now and into the future;
- Attract and retain a skilled and sustainable workforce at LBH; and
- Reduce preventable hospital admissions, reliance on acute services and patients average length of stay through early intervention and greater access to a range of health services.

Planning for the redevelopment of LBH has been informed by the LBH Clinical Services Plan 2012 and 2014 Service Statement and consultation with the community, LBH stakeholders and Lismore City Council (LCC). The proposed Stage 3B development, along with the previous and future stages of the hospital redevelopment, will seek to provide the physical capacity to support the increasing health service demands and new models of care being driven by a growing and ageing population and also those requirements of the Building Code of Australia.

The proposed hospital carpark seeks to meet the current and future demands for car parking generated by the proposed Stage 3B development but also by Stage 3A (approved) of the Masterplan.

2.6 Development for Which Approval is Sought

This SSDA seeks approval for the following:

2.6.1 **Stage 3B Development**

- Demolition of Block A, the temporary maternity building, bulk excavation and site preparation works;
- Construction of Stage 3B1 which includes the fitout of the Level 6 shell space (approved under Stage 3A), continuation of the podium above the Stage 3A works and four (4) storey tower on top. A helipad is proposed above the Stage 3B1 tower.
- Construction of the conjoined Stage 3B2 building to the north of approved Stage 3A and proposed Stage 3B1 with a loading dock at Level 3 and new entrance from Little Uralba Street.

- The use of 9, 11, 15 and 15A Little Uralba Street for manoeuvring associated with the loading dock at Level 3 of the Stage 3B2 building, and associated site works, intersection works and works to Little Uralba Street. Conceptual details are provided for these works with the detailed design to be finalised in accordance with LCC's requirements, with the detail to be provided prior to construction.

- The closure of the southern end of Little Uralba Street is also proposed with an easement/right of way access required to be established for 78 Uralba Street which currently has vehicular access from Little Uralba Street.

2.6.2 Hospital Carpark

- Demolition of all existing structures on the carpark site, bulk excavation, site preparation works and the staged construction (2 stages) of a multi-level carpark on the site.

- Torrens Title Subdivision for the site.

Stage 1 of the proposed carpark will be constructed in the first instance, with Stage 2 to be constructed as and when HI determines the demand warrants construction. Stage 1 adequately accommodates any demand generated by the proposed Stage 3B development.

2.7 The Proponent and Project Team

This EIS has been prepared on behalf of HI. The principal consultant team for the project is set out in the table below.

Table 3: Proponent and Project Team

Role	Consultant
Proponent	Health Infrastructure
Project Manager	Aurora Projects
Town Planner	City Plan Strategy and Development
Surveyor	Newton Denny Chapelle
Architect - Stage 3B	Woods Bagot Architects
ESD - Stage 3B	Woods Bagot Architects
Architect - Carpark	Fitzpatrick and Partners Architects
ESD - Carpark	Fitzpatrick and Partners Architects
Site Contamination - Stage 3B	Coffey Geotechnics
Site Contamination - Carpark	Douglas Partners
Hazardous Materials Consultant	Environmental & Laboratory Services

Utilities/Services - Stage 3B	Wood & Grieve and DSC
Utilities/Services - Carpark	Cardno
Civil & Structural Engineer - Stage 3B	TTW
Civil & Structural Engineer - Carpark	Cardno
Arborist - Carpark	Northern Tree Care
Landscape Architect - Stage 3B	360º
Landscape Architect - Carpark	Spackman
Traffic and Parking Consultant	TTW
Geotechnical Engineer	Douglas Partners
Acoustic Consultant	Acoustic Logic
Heritage Consultant	City Plan Heritage
Construction Management	Aurora Projects
Quantity Surveyor	Altus Page Kirkland

2.8 Environmental Assessment and Mitigation Measures

An assessment of the proposal with regard to all relevant matters for consideration under the relevant planning legislation and policies and the SEARs identifies a series of potential environmental risk and impacts, which largely relate to (but are not limited to) construction and operational noise, visual impact, tree removal, demolition of buildings containing hazardous materials and site stability.

Environmental risk and potential adverse impacts are able to be satisfactorily mitigated upon adopting the measures set out in Section 10 of this EIS.

2.9 Conclusion

Subject to adopting the mitigation measures contained in Section 10 of this EIS and given the public benefit of the proposal, approval of this SSDA is strongly recommended.

3. Site Analysis

3.1 Regional Context

The sites are located within the catchment of the Northern New South Wales Local Health District (NNSW LHD) which extends from the Clarence Valley in the south to Tweed in the north. The figure below shows the extent of the NNSW LHD.

Figure 1 NSW Health Local Health Districts Map (Source: NSW Health)

The NNSW LHD comprises two (2) health service groups, being the Byron Tweed Health Service Group (BT HSG) and the RC HSG. LBH is located within the RC HSG and is a major referral hospital in the region.

The high level of specialist services offered by LBH contributes to its significant role in providing health services on a regional level. Some of these services include:-

- A formalised Retrieval Service
- Specialist Paediatric Medicine
- Critical Care Services
- Specialist emergency and elective surgical services
- Renal Dialysis and Peritoneal Dialysis procedures and training
- Integrated Cancer Care Centre
- Diagnostic Cardiology (with interventional services pending approval)
- Mental Health and Drug and Alcohol Services

- High level Radiology
- Teaching Services

These services are offered to a wide area within the region with patient flows extending from LGAs outside of the Richmond Catchment, including the Tenterfield and Byron LGAs.

3.2 Local Context

The sites are located in Lismore, approximately 1 kilometre east of the town centre.

The following figure is a plan showing the location of the sites with regard to Lismore town centre.

Figure 2 Location Plan of the Sites. Lismore Town Centre marked by the red star, LBH shaded in green, the Stage 3B development site shaded in red, the carpark site shaded in blue (Source: SIX Landviewer)

3.3 The Stage 3B Development Site

3.3.1 **Overview**

The Stage 3B development site is described as follows:

- The site comprises the south-eastern corner of the existing LBH, the southern end of the Little Uralba Street carriageway and 9, 11, 15 and 15A Little Uralba Street.
- The site is located at the most elevated point of LBH on a ridge with the land falling away to the north.
- The site is not subject to any flood risk area and is above the probable maximum flood level.
- The site currently comprises the construction site for the approved Stage 3A development which will form the lower podium levels of the proposed Stage 3B1 development.
- The Stage 3B development site is largely cleared of trees. We note that whilst there are trees located on the Little Uralba Street properties, approval has been granted to

remove these along with the existing dwellings under Development Consent issued by Lismore City Council on 7 May 2014 (reference 5.2014.46.1).

In terms of the wider LBH campus, it is largely built up with taller buildings located at the southern end of the site, consistent with the location of the proposed Stage 3B development.

3.3.2 Legal Description

The Stage 3B development site comprises the following allotments:

- Lot 1 DP 511444 (LBH);
- Lot 21 DP 589890 (LBH);
- Lot 22 DP 589890 (LBH);
- Lot 4 DP 18615 (9 Little Uralba Street);
- Lot 3 DP 381334 (11 Little Uralba Street);
- Lot A DP 340182 (15 Little Uralba Street); and
- Lot B DP 340182 (15A Little Uralba Street).

The site also comprises the southern end of Little Uralba Street.

3.3.3 Ownership

The Health Administration Corporation (HAC) is the owner of LBH and the Little Uralba Street properties that are the subject of this application.

We understand that Little Uralba Street is owned by Lismore City Council.

3.4 The Hospital Carpark Site

3.4.1 Overview

The carpark site is described as follows:

- The site is located in a block bound by Uralba Street to the north, Dibbs Street to the east, Dalziell Street to the south and Hunter Street to the west.
- The site is to the south of and directly opposite the approved Stage 3A and proposed Stage 3B developments.
- The site has a primary street address of 67 and 69 Uralba Street and a secondary address/frontage to Dalziell Street (No. 24, 26 and 28).
- The site comprises four (4) separate allotments and part of another allotment (owned by Sydney University).
- The site slopes from approximately RL 32 metres AHD in the north to RL 18 metres AHD in the south.
- The site has an area of approximately 4,840m^2.

- The carpark site is irregular in shape and is occupied by a number of residential buildings with the exception of number 26 where the existing structures have recently been demolished under a demolition order issued by Lismore City Council on 27 August 2014.
- The areas surrounding the buildings are covered with concrete, asphalt, garden beds or grass.
- The site contains mature trees of varying condition, the majority of which are exotic/not native, undesirable species or noxious weeds (refer Tree Report prepared by Northern Tree Care accompanying this EIS).
- The site is also affected by a series of easements to drain water, sewage, an electricity easement and rights of carriageway. These are all shown in detail on the site survey prepared by NDC accompanying this EIS.

3.4.2 Legal Description

The carpark site comprises various allotments, as follows:

- Part of Lot 1 DP 1178195 (University Centre/67 Uralba Street);
- Lot 394 DP 755718 (69 Uralba Street);
- Lot 14 DP 1073227 (24 Dalziell Street);
- Lot 15 DP 1073227 (26 Dalziell Street); and
- Lot 16 DP 1073227 (28 Dalziell Street).

3.4.3 Ownership

The HAC is the owner of all of the allotments with the exception of the part of Lot 1 that is the subject of this application.

We understand that Lot 1 is owned by the University of Sydney and the HAC is in the process of purchasing the part of Lot 1 (67 Uralba Street) which forms part of the development site.

3.5 Plan of Development Sites

The following image shows the location of the two (2) proposed development sites. The existing LBH site boundaries are also shown below.

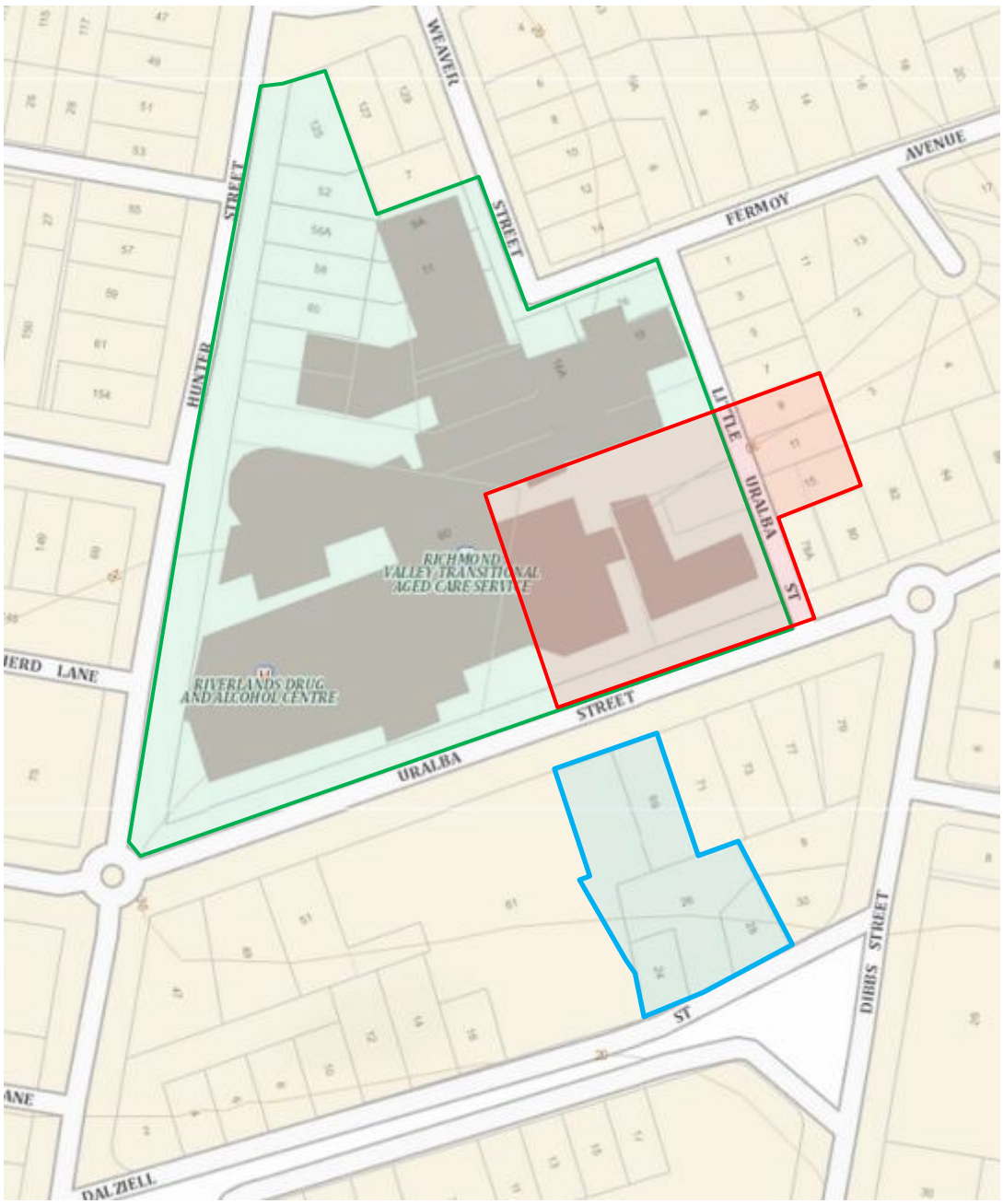


Figure 3 Site Plan of Development Sites. LBH shaded in green, the Stage 3B Development Site shaded in red and the Carpark Site shaded in blue (Source: SIX Landviewer)

3.6 The Surrounding Locality

The Stage 3B development site is bound by hospital buildings to the north and west, Uralba Street and a mix of residential and allied health uses to the south, and residential dwellings to the east.

The carpark site is bound by Uralba Street to the north, the University Centre and student accommodation to the west, Dalziell Street to the south and residential dwellings and allied health uses to the east.

Notwithstanding the existing context, the area surrounding the development sites is in transition. Traditionally, land surrounding LBH was predominantly used for residential

purposes. Gradually over time, allied-health uses have emerged due to the presence of LBH and the University Centre for Rural Health on Uralba Street. This has created a more substantial "health precinct" surrounding LBH

The following diagram shows the location of LBH and the surrounding health-related uses. This diagram is from the Summary Report on the Lismore Health Precinct Workshop prepared by Urbanismplus Ltd (dated February 2013). The Report reflects the findings of investigations of development options for the health precinct surrounding LBH and its allied medical services through collaboration with all stakeholders within the precinct, including the resident community.

Of note is that the figure below also shows that a carpark opposite LBH has been anticipated as a future development option on the southern side of Uralba Street, albeit slightly to the west of the carpark proposed as a part of this SSDA.

Figure 4 Hospital and Surrounding Health Uses Shaded (Source: Urbanismplus Ltd)

In addition to the above, the following figure shows that the intent for Dalziell Street is to comprise "higher density housing". Whilst Dalziell Street is currently a low to medium density residential context, the desired future character of the land surrounding LBH and within Dalziell Street is changing to a higher density and likely mix of development.

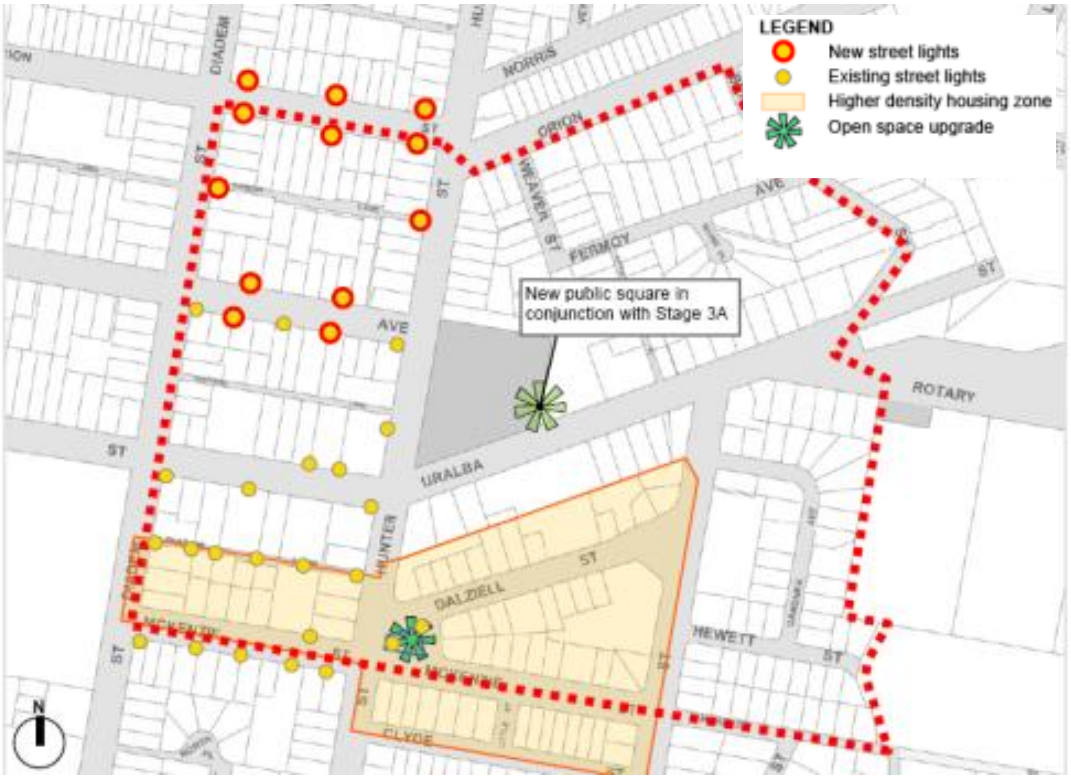


Figure 5 Identified Community Amenity Improvement Opportunities in the Precinct (Source: Urbanismplus Ltd)

In recognising and supporting the transition of the area surrounding LBH, we understand that LCC is in the process of reviewing the current planning controls to ensure that the redevelopment of the hospital and surrounding area is supported in strategic and statutory planning terms. We understand that the review of Council's LEP will be undertaken in consultation with HI and NNSW LHD.

3.7 Existing Access Road and Transport Conditions

Access

The main access routes to LBH are via Hunter and Uralba Streets. Uralba Street is a major route providing access to the Lismore Town Centre with traffic volumes of nominally 700-800 vehicles per hour (vph) each way.

Hunter Street is a local road and provides immediate access to the Hospital Campus with traffic volumes of 200 vph during the peak periods.

Dibbs Street is a local road with traffic volumes of approximately 70 vph during the peak periods.

The intersection of Hunter and Uralba Street is controlled with a roundabout. The intersection of Dibbs and Uralba Street is controlled with a roundabout. Both intersections currently operate at a satisfactory level of service.

Fermoy Avenue and Weaver Street also provide access to the eastern side of LBH.

Active and Public Transport

Bus Routes 661, 681, 682 and 684 provide services to and from the Hospital. The frequencies of these services are generally limited to one per hour with the exception of the morning peak hour when two (2) services occur.

TTW notes in its traffic and parking assessment accompanying this EIS that the pick-up and set down activities (i.e. buses) take place along Uralba Street. No formal bus stop on Hunter Street is required as the current "Hail and Ride" system of operation will continue to be used. This system has been developed in consultation with the relevant authorities and they have indicated their consensus and approval.

Pedestrian footpaths are provided along the streets adjacent or near to the Hospital. A pedestrian crossing facility (marked foot crossing) is available along Uralba Street, opposite the main entry to the Hospital.

Due to the hilly nature of the area, there are only limited bicycle activities to and from the site.

Parking Situation

We understand from the traffic and parking assessment prepared by TTW that currently, a total of some 934 car parking spaces are provided for the Hospital use comprising 304 off street and 630 on street spaces.

3.8 Heritage Affectation

There are no buildings or structures on the sites that are listed as items of environmental heritage. There is a heritage item (local listing) in the vicinity of the sites, which is known as "Armstrong House". This heritage item is located at 86 Uralba Street. The location of this item with respect to the sites is shown in the figure below:

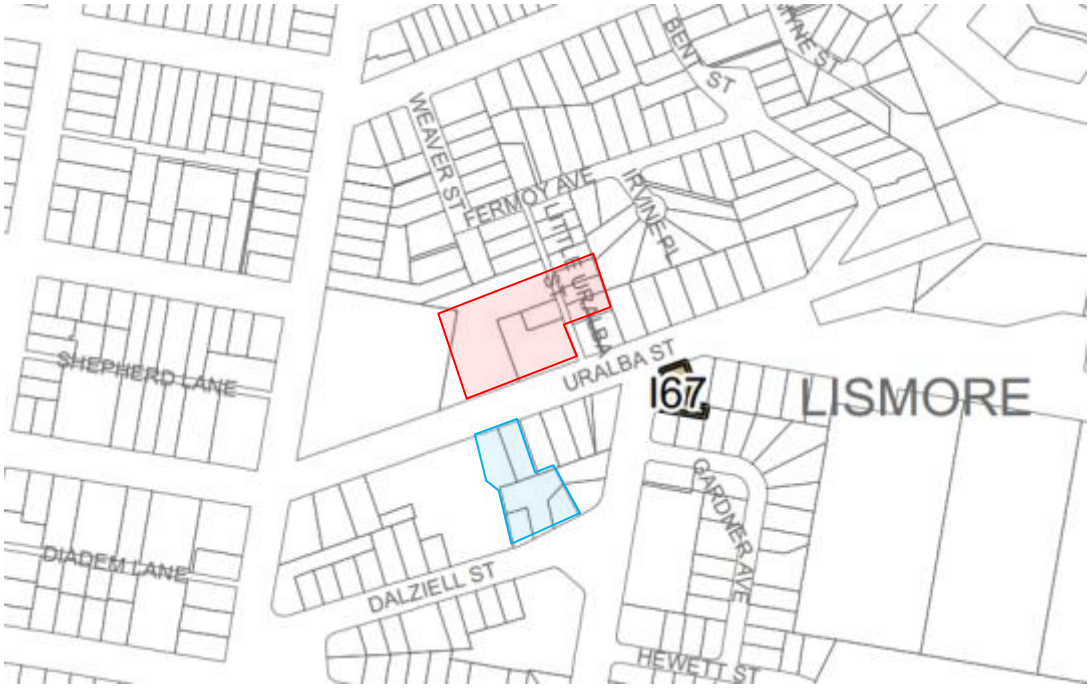


Figure 6 Lismore LEP 2012 Heritage Map Extract, Stage 3B development site shaded in red and carpark site shaded in blue. I67 as identified above is the listing number (Source: LLEP)

3.9 Photos

3.9.1 **Stage 3B Development Site**

Figure 7: Aerial view of the development site. Approved Stage 3A currently being constructed. Block A and Maternity block to the north of Stage 3A to be demolished under this application (Source: Sky view aerial).

Figure 8 Aerial view of the development site. Approved Stage 3A currently being constructed (Source: Sky view aerial)

Figure 9: View of the development site from the corner of Uralba Street and Little Uralba Street. The southern end of Little Uralba Street is proposed to be closed (Source: Health Infrastructure)

Figure 10 View looking north along Little Uralba Street. Stage 3A development site to the left of the photo (Source: Health Infrastructure)

Figure 11 View looking north along Little Uralba Street standing further north than in Figure 10 (Source: CPSD)

Figure 12 Oblique aerial view of site (Source: Sky view aerial)

3.9.2 Hospital Carpark Site

Figure 13 Carpark site annotated. This figure shows the proximity of the carpark site (in blue) to LBH and the Stage 3B development site (in yellow) (Source: Sky view aerial)

Figure 14 View of the site from Uralba Street looking south (Source: Google Maps)

Figure 15 View of the Development Site from Dalziell St (Source: Health Infrastructure)

3.9.3 Photos of the Locality Surrounding the Sites

Figure 16 Southern side of Uralba Street, view looking south-west from the corner of Uralba and Little Uralba Streets (Source: Google Maps)

Figure 17 Armstrong House (heritage item) (Source: CPSD)

Figure 18 View of the hospital from the northern part of Hunter Street, looking south/south-east (Source: CPSD)

Figure 19 View of the hospital from Hunter Street, looking south/south-east showing some of the taller buildings on the site (Source: CPSD)

Figure 20 View of the south-western corner of the site from Uralba Street, looking west (Source: CPSD)

Figure 21 Southern part of the site, looking north-west from the intersection of Uralba and Little Uralba Streets. Note that the development site (approved Stage 3A and proposed Stage 3B) is on the right hand side of this photo (Source: CPSD)

Figure 22 Existing Main hospital entrance and emergency department (Block C) on Uralba Street (Source: CPSD)

Figure 23 View of LBH from the northern part of the site (Hunter Street) with the mental health unit in the foreground (Source: Google Maps)

Figure 24 No. 20 & 22 Dalziell Street, adjacent to the site to the west (Source: CPSD)

Figure 25 View opposite the site standing on the northern part of Dalziell Street. Grass verge/island at the eastern end of Dalziell Street in the forefront (Source: Google Maps)

Figure 26 Another view of the grass verge/island opposite the site (to the south) separating the northern and southern lanes of Dalzeill Street. As can be seen in the photo, this area is used for un-marked parking (Source: CPSD)

Figure 27 Looking west along Dalziell Street standing at the front of the Carpark Site

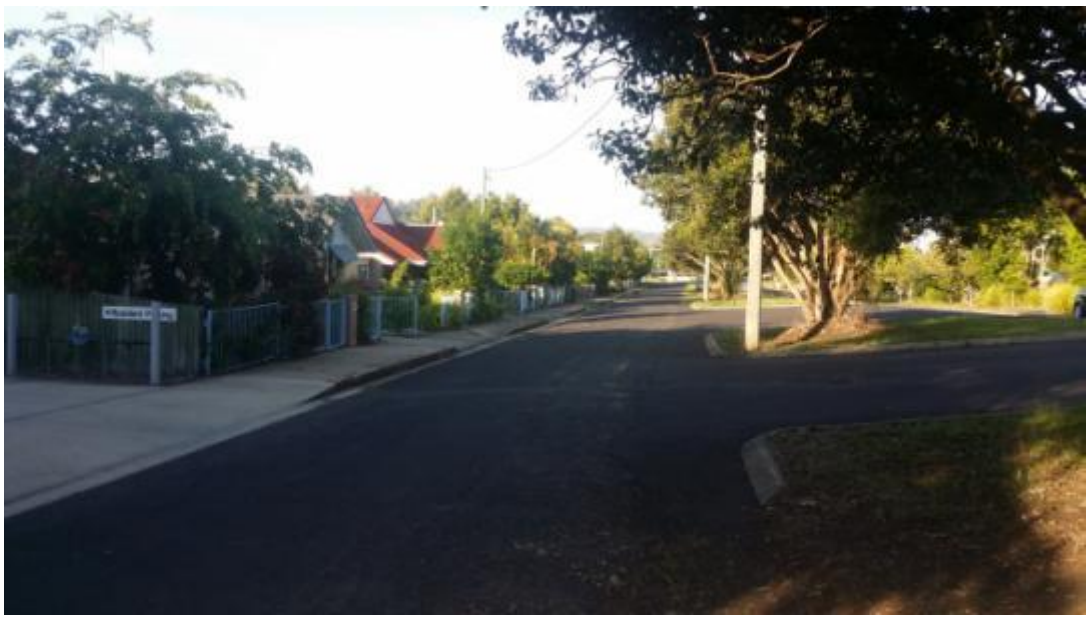


Figure 28 Looking west along Dalziell Street

Figure 29 University Centre for Rural Health adjacent to the Carpark Site (to the west) on Uralba

Figure 30 Aerial View of the sites and surrounding locality, existing extent of LBH outlined in yellow (Source: Sky view aerial)

4. Description of the Development

4.1 Overview

The proposal comprises a series of components associated with the redevelopment of the LBH. These are summarised below:

Stage 3B Development

- Demolition of Block A, the temporary maternity building, bulk excavation and site preparation;
- Construction of Stage 3B1 which includes the fitout of the Level 6 shell space (approved under stage 3A), continuation of the podium above the Stage 3A works and tower on top. A helipad is proposed above the Stage 3B1 tower.
- Construction of the conjoined Stage 3B2 building to the north of the approved Stage 3A and proposed Stage 3B1 with a loading dock at Level 3 and new entrance from Little Uralba Street.
- The use of 9, 11, 15 and 15A Little Uralba Street for manoeuvring associated with the loading dock at Level 3 of the Stage 3B2 building, and associated site works, intersection works and works to Little Uralba Street. Conceptual details are provided for these works with the detailed design to be finalised in consultation with LCC, with the detail to be provided prior to construction.
- The closure of the southern end of Little Uralba Street is also proposed with an easement/right of way access required to be established for 78 Uralba Street which currently gains vehicular access from Little Uralba Street.

Hospital Carpark

- Demolition of all existing structures on the carpark site, approximately eight (8) on-street parking spaces at the Uralba Street frontage of the site, bulk excavation, site preparation and the staged construction (2 stages) of a multi-level carpark on the site with a total of 562 car spaces at the completion of Stage 2.
- Realignment of the eastern boundary of Lot 1 DP 1178195 to incorporate 67 Uralba Street (which is part of Lot 1) into the carpark site.

The following sections of this EIS provide further details regarding the above.

4.2 Demolition and Site Preparation Works

4.2.1 Stage 3B Development

Approval is sought for the following works:

- Demolition of existing Block A and the Maternity Building in the south-eastern corner of LBH to facilitate the construction of the Stage 3B2 building;
- Modifications to Little Uralba Street levels to accommodate truck access to new L3 loading zone; and
- Excavation for the new Stage 3B2 building and loading zone.

4.2.2 Hospital Carpark

- Demolition of all existing dwellings and structures on the site and approximately eight (8) on-street parking spaces fronting the site on Uralba Street (to facilitate the slip/turning lane entrance into the carpark);
- Removal of thirteen (13) trees from the site; and
- Bulk earthworks for the southern part of the carpark site (fronting Dalziell Street) with a maximum cut depth of approximately 6 metres proposed.

4.3 Construction

4.3.1 Stage 3B Development

Construction works for Stage 3B includes three (3) key components as set out below:

1. Stage 3B1 (South)
    - Fitout of the peri-operative services floor.
    - The continuation of the podium above the Stage 3A works and tower on top.
    - The podium includes the addition of CSSD at Level 7 and Maternity above on Level 8.
    - The tower includes Surgical and Medical Inpatient Units and Paediatrics Unit.
    - There is a plant level above Paediatrics to serve the tower.
    - The addition of a helipad over the plant and associated trauma lifts to access the helipad on the roof.
2. Stage 3B2 (North)
    - The Level 3 Loading dock with new entrance from Little Uralba Street servicing the new development, supplementing the old Loading Dock entered from Hunter street.
    - Level 4 Pharmacy and Front of House Services
    - Level 5 Imaging adjacent to the emergency department
    - Level 6 continuation of Peri-Operative floor adjacent to Stage 3B1 Level 6 peri-operative floor, with minor works to refurbish the Stage 3B1 works.
    - Level 7 plant area to serve the 3B2 tower, and biomedical department.
3. Conceptual details for site works to Little Uralba and Uralba Streets and the Little Uralba Street properties that are the subject of this application to facilitate manoeuvrability associated with the Stage 3B2 loading dock at Level 3. This will include road works, level changes (cut and fill) and retaining walls.

The following is a photomontage of the proposed Stage 3B development.

Figure 31 Photomontage of Stage 3A & 3B, viewed from Uralba Street looking north-east (Source: Woods Bagot)

4.3.2 Hospital Carpark

The proposed carpark involves the two (2) stage construction of a new multi-storey carpark on the subject site.

Stage 1 works include:

- Demolition works;
- Bulk earthworks for the lower portion of the site (fronting Dalziell Street);
- Construction of a five (5) storey car park fronting Dalziell Street;
- Construction of a tiered, on grade car park off Uralba Street;
- Construction of water quality treatment and on site detention;
- Augmentation to Uralba Street kerbs, medians etc;
- Construction of entry/exit off Uralba Street;
- Construction of exit to Dalziell Street; and
- Removal of eight (8) on-street parking spaces on Uralba Street.

Stage 2 works include:

- Demolition of tiered, on grade car park constructed during Stage 1;
- Minor regrading of the former on grade car park;

- Construction of six (6) storey car park fronting Uralba Street and an additional two (2) storeys above the five (5) storeys fronting Dalziell Street (Stage 1); and

- Minor adjustment to water quality and on site detention.

The proposed carpark will accommodate a total of 562 car parking spaces across both stages of the carpark. This number may vary by ± 10% but we understand that the overall bulk and scale of the carpark will remain unchanged. The maximum possible number of parking spaces, being 562 (as proposed) plus 10% maximum variation has been considered by TTW in the traffic and parking assessment and the final car parking numbers are subject to detailed design.

Stage 1 of the carpark is being constructed initially to accommodate the immediate demand generated by the proposed Stage 3B development as well as the approved Stage 3A development.

The timing for the construction of Stage 2 of the Carpark will be determined by HI on the basis of demand for additional car parking for the hospital and following completion of a satisfactory Business Case.

The following is series of photomontages of the proposed carpark.

Figure 32 Photomontage of the carpark, view from Uralba Street looking east-south-east (Source: Fitzpatrick + Partners)

Figure 33 Photomontage of the carpark, view from Dalziell Street looking north-west (Source: Fitzpatrick + Partners)

4.4 Landscaping

Site landscaping including tree planting is proposed for both of the sites/developments as set out in the accompanying landscape documentation prepared by Spackman (for the carpark) and 360º (for Stage 3B). The proposed planting schemes will improve the ecological integrity of the sites which either comprise no vegetation (Stage 3B site) or exotic and undesirable vegetation (carpark site).

4.5 Signage

No external identification signage is proposed under this SSDA. General internal and way finding signage will be installed internally within the proposed developments.

4.6 Access and Parking

4.6.1 **Stage 3B Development**

A new loading dock access is proposed off Little Uralba Street to facilitate access for vehicles up to 12.5m in length.

The installation of a turning/manoeuvring area within the adjacent Little Uralba Street properties (9, 11, 15 and 15A) is proposed as shown in the figure below:

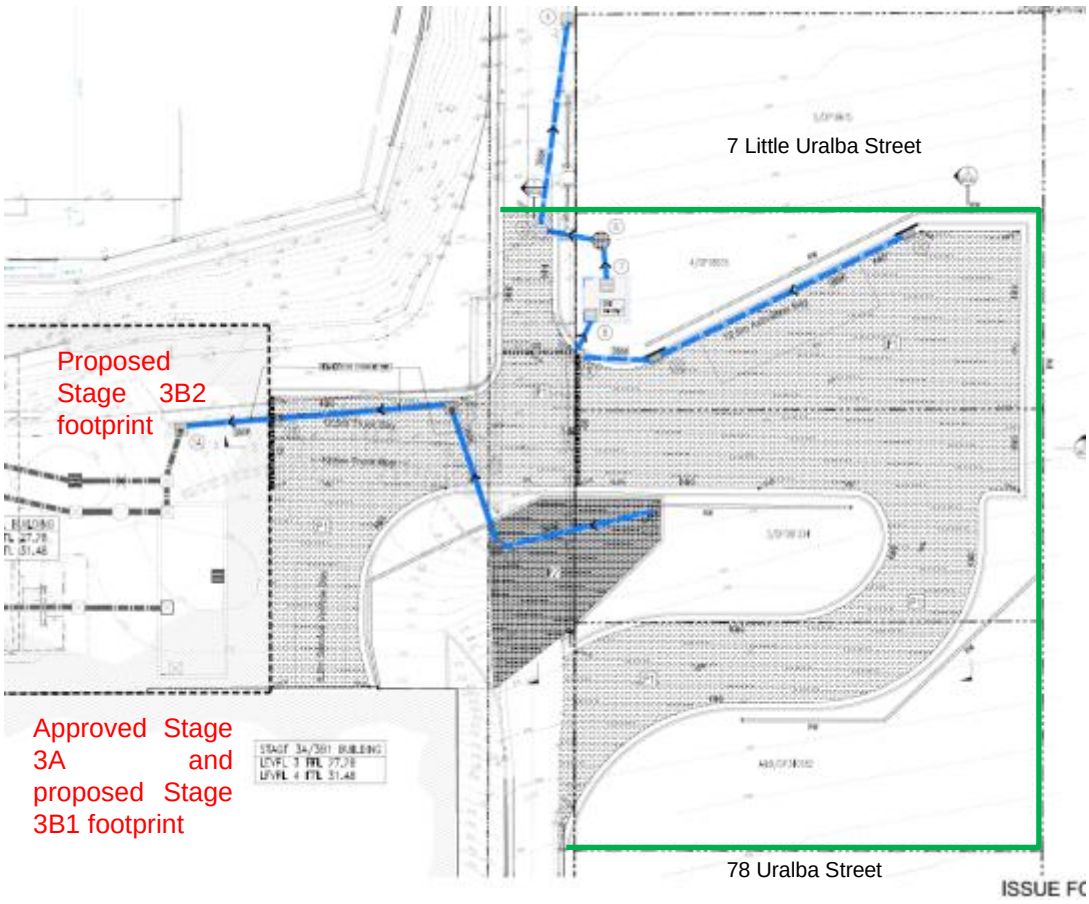


Figure 34 Proposed new loading dock, access and turning area, extent of turning area outlined in green (Source: TTW)

This turning area will allow service and loading vehicles to enter and leave in a forward direction towards Uralba Street.

Due to this arrangement and associated site works, closure of the southern end of Little Uralba Street is required and therefore, through access is prevented along Little Uralba Street. Consequently it is proposed to have Little Uralba Street two way from both the north and southern entry points. This is discussed further in Section 4.8 below.

The existing mortuary loading dock to Level 4 is proposed to be slightly modified to allow for access into the proposed Level 3 loading dock facility below.

There will be no change to other existing access arrangements or the existing Hunter Street loading dock facility.

The car parking demand generated by Stage 3B will be accommodated for by the proposed hospital carpark.

4.6.2 Hospital Carpark

The carpark is proposed to have an entry/exit facility along Uralba Street and exit only on Dalziell Street.

The existing pedestrian crossing from the frontage of the carpark site to LBH will be retained.

4.7 Subdivision

The proposal includes the boundary adjustment of Lot 1 DP 1178195 to excise part of the site owned by Sydney University and to incorporate this land into the carpark site. The land that will be incorporated into the carpark site is known as 67 Uralba Street.

We note that the HAC is in the process of purchasing the part of Lot 1 (67 Uralba Street) which forms part of the development site.

Refer to the subdivision plan extract below which shows the existing lot boundaries (in grey) and proposed lot boundaries (in red).

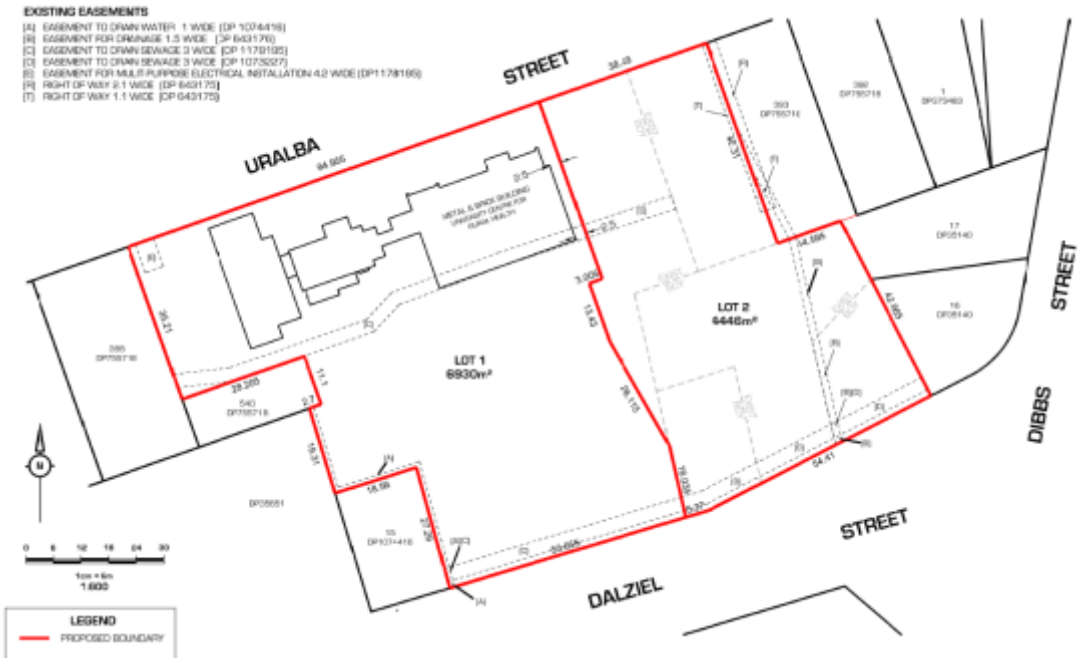


Figure 35 Extract of the subdivision plan (Source: NDC)

A complete copy of the above plan extract accompanies this EIS.

4.8 Road Closure

As noted in Section 4.6.1 above, the new loading dock arrangements and associated access and manoeuvring for service vehicles for Stage 3B will require the closure of the southern end of Little Uralba Street.

To address the restriction of through public access along Little Uralba Street from Uralba Street, the following is proposed:

- An easement/right of way will be required to facilitate access to 78 Uralba Street and this will be undertaken/registered on title prior to the road closure being formalised. A mitigation measure has been included in Section 10 of this report to this effect.
- The northern end of the Little Uralba Street closure will require two (2) way access to be established to allow for continued vehicular access for the northern residential properties on Little Uralba Street.

The above is discussed further in Section 8.6 of this EIS.

4.9 Operational Details & Employment Generation

Due to the nature of the services provided, both developments will operate 24 hours a day, 7 days a week.

Servicing associated with the Stage 3B development (primarily for waste collection) will be undertaken between the hours of 6:00am to 2:30pm, 7 days a week. An after-hours service will be provided to areas of high volume such as for peri-operative services, the emergency department, endoscopy, intensive care unit and birthing. Further, only small delivery vehicles and vans will operate within the loading dock before the 7am period.

The proposed Stage 3B development will result in an increase in the number of staff on the site from 956 to 1089, representing a total of 133 additional staff.

Further, the Stage 3B Redevelopment is estimated to support around 1070 full time equivalent direct and indirect annual jobs over the project period of 4 years. In addition, the Lismore Hospital Car Park is estimated to support around 64 full time equivalent direct and indirect annual jobs over the year of construction.

4.10 Combined Capital Investment Value

The combined Capital Investment Value (CIV) of the proposed developments is estimated at approximately $114 million. This figure is confirmed by the Quantity Surveyor Cost Reports prepared by Altus Page Kirkland accompanying this EIS.

4.11 Analysis of Alternatives

4.11.1 **Stage 3B Development**

The LBH redevelopment is being constructed in stages. While Stage 3A (as approved) focuses on the expansion of ED, imaging and renal dialysis services, Stage 3B is a large-scale redevelopment of LBH aimed at addressing the clinical priorities and demand projections contained in the LBH 2012 Clinical Services Plan and 2014 Service Statement.

A number of development options have been considered for this project, primarily based on the following criteria:-

- Project budget;
- Value for money;
- Compliance with Health and Hospital Funding requirements;
- Continuity of services and operational efficiency;
- Clinical services planning;
- Matters raised during consultation processes and particularly, ongoing consultation with Lismore City Council.

Further to the above, and as a part of the initial masterplanning for the LBH campus, there were a number of configurations for the new Stage 3B development that were tested at possible other locations across the campus. One of these options included a much taller built form for the proposed Stage 3B2 five (5) level building adjacent to Stage 3A and Stage 3B1. That is, the previously preferred option involved building a much taller nine (9) level northern tower (stage 3B2) in addition to the proposed Stage 3B1 and approved Stage 3A works. This larger design included health services that are now to be accommodated in

refurbished areas in the existing Blocks B and C. The development option proposed in this SSDA strikes a balance between renewal and reuse, allowing for the effective reuse of existing buildings where appropriate. This has a dual impact, simultaneously reducing cost and limiting the scale of the new Stage 3B2 building to provide a more positive built form outcome. A reduction in the Stage 3B2 floor plate from the proposed 3B1 reduces the visual prominence of the building and provides a better response to the topography of the land.

In addition to the above, a series of alternative scenarios were considered for the proposed new (secondary) loading dock and turning area. Discussion is provided below.

The proposed (secondary) loading dock has been included in the proposed new building to:

- Improve the functional flow and supply arrangements for the hospital, it is considered that the greatest impacts on loading resulting from the stage 3B project will be to the volume of inbound goods required to support new services in the new tower development.
- Provision of a secondary dock will enable the efficient receipt and circulation of goods to departments located in the new building.
- Allow increased flexibility in service arrangements by providing dual service points, which are accessed from the eastern and western ends of the site.
- Provide increased loading and service supply capacity, from a secondary location that compliments the existing loading and service area. The proposed location has been selected for the following reasons:
  - To provide enhance of access to the new Tower building, which is located at the opposite end of the campus site to the main loading zone.
  - Access to a dedicated service lift for loading and supply functions without limiting the service and transport access for other hospital services (a service lift has been included in the planning).
  - The location provides opportunities for vehicular access from Little Uralba Street without the need to build an internal access road on the hospital site.

The project team has considered alternate locations for the secondary dock. These have not been considered feasible due to

- The proximity of other locations to the existing loading dock;
- Absence of suitable space on the ground level. The slope of the site limits the potential areas that could be used to support this function; and
- A preference to dedicate access points on Uralba Street for patients, staff and visitors. Service access is to be limited to Hunter and Little Uralba Street to support the separation of Front and Back of House functions.

4.11.2 Hospital Carpark

There were a number of options considered for the proposed carpark and a workshop to consider these options was undertaken on 24 September 2013. A summary of these options are listed below:

- Construct a multi-storey carpark on 24, 26 and 28 Dalziell Street with future expansion to the west of 24.

- Construct a multi-storey carpark on 24, 26 and 28 Dalziell Street with future expansion to the north of 24 and 26 Dalziell Street.
- Construct a multi-storey carpark on 24, 26 and 28 Dalziell Street and on-grade parking on 69 and 71 Uralba Street.
- Construct a multi-storey carpark on the lots fronting Orion Street and Weaver Street, north of the Adolescent Mental Health Unit and east of the Pain Management Unit.

These development options were considered on the basis of the same criteria as Stage 3B (as listed in the above section of this EIS), with an additional consideration in terms of site suitability with respect to the emerging character of the locality.

The second option, as proposed in this application, was chosen as the preferred option for a number of reasons. It was preferred mainly due to the close proximity and highest level of connectivity to the LBH main entry. The cost analysis also indicated a higher value for money outcome. The expansion (of Stage 2) up to Uralba Street was also preferred given the emerging character of Uralba Street as a "hospital street".

4.12 Impact of Not Proceeding with the Proposal

4.12.1 **Stage 3B Development**

Generally, the key impacts of not proceeding with the subject project would be:-

- Limiting the ability of LBH's health services to meet the healthcare demands of the catchment population;
- Limiting the attraction and retention of health services staff;
- Preventing the full implementation of contemporary models of care; and
- Limiting the potential for health services to be delivered to levels of quality required by the Ministry of Health's and Northern NSW Local Health District's policies.

A key impact of not proceeding with the development would be compromised patient care and LBH service delivery would become unsustainable, to the detriment of patients and other services within the NNSW LHD that rely on LBH as the Major Referral Hospital for the Richmond Clarence HSG.

Further to the above, the Stage 3B development will accommodate a number of relocated services from existing buildings, allowing space for refurbishment of existing buildings with appropriate facilities. Not proceeding with the proposal would impact on the detailed staged redevelopment program for the hospital that would ultimately only impact on the level of critical health services offered to the community and wider Richmond Clarence catchment. Furthermore, we have been advised by HI that there are no alternative areas within the LBH campus that can accommodate the services proposed.

To this end, the impact of "doing nothing" is not considered to be acceptable due to the inability of current infrastructure to meet the current and future health care demands of the local and regional community. A "do nothing" approach would have serious implications for the health and wellbeing of the community.

4.12.2 **Hospital Carpark**

One of the key impacts of not proceeding with the development is the inability to satisfy one of the commitments made under the Stage 3A LBH development to provide the car parking

spaces to meet the demand generated by Stage 3A. This commitment has been enforced through condition D1 of SSD 5816.

Condition D1 requires "a minimum of 110 additional off-street car parking spaces" to be made "available for use by staff, patients and visitors of LBH". These spaces are to be provided prior to the commencement of the operation of Stage 3A.

The proposed carpark will accommodate these required car parking spaces as well as additional spaces to meet demands generated by the proposed Stage 3B development and future redevelopment of LBH.

5. Secretary's Environmental Assessment Requirements

This EIS has been prepared to address the issue outlined in Schedule 2, Part 3, Clause 6 and 7 of the Environmental Planning and Assessment Regulations 2000 and the Secretary's Environmental Assessment Requirements (SEARS) specifically for the site.

The SEARS were issued by the Department of Planning and Environment on 19 December 2014 and a copy is attached at Appendix 1.

The table below summarises the SEARS and includes a reference identifying where each has been addressed in this EIS.

Table 4: SEARs

Key Issues	Detailed Requirements	Where Addressed in EIS
General Requirements	The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in Clauses 6 and 7 of Schedule 2 the Environmental Planning and Assessment Regulation 2000. Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development. Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include: • adequate baseline data; • consideration of potential cumulative impacts due to other development in the vicinity; and • measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment. The EIS must be accompanied by a report from a qualified quantity surveyor providing: • a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived; • an estimate of the jobs that will be created by the future development during the construction	Refer to Section 6.4.1 of this EIS for consideration of Schedule 2 of the Regulations. An Environmental Risk Assessment is provided in Section 9 of this EIS. Refer to Annexures 29 and 30 for copies of the QS Reports for the development. In terms of the "estimate of jobs", refer to Section 4.9 of this EIS.

	and operational phases of the development; and • certification that the information provided is accurate at the date of preparation.	
1. Statutory Context	Address the statutory provisions applying to the development contained in all relevant environmental planning instruments, including: ▪ State Environmental Planning Policy (State & Regional Development) 2011; ▪ State Environmental Planning Policy (Infrastructure) 2007; ▪ State Environmental Planning Policy No 33 - Hazardous and Offensive Development; ▪ State Environmental Planning Policy No.55 – Remediation of Land; and ▪ Lismore Local Environmental Plan 2012. Permissibility Detail the nature and extent of any prohibitions that apply to the development. Development Standards Identify compliance with the development standards applying to the site. Contamination Demonstrate that the site is suitable for the proposed use in accordance with SEPP 55. → Relevant Policies and Guidelines: ▪ Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP)	Refer to Section 6 of this EIS for consideration of the relevant statutory planning context.
2. Strategic Policies and Guidelines	Address the relevant planning provisions, goals and strategic planning objectives in the following: ▪ NSW 2021; ▪ Far North Coast Regional Strategy; ▪ Northern Rivers Regional Transport Plan 2013;	Refer to Section 7 of this EIS for consideration of the relevant strategic planning context.

	▪ Northern Rivers Regional Plan 2013-2016	
3. Built Form and Urban Design	▪ Address the height, density, bulk and scale, setbacks of the proposal in relation to the surrounding development, topography and streetscape. ▪ Address design quality, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials, colours and Crime Prevention Through Environmental Design Principles. ▪ Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development.	Refer to Section 8.2 of this EIS.
4. Environmental Amenity	Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing, lighting impacts and wind impacts. A high level of environmental amenity for immediately adjacent residential land uses must be demonstrated.	Refer to Section 8.3 of this EIS.
5. Transport, Parking and Access	Include a transport and accessibility assessment, which details: ▪ the existing and proposed pedestrian and cycle movements within the vicinity of the site; ▪ an estimate of the total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and cycle trips; ▪ the adequacy of public transport to meet the likely future demand of the proposed development; ▪ measures to promote travel choices that support the achievement of State targets, such as a location-specific sustainable travel plan; ▪ the daily and peak vehicle movements impact on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for upgrading or road improvement works	Refer to Section 8.4 of this EIS.

	(if required); ▪ the proposed access arrangements, including for emergency vehicles, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and cycle networks; ▪ demonstrate adequate pedestrian links between the hospital site and the car park site have been provided; ▪ proposed car parking provision, including consideration of the availability of public transport and the requirements of the relevant parking codes and Australian Standards; ▪ service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times); and ▪ traffic and transport impacts during construction and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact. → Relevant Policies and Guidelines: ▪ Guide to traffic generating development (RMS) ▪ Planning guidelines for walking and cycling ▪ EIS Guidelines – road and related facilities (DP&I)	
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. ▪ Demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry	Refer to Section 8.5 of this EIS.

	best practice. ▪ Include a description of the measures that would be implemented to minimise consumption of resources, water (including water sensitive urban design) and energy.	
7. Noise and Vibration	Identify and provide a quantitative assessment of the main noise and vibration generating sources during construction and operation. Outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land. → Relevant Policies and Guidelines: ▪ NSW Industrial Noise Policy (EPA) ▪ Interim Construction Noise Guideline (DECC)	Refer to Section 8.6 of this EIS.
8. Aboriginal Heritage	Address Aboriginal heritage in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005) and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.	Refer to Section 8.7 of this EIS.
9. 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)	Refer to Section 8.8 of this EIS.
10. Utilities	▪ In consultation with relevant agencies, the EIS shall address the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure through the preparation of an Infrastructure Management Plan. ▪ Prepare an Integrated Water Management Plan detailing any proposed alternative water supply, proposed end users of potable and non-potable water, demonstration of water sensitive urban	Refer to Section 8.9 of this EIS.

	design and water conservation measures.	
11. Contributions	Address any Section 94 Contributions Plan and Section 64 water and sewer developer service charges and/or provide details of any Voluntary Planning Agreement.	Refer to Section 8.10 of this EIS.
12. Staging	Details regarding the staging of the proposed development, including the proposed multi storey car park.	Refer to Section 8.11 of this EIS.
13. Drainage	Provide details of the drainage associated with the proposal, including stormwater, drainage infrastructure and OSD, which shall be designed in consultation with council and must avoid any adverse impacts on downstream properties.	Refer to Section 8.12 of this EIS.
14. Waste	Identify, quantify and classify the likely waste streams to be generated during construction and operation 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.	Refer to Section 8.13 of this EIS.
15. Hazards	Identify, quantify and classify any proposed storage, use and management of any hazardous materials and measures to be implemented to manage hazards and risks associated with the storage.	Refer to Section 8.14 of this EIS.
Consultation	During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with Lismore Council, Transport for NSW and Roads and Maritime Services. The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided	Refer to Section 8.16 of this EIS.

In addition, the SEAR's sets out the plans and documents that must accompany the Application as set out the following table along with an indication of where they have been provided in this EIS.

Table 5: Plans and Documentation accompanying the EIS

Plans and Documents to accompany the Application		
Plans and Documents	The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents. In addition, the EIS must include the following:	This EIS includes or is accompanied by the following required documentation as required by Clause 2 of Schedule 1 of the Regulations: ▪ A site plan ▪ Plans of the development; ▪ an EIS; ▪ Preliminary engineering drawings associated with the carpark for the subdivision works; and ▪ All of the information listed below.
	Architectural drawings	Refer to Annexures 4 and 5.
	Site Survey Plan, showing existing levels, location and height of existing and adjacent structures / buildings and boundaries	Refer to Annexures 2 and 3.
	Site Analysis Plan	These plans are a part of the architectural packages at Annexures 4 and 5.
	Stormwater Concept Plan	Refer to Annexures 12 and 13.
	Shadow Diagrams	These plans are a part of the architectural packages at Annexures

		4 and 5.
	View Analysis / Photomontages	These plans are a part of the architectural packages at Annexures 4 and 5.
	Landscape Plan (identifying any trees to be removed and trees to be retained or transplanted);	Refer to Annexures 19 and 20.
	Preliminary Construction Management Plan, inclusive of a Preliminary Construction Traffic Management Plan	Refer to Annexures 26, 27, 33 and Section 8.18 of this EIS.
	Geotechnical and Structural Report	Refer to Annexures 21 and 22 for copies of the geotechnical reports and Annexures 14 and 16 for copies of the structural reports.
	Arborist Report	Refer to Annexure 17.
	Acid Sulphate Soils Management Plan (if required)	Not applicable. Refer to Section 8.15 of this EIS.
	Schedule of materials and finishes.	These schedules are a part of the architectural packages at Annexures 4 and 5.

6. Statutory Planning Considerations

6.1 Overview

The Secretary requires the assessment of the SSDA in relation to the following statutory instruments:-

- Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth);
- Environmental Planning and Assessment Act 1979;
- Environmental Planning and Assessment Regulation 2000;
- Threatened Species Conservation Act 1995;
- Roads Act 1993;
- State Environmental Planning Policy (State & Regional Development) 2011
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy No 33 Hazardous and Offensive Development;
- State Environmental Planning Policy No.55 – Remediation of Land; and
- Lismore Local Environmental Plan 2012.

Where relevant, these instruments are addressed below.

6.2 Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

The Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) commenced on 16 July 2000. The EPBC Act introduced a new assessment and approvals system for:-

> *(a) actions that have a significant impact on matters of national environmental significance;*
>
> *(b) actions that have a significant impact on the environment of Commonwealth land; and*
>
> *(c) actions carried out by the Commonwealth Government.*

Under the assessment and approval provisions of the EPBC Act, actions that are likely to have a significant impact on a matter of national environmental significance are subject to a rigorous assessment and approval process. An action includes a project, development, undertaking, activity, or series of activities.

The EPBC Act identifies seven matters of national environmental significance, which are set out below:-

(d) World Heritage properties;

(e) National Heritage places;

(f) Ramsar wetlands of international significance;

(g) nationally listed threatened species and ecological communities;

(h) listed migratory species;

(i) Commonwealth marine areas; and

(j) nuclear actions (including uranium mining).

The Government is considering amendments to the EPBC Act and its regulations to include "greenhouse triggers" and "access to biological resources".

There are no relevant World Heritage properties, National Heritage places, Ramsar wetlands, nationally listed threatened species and ecological communities, Commonwealth marine areas or Commonwealth lands on the site.

It is concluded therefore that there will not be a significant impact on any matters of national environmental significance arising from the development of the site, and consequently the proposed activity is not considered to be a "controlled action" pursuant to the EPBC Act.

6.3 Environmental Planning & Assessment Act 1979

This EIS has been prepared in accordance with the provisions of Division 4.1 of Part 4 of the Environmental Planning and Assessment Act 1979 (the Act) as outlined below:-

The proposal has been declared a State Significant Development by way of Clause 8 of the State Environmental Planning Policy (State and Regional Development) 2011, being development specified in Schedule 1 State Significant Development - General.

The proposed development is consistent with Division 4.1 of the Act, particularly for the following reasons:-

- Promotes the social and economic welfare of the community in delivering modern health facilities to service the Lismore LGA.
- Promotes the utilisation of existing utility services.
- Promotes the orderly and economic use and development of land as the site is of an appropriate size, location and land use zoning to enable the development.
- Will increase employment opportunities on the site.

The development has been evaluated and assessed against the relevant heads of consideration under Section 79C and has been prepared to mitigate any environmental impacts of the development.

Further to the above, and with reference to Section 90(2) and Section 91(1) of the Act, the application is not "integrated development" pursuant to subclause 1, as it is a SSD application and is made "by or on behalf of the Crown".

6.4 Environmental Planning & Assessment Regulations 2000

6.4.1 **Requirements for Preparing an EIS - Cl. 6 & 7**

Clause 6 and 7 of Schedule 2 of the EP&A Regulations 2000 ("EP&A Regulations") prescribe the requirements for preparing an EIS. This EIS has been prepared in accordance with the EP&A Regulation as set out in the table below:

Table 6: EP&A Regulations - Schedule 2 Requirements

Schedule 2 Subclause	Comment
4 Integrated development—requirements of approval bodies (1) An application for environmental assessment requirements must, in the case of a development application for integrated development, also include particulars of the approvals that are required.	N/A. Section 90(2) of the EP&A Act states that Division 5 Special Procedures for Integrated Development, does not apply to *"development the subject of a development application made by or on behalf of the Crown (within the meaning of Division 4), other than development that requires a heritage approval".*
6 Form of environmental impact statement An environmental impact statement must contain the following information: (a) the name, address and professional qualifications of the person by whom the statement is prepared, (b) the name and address of the responsible person, (c) the address of the land: (i) in respect of which the development application is to be made, or (ii) on which the activity or infrastructure to which the statement relates is to be carried out, (d) a description of the development, activity or infrastructure to which the statement relates, (e) an assessment by the person by whom the statement is prepared of the environmental impact of the development, activity or infrastructure to which the statement relates, dealing with the matters referred to in this Schedule, (f) a declaration by the person by whom the statement is prepared to the effect that:	All of these matters have been addressed in the declaration at the commencement of, and the body of this EIS.

(i) the statement has been prepared in accordance with this Schedule, and (ii) the statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and (iii) that the information contained in the statement is neither false nor misleading.	
7 Content of environmental impact statement (1) An environmental impact statement must also include each of the following: (a) a summary of the environmental impact statement, (b) a statement of the objectives of the development, activity or infrastructure, (c) an analysis of any feasible alternatives to the carrying out of the development, activity or infrastructure, having regard to its objectives, including the consequences of not carrying out the development, activity or infrastructure, (d) an analysis of the development, activity or infrastructure, including: (i) a full description of the development, activity or infrastructure, and (ii) a general description of the environment likely to be affected by the development, activity or infrastructure, together with a detailed description of those aspects of the environment that are likely to be significantly affected, and (iii) the likely impact on the environment of the development, activity or infrastructure, and (iv) a full description of the measures proposed to mitigate any adverse effects of the development, activity or infrastructure on the environment, and (v) a list of any approvals that must be obtained under any other Act or law before the development, activity or infrastructure may lawfully be carried out, (e) a compilation (in a single section of the environmental impact statement) of the measures	In response to this clause, we comment as follows: ▪ A summary of the EIS is undertaken in the Executive Summary at the commencement of this EIS; ▪ A statement of the objectives of the development is also undertaken in the Executive Summary of this EIS; ▪ An analysis of feasible alternatives and the consequences of not carrying out the development is undertaken in Section 4.12 and 4.13 of this EIS. ▪ An analysis of the development is undertaken in Section 5.0 of this EIS; ▪ An analysis of the likely impact on the environment is undertaken in Sections 6.0, Section 7.0 and Section 8.0 of this EIS; ▪ A full description of the measures proposed to mitigate any adverse effects of the development is undertaken in the "recommendations" in Section 7.0 of this EIS; ▪ a list of any approvals that must be obtained under any other Act or law before the development, activity or infrastructure may lawfully be carried out is

referred to in item (d) (iv), (f) the reasons justifying the carrying out of the development, activity or infrastructure in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development set out in subclause (4). (2) Subclause (1) is subject to the environmental assessment requirements that relate to the environmental impact statement. (4) The principles of ecologically sustainable development are as follows: (a) the precautionary principle, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should guided by: (i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and (ii) an assessment of the risk-weighted consequences of various options, (b) inter-generational equity, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations, (c) conservation of biological diversity and ecological integrity, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration, (d) improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services: (i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement, (ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of	undertaken following this table; ▪ A list of all of the measures referred to in (d)(iv) is in Section 9.0 of this EIS; ▪ The proposed development is consistent with principles of ESD, as set out in Section 7.4 of this EIS.

natural resources and assets and the ultimate disposal of any waste, (iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.	

6.4.2 Approvals Required - Clause 7(1)(d)(v)

In relation to Clause 7(1)(d)(v), the following sets out the approvals required before this development may lawfully be carried out:

Table 7: Approvals Required

Act	Approval Required?
Legislation that does not apply to SSD (Section 89J of EP&A Act)	
the concurrence under Part 3 of the Coastal Protection Act 1979 of the Minister administering that Part of that Act,	N/A
a permit under section 201, 205 or 219 of the Fisheries Management Act 1994,	N/A
an approval under Part 4, or an excavation permit under section 139, of the Heritage Act 1977,	N/A
an Aboriginal heritage impact permit under section 90 of the National Parks and Wildlife Act 1974,	N/A
an authorisation referred to in section 12 of the Native Vegetation Act 2003 (or under any Act repealed by that Act) to clear native vegetation or State protected land,	N/A
a bush fire safety authority under section 100B of the Rural Fires Act 1997,	N/A
a water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the Water Management Act 2000.	N/A
Legislation that must be considered (Section 89K of EP&A Act)	
an aquaculture permit under section 144 of the Fisheries	N/A

Management Act 1994,	
an approval under section 15 of the Mine Subsidence Compensation Act 1961,	N/A
a mining lease under the Mining Act 1992,	N/A
a production lease under the Petroleum (Onshore) Act 1991,	N/A
an environment protection licence under Chapter 3 of the Protection of the Environment Operations Act 1997 (for any of the purposes referred to in section 43 of that Act),	N/A
a consent under section 138 of the Roads Act 1993,	Yes. A s138 is consent is required.
a licence under the Pipelines Act 1967.	N/A

6.4.3 Persons who can make development applications Clause 49

Clause 49 operates to require that land owners consent be granted before a development application can be "made". Ordinarily this would apply to the proposal given the HAC is not the owner of all of the land that is the subject of this application (67 Uralba Street and Little Uralba Street).

However, Clause 49 states the following in relation to applications made by public authorities (which applies to HAC):

> *49 Persons who can make development applications*
>
> *(1) A development application may be made:*
>
> *(a) by the owner of the land to which the development application relates, or*
>
> *(b) by any other person, with the consent in writing of the owner of that land.*
>
> *(2) Subclause (1) (b) does not require the consent in writing of the owner of the land for a development application made by a public authority or for a development application for public notification development if the applicant instead gives notice of the application:*
>
> *(a) by written notice to the owner of the land before the application is made, or*
>
> *(b) by advertisement published in a newspaper circulating in the area in which the development is to be carried out no later than 14 days after the application is made.*

Notwithstanding the above, in relation to Little Uralba Street, which is under the ownership of LCC, we refer to the correspondence from LCC accompanying this EIS which clearly states its support of the proposed works and closure of the road.

In relation to 67 Uralba Street, which is under the ownership of the University of Sydney, we refer to the correspondence from the University accompanying this EIS which also clearly states it consents to the proposed development.

6.5 Threatened Species Conservation Act 1995

The NSW Threatened Species Conservation Act 1995 (TSC Act) identifies and protects threatened and endangered native plants and animals.

The specific requirements of the TSC Act must be addressed in the assessment of flora and fauna matters. This requires the consideration of potential impacts on threatened species, populations and ecological communities. The factors to be taken into account in deciding whether there is a significant effect are set out in Section 5A of the Environmental Planning and Assessment Act 1979 and are based on a 7 part test of significance. Where a proposed activity is located in an area identified as critical habitat, or such that it is likely to significantly affect threatened species, populations, ecological communities, or their habitats, a Species Impact Statement (SIS) is required to be prepared.

Assessment of the proposal with regard to the TSC Act is undertaken below.

6.5.1 **Stage 3B Development**

As a result of the continuous development and operation of the hospital facilities on-site for decades, LBH is predominantly occupied by buildings and car park areas and any potential habitat is limited to scattered trees and grassed areas, neither of which is likely to support threatened species, populations and endangered ecological communities. Furthermore, no tree removal is proposed as a part of the Stage 3B development.

In accordance with the requirements of the TSC Act and Section 5A of the EP&A Act, it can be concluded that the proposed development will not have a significant impact on any threatened species, populations or EECs.

Therefore, a SIS is not required for the proposed Stage 3B development.

6.5.2 **Hospital Carpark**

Thirteen (13) trees are proposed to be removed as a part of this application to facilitate the construction of the new carpark.

The Tree Report prepared by Northern Tree Care accompanying this EIS confirms that whilst these trees are mature in age, *"none of [them] are local native species of heritage significance and are not listed on the Threatened Species Conservation Act 1995 or Environmental Protection and Biodiversity Conservation Act 1999"*.

Subject to recommendations for replanting, Northern Tree Care supports the removal of these trees, stating as follows:

> *The trees have been assessed having regard to ecological, environmental and statutory requirements. They have been evaluated for their suitability for retention in the development by the method Trees A-Z.*
>
> *Trees # 1 to 11 are considered to be unimportant and the value of the trees is limited to their visual amenity. The trees are undesirable in poor condition or are easily replaced.*

Trees # 12 and 13 are local native trees Melaleuca leucadendra protected by Council's TPO. They are a highly visible part of the streetscape in Uralba St. They are a common local species widely used as a street planting. It is considered that they are easily replaced. It is not possible to retain them in the development as proposed. To retain them would significantly reduce the number of car spaces able to be built. It is considered that the development is more important than the trees.

It is considered to be unreasonable to constrain the development in order to simply retain the visual amenity.

It is recommended that all of the trees be removed to allow the proposed development.

Despite the above conclusions, we understand that Tree No. 12 may be able to be retained. Refer to Section 8.7 of this EIS for further discussion.

In accordance with the requirements of the TSC Act and Section 5A of the EP&A Act, it can be concluded that the proposed development will not have a significant impact on any threatened species, populations or EECs.

Therefore, a SIS is not required for the proposed carpark development.

6.6 Roads Act 1993

The proposed development requires consent under Section 138 of the Roads Act 1993 as it seeks approval for a range of works within public roads (Uralba Street and Little Uralba Street). Section 138 of the Roads Act states:-

"138 Works and structures

(1) A person must not:

(a) erect a structure or carry out a work in, on or over a public road, or

(b) dig up or disturb the surface of a public road, or

(c) remove or interfere with a structure, work or tree on a public road, or

(d) pump water into a public road from any land adjoining the road, or

(e) connect a road (whether public or private) to a classified road,

otherwise than with the consent of the appropriate roads authority."

We understand that the appropriate roads authority for Uralba and Little Uralba Streets is Lismore City Council.

We note that Section 89K of the EP&A Act states that a consent under Section 138 of the Roads Act 1993 "cannot be refused if it is necessary for carrying out State significant development that is authorised by a development consent under this Division and is to be substantially consistent with the consent".

6.7 State Environmental Planning Policy (State and Regional Development) 2011

The aim of this policy is to identify development that is State Significant Development (SSD). Pursuant to the SEPP SRD a project will be a SSD if it falls into one of the classes of development listed in Schedule 1 of the SEPP. 'Hospitals, medical centres and health research facilities' with a capital investment value (CIV) of $30 million or more are identified as SSD and are considered to be development of State significance.

The proposed works fall within this category, noting that the proposed hospital carpark will be directly associated with LBH.

The works have a combined CIV of approximately $114 million and so the development qualifies as a SSD. Quantity Surveyors Reports for the developments prepared by Altus Page Kirkland confirming the total CIV of the proposal accompany this EIS.

6.8 State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 55 – Remediation of Contaminated Lands (SEPP 55) establishes State-wide provisions to promote the remediation of contaminated land.

Clause 7(1) of the SEPP 55 requires that a consent authority must not grant consent to a development unless it has considered whether a site is contaminated, and if it is, that it is satisfied that the land is suitable (or will be after undergoing remediation) for the proposed use.

An assessment of the sites with regard to these matters for consideration under SEPP 55 is provided below.

6.8.1 **Stage 3B Development**

A Stage 1 Environmental Assessment of the site was undertaken by Coffey Geotechnics and this assessment accompanied the application for the approved Stage 3A building. The findings of that assessment relate to the extent of part of the Stage 3B development site. The only land not included in this assessment comprises the Little Uralba Street properties (9, 11, 15 and 15A) and the Little Uralba Street carriageway.

In relation to the land that does fall under the assessment, the conclusion of the Coffey report is that there are no areas of contamination identified. The conclusion of the assessment also states that "it is considered that the soils within Area A and B of the LBH site are suitable for the proposed ongoing...use" and that "additional Phase 2 Environmental Site Assessment is not required".

In relation to the Little Uralba Street properties, our understanding is that this land has been used historically for residential purposes. Therefore, the potential risk for contamination is considered to be low.

A complete copy of the assessment report prepared by Coffey Geotechnics accompanies this EIS.

6.8.2 **Hospital Carpark**

A Preliminary Site Investigation for contamination has been undertaken by Douglas Partners for the carpark site. The conclusions of that assessment are as follows:

Based on the investigations described in the report, the following conclusions are made:

** The site has been used for residential/housing since approximately 1929. The majority of the buildings constructed at the time remain on site with the exception of the building previously located in the southern part of number 26 Dalziell Street and the garden shed (which also forms part of number 26);*

** Some relatively shallow filling (maximum depth of 0.8 mBGL) exists across the site;*

** Potential sources of contamination in soils at the site include the demolished building and the filling material, as describe above;*

** It is considered unlikely that groundwater would be contaminated at the site due to the presence of shallow rock (0.8 - 2.8 mBGL);*

** The potential contaminants of concern include heavy materials/metalloid.....total recoverable hydrocarbons....., polycyclic aromatic hydrocarbons...and fragments/fibres of asbestos.*

It is considered there is low to medium potential for contamination at the site.

Based on the proposed development, if contamination were identified at the site, it is considered it would be limited to soils and would be remediated as part of the development i.e. bulk earthworks to facilitate the construction of a multi-storey carpark.

Douglas Partners makes the following recommendations:

(a) Underground service pipes such as stormwater and telstra pits be assessed for the presence of ACM prior to their removal;

(b) All surface and near surface soil be cleared of ACM across the site following demolition of the buildings; and

(c) Waste classification of fill and natural material be assessed prior to any soil being removed from the site.

We anticipate that the recommendations will be implemented as conditions in the issue of any consent notice for the proposed carpark development.

A complete copy of the assessment report prepared by Douglas Partners accompanies this EIS.

6.8.3 Conclusion

Subject to the implementing the recommendations of the Coffey Geotechnics and Douglas Partners site contamination assessments, we are satisfied that the development sites will be suitable for the proposed uses and that the potential for contamination will be adequately mitigated in accordance with SEPP 55.

6.9 State Environmental Planning Policy No. 33 – Hazardous and Offensive Development

SEPP 33 provides clear definitions of hazardous and offensive industries and aims to facilitate development defined as such and to ensure that in determining developments of this nature, appropriate measures are employed to reduce the impact of the development and require advertisement of applications proposed to carry out such development.

SEPP 33 requires an assessment of hazardous materials, involving a screening method based on the quantities of dangerous goods on a site, to assist in determining if a development is likely to be a potentially hazardous industry.

Whilst the development primarily consists of the consolidation of existing services and no new hazardous activities on the site, an assessment of the nature and quantity of dangerous goods that will be stored/used at LBH (Stage 3B redevelopment) in accordance with the requirements of SEPP 33, should be undertaken, with a view to determining if the development is considered to be potentially hazardous or offensive using the performance based criteria specified in SEPP 33.

A SEPP 33 assessment was undertaken by AECOM for the approved Stage 3A development, but that assessment applied to the entire hospital operations. The SEPP 33 Screening Assessment undertaken by AECOM confirmed that LBH is not considered to be potentially hazardous based on the Dangerous Goods stored and so no further assessment is required. The findings and conclusions of that assessment do not change as a result of this application.

In relation to the proposed carpark, we understand that there will be no storage of any hazardous materials/dangerous goods. The carpark therefore is therefore not considered to be "potentially hazardous". Therefore, our view is that no further assessment is required in this regard.

In relation to "potentially offensive industries", this is defined in SEPP 33 as meaning *"a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would emit a polluting discharge (including for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land, and includes an offensive industry and an offensive storage establishment."* In the first instance, we note that the proposed carpark is not defined as a type of "industry". Notwithstanding this, given noise impact is a matter for consideration in the assessment of the proposed carpark, brief consideration of the “Hazardous and Offensive Development Application Guidelines - Applying SEPP 33” is undertaken. These guidelines list the following industries as being potentially offensive for the purpose of noise impact:

- Cement works, crushing grinding and separating works generally
- Drum reconditioning
- Metal processing
- Metal recycling

None of the above uses apply to the proposed carpark. Whilst the guidelines state that this list is not exhaustive, it refers also to Schedule 3 of the EP&A Regulation 2000, which provides additional categories of industry with a potential for significant environmental impact and therefore, whether these industries are potentially hazardous as per SEPP 33. There are no industries or uses in Schedule 3 of the EP&A Regulation 2000 that would

apply to the proposed carpark. Furthermore, Schedule 1 of the Protection of the Environment Operations (POEO) Act 1997, was consulted in determining if the proposed development was considered to be potentially offensive. Schedule 1 provides a list of all activities that require an Environment Protection Licence (EPL). The activities which will be undertaken at the proposed site were considered, and as such would not require an EPL.

Moreover, implementation of the mitigation measures recommended by Acoustic Logic in the Noise Emissions Assessment accompanying this EIS will adequately control any risk to the physical environment. These measures largely relate to detailed design requirements (concrete finish, surface finish, signage, traffic calming devices etc) and operational measures during construction and operation and are not considered to be overly prescriptive.

Given the above, the proposed carpark is not considered to be a potentially offensive industry and therefore, SEPP 33 does not apply in this instance.

6.10 State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 (iSEPP) aims to facilitate the effective delivery of infrastructure across the State and identifies matters to be considered in the assessment of development adjacent to particular types of infrastructure development.

6.10.1 **Health Services Facilities**

Division 10 of the iSEPP relates to “health services facilities”.

iSEPP, which prevails over the Lismore Local Environmental Plan 2012 (LLEP) to the extent of any inconsistency, permits "health services facilities" in prescribed zones. The carpark site is zoned R1 General Residential under the LLEP. LBH is zoned SP2 Infrastructure under the LLEP. Both the R1 and SP2 zones are listed as prescribed zones under Clause 56 of the iSEPP.

Health services facilities are defined in the iSEPP to include “facilities for the transport of patients, including helipads and ambulance facilities” and “hospitals”.

A "hospital" is defined under the Standard Instrument to include "car parks" as follows:

> ***hospital*** *means a building or place used for the purpose of providing professional health care services (such as preventative or convalescent care, diagnosis, medical or surgical treatment, psychiatric care or care for people with disabilities, or counselling services provided by health care professionals) to people admitted as in-patients (whether or not out-patients are also cared for or treated there), and includes ancillary facilities for (or that consist of) any of the following:*
>
> *(a) day surgery, day procedures or health consulting rooms,*
>
> *(b) accommodation for nurses or other health care workers,*
>
> *(c) accommodation for persons receiving health care or for their visitors,*
>
> *(d) shops, kiosks, restaurants or cafes or take away food and drink premises,*
>
> *(e) patient transport facilities, including helipads, ambulance facilities and* ***car parking,***

(f) educational purposes or any other health-related use,

(g) research purposes (whether or not carried out by hospital staff or health care workers or for commercial purposes),

(h) chapels,

(i) hospices,

(j) mortuaries.

Note. Hospitals are a type of health services facility—see the definition of that term in this Dictionary.

(CPSD Emphasis)

As such, the proposed Stage 3B development at LBH and the proposed hospital carpark are permitted with consent on the sites under the iSEPP.

6.10.2 Traffic Generating Development

The iSEPP aims to ensure that the RMS is made aware of and is given an opportunity to make representations in respect of traffic generating development. The SEPP sets out the types of development which must be referred to RMS. This affects the current proposal insofar as the SEPP (Schedule 3) requires referral of any proposal regarding a hospital with "over 200 beds" (LBH has 210 beds) and any car parking for "200 or more motor vehicles".

The development proposal will therefore be referred to the RMS for comment. To assist the RMS in its consideration of the proposal, a traffic and parking assessment has been prepared by TTW and accompanies this EIS.

6.11 Lismore Local Environmental Plan 2012

The Lismore Local Environmental Plan 2012 (LLEP) applies to the site. Consideration of the LLEP is undertaken below.

- The development sites are zoned a mix of SP2 Infrastructure (Health Services Facility) and R1 General Residential, as can be seen in the figure below:

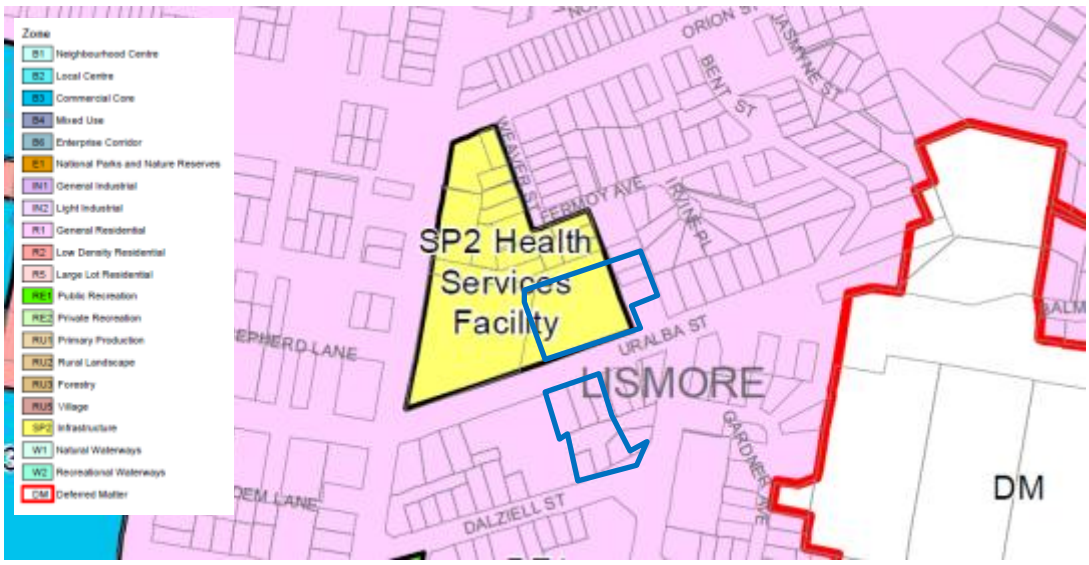


Figure 36 LLEP Zoning Map Extract, approximate outline of sites in blue (Source: LLEP Zoning Map)

- In the SP2 and R1 Zones, "health services facilities", including "hospitals", are permitted with consent. Given the proposed Stage 3B development is associated with the existing hospital operations, being a "hospital", the proposal is permitted with consent on the Stage 3B site.

- The proposed carpark is permissible with consent as it falls under the definition of “hospital” and R1 is a prescribed zone for the purposes of Clause 57 of the iSEPP.

- The proposed Stage 3B development is consistent with the objectives of the SP2 zone as it relates to the existing hospital use.

- The proposed hospital carpark will not contravene the objectives of the R1 zone. As will be discussed further in this EIS, the proposed carpark has been designed so as to preserve the amenity of the residential area predominantly to the south of the carpark site. Whilst not consistent with the existing character of the area, the proposed carpark is consistent with the emerging health precinct surrounding the hospital. This emerging character is set out in Section 3.6 of this EIS.

- The sites are not located in a flood planning area. Therefore the flood planning provisions in the LLEP do not apply.

- LBH is not subject to any maximum building height under the LLEP. The Little Uralba Street properties that form part of the Stage 3B development site are subject to a maximum 8.5 metre height limit. There are no "buildings" proposed within this area of the development site, but we can confirm that the proposed retaining wall structures that fall on this part of the site will be well under the maximum permitted height under the LLEP.

- The carpark site is subject to a maximum building height of 8.5 metres. Whilst Clause 5.12 of the LLEP states that the LLEP “does not restrict or prohibit … the carrying out of development by … a public authority that is permitted to be carried out … under the SEPP (Infrastructure)”, a written Clause 4.6 request has been prepared to provide justification for the "variation" to the height standard that applies to the site. Refer to Appendix 34 of this EIS for a copy of the Clause 4.6 variation request.

- There are no floor space ratios applicable to the sites under LLEP.

- The minimum lot size for subdivision of the carpark site is 400m² per lot. The proposed subdivision of the carpark site will result in the creation of two (2) new lots (one (1) comprising the carpark site and the other comprising the Sydney University site to the west), both of which are far in excess of 400m².

- The sites do not comprise any heritage or archaeological items and are not within a heritage conservation area. However, the sites are located within the vicinity of a local heritage item, being listing I67, known as Armstrong House ("Kiaora") at 83A Uralba Street. Under the provisions of Clause 5.10 of the LLEP, the consent authority may, prior to granting consent, require a heritage management document which assesses the impact of a development on heritage items within the vicinity of the development site. To assess the potential impact of the proposed developments on the heritage significance of Armstrong House, a Heritage Impact Statement (HIS) has been prepared by City Plan Heritage, which concludes that the development is satisfactory and will not result in any adverse impact on the heritage significance of Armstrong House. A complete copy of the HIS accompanies this EIS and further discussion regarding heritage-related matters is undertaken in Section 8.16.

- Clause 6.2 of the LLEP operates so as to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land. This applies to both developments. The accompanying geotechnical and civil documentation confirms that any potential impacts resulting from earthworks will be adequately mitigated.

- An Obstacle Limitation Surface ("OLS") is defined for Lismore Airport to ensure flight path and navigation clearance for air traffic. The maximum height of development at LBH under the OLS is RL 54.5. Clause 6.5 of the LLEP states that if a development penetrates the OLS, consultation with "the relevant Commonwealth body" is required prior to granting consent. In this instance, the relevant body is CASA. The maximum height of the proposed Stage 3B development is RL 79.48 (to the top of the lift overrun) and will therefore penetrate the OLS. Consultation with CASA is triggered and this is being undertaken by HI. A response from CASA will be provided to the Department when available. The proposed carpark only reaches a maximum height of RL 49.30 and will therefore not trigger any consultation requirements under the LLEP.

- Clause 6.9 of the LLEP states that consent must not be granted to development unless the consent authority is satisfied that the services are available or that adequate arrangements have been made to make them available when required. Section 8.9 of this EIS provides an assessment of the utilities services demands, requirements and availability.

As demonstrated above, the proposed development is consistent with all relevant provisions of the LLEP.

7. Non-Statutory Considerations

The SEARs require the following strategic planning documents to be considered in this EIS:

- NSW 2021;
- Far North Coast Regional Strategy;
- Northern Rivers Regional Transport Plan 2013; and
- Northern Rivers Regional Plan 2013-2016.

Consideration of the above where relevant is undertaken in the following sections of this EIS.

7.1 NSW 2021

The NSW State Plan, 'NSW 2021', is built around five (5) key strategies. Of particular relevant to this proposal are the following two (2) strategies:

- Renovate Infrastructure; and
- Return Quality Services.

There are a series of goals that are associated with these high level strategies. Of relevance are the goals that focus on investing in critical infrastructure, providing world class clinical services with timely access and effective infrastructure. There are also goals to restore confidence in the public health system by redeveloping existing public health infrastructure to improve patient care.

The investment of the NSW government in the subject proposal will provide modern health services to the Lismore LGA, and wider regional area, providing better equipped and responsive health care needs to the changing local demographic. On this basis, the proposal is considered to support the goals of NSW 2021.

Further to the above, the Northern Rivers Action Plan has been released, which aligns with NSW 2021. One of the key goals/strategies of the Action Plan is to *"age proof the region and improve access to health services":*

> *The Northern Rivers has one of the fastest growing and ageing populations in NSW, with the number of people aged 65 years and over expected to double in the next 25 years.*
>
> *Clear long-term strategies to cater for an ageing population and their economic and social needs together with training and mentoring will assist overall community well being. A diverse health delivery system including primary health care, public hospitals, specialty health centres, mental health and dental service providers is needed to support the health needs of the community.*
>
> *To age proof the region and improve access to health services, the NSW Government will:*
>
> *• Effectively plan for and respond to the region's ageing population through the development of a North Coast Ageing Strategy*
>
> *• Provide and maintain high quality health infrastructure in the region*

- *Improve access to quality health services in the community.*

One of the "priority actions" to achieve the above is to redevelop health infrastructure. Upgrades listed include redevelopment of LBH. Therefore, the proposal aligns with the Action Plan.

7.2 Far North Coast Regional Strategy 2006

The Far North Coast Regional Strategy was produced by the NSW government to develop policies and actions to address the region's projected future population growth in a sustainable manner.

A summary of the key issues identified in the Strategy that relate to the site and this application are set out below:

- Lismore will continue to have a key role as a major regional centre in the far north coast region. 35% of future housing, for the anticipated 60,400 additional people expected to be living in the region over the next 25 years, will be accommodated with the three (3) major regional centres, including Lismore (and Tweed Heads and Ballina). This increase in population will result in an increase in demand for employment and services and the redevelopment of the LBH will be a key factor in meeting this increased demand.

- The Strategy identifies that the region's population demographic is changing, with the population ageing. This will also result in an increase in the demand for health care services and the proposal will aid in meeting this increased demand.

- One of the key visions for the future of the region is for people to be "physically healthy" and high quality, efficient public health services are a key factor in reaching this goal. Again, the proposal will aid in achieving this for Lismore and the wider region.

- Finally, the Strategy identifies major infrastructure projects in the region that will contribute to achieving the key goals and visions and the redevelopment of LBH is identified. There is an expectation that the redevelopment of the hospital (including the subject Stage 3B) will be undertaken to support the projected population increases and ageing population trend in the region.

In June 2014, and subsequent to the Far North Coast Regional Strategy being released, the NSW Government released new draft regional boundaries for NSW. Once the boundaries are finalised for each region, they will provide the basis for a new generation of strategic plans called Regional Growth and Infrastructure Plans.

The proposed North Coast Region will incorporate areas in the Far North Coast and Mid North Coast as well as Great Lakes and Gloucester. Lismore is identified as a major regional city centres.

A North Coast Regional Growth and Infrastructure Plan will facilitate and deliver the growth needed on the North Coast

This process will review and build on the plans contained within the 2006 Far North Coast Regional Strategy (and 2008 Mid North Coast Strategy), and set an agreed government and community vision for the region. Once finalised, the Regional Growth and Infrastructure Plan will replace the regional strategy.

Regional Growth and Infrastructure Plans will be developed for all 10 regions across NSW. Until a Regional Growth and Infrastructure Plan is prepared, the strategies below continue to apply to the region. As demonstrated above, the proposal is consistent with the Far North Coast Regional Strategy.

7.3 Northern Rivers Regional Transport Plan 2013

The Northern Rivers Regional Transport Plan outlines specific actions to address the unique "transport" challenges of the region.

Consideration of this plan has been undertaken by TTW in the traffic and parking assessment accompanying this EIS. An extract is below.

> *Northern Rivers Regional Transport Plan 2013 has identified Lismore Base Hospital as one of the key destinations with the Lismore area.*
>
> *The Plan has earmarked the area for improved public transport services and better accessibility as part of its short and long term planning, while also given consideration to private vehicle use. The proposal for the Hospital redevelopment is also framed within such strategies and complementary to Plan.*

The proposal is considered to be consistent with this Plan.

7.4 Northern Rivers Regional Plan 2013-2016

The Northern Rivers Regional Plan 2013-2016 is a strategy for future development in the region. It is based on a 10-year overarching vision and identifies seven priorities for investing in the Northern Rivers' economic, social and natural capital. It has been prepared by Regional Development Australia – Northern Rivers.

The overarching "vision and aspirations" focus on a "healthy, prosperous and sustainable future" for the region. Initiatives include supporting the region's healthcare and "healthy living" sector and supporting the "development of heath care infrastructure and service delivery". The plan notes that the region comprises a generally "older" population in comparison to NSW. There is therefore an identified need to develop the region's health care infrastructure and service delivery to support the ageing population and the proposed development will assist in achieving this within the public health sector.

8. Environmental Impact Assessment

8.1 Overview

In addition to the statutory controls and strategic policies addressed in Sections 6 and 7 of this EIS (SEARs 1 and 2), the SEARs state that the environmental impacts of the proposal must be assessed, and specify key issues be considered. These relate to built form and urban design, environmental and residential amenity, transport and accessibility, contributions, contamination, Aboriginal heritage, ecologically sustainable development, drainage and stormwater, flooding, utilities, staging, noise and vibration, waste, hazards and consultation. This section contains the assessment of those and other relevant considerations and includes recommended mitigation measures where necessary.

8.2 Built Form and Urban Design (SEAR 3)

8.2.1 **SEAR**

SEAR 3 requires the application to consider:

> *• Address the height, density, bulk and scale, setbacks of the proposal in relation to the surrounding development, topography and streetscape.*
>
> *• Address design quality, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials, colours and Crime Prevention Through Environmental Design Principles.*
>
> *• Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development.*

8.2.2 **Assessment - Stage 3B**

Height, Bulk and Scale

Located in the south-eastern corner of LBH, the Stage 3B development site faces a series of challenges. Existing hospital buildings in the southern part of LBH sit on the ridge-line and are therefore visually prominent. To the east of the site is a low density precinct, largely comprising residential dwellings with various other allied health uses emerging. This also applies to the south of the site, where development on the southern side of Uralba Street was traditionally low density residential development but is emerging into a more substantial "hospital street" with a more "institutional" feel to it. Therefore, the existing context to the north-west, west and south, allows for a taller building to more easily integrate with the emerging and likely future character of the precinct. The more "sensitive" interface is to the east, where development is generally more residential in nature and lower density.

To this end, the design of the Stage 3B1 and 3B2 developments has been undertaken to site and scale built form to respond to this sensitive interface. This is achieved in the following ways:

- The Stage 3B1 tower has been well setback from the levels below and particularly, the eastern boundary. The setback of over 15 metres from the eastern boundary allows for the taller part of the development to be recessed so as to preserve a more

human scale when viewed predominantly from the east, but also from the south/Uralba Street.

- The Stage 3B1 tower has also been setback approximately 18 metres from the southern site boundary and approximately 6.5 metres from the levels below. This assists in not only reducing the perceived bulk of the development when viewed from Uralba Street, but also creates a more "slim line" tower when viewed from the east. Combined with the eastern setbacks, the tower will be well setback to mitigate the potential for adverse visual massing.

- The height of the Stage 3B2 development to the north of Stage 3A and proposed 3B1 has been minimised, so as to allow for a significant "step" in building form down from the tower to the north. This step not only alleviates the visual bulk and scale of the combined Stage 3A (approved) and 3B1 when viewed from the lower lying areas to the north, but also assists in alleviating the height and collective massing of the built forms at the eastern boundary.

- There are no large blank rendered walls or similar proposed. A variety of materials and finishes has also been used to "break up" the built form and to provide visual interest. This assists in allowing the building to be read as a collection of smaller components as opposed to a singular mass.

All of the above measures assist in minimising overshadowing, retaining privacy and improving the built form presentation to the Little Uralba and Uralba Street streetscapes.

The following images assist in demonstrating the above.

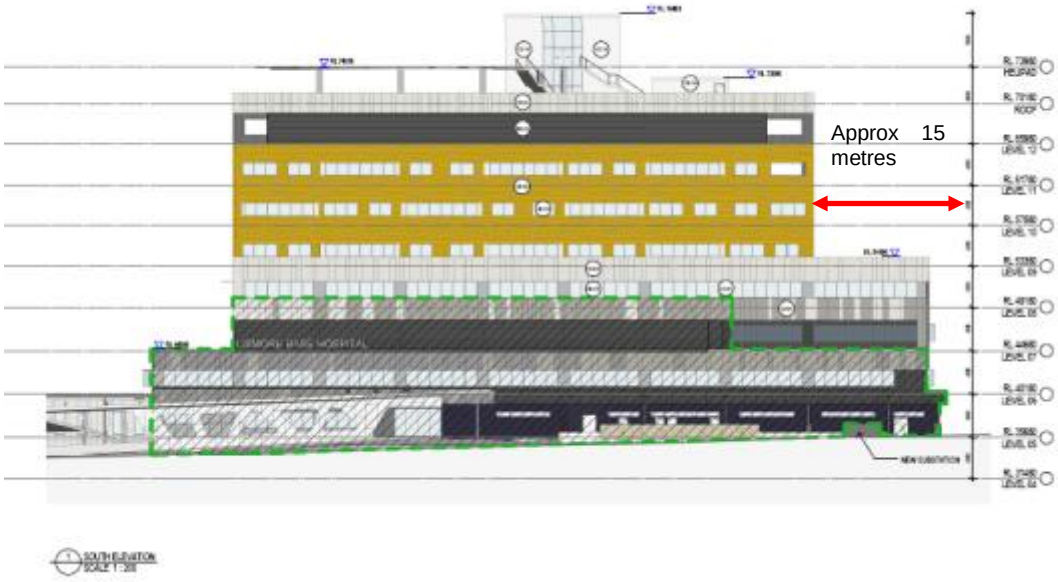


Figure 37 Southern Elevation, red arrow representing eastern boundary setback of the proposed Stage 3B1 tower (Source: Woods Bagot)

Figure 38 Eastern Elevation, red arrow representing southern boundary setback of the proposed Stage 3B1 tower (Source: Woods Bagot)

Reinforcement of the landscape treatment to both street frontages will further assist in mitigating massing of the development through incorporation of some landscaped "relief".

Materiality

The following extract is taken from the design statement prepared by Woods Bagot regarding materiality:

> *The proposal for the new building is to use materials that are fit for purpose and will provide cost effective solutions for the various requirements.*
>
> *The palette is drawn from nature and the surrounding local vernacular architecture with reference to the more neutral materials within the existing campus. The material decisions are conceived as a direct response to the practical needs and context of the facility. The need for openings and windows are directly related to clinical needs and planning responses. Given the location of the facility and local rural town context, we have endeavored to include a reference to the historical building materials and local industry.*
>
> *The Lismore basalt bedrock has been incorporated into the palate using a basalt coloured brick at the podium level where the building touches the ground, light weight composite aluminium panels in dark tones as we step up the building, then lightening in colour tone as the panels weave up the building tower. Materiality and colour have also been used to create impact between the weave and the tower mass. The podium is the undercroft of the landscape with dappled panels, while the tower is representative of the tree tops using the contrasting form and pattern. The peeling façade at higher levels allows for sunshading to*

glazing. The weave of the podium encaptures the full tower and creates unity between the 3 parts of the building.

The range of materials used in external spaces will provide a legible and cohesive public domain. All materials used externally will be robust and durable. Hardscape surfaces in high traffic areas in the public domain will be grey concrete. This will be a colour which will accommodate wear and tear. Surfaces in the courtyard will be a composition of patterns to provide visual amenity for patients and follow the architectural language of the canopy. Seating elements will be simple with signature benches used at 'Hospital Square' to mark the entry. Existing sculpture elements in the public domain will be upgraded and reintroduced into the public domain.

Signage

No new signage is proposed for Stage 3B with the exception of some minor internal way finding signage.

Connectivity

Principles for the Stage 3B development regarding connectivity will continue from the previously approved Stage 3A and are set out as follows:

- Provide the mechanism for a future 'north – south' pedestrian link to connect through the campus following future building replacements.
- Create the opportunity for a new internal east-west 'Hospital Street', to provide clear internal connectivity.

The architectural plans prepared by Woods Bagot clearly demonstrate the proposed internal connectivity between the approved Stage 3A building and the proposed Stage 3B1 and 3B2 developments.

Crime Prevention Through Environmental Design

The planning, layout and proposed materials of the building have taken into consideration the principles of Crime Prevention Through Environmental Design ("CPTED"). CPTED outlines four key principles, and the building has been designed in accordance with these, as assessed below. The extract below is from the Woods Bagot architectural design statement accompanying this EIS.

Safety and Crime Concern

The principles of Crime Prevention through Environmental Design (CPTED) when applied to the design of the built environment are intended to:

** maximise risk to offenders by increasing the likelihood of detection, challenge and apprehension;*

** maximise the effort required to commit crime by increasing the time, energy and resources required to commit crime;*

** minimise the actual and perceived benefits of crime by removing, minimising or concealing crime attractors and rewards; and*

** minimise excuse making opportunities by removing conditions that encourage/facilitate rationalisation of inappropriate behaviour.*

The proposed Lismore redevelopment has been assessed against the four principles which assist in minimising the opportunity for crime, these are:

***Surveillance** – camera surveillance is used in key entry and exit areas to the hospital and building entries. Addressing this in Phase 3A has covered the key entries to Phase 3B. Accidental or relational surveillance is present due to wide open corridors and straight visual lines through the gathering and meeting areas.*

***Access control** – Card access limits the public access to safe areas of the hospital. After-hours access will also be controlled by the same system.*

***Territorial reinforcement** – there is a clear delineation between departments of the hospital and zones within that are public or for medical staff only.*

***Space management** – public spaces surrounding the building are large and open with only low landscape walls, eliminating unseen edges and corners. This is primarily covered in Phase 3A but this design intent will continue for Phase 3B.*

Services Integration into Design

A new loading dock is proposed on the northern side of the approved Stage 3A building, which will be primarily used for waste collection. There is also a manoeuvring zone located to the east of the proposed development and on the eastern side of Little Uralba Street. This manoeuvring area is required to facilitate service vehicle access to the proposed loading dock. The loading dock is will integrated into the design of the Stage 3B2 building. Whilst the proposed manoeuvring zone in Little Uralba Street is not necessarily "integrated" into the design of the development, it has been designed to mitigate any potential adverse amenity impacts on surrounding residences. Further discussion in this regard is undertaken in Section 8.3.2 of this EIS.

Cooling towers and mechanical plant rooms are located at the roof levels of the Stage 3B developments. The plant is well setback from the site's respective boundaries and integrated into the built form to avoid any potential "unsightly" visual impact.

8.2.3 Assessment - Hospital Carpark

Height, Bulk and Scale

As identified by the design statement prepared by Fitzpatrick + Partners, the site is relatively small and steep with non-uniform boundary alignments. Further, it neighbours existing lower domestic scale dwellings. It is also located in a context with two distinct streetscape identities, being a domestic and landscaped context on Dalziell Street, and a contrasting urban and institutional context on Uralba Street. This, in conjunction with the emerging character of the precinct surrounding the hospital, presents a series of challenges for the carpark design.

The following are some key extracts from the design statement prepared by Fitzpatrick + Partners, demonstrating how the proposed carpark has been designed to respond to this existing and emerging context, particularly with relation to height bulk and scale:

The site has two distinct identities; a domestic and landscaped context on Dalziell Street and a contrasting urban and institutional context on Uralba Street.

Located within this mix of domestic and large scale institutional buildings, the building has been designed to visually minimise the overall mass of the building into smaller, more sensitively scaled volumes, while sitting compatibility with the larger scale context of the hospital.

The building façade solution has been fragmented so that the overall building reads as a collection of smaller "vessels" clumped together. Each of these "vessels" is approximately 8m wide, being visually consistent with the plan dimension of the front of many of the surrounding domestic buildings. The effect is a significant reduction in the visual bulk of the building form.

In response to the sloped topography of the site, the vessels follow the slope of the site from the higher level of Uralba Street to the lower level of Dalziell Street. Within the domestic scaled context of Dalziell Street, a more generous setback has also been provided to lessen the sense of scale.

To further assist in achieving a reduction in the visual bulk of the building form, the façade is fabricated from perforated metal panels. The perforations within the panels both reduce the scale of a single solid panel by introducing a visual depth of field to the façade. This perforation also removes the need to mechanically ventilate the car park, providing a more pleasant environment for the end user, removing associated acoustic pollution and minimising energy use.

Being a sheet metal product, the panels are also easily manipulated or creased. This creasing concept has been used to introduce a series of folds over the façade, again playing with the overall massing of the vessels by creating a 3 dimensional depth to what is in essence a flat façade.

This three dimensional play with the scale and form is further assisted with the adoption of a graduated colour palette on the perforated cladding, unique to both street facades.

The colours selected are sympathetic to the relevant streets in which they belong; landscape green to sky blue to on the Dalziell Street façade and deep indigo to sky blue to the urban façade of Uralba Street.

The zone to the outside of the eastern and western facades is then heavily planted to further assist in the reduction of the scale of the building form, and to assist in maintaining a level of amenity, provide visual privacy and minimise overlooking to any neighbouring structures.

Landscaping on the Dalziell Street frontage has been designed to ameliorate the visual impact of the car park with the specification of a small leafed fig tree, scrubs and medium sized trees.

And,

Whilst the built form is of a significant scale, the careful articulation of the wrapping façade solution with a considered overlay of colour, perforation and fold successfully manage to visually reduce the impact of this bulk, producing a successful and function addition to this precinct.

In essence, whilst the proposed carpark is not consistent with the existing immediate context along the site's secondary frontage (Dalziell Street), it has been designed to respond to the desired future character of the street block. It also draws reference to the scale of development opposite the site at LBH and the largely institutional nature of the emerging "Hospital Street' along Uralba Street. Furthermore, the carpark has been designed with a high degree of architectural interest and with a materials and finishes scheme which seeks to respond to the site's two (2) contexts. Particularly on Dalziell Street, the graduated colour of green up to blue seeks to mimic the landscaped setting of Dalziell Street graduating into a blue colour at the upper levels to reflect the sky. This is considered to be a much more sympathetic outcome for the site as opposed to a typical bland grey concrete structure that car parks typically consist of.

The figures below are extracts of the eastern and western elevation plans prepared by Fitzpatrick + Partners which demonstrate the above. Particularly, we note the appropriateness of the transition in height from the Stage 3A/3B1 development on the northern side of Uralba street, down to the carpark, and further to the southern side of Dalziell Street. This transition in built form and response to topography is considered to be a positive outcome.

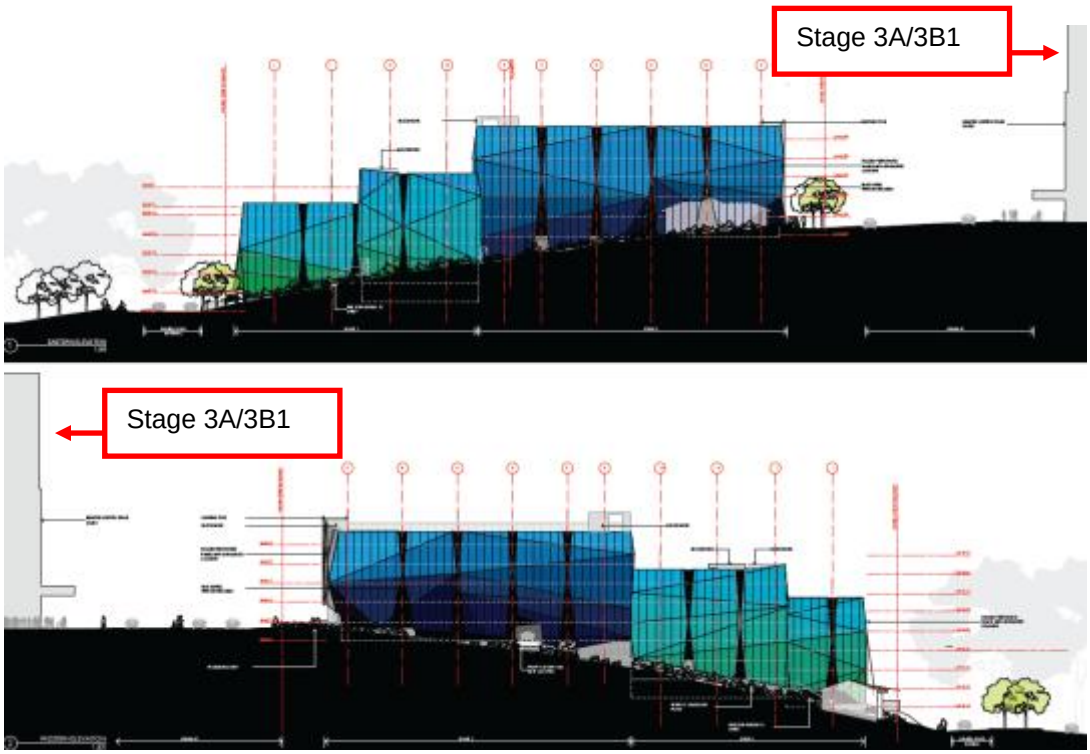


Figure 39 Eastern and Western Elevation Extracts (Source: Fitzpatrick + Partners)

Materiality

The proposed materials and finishes will comprise a mix of the following:

- Charcoal split-face block work walls;
- Charcoal honed block work walls;
- Black perforated metal recessed voids;

- Folded powder coated perforated metal panels to the facade with colour graduation from "ground to sky" as can be seen in the materials/colours schedule extract below from the Fitzpatrick + Partners architectural package:

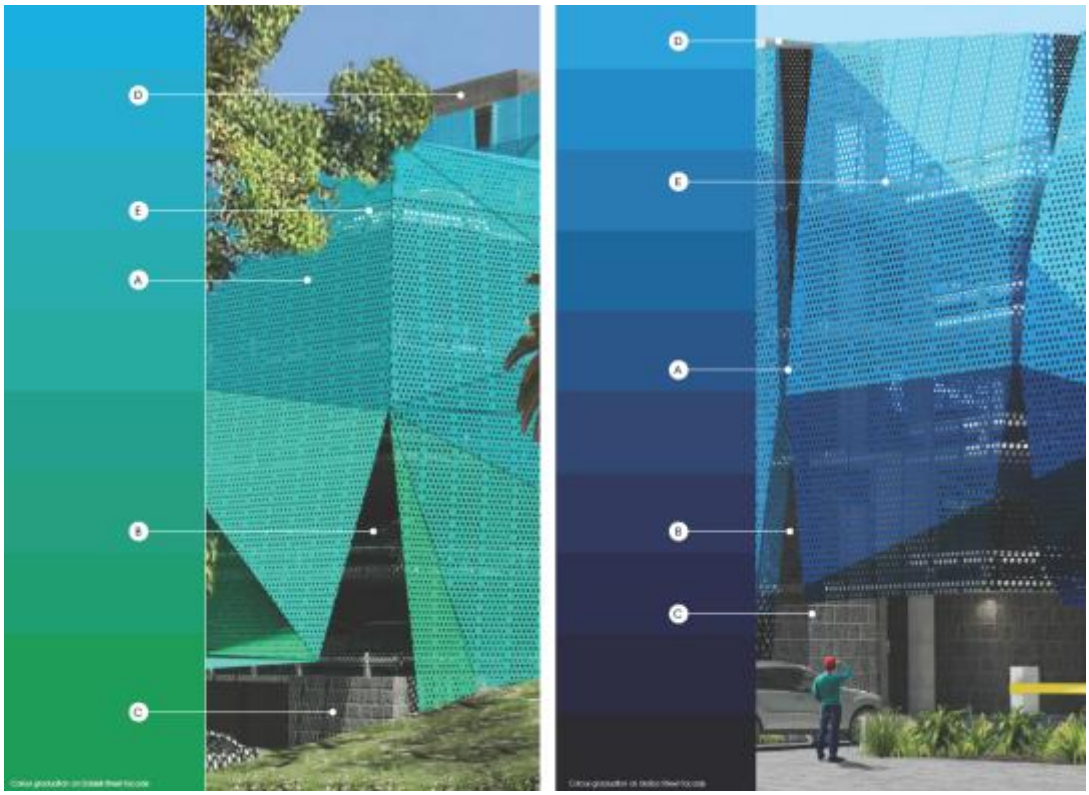


Figure 40 Extract from Drawing No. DA-016 - Facade details and materials and finishes (Source: Fitzpatrick + Partners)

The following commentary comprises a series of extracts from the Fitzpatrick + Partners design statement, discussing the proposed materiality of the carpark:

> *Being a sheet metal product, the [facade] panels are also easily manipulated or creased. This creasing concept has been used to introduce a series of folds over the façade, again playing with the overall massing of the vessels by creating a 3 dimensional depth to what is in essence a flat façade.*
>
> *This three dimensional play with the scale and form is further assisted with the adoption of a graduated colour palette on the perforated cladding, unique to both street facades.*
>
> *The colours selected are sympathetic to the relevant streets in which they belong; landscape green to sky blue to on the Dalziell Street façade and deep indigo to sky blue to the urban façade of Uralba Street.*

And,

> *Whilst the built form is of a significant scale, the careful articulation of the wrapping façade solution with a considered overlay of colour, perforation and fold*

successfully manage to visually reduce the impact of this bulk, producing a successful and function addition to this precinct.

The materials and finishes as noted above are subject to finalisation/detailed design.

Signage

No external signage is proposed for the carpark with the exception of internal way finding, directional and traffic control signage.

Connectivity

The connection via the existing hospital entry and the proposed carpark is via an existing pedestrian crossing on Uralba Street. A dedicated pedestrian pathway within the carpark on the Uralba Street level then links pedestrians to the lift core.

Crime Prevention Through Environmental Design

The planning, layout and proposed materials of the building have taken into consideration the principles of Crime Prevention Through Environmental Design ("CPTED"). CPTED outlines four key principles, and the building has been designed in accordance with these, as assessed below in the following extract from Fitzpatrick + Partner's design statement:

The personal safety of the users of the car park is of paramount concern. Solutions have been adopted which attempt to minimise this issue, address the issues of potential vandalism to the structure and in turn address the four principles of Crime Prevention through Environmental Design. Such measures include:

Natural Surveillance;

** The provision of an open internal layout with minimal obstructions where possible to provide simple over viewing or casual surveillance of all spaces*

** Lighting design by an electrical engineer*

** A façade system that provides a level of transparency where possible*

** Façade system sealed from floor to floor, minimising potential fall points*

** Roof top high level parapet to minimise potential fall points.*

Access Control:

** Minimal access points with a single vehicular access point on Uralba Street with boom gates and exit only on Dalziell Street.*

** A office located at the entry point*

** A singular pedestrian entry point on Uralba Street with access control and a dedicated pathway from the entry to the lift core.*

Space and Activity Management:

** Floor levels and parking bays clearly numbered and colour-coded.*

Maintenance and general up-keep of the facility:

** The specification of durable and robust materials such as powder-coated aluminium, blockwork and concrete to minimise accidental and deliberate damage.*

Services Integration into Design

Servicing associated with the proposed carpark will be limited. There will be no "loading zones" and waste generation and associated management will be minimal. The lift overrun is well setback from the site's boundaries and well integrated with the design of the carpark.

8.2.4 Recommended Mitigation Measures

The installation of CCTV for the proposed carpark to ensure that safety and security of users of the carpark, particularly after hours, is maintained.

8.3 Amenity (SEAR 4)

8.3.1 SEAR

SEAR 4 requires the application to consider:

"Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing, lighting impacts and wind impacts. A high level of environmental amenity for immediately adjacent residential land uses must be demonstrated."

8.3.2 Assessment - Stage 3B

Solar Access

The shadow diagrams prepared by Woods Bagot for 22 June and 22 December clearly demonstrate that the proposed Stage 3B development will not result in any adverse overshadowing to surrounding development. Particularly, the proposed development will not result in any impact on the ability for all surrounding residential dwellings to the east of the site to maintain at least three (3) hours of solar access to living areas and private open space, which is the commonly applied solar access guideline. Solar access for properties on the south side of Uralba Street (which are predominantly commercial/allied-health in nature) are protected by the significant width of the street and retain adequate levels of solar access. The greatest level of overshadowing in mid-winter occurs at 3:00pm to the southern side of Uralba Street. The properties affected however maintain solar access to internal areas of the buildings and rear open space at all other hours of the day.

Refer to the extract below from the Woods Bagot shadow diagram.

Figure 41 Shadow Diagrams (Source: Woods Bagot)

Acoustic Impacts

The acoustic impacts of the Stage 3B development have been considered by Acoustic Logic in the Noise Impact Assessment accompanying this EIS. Further, Section 8.5 of this EIS provides a summary of the findings of the assessment undertaken by Acoustic Logic. The conclusion of the assessments undertaken by Acoustic Logic is that subject to adopting the recommendations of the report, the proposed development will not generate any adverse construction or operational noise impacts within the site and externally.

Visual Privacy

The main area of consideration in terms of visual privacy is the potential for overlooking by the development to the residential properties to the east of the site and on Little Uralba Street. Windows are proposed in the eastern elevation of the proposed building to maximise natural daylight and to "break up" the facade of the building, but given the residential properties on Little Uralba Street have an east-west orientation and their private open space is to the rear / west, there is little potential for overlooking from the proposed new building. The potential for overlooking is further mitigated by separation distances of the development (and particularly the tower component which is well setback from the levels below) from the primary rear open space of these dwellings which is assisted by the presence of Little Uralba Street between the subject site and these residential properties.

Visual Impact

As discussed in Section 8.2 of this EIS, the proposed development has been designed to achieve a balance between responding to the functional needs of the hospital along with consideration of its low density setting to the east and south and site characteristics. Achieving this balance is a challenge, particularly as the site of the proposed new building is located at one of the highest parts of the site due to the natural topography of the land. Any new building on this part of the site will therefore be visible. However, given the existing character of the site is that it comprises taller buildings, this sets a precedent for higher density and larger scale buildings on the site than currently exists on the land surrounding the hospital. It is also important to note that the relationship of the proposed new building and emergency (and other) services provided to LBH requires it to have a strong presence for external users and be easily defined and identifiable. To this end, while

at the same time recognising the surrounding low density built form context of this part of the site, one of the key objectives of this development is to create a clearly defined, arrival experience for visitors and high levels of street activation and connectivity. This was established through the Stage 3A approval and continues to be a matter for consideration for the Stage 3B developments as currently proposed.

In terms of the design of the proposed Stage 3B development, the following measures have been employed to minimise visual impact when viewed particularly from the east and the south which are the more "sensitive" interfaces:

- Maximum building heights are located within the middle of the development site so as to preserve a human scale at the Uralba and Little Uralba Street frontages;

- The interface between LBH and existing adjacent residences has been considered to minimise overshadowing, retain privacy and improve streetscape. This has been achieved primarily through a "stepping" of the built form towards the east and the north which lessens the impact of the upper levels of particularly the Stage 3B1 tower.

- A variety of materials and finishes has been used to "break up" the built form to provide visual interest and to assist in the building being read as a collection of smaller components as opposed to a singular mass. The tower component (from Level 09 and above) is also substantially setback from the east by approximately 15 metres, thereby reducing the visual prominence of this "taller" component of the development, particularly when viewed from street level.

- A series of large trees, shrubs and turf is proposed to be planted adjacent to the Stage 3B2 development and surrounding the proposed new loading bay entrance/manoeuvring space on Little Uralba Street. This in conjunction with the landscaping approved under Stage 3A along Little Uralba Street will assist in softening the visual massing of the development. Refer below for an extract of the landscape plan prepared by 360º.

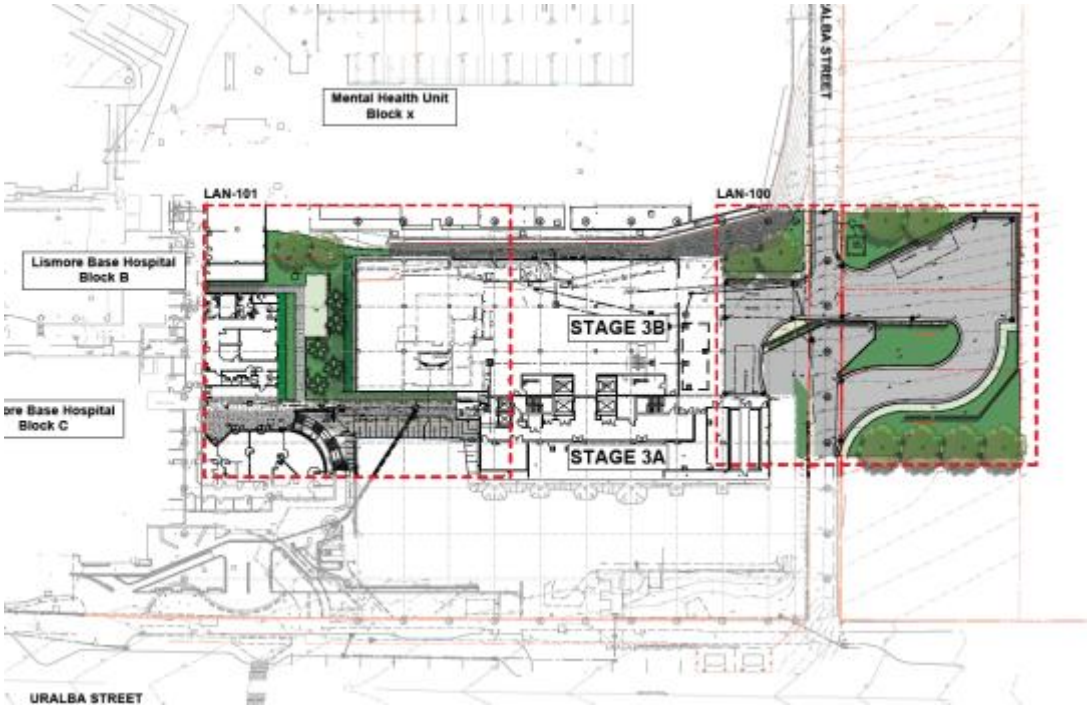


Figure 42 Extract of Landscape Plan (Source: 360º)

Further to the above, consideration is given below to the potential visual impact of the proposed loading zone/turning area with regard to the adjacent residential precinct.

The visual impact of the proposed loading zone when viewed from the directly adjacent residential properties to the north, east and south is a key matter for consideration. This is particularly the case in the north-eastern corner of the loading zone where the zone extends almost directly to the common boundaries.

The following plan accompanying section plan demonstrate the proposed relationship at the common boundary between the proposed loading zone and the adjacent property to the north at 7 Little Uralba Street. The red star shows the location on the boundary where the accompanying section has been taken.

Figure 43 Stage 3B Siteworks Plan & Section 3 Extract (Source: TTW)

As can be seen in the figure above, a retaining wall is proposed on the common boundary with approximately 1.5 metres of fill adjacent to the retaining wall to facilitate the required levels/grades for the trafficable pavement in the loading zone. The retaining wall will be partially screened by the existing fencing on the adjacent site. Also, the retaining wall will extend for only 8.5 metres of the length of the 34 metre long common boundary, with the remainder of the retaining wall well setback from the common boundary. Furthermore, and as shown in the figure below, landscaping including large trees is proposed along the northern boundary to assist in screening the proposed loading zone and associated structures.

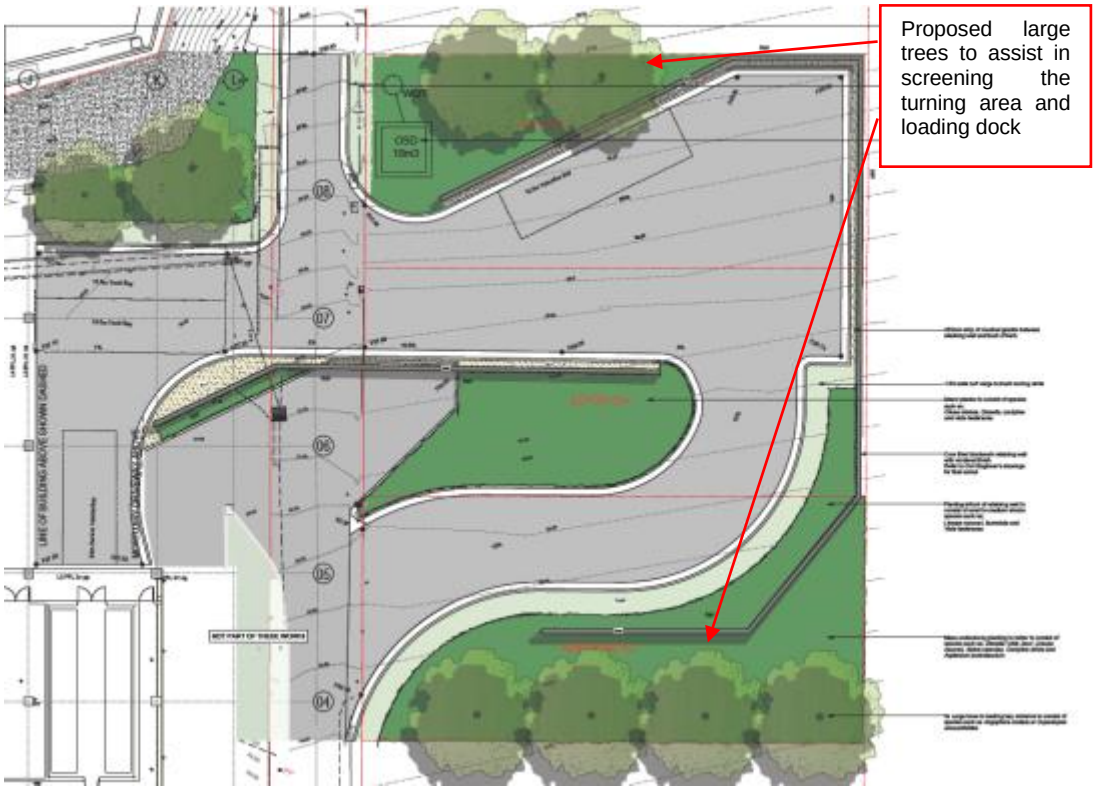


Figure 44 Landscape Plan Extract (Source: 360º)

All of these measures will assist in screening the activities that will be undertaken in the adjacent loading zone.

During the design development phase of the project, consideration was given to setting back the retaining wall structures from the north-eastern corner of the site, but the turning path analysis undertaken by TTW for the required service delivery vehicles confirmed that there is no scope to reduce the extent of the turning paths. Notwithstanding this, for the reasons set out above, we consider that the treatment to the proposed northern interface is appropriate and will mitigate any unreasonable visual impacts, subject to the recommendations set out in Section 8.3.3.

With regard to the eastern interface, and particularly, the residences at 2 and 3 Irvine Place, the following plan and section plan extract demonstrates the relationship of the proposed loading zone at the common boundary. At the boundary, cut is proposed and a retaining wall structure will be erected 300mm from the common boundary. The proposed cut will reduce the ground level to well below the height of the existing ground level on the adjacent properties. The retaining wall will extend 1.2 metres above existing ground level to assist in screening the development from the adjacent residences. There is also existing landscaping comprising mature trees along the rear boundaries of 2 and 3 Irvine Place that will further assist in screening the proposed loading zone and retaining walls. The amount of cut combined with the proposed height of the retaining wall structure and the landscaping on the adjacent sites will mitigate any adverse visual impact of activities being undertaken in the proposed loading zone.

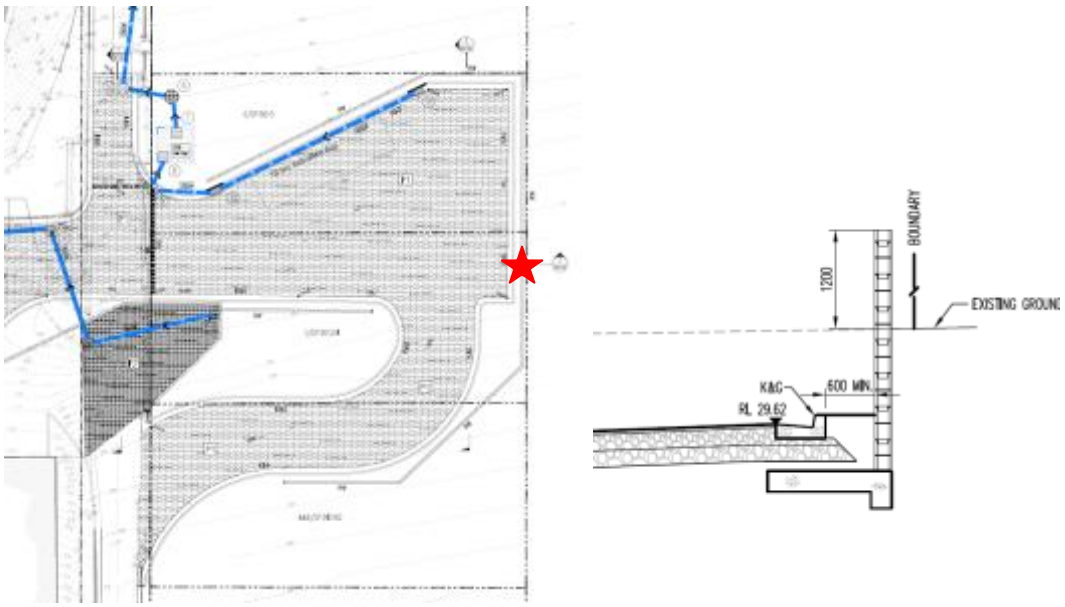


Figure 45 Stage 3B Siteworks Plan & Section 2 Extract (Source: TTW)

With regard to the south and south-east, the loading activities will occur well below existing ground level. These activities are also well setback from the south-eastern corner of the loading zone site and generous landscaping is proposed at this interface (as shown in the landscape plan extract above) to mitigate any adverse visual impact of activities being undertaken in the loading zone.

Whilst the Stage 3B development and associated turning area will be visible from the surrounding area, it has been designed with a view to minimise the perceived visual bulk through the use of setbacks, facade fenestration, materials and finishes and soft landscaping, which is considered to result in a visually interesting and clearly defined development that does not adversely dominate the surrounding context.

Waste Management

Waste Management Plans for both construction and ongoing operation has been prepared by Aurora Projects and NNSW LHD (respectively) and are submitted with this EIS.

Loading Zones

The proposed loading/manoeuvring zone in Little Uralba Street (9, 11, 15 & 15A) shares common boundaries with existing residential dwellings to the north, east and south. The location of which can be seen in the figure below.

Figure 46 Site plan showing location of sensitive "interface" between proposed loading zone east of Stage 3B (shaded in yellow) and residential dwellings (shaded in blue) (Source: Google maps)

Given the adjacency of the proposed loading zone (in yellow above) to these "sensitive" receivers (shown in blue above), consideration of the potential impact on residential amenity is required. Key matters for consideration specifically with regard to this loading zone are addressed below.

- **Access**

The closure of the southern end of Little Uralba Street for the purpose of private access for the hospital will result in some potential impacts to vehicular circulation and access for the private residents of Little Uralba Street.

This is proposed to be mitigated in the following ways:

- Vehicular access to 78 Uralba Street (cnr Uralba and Little Uralba Streets) is currently gained via a driveway accessed off Little Uralba Street. This driveway access will be maintained and it is proposed that an easement/right of way be registered on title of Little Uralba Street (carriageway) to benefit/allow for a right of access to 78 Uralba Street. This will be undertaken prior to the closure of the southern end of Little Uralba Street and should be included as a condition in the issue of any consent notice for this development.

- Vehicular access to the four (4) residential properties at 1-7 Little Uralba Street will no longer be possible from the south. This change in vehicular access for these properties is addressed in the traffic and parking assessment prepared by TTW. TTW confirms that consideration will need to be given to establishing a "passing location" on Little Uralba Street to enable two (2) way access given the restricted width of the carriageway. TTW also confirms that consideration needs to be given to waste collection to these properties, which may include provision within the loading dock turning area to allow access for Council waste vehicles to turn around and return along Little Uralba Street. Alternatively, the waste collection vehicle may reverse southbound along Little Uralba Street for waste

collection or a common collection point could be made at the intersection of Little Uralba Street/Fermoy Avenue. The final arrangements to ensure that access for these residential properties (both by private cars and Council waste collection vehicles) will be established in consultation with Council.

- **Dust**

The potential for dust generation during the operation of the loading zone is mitigated through the use of primarily asphaltic concrete for the vehicular access and manoeuvring surfaces. The inclusion of retaining walls to the north, east and south of the zone, as well as mature tree planting, will further assist in mitigating any potential for dust generation.

- **Noise**

The potential acoustic impact of activities in the loading zone/turning area have been considered in the Noise Impact Assessment prepared by Acoustic Logic. Further discussion is provided in Section 8.5 of this EIS.

Mechanical Plant

Cooling towers and mechanical plant rooms are located at the roof levels of the Stage 3B developments. The plant is well setback from the site's respective boundaries and integrated into the built form to avoid any potential "unsightly" visual impact. An assessment of the acoustic impact of these potential noise generation sources has been undertaken by Acoustic Logic in the acoustic assessment accompanying this EIS. Section 8.5 of this EIS provides a summary of this assessment, the recommendations and conclusions. In summary, subject to further detailed investigations upon final selection of mechanical plant and various acoustic attenuation measures, mechanical plant will not result in any adverse noise emission to surrounding sensitive receivers.

View Loss

The proposed development is positioned at one of the most elevated locations on the LBH campus. There will be no loss of views resulting from the proposal.

Lighting Impacts

Lighting is to be installed to meet the minimum Australian and New Zealand Lighting Standards that will not only provide wide and even spread of illumination but will also be adequate to meet operational requirements.

A mitigation measure is included in this EIS to ensure that there will be no light spill or other lighting-related impacts resulting from the development.

Wind Impacts

We have received advice from TTW in relation to pedestrian wind impacts. The advice confirms that environmental wind strategies for the proposed comfort of users around the building for Stage 3B have been conceptually developed in parallel with the Stage 3A design. The most significant environmental effects for occupant comfort identified by TTW relates to local wind effects arising from downwash off the 3B tower. This has been addressed through the use of a canopy which runs the full length of the building along Uralba Street. This canopy will shield occupants from direct downwash and has been designed to accommodate the increased pressures from Stage 3B.

Further to the above, we anticipate that due to the setback of the taller component of the building, the substantial width of Uralba Street and the low density context to the east and south, that the potential for wind tunnelling is limited. Incorporation of landscaping and new

tree planting will further enhance the dispersal of any possible wind flows, particularly down Little Uralba Street.

Given the above, it is anticipated that any potential impacts of adverse wind conditions on pedestrian comfort will be minimised.

8.3.3 Assessment - Hospital Carpark

Solar Access

As can be seen in the analysis below prepared by Fitzpatrick + Partners, the proposed carpark will result in some overshadowing, but due to the relatively fast moving nature of the shadow, the impact on surrounding land is not considered to be adverse.

Figure 47 Shadow Diagrams for Mid-Winter -- Proposed Carpark (Source: Fitzpatrick + Partners)

From approximately 12:15pm, there will be no overshadowing of the dwellings to the west of the site (on Dalziell Street). From 9:00am to about 2:00pm, there will be no overshadowing of the dwellings to the east of the site (on Dalziell/Dibbs Streets). There will be negligible overshadowing of properties on the southern side of Dalziell Street.

Acoustic Impacts

The acoustic impacts of the proposed carpark have been considered by Acoustic Logic in the acoustic report accompanying this EIS. Further, Section 8.5 of this EIS provides a summary of the findings of the assessment undertaken by Acoustic Logic. The conclusion of the assessments undertaken by Acoustic Logic is that subject to adopting the recommendations of the report, the proposed development will not generate any adverse or unreasonable construction or operational noise impacts within the site and externally.

Visual Privacy

Visual privacy to surrounding developments is to be provided through façade design and building placement on the site. There is potential for overlooking from the upper levels of the proposed carpark over the adjoining residences to the east and west of the site.

This potential has been minimised by:

- Building setbacks for physical separation from adjoining boundaries/dwellings with the setback landscaped to assist in restricting overlooking;

- The building façade design will assist with restricting any overlooking. This is achieved through the use of perforated metal cladding to the exterior of the whole building which will obstruct any direct views out of the carpark; and

- Further to the above, the facade zone depth varies up to 600mm. This combined with the 300mm crash safety zone (whereby "crash barriers" are proposed), assists in limiting the direct overlooking by users of the carpark through incorporating a physical "no-go" zone and thereby increasing the physical separation between users and adjacent residences.

Further to the above, the very nature of a carpark is that persons will not "dwell" for prolonged periods of time. This in itself will assist in limiting the opportunity for overlooking to the east and west.

It is considered that the combined effects of building separation, setbacks, façade design will ensure that privacy impacts of the proposed development can be managed to an acceptable level.

Visual Impact

The visual impact of the development has largely been addressed in Section 8.2.3 of this EIS under the heading "height bulk and scale".

In summary, a combination of design, articulation and fragmentation of the building facade, materials, finishes, colours, setbacks and landscaping are all measures that have been incorporated to minimise the visual massing of the proposed carpark.

Further, the design of the proposed hospital carpark is contemporary and whilst it contrasts with the suburban character of the development on the southern side of Dalziell Street, it is complimentary to the development at LBH. In this context and given the emerging character of the land surrounding the carpark site, the visual impact of the development is considered to be appropriate.

Moreover, the carpark has been designed in a manner that it presents with the attributes of a commercial building rather than a utilitarian carpark building and in this sense, it is considered to be a development of high quality and architectural excellence.

Waste Management

Waste Management Plans for both construction and ongoing operation has been prepared by Aurora Projects and NNSW LHD (respectively) and are submitted with this EIS. We note that the operation waste management plan submitted with this EIS relates to the general operations of LBH and these existing policies will be applied to the ongoing operational waste management of the proposed carpark.

View Loss

The land slopes away from Uralba Street and there are no residential properties to the rear of the carpark site that will lose any views as a result of the proposed carpark.

Lighting Impacts

As for the Stage 3B development, lighting is to be installed to meet the minimum Australian and New Zealand Lighting Standards that will not only provide wide and even spread of illumination but will also be adequate to meet operational requirements.

A mitigation measures is included in Section 10 this EIS to ensure that there will be no light spill or other lighting-related impacts resulting from the development.

Wind Impacts

Due to the predominantly surrounding low density residential context surrounding the carpark site, we envisage that the potential for adverse wind conditions at a pedestrian level are limited.

8.3.4 Recommended Mitigation Measures

The following mitigation measures are recommended:

- Lighting for both the Stage 3B and carpark developments is to be installed to meet the minimum Australian and New Zealand Lighting Standards that will not only provide wide and even spread of illumination but will also be adequate to meet operational requirements.
- The preliminary construction and ongoing operational waste management plans prepared by Aurora Projects and NNSW LHD (respectively) for the developments are to be implemented. The final construction waste management plans are to be prepared by the appointed Contractor(s).
- The recommendations of the respective Noise Impact Assessment reports prepared by Acoustic Logic for each of the proposed developments are to be implemented.
- Consideration should be given to some additional screening above the retaining wall structures that are proposed directly on the common site boundaries in the north-eastern corner of the turning area for Stage 3B. The final outcome is to be determined in consultation with the design team.
- Consideration should be given to some form of vertical wall screening to the outer face of the retaining walls on the common site boundaries in the north-eastern corner of the turning area for Stage 3B. Some form of vertical greenery or planting that will "spill" or "cascade over the retaining walls should be implemented. As with the recommendation above, the final outcome is to be determined in consultation with the design team and specifically, the project landscape architect 360º.

8.4 Transport and Accessibility (SEAR 5)

8.4.1 SEAR

SEAR 5 requires the application to consider:

"Include a transport and accessibility assessment, which details:

• the existing and proposed pedestrian and cycle movements within the vicinity of the site;

• an estimate of the total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and cycle trips;

• the adequacy of public transport to meet the likely future demand of the proposed development;

• measures to promote travel choices that support the achievement of State targets, such as a location-specific sustainable travel plan;

• the daily and peak vehicle movements impact on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for upgrading or road improvement works (if required);

• the proposed access arrangements, including for emergency vehicles, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and cycle networks;

• demonstrate adequate pedestrian links between the hospital site and the car park site have been provided;

• proposed car parking provision, including consideration of the availability of public transport and the requirements of the relevant parking codes and Australian Standards;

• service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times); and

• traffic and transport impacts during construction and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact.

→ Relevant Policies and Guidelines:

• Guide to traffic generating development (RMS)

• Planning guidelines for walking and cycling

• EIS Guidelines – road and related facilities (DP&I)

8.4.2 Assessment - Stage 3B & Hospital Carpark

A holistic traffic and parking assessment of the Stage 3B and carpark developments has been undertaken by TTW.

The assessment report addresses the requirements of SEAR 5 as follows:

- TTW confirms that the proposed development is in accordance with general requirements for safe and efficient movements of soft traffic within the campus.

- Section 3.0 and 4.2 of the report outlines the anticipated traffic impact assessment as a result of the Stage 3B, new car park facility and loading dock. The assessment includes a SIDRA analysis on two intersections (Hunter/Uralba Street and Dibbs/Uralba Street) with traffic associated with the proposed new car park. The analysis indicated that the intersections will continue to operate within acceptable limits.

- Section 2.3 of the report outlines the public transport within the vicinity of the site. TTW identifies that there are several bus routes operating within the vicinity of the hospital with connects to the Lismore CBD. Furthermore, Sections 3.4 and 3.5 of Appendix B of the report provide an evaluation of bus services near the Hospital as well as assessment of staff travel modes. Proposed changes to bus stop and traffic management have been in consultation with Council and its approval.

- Section 6.0 of the report refers to the traffic report at Appendix B where measures to promote travel choices that support the achievement of State targets, such as a location-specific sustainable travel plan, have been addressed.

- Section 4.0 of the report outlines specific consideration and consultation requirement for the provision of emergency access for the closure of Little Uralba Street.

- The SEARs require demonstration that adequate pedestrian links between the hospital site and the car park site have been provided. TTW responds in Section 7.0 of the report noting that the current pedestrian crossing along Uralba Street provides such facility. TTW also notes that this is similar to other institutions such as RPA (Missenden Rd) or Wollongong Hospital. TTW also notes that currently most parking activities are occurring along streets. Therefore, TTW concludes that "minimal increase in pedestrian activities would be generated but a safer and uniform pattern would emerge instead of current scattered movements along the street.

- Sections 3.1 and 3.2 of the report outlines the anticipated parking demand with consideration to potential transport patronage. Section 3.2 of the report outlines the parking demand and supply analysis to confirm that the proposed car parking provision adequately satisfies the demand generated by the Stage 3B development (as well as the approved Stage 3A development). Upon completion of Stage 2, the proposed carpark *"will improve the parking situation for the Hospital users and its patrons and will also reduce the impact of car parking activities along the streets surrounding the Hospital's campus".*

- Section 4.0 of the report discusses the proposed loading dock and delivery arrangements from Little Uralba Street.

- Section 5.0 of the report addresses construction access and recommends that a detailed Construction Traffic Management Plan (CTMP) be prepared prior to commencement of works. The report identifies that access to the worksites for construction vehicles will be designated routes and will utilise major road network (such as Uralba Street, Dawson Street and Rotary Drive) where possible to minimise impact to local streets. Construction parking arrangements have also been outlined in Section 4.7 of Appendix B under Construction Access.

- Sections 4.2 and 4.3 of the covering report address the proposed loading dock and access arrangements for Stage 3B which includes works to, access from, and closure of, Little Uralba Street (southern end). This is discussed further below.

As noted in the final point above, a new loading dock access is proposed off Little Uralba Street. Little Uralba Street provides access to a series of residential properties (to the east of LBH) and is currently only a one-way northbound carriageway. Access to the loading dock requires a series of associated works, including the use of 9, 11, 15 and 15A Little Uralba Street for the purpose of a turning area for the loading dock, which requires access to be facilitated for vehicles up to 12.5 metres in length. This turning area will allow service vehicles to access the loading dock and enter and leave Little Uralba Street in a forward direction.

As identified by TTW, given the existing road width permits one way traffic movement, it will be necessary to implement traffic management procedures at the entrance into Little Uralba Street to control vehicle access to and from the loading dock. TTW suggests *"that traffic lights or similar will be utilised to control the access into the Little Uralba Street and exit from the loading dock, which could incorporate a vehicle activation area within the loading dock"*.

Furthermore, given the installation of the turning area prevents through access along Little Uralba Street, TTW proposes to have Little Uralba Street made two-way from both the south and north entry points.

In terms of the southern entry point, TTW notes the following:

- Vehicular access will be provided from this point to the loading dock and the residential property at 78 Uralba Street. With the southern end of Little Uralba Street proposed to be closed to public access, an easement/right of way to enable access to 78 Uralba Street will need to be created over the land. This is included as a mitigation measures in Section 10 of this EIS.

- There will be a very low probability of opposing traffic movements occurring between the loading dock and the residential property.

- *"Waste collection for this property [at 78 Uralba Street] could occur from Uralba Street, thus not requiring waste collection vehicles to enter Little Uralba Street. As noted above traffic management procedures (eg traffic lights) will be implemented to control access and egress into Little Uralba Street"*.

In terms of the northern entry point, TTW notes the following:

- From the north, Little Uralba Street will provide access to 3 residential properties and this section of the road will "have very low traffic volume with the probability of opposing traffic movement occurring also being low".

- Consideration could be given to modification of driveway areas of the Little Uralba Street properties to facilitate a "passing location" as the width of the carriageway is restricted. Whilst this is not stated as being required by TTW, we recommend that further investigations be undertaken by TTW and the design team in consultation with HI and Lismore City Council to determine the best way forward to ensure that vehicular access for the remaining Little Uralba Street properties is maintained.

- TTW confirms that consideration *"needs to be given to providing access for waste collection to these properties"*. Suggested measures identified by TTW are set out below, with final arrangements to be established in consultation with Council.

    - *"Provision within the loading dock turning area to allow access for Council waste vehicles to turn around and return along Little Uralba Street".*

    - *"Alternatively, the waste collection vehicle may reverse southbound along Little Uralba Street for waste collection or a common collection point could be made at the intersection of Little Uralba Street/Fermoy Avenue".*

An extract of the conclusion of the traffic and parking report prepared by TTW is below:

> *The 562 car parking spaces within the multi-storey car park will provide additional car parking opportunity for the Hospital's patrons and reduce the parking demand on the surrounding street network.*
>
> *The parking provision of some 1196 spaces at the completion of Stage 1 multi-story car park will meet the parking requirements associated with estimated car parking demand stage 3B of 1080 spaces. Stage 2 car multi-storey car park will provide a total of 1,488 spaces.*
>
> *It has been estimated that a maximum of about 60 additional vehicles during a peak hour could be generated by the proposed redevelopment of the Hospital as*

a result of staff and outpatients numbers. This level of vehicular traffic would have a minimal impact on the road system considering various approach routes to the site.

It has been estimated that the proposed new car park could potentially generate some 236 vehicle trips during a peak hour during Stage 1 and 424 vehicle trips at the completion of Stage 2 (based on an anticipated worse case estimated of 75%-85% turn over during peak periods). Intersection analysis of nearby intersections indicates the intersections will continue to operate at a satisfactory Level of Service within satisfactory limits to RMS intersection Level of Service guidelines.

The main access to the Hospital will remain per its masterplan, with an introduction of left in/left out access off Uralba Street and exit on Dalziell Street to the proposed carpark.

The proposed loading dock off Little Uralba Street requires closure of thoroughfare along Little Uralba Street. This will require consultation with emergency services authorities (eg Fire, Ambulance, Police) in addition to Council and RMS for approval. Council consultation needs to be undertaken to address waste truck access arrangements and access to residential properties.

All roads associated with the Hospital site have a satisfactory level of service and will continue to have a similar level of service once the Stage 3B development is completed.

The level of vehicular traffic will be low and the road network will continue to have satisfactory operational characteristics.

The access and car park layout should be in accordance with the Roads and Maritime Services Guidelines, the Australian Standard and Council's Code.

The proposed development will aim to improve the safety and efficiency for vehicular traffic and pedestrian movements within the Study Area.

8.4.3 Recommended Mitigation Measures

Implementation of the recommendations of the traffic and parking report prepared by TTW as relevant for each of the respective developments, including further consultation with Lismore City Council with regard to the final details for the loading dock, Little Uralba Street works, road closure and associated vehicular access arrangements. We also recommend that consultation be undertaken with the owners of the remaining residential properties on Little Uralba Street regarding modifications to their vehicular access once the final arrangement has been established in consultation with Council.

8.5 Ecologically Sustainable Development (SEAR 6)

8.5.1 SEAR

SEAR 6 requires the application to consider:

• 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.

• Demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice.

• Include a description of the measures that would be implemented to minimise consumption of resources, water (including water sensitive urban design) and energy.

8.5.2 Assessment - Stage 3B

The principles of ESD are defined by Clause 7(4) of Schedule 2 of the EP&A Regulation:-

"Schedule 2 Environmental impact statements

7 Content of environmental impact statement

(4) The principles of ecologically sustainable development are as follows:

(a) the precautionary principle, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:

(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and

(ii) an assessment of the risk-weighted consequences of various options,

(b) inter-generational equity, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,

(c) conservation of biological diversity and ecological integrity, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,

(d) improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services, such as:

(i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,

(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,

(iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems."

The Precautionary Principle has been applied to the proposal through the careful evaluation of a range of options for the delivery of this critical piece of public health infrastructure. The proposal will not result in serious and irreversible damage to the environment and is therefore considered to comply with the Precautionary Principle.

With the redevelopment of the existing facilities on the site and construction of a new contemporary and high quality health facility, the proposal will promote inter-generational equity by ensuring that the present and future generations are provided with an enhanced level of public health care services.

The site for the proposed development is not considered to be of high ecological integrity. The landscaping scheme for the site, as proposed by 360º, incorporates the planting of larger trees that will enhance the biodiversity value of the site.

The principles of improved valuation, pricing and incentive mechanisms have been considered in the weighting of value on the options considered for this project. The principles established in the design phase of this project look to minimise costs in the life of the project as well as using long life cycle materials to avoid unnecessary waste and maintenance.

Further to the above, we note that this project has been designed to ensure that consumption of resources, water and energy is minimised. The following are a series of extracts from the ESD statement prepared by Woods Bagot Architects:-

Context:

Lismore is located within a valley surrounded by ridgelines. The town is subject to a specific microclimate which leads to higher than typical temperatures - as compared to the rest of the region, and severe fog.

It is a subtropical climate and experiences mild to warm temperatures ranging from an average annual maximum temperature of 25.4 degrees Celsius and minimum of 13.4 degrees Celsius.

Environmental Concept Design:

Following is a summary of the ESD strategies identified for Lismore Base Hospital. This describes how ESD principles will be incorporated into the design of the building.

Measures will be incorporated to minimise consumption of resources, water and energy.

Due to the nature of the building, certain limitations exist in terms of the built form and building services strategy. This has been a consideration when determining the most suitable ESD initiatives.

As a NSW health project it is also required that the project complies with the NSW Health Engineering Services and Sustainable Development Guidelines (Technical Series TS-11). The proposed ESD initiatives for the development are intended to assist in achievement of these requirements, and facilitate high environmental outcomes. A holistic approach to ESD has been taken. Strategies in environmental management, passive design, energy, water and transport have been considered.

ESD Strategies:

Environmental Management:

Environmental Management will ensure that the best outcomes are achieved.

** Commissioning and building tuning will be performed in accordance with relevant codes to ensure that the building operates efficiently.*

** A building users guide will be made available to the occupants and staff with information on environmental features of the building, including how to occupy the building correctly.*

Passive Design

Incorporating passive design principles is an effective method of reducing energy consumption and increasing quality of the indoor environment. It is imperative that the form of the building manages the impact of the external environment to reduce the requirement for space heating, cooling and lighting. Through the implementation of appropriate passive design, it will be possible to mitigate the impact of external weather conditions on the internal spaces to provide a comfortable internal environment with minimum energy consumption.

** Maximised daylight to increase the quality of the indoor environment and reduce reliance on artificial lighting:*

The building has high levels of glazing to the facades. This will assist in providing daylight to the perimeter spaces. Lighting controls such as daylight sensors in perimeter zones should be incorporated to reduce the lighting demand.

** Thermal mass to stabilise indoor air temperatures:*

The building has a high thermal mass, with floor and wall extents made from concrete. By allowing sun to warm the mass in winter and shading it in summer, more stable indoor air temperatures can be achieved, reducing the space heating and comfort cooling, and improving thermal comfort for the occupants.

** High performance materials to prevent thermal losses and gains through the building envelope:*

Roof R Value to comply with section J as a minimum

Walls R Value to comply with section J as a minimum

Double glazed windows and high performance glazing where required.

Insulation will mitigate the impact of external weather conditions on the indoor environment.

Services:

Electrical Services:

Efficient lighting control strategies and effective monitoring will reduce electrical demand for the building:

** Efficient lighting – for external and internal purposes.*

** Lighting zoning and sensors –Ensure that lighting is not on when it is not required e.g. in an empty room or space. Inclusion of motion sensors in rooms other than patient bedrooms will enable adequate control of lighting.*

** Connection to a BMS – a BMS will collate the meter readings for easy interpretation and analysis.*

** Services including security, access control, intercom, nurse call, distress alarm, etc to all comply with TS11 and required Australian and legislative requirements/standards.*

Mechanical Services:

** The system proposed is based on the requirement to provide economical capital and running cost options, as well as simple maintenance (via level 7 plant) including future proof technologies.*

** New Building Management Control System is proposed to be included and connect to the existing Hospital system.*

** The mechanical services have been selected to be of the highest efficiency within the restrictions imposed by the nature of the facility.*

Hydraulic Services:

Reduce water demand with water efficient practices and efficient fittings.

Quality of Indoor Environment and Places of Respite:

As part of the holistic approach to sustainability, the indoor environment will be maintained to a high quality. This enhances the comfort and wellbeing of occupants.

In addition to increasing the daylighting to the building, the following initiatives will be implemented:

** Noise control – Ensure that noise levels from building services are not excessive, or disruptive to occupants*

** High frequency ballasts – Ensure that uncomfortable flickering does not disturb occupants*

** External views – Allow occupants to feel connected to the outside environment*

Materials:

Material selection will aim to reduce the environmental impact of the building's construction through the use of sustainable materials in construction, recycling and waste minimisation (construction and operation).

Adequate storage will be provided within the building to allow for storage of recyclable waste. This encourages good management of waste streams from the building.

Materials selection can also have a significant impact on the quality of the indoor of the building.

* *Sustainable materials will be sourced where practical.*

* *Products will be selected which contain low levels of VOC's - Paints, adhesives, sealants, flooring, wall and ceiling coverings and mattresses.*

* *Flooring, joinery, furniture, ceilings, walls and partitions will be selected that are environmentally sensitive in their design and production. This includes recycled content, design for disassembly, longevity, and product stewardship.*

In addition to the above, and with reference to the Integrated Water Management Plan prepared by Donnelley Simpson Cleary accompanying this EIS, the following strategies are proposed to aid in water minimisation and appropriate management:

(a) *Stage 3B will be supplied from the Stage 3A via a direct connection to the authorities watermain in Uralba Street via a water meter located adjacent to the Uralba street frontage*

(b) *A Water storage tank to ensure a water supply (limited time period) to the facility should the water main fail will located with the high level plantroom located in Stage 3B*

(c) *Installation of a water storage tank will also reduce "peaks" in water draw-off with a slower more steady draw-off*

(d) *To reduce contamination of the potable water supply backflow prevention devices will be installed as per the requirements of AS3500*

(e) *The installation of water saving taps and outlets to reduce water consumption will be adopted*

On the basis of the above, the proposed Stage 3B development is considered to be consistent with principles of ESD.

8.5.3 Assessment - Hospital Carpark

As with the proposed Stage 3B development, the Precautionary Principle has been applied to the carpark proposal through the careful evaluation of a range of options for the delivery of this critical piece of public health infrastructure. The proposal will not result in serious and irreversible damage to the environment and is therefore considered to comply with the Precautionary Principle.

Indirectly, the construction of the proposed carpark will assist in enhancing the use of the new and proposed contemporary and high quality facilities offered by LBH, thereby assisting in promoting inter-generational equity by ensuring that the present and future generations are provided with an enhanced level of public health care services.

The site for the proposed development is not considered to be of high ecological integrity. The landscaping scheme for the site will incorporate tree planting that enhances the biodiversity value of the site. Specifically, the proposed tree planting will incorporate native species to replace the largely "exotic" or "undesirable" species that are proposed to be removed (refer to the Tree Report prepared by Northern Tree Care), thereby enhancing the ecological integrity of the site.

The principles of improved valuation, pricing and incentive mechanisms have been considered in the weighting of value on the options considered for this project. The principles established in the design phase of this project look to minimise costs in the life of the project as well as using long life cycle materials to avoid unnecessary waste and maintenance.

Further to the above, we note that this project has been designed to ensure that consumption of resources, water and energy is minimised. The following are a series of high level ESD measures which have been incorporated into the carpark development as provided by Fitzpatrick & Partners:

Natural ventilation. *The car park maximises the potential for natural ventilation with a semi-open, perforated metal façade on all sides. This reduces reliance on mechanical ventilation systems and improves the quality of the internal environment.*

Façade shading. *The perforated metal façade system reduces solar access into the car park, particularly on the eastern and western facades. This assists the quality of the internal environment and protects vehicles from excessive heat build-up due to direct sun.*

Low embodied energy. *The primary structure is to be constructed of concrete which is a resource efficient material and has a low embodied energy. Concrete structures have minimal waste on site.*

Thermal mass and reflectivity. *The concrete structure has inherent thermal mass giving it the ability to absorb and retain heat. The light-colour of concrete also assists on the top-most level by reflecting solar radiation. This contributes to improving the quality of the internal environment.*

Durability and long life. *Concrete structures are durable, long lasting structures that prolong the life span of the car park compared to other forms of construction. Reduces the reliance on mechanical systems*

Energy efficient fittings. *Energy efficient light fittings will be used throughout to minimise energy consumption.*

Low VOC materials. *Low VOC materials, and in particular paint, will be used throughout.*

Minimise light spill*. The combination of crash barriers installed at the height of vehicle headlights, and the perforated metal façade both contribute to minimising light spill from cars driving within the car park at night time.*

Minimise noise pollution. *Noise pollution from vehicles driving with the car park will be minimised with a brushed concrete finish to the floor to prevent wheel screech. Short aisle lengths assists in reducing noise by reducing the speed of vehicles within the car park.*

Landscaping. *The proposed landscaping minimises the extent of hard landscaping and therefore solar absorption within surfaces around the building, while also assisting with surface drainage and allowing water penetration into the soil.*

In addition to the above, and with reference to the Integrated Water Management Plan prepared by Cardno accompanying this EIS, we note that the potable water demand from the proposed development is less than that of the existing site.

On the basis of the above, the proposed carpark is considered to be consistent with principles of ESD.

8.5.4 Recommended Mitigation Measures

NSW Health will target a 4 star Green Star quality building for Stage 3B of the LBH. This will ensure that the project will be consistent with industry best practice. TS11 and Section J of the BCA will be applied as discussed above however a formal assessment against a rating system is not considered appropriate for NSW hospital projects.

8.6 Noise (SEAR 7)

8.6.1 SEAR

SEAR 7 requires the application to consider:

> *" Identify and provide a quantitative assessment of the main noise and vibration generating sources during construction and operation. Outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land.*
>
> *Relevant Policies and Guidelines:*
>
> *(a) NSW Industrial Noise Policy (EPA)*
>
> *(b) Interim Construction Noise Guideline (DECC)"*

8.6.2 Assessment - Stage 3B

An acoustic assessment has been undertaken by Acoustic Logic to assess the proposed Stage 3B development. The assessment report presenting the findings of the assessment addresses:

- Potential noise and vibration impacts during the construction period of the project;
- Noise emissions once the project is constructed and operating under normal conditions; and
- Helicopter noise emissions externally to the site and internally within the hospital.

A summary of the key findings and recommendations of the acoustic report is undertaken below.

Construction Noise

The principal issues addressed in the acoustic assessment report regarding construction noise are:

- Identification of the noise and vibration standards which will be applicable to this project.

- Formulation of a strategy for construction activities to comply with the standards identified in the above point.

- Demolition and excavation methods which will minimise the impact on surrounding receivers.

The key surrounding receivers identified above include existing buildings in the hospital precinct which will remain operational during construction and surrounding residential receivers on Uralba and Little Uralba Streets.

The assessment undertaken by Acoustic Logic confirms that subject to implementing the recommendations of the report, no adverse impacts regarding noise associated with construction (demolition, excavation and construction) will result on surrounding receivers.

Refer to the acoustic report prepared by Acoustic Logic accompanying this EIS the recommendations referred to above.

Operational Noise - General

Section 3 of the acoustic report prepared by Acoustic Logic details the potential acoustic impacts resulting from the proposed 3B development. A separate section is provided in the report to assess the potential noise from the helipad, as discussed further in the following section of this report.

The key noise generating source for the Stage 3B development relates to mechanical plant. Given detailed plant selection has not been undertaken at this time, a detailed mechanical noise assessment will need to be undertaken prior to any construction activities taking place. However, a preliminary assessment has been undertaken by Acoustic Logic *"based on experience with similar development acoustic treatments are both possible and practical using acoustic treatments such as lining of ductwork, acoustic silences, variable speed controllers, time switches, acoustic screens etc"*. General requirements based on the preliminary assessment are set out in the acoustic report accompanying this EIS.

Operational Noise - Loading Dock and Turning Area

Section 3.7 of the Noise Impact Assessment prepared by Acoustic Logic addresses the potential acoustic impacts of the proposed loading dock and associated turning area, particularly with regard to the residential premises on Little Uralba Street which are identified as being the closest "sensitive" receivers.

The assessment is undertaken on the basis that:

- The loading dock will operate between 6am and 2:30pm, 7 days a week.

- The loading dock will accommodate for vehicles up to 12.5m trucks.

- Only small delivery vehicles and vans will operate within the loading dock before the 7am period.

The primary noise sources as a result of the proposed works are as follows:

- Noise from the loading docks.

- Noise associated with vehicle circulation and the ramps.

- Noise as a result of increased traffic generation created by the site.

The assessment concludes the following key points:

- Noise emissions from the loading dock (including operation of the loading dock and trucks moving in and out and "circulating" in the turning area on Little Uralba Street) are capable of being compliant, provided the recommendations in section 3.8 are adopted.

- *"Vehicular access to and from the site will be via the existing Uralba Street. Additional noise as a result of increased traffic generation on public streets will not be significant. There will be no significant increase in vehicle noise on public streets in residential areas as a result of the proposed loading dock."*

Refer to the acoustic report prepared by Acoustic Logic accompanying this EIS the recommendations referred to above.

Helipad

The acoustic report also includes an assessment of the potential acoustic impacts associated with the operation of the proposed helicopter on the roof of the 3B1 tower. This assessment is undertaken in Section 4 of the report.

The report:

- Reviews the proposed location and expected level of usage of the proposed helipad.

- Identifies appropriate acoustic guidelines.

- Identifies potentially affected noise receivers both within the development and external to the development.

- Determines acoustic treatments or planning controls for noise emissions from the helipad to be in compliance with formulated acoustic objectives.

A summary of the key conclusions made by Acoustic Logic have been extracted from the report and provided below:

Noise Impacts Externally to the Development - Residential Receivers

- *"It is predicted that the 95dB(A) noise goal of Air Services Australia will be achieved at all times.*

- *The proposed helipad location is on the roof of the Stage 3B development, which increases the distance between the helicopters and residences, and subsequently significantly decreases the noise impact on surrounding residences than if it were located at ground level.*

- *The Bell 412 / AW139 requires that pilots approach to a landing decision point which is typically around 100 – 120 feet vertical of the helipad. This results in the helicopter staying elevated for longer on the approach, increasing the distance between the helicopter and affected residences. The benefit of this approach angle is that it will result in lower noise levels than approach gradients of other helicopters.*

- *In the proposed helipad position, the predicted worst case scenario noise level of approximately 90dB(A) at the residences is slightly less than what may be expected in the event of a police car/fire truck with siren (or other emergency vehicle) passing by a residential property at a distance of approximately 10m at ground level."*

Impacts within the Hospital Precinct

- *"Acoustic design of the building shell is to be undertaken so as to ensure noise levels compliant with table 9 are achieved. This will require, in principle:*

- *Any new Stage 3A or 3B roof within 50m of the helicopter flight path is recommended to be concrete.*

- *Any light weight roof element over an occupied space within 50m of the flight path should have 2x13mm plasterboard ceiling with 100mm thick insulation to ceiling cavity. We note, however, the light weight roofing within this 50m distance is likely to audibly vibrate as a result of the air-turbulence created by the helicopter. This system does not need to be applied to plant rooms.*

- *10.38mm laminated glass is recommended for all ward rooms, offices, meeting rooms and treatment rooms within Stage 3B. Details of selected glazing will be provided as part of the CC submission.*

- *10.38mm laminated glass / 100mm cavity / 6mm jockey sash is recommended for all operating theatres located on the façade from level 3 and above. Details of selected glazing will be provided as part of the CC submission.*

  Any lightweight elements of the façade will be required to be upgraded in order to control noise to levels compliant with Table 1. Indicatively, depending on the location and area of the lightweight façade, the following would be required:

  - *Operating Theatre on L12 or L11 - 0.5mm steel external sheet with 9mm fc sheet backing/180mm insulated cavity with 2x16mm plasterboard internal lining.*

  - *Wards / Offices or Treatment Rooms on L12 or L11 - 0.5mm steel external sheet /180mm insulated cavity with 2x16mm plasterboard internal lining.*

  - *Operating Theatre on L10 and below - 0.5mm steel external sheet /180mm insulated cavity with 2x16mm plasterboard internal lining.*

  - *Wards / Offices or Treatment Rooms on L10 and below - 0.5mm steel external sheet /180mm insulated cavity with 2x13mm plasterboard internal lining.*

- *Based on measurements of helicopter landing movements at similar helipads, no vibration attenuation treatments are necessary to prevent excessive vibration transmission from the helipad in to the hospital building."*

Subject to implementing the recommendations of the acoustic report and subject to undertaking a more detailed acoustic assessment for mechanical plant, Acoustic Logic confirms that the proposal is capable of complying with the relevant noise criteria and therefore will not result in any adverse noise impact within the existing hospital campus or to the surrounding locality.

8.6.3 Assessment - Hospital Carpark

A Noise Emission Assessment has been undertaken by Acoustic Logic to assess the potential noise impacts resulting from the construction and operation of the proposed carpark.

Consideration of the findings of the assessment report are below.

Construction Noise & Vibration

Section 5.3 of the assessment report provides the findings of the construction noise assessment. The following is an extract from the report:

With respect to general construction noise, the impacts on nearby development will be dependent on the activity in question and where on the site the activity is undertaken. Excavation and piling works tend to be the loudest typical construction activity. Work close to the eastern and southern boundaries will have greatest potential impact on the residents. Detailed acoustic assessment of individual activities cannot be undertaken prior to knowing the activities/construction methods proposed, their duration and location.

However, based on Initial analysis:

** Excavation phase - Primary noise emissions occur during excavation and earth retention (piling), with equipment items typically having sound power levels of approximately 115dB(A)Leq(15min). Noise levels exceeding EPA "Noise affected" target are likely to occur, particularly at residences on Uralba Street to the east. Noise levels exceeding the "Highly Noise Effected" level of 75dB(A) at the residences are unlikely to occur for extended periods.*

** During erection of structure, it is the use of hand tools and concrete pumps which are the loudest typical activity (sound power levels of approximately 105dB(A)Leq(15min)). Noise levels exceeding EPA "Noise Affected" levels are likely to occur. In addition, slab finishing works (use of helicopter floats or similar) will potentially extend after 6pm depending on the size of the slab and weather conditions. Noise levels exceeding the "Highly Noise Effected" level of 75dB(A) at the residences is unlikely to occur.*

** Once construction of the building shell is complete, noise from hand tools will be relatively low. Vehicle noise and crane noise will create the greatest possibility of noise disturbance during this phase.*

Acoustic Logic recommends the following measures to mitigate potential noise impacts during construction as identified above:

** Careful planning/scheduling of noisy works, particularly when located near the eastern and southern property boundaries.*

** Location of static plant (concrete pumps, cranes) as far as practicable away from the eastern and southern boundaries is recommended.*

** Use of augured rather than driven or vibratory piling should be considered if feasible.*

** Location of vehicular access points during construction as far from the eastern property boundary as possible to reduce noise impact on the residences.*

** Letter box drops or similar to advise residents on activities with the potential to result in noise levels reaching the "Highly Noise Effected" noise level (rock excavation within 20m of eastern property boundary). Leaflet should advise of the likely duration of the activity.*

In light of the above, Acoustic Logic further recommends:

> ** On completion of the construction program, acoustic review of proposed construction activities and plant/methods should be undertaken to identify the extent and duration of potential exceedances of EPA construction noise management levels.*
>
> ** Identify feasible acoustic controls or management techniques (for example, selection of plant, use of screens around static plant, scheduling of noisy works, notification of adjoining land users, respite periods) when exceedance of management noise levels may occur.*
>
> ** For activities where acoustic controls and management techniques still cannot guarantee compliant noise levels, implement a notification process whereby nearby development is made aware of the time and duration of noise intensive construction processes.*

Acoustic Logic confirms that upon *"adoption of the above, noise impacts on nearby development can be suitably managed to prevent unreasonable impact"*.

In terms of construction vibration, Acoustic Logic confirms the following:

> *Excavation and earth retention works (piling) are the primary vibration generating activities. Given the distance between the site and the nearest residential buildings, it is unlikely that construction vibration will exceed EPA guidelines.*

Notwithstanding the above, Acoustic Logic recommends:

> *... if bulk excavation in rock or driven/vibrated piles are proposed, we recommend that where practicable, excavation in rock should be done using rock saws as opposed to pneumatic hammers.*

Subject to the above recommendations being satisfied, and subject to the preparation of a detailed construction noise and vibration management plan following preparation of the construction program, Acoustic Logic concludes that there is unlikely to be any adverse noise or vibration impact during construction activities.

Operational Noise

The Noise Emission Assessment undertaken by Acoustic Logic also addresses the following in relation to the potential operational noise of the proposed carpark:

- Identify relevant Council and Environment Protection Authority (EPA) noise emission criteria applicable to the development (including an assessment of potential sleep disturbance from use of the car park between 10pm and 7am).
- Identify nearby noise sensitive receivers and car park noise sources with the potential to adversely impact nearby development.
- Predict car park noise emissions and assess them against acoustic criteria.

- If necessary, determine building and/or management controls necessary to ensure ongoing compliance with noise emission goals.

In terms of the criteria applicable to the development, this is discussed in detail in Section 4 of the assessment report. To summarise the salient point outlined in this section of the report, we note that Acoustic Logic has identified that given the low level of background noise surrounding the site and LBH, "strict compliance with the noise emission requirements of the EPA Industrial Noise Policy is not possible (particularly the intrusiveness criteria, which is calculated with reference to existing background noise levels)." To this end, Acoustic Logic has used the EPA Road Noise Policy criteria as a basis for the assessment and justification for the use of this particular set of criteria is discussed in detail in Section 4 of the report.

Subject to implementing the following recommendations, Acoustic Logic's acoustic assessment confirms that the proposed carpark will comply with the EPA Road Noise Policy criteria.

(a) The car park pavement shall be smooth and level to ensure minimal vertical displacement and potential for noise generated by wheel to concrete impacts. The surface finish shall be of a type that minimises squealing of car tyres.

(b) Concrete to have a broom finish or similar, to prevent tyre squeal.

(c) Signs reminding staff and visitors to minimise noise at night shall be installed at entry and exit points from the car park.

(d) Traffic calming devices should be applied to control vehicle speeds 20km/Hour.

(e) No speed humps are to be installed within the car park.

(f) Grates and any cover plates are to be fixed flush and tight.

8.6.4 Recommended Mitigation Measures

Implementation of the recommendations of the acoustic reports (Noise Impact Assessment and Noise Emission Assessment) prepared by Acoustic Logic, which will include undertaking a further acoustic assessment once details of plant (Stage 3B) and the extent of construction activities (carpark) are known. Also, these recommendations include the preparation of a detailed construction noise and vibration management plan following preparation of the construction program for both projects.

8.7 Aboriginal Heritage (SEAR 8) & Other Heritage Matters

8.7.1 SEAR

SEAR 8 requires the application to:

Address Aboriginal heritage in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005) and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.

8.7.2 Assessment - Stage 3B and Hospital Carpark

A comprehensive Heritage Impact Statement (HIS) addressing SEAR 8, as well as matters related to European Heritage and archaeology, has been prepared by City Plan Heritage. The HIS addresses both of the developments.

The HIS concludes the following:

> *In addressing Aboriginal Heritage in accordance with the legislation and guidelines and in fulfilment of the Secretary's Environmental Assessment Requirements, it is considered by City Plan Heritage that there is no potential for sites or places of Aboriginal cultural heritage significance or archaeological deposits (both Aboriginal or European), to be located within the Lismore Base Hospital Site or the adjacent carpark site.*
>
> *The required AHIMS search for any previously recorded Aboriginal sites and places located within the advised lot numbers for the site also included a buffer zone of 50 metres. The results of the searches – see Attachment A – were for no previous sites or places recorded. The assessment of the development history of the site, combined with an appraisal of the environment and landscape, and an appraisal of the types of Aboriginal cultural heritage sites likely to be in the area also resulted in the area not being considered a likely location for sites or places relating to Aboriginal cultural heritage significance.*
>
> *It is further considered by City Plan Heritage that the proposed additional levels and new carpark will be negligible and will have no adverse impact on the assessed heritage significance of the existing hospital buildings, dwellings within the carpark site, streetscape views, or to Armstrong House. The increased height of the buildings have been suitably setback and articulated as not to dominate or otherwise negatively impact the streetscape. The proposed new height of the development, although would make a notable difference to the present day streetscape presentation and character of its immediate streetscapes, considers the visual impact on the general character of the area, including Armstrong House. There will be no additional impact on the identified significant views and vistas of this heritage item. Likewise, the design of the carpark is suitably set into the existing topography of the site so as not to have any significant visual impact on Armstrong House. It has been designed in an architecturally pleasant manner and does not present as an intrusive utilitarian building.*
>
> *The redevelopment will allow for the improved health care facilities that would respond to the current needs of its residents and the operational requirements of the NSW Health. The existing buildings within the site have been assessed as being of little heritage value and their demolition will have no detrimental impact to the identified cultural heritage values of Lismore as a whole. The new development provides an economically feasible and operationally efficient health care facility offering a continuum of hospital services to the community.*

With regard to the above and subject to adopting the recommendations of the HIS, City Plan Heritage confirms that the proposal is appropriate with regard to all relevant heritage related matters.

8.7.3 Recommended Mitigation Measures

The following recommendations have been made by City Plan Heritage to ensure the existing facilities have been appropriately managed and recorded as part of the proposed development:

- There is unlikely to be sites or places of Aboriginal cultural heritage retained within the proposed development area. It is considered that there is nothing special or significant in any of its historical landscape qualities that would warrant further research in relation to Aboriginal cultural heritage matters.

- Stop Work Provision: Although this baseline assessment has not identified the subject allotments and the development area as an area of potential for Aboriginal cultural heritage, once ground clearance commences if something is discovered that could be an Aboriginal object, work must be stopped and City Plan Heritage contacted. City Plan Heritage will notify the Office of Environment and Heritage (OEH) for advice regarding the finds and the appropriate management options. If human remains are found, work must be stopped, the site secured, and the NSW Police must also be notified in addition to the OEH. Likewise, although there is low potential to any remnant non-Indigenous heritage to survive, should be taken into consideration when excavation works are carried out within the site. In the case of any finds that could be considered as relics (e.g. brick foundations, old drainage) the works in the immediate area must stop and the heritage consultants are notified for appropriate actions.

- An archival recording of the whole site should be undertaken in accordance with the NSW Heritage Council guidelines for Photographic Recording Of Heritage Items Using Film or Digital Capture prior to the commencement of any work within the site. The recording should also include streetscapes around the site showing its relationship with Armstrong House and the neighbouring properties.

The above are implemented as mitigation measures in Section 10 of this EIS.

8.8 Sediment, Erosion and Dust Controls (SEAR 9)

8.8.1 **SEAR**

SEAR 9 requires the application to consider:

> *"Detail measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles.*
>
> *Relevant Policies and Guidelines:*
>
> *(a) Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom)*
>
> *(b) Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA)"*

8.8.2 **Assessment - Stage 3B & Hospital Carpark**

Cardno has prepared an erosion and sediment control plan for the proposed carpark development and TTW for the Stage 3B development.

These plans have been prepared in accordance with Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom).

The proposed control measures are considered to be adequate to mitigate any potential for downstream sedimentation.

Refer to Appendices 12 and 13 for a copy of the respective plans.

8.8.3 Recommended Mitigation Measures

Implementation of the erosion and sediment control plans prepared by Cardno and TTW for the respective developments during site works.

8.9 Utilities (SEAR 10)

8.9.1 SEAR

SEAR 10 requires the application to consider:

> *"In consultation with relevant agencies, the EIS shall address the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure through the preparation of an Infrastructure Management Plan.*
>
> *Prepare an Integrated Water Management Plan detailing any proposed alternative water supply, proposed end users of potable and non-potable water, demonstration of water sensitive urban design and water conservation measures."*

8.9.2 Assessment - Stage 3B

Donnelley Simpson Cleary has prepared a services statement addressing sewer, water and gas services and an extract is provided below:

> ***Sewer** – Sanitary plumbing and drainage from the Stage 3B will connect into the Stage 3A redevelopment via a connection to the existing hospital's 150mm sewer located in a north westerly direction from the Stage 3A site. Sanitary plumbing and drainage from the Stage 3B development to the north of Stage 3A will connect into a new Authorities sewer in Little Uralba Street via an extension of their sewer n Fermoy Street. Authorities to advise if any upgrade of the existing sewer system is required due to the additional loads and design requirements associated with the extension to their sewer.*
>
> ***Water** – to the Stage 3B development will extend from the Stage 3A redevelopment which connects to the authorities watermain in Uralba Street via a water meter located adjacent to the Uralba street frontage. Water will initial supply an onsite water storage tank with water from this tank supplying domestic cold water fixtures and fittings as well as hot water plant, mechanical plant.*
>
> ***Gas** – to the Stage 3B development will extend from the Stage 3A redevelopment which connects into the authorities Liquefied Petroleum Gas (LPG) main located in Uralba Street. Gas will supply domestic hot water plant and mechanical heating plant via a gas meter located adjacent to the Uralba street frontage.*

Donnelley Simpson Cleary notes that as per Stage 3A, the authorities have advised that when actual loads etc are known a formal submission should be made.

Wood and Grieve Engineers has prepared a services statement addressing electricity and telecommunications and an extract is provided below:

Electrical Services

The relevant supply authority for the region is Essential Energy. The existing Lismore Base Hospital site is served by the following Essential Energy supplies:

· 2x1,000kVA chamber substation located within the existing Block B.

· 1x1,000kVA pad-mount substation located adjacent to the existing Cancer Care building.

· 1x750kVA pad-mount substation located on Hunter Street.

· 1xthree phase overhead low voltage (LV) from the Essential Energy 300kVA transformer located on Hunter Street.

The existing substations have insufficient spare capacity to serve the Stage 3B Redevelopment.

A new 1,500kVA pad-mount substation will be installed at the Uralba Street frontage as part of the Stage 3A redevelopment.

In order to supply the enlarged building at Stage 3B, a second 1,500kVA pad-mount substation will be installed adjacent to the Stage 3A substation. New Essential Energy underground high voltage cabling will be provided to the new substation.

This arrangement has been approved by Essential Energy and we attach correspondence confirming this. The new building will be supplied by the new substations via new underground low voltage consumers mains cabling.

Telecommunications Services

The existing site is served by the following telecommunications carriers (lead-in services):

· Telstra

· Australia's Academic and Research Network (AARNET)

· Nextgen (TPG)

Additional carrier service(s) may be provided to the site as part of Stage 3B in order to provide service redundancy (backup).

Donnelley Simpson Cleary has also prepared an Integrated Water Management Plan (IWMP) in accordance with this SEAR. The IWMP is addressed in Section 8.4.2.

8.9.3 Assessment - Hospital Carpark

Cardno has prepared a series of services statements for the proposed carpark with regard to requirements for communications, electricity/power requirements, mechanical systems, hydraulic and fire services.

Below are some key extracts from those statements:

Electrical Services

The relevant supply authority for the region is Essential Energy. The existing Lismore base Hospital is served by the following Essential energy supplies:

** 2x1000KVA chamber substation located within the existing block B*

** 1x1000KVA pad mount substation located adjacent to the existing cancer care building.*

** 1x750KVA pad-mount substation located on Hunter Street*

** 1x3 phase overhead low voltage from the essential energy 300KVA transformer located on Hunter Street*

** 2x1500KVA pad-mount substation at Uralba Street*

The existing substations have insufficient spare capacity to serve the new car park buildings.

Therefore a new 300KVA pad-mount substation will need to be installed in the front of the car park building as indicated on the spacials. Essential Energy will need to confirm what requirements they need but have verbally advised based on the load requirements that the substation will be one of two options:

** Pole mounted substation or*

** Pad-mounted substation*

Thus we have assumed the worst case scenario on our current spatials.

In order to confirm this with Essential Energy an application will need to be resubmitted with as a connection alteration enquiry.

Sewer & Telecommunications

An existing sewer is located in the rear of the lots fronting Uralba Street. Access to the sewer will not be possible following the construction of the Stage 2 works (construction of multistorey car park off Uralba Street). It will be necessary to concrete encase the existing sewer to make it maintenance free prior to the construction of the Stage 2 car park off Uralba Street.

Utilities exist in the northern verge of Dalziell Street and include sewer and telecommunications assets.

The proposed multistorey car park will be piered to rock and will transfer loads below the existing sewer and telecommunications assets. Maintenance operations on the existing utilities will not be impeded by the car park.

As such, no adjustments to existing utility assets off Dalziell Street are proposed as part of the car park works.

The civil engineering report prepared by Cardno identifies the location of existing public utilities and any diversion and other works required.

Cardno has also prepared an Integrated Water Management Plan (IWMP) in accordance with this SEAR. The IWMP is addressed in Section 8.4.3.

8.9.4 Recommended Mitigation Measures

Once the actual loads etc are known for the proposed developments, a formal submission should be made with the relevant services authorities.

8.10 Contributions (SEAR 11)

8.10.1 SEAR

SEAR 11 requires the application to address any Section 94 Contributions Plan and Section 64 water and sewer developer service charges and/or provide details of any Voluntary Planning Agreement.

8.10.2 Assessment - Stage 3B & Hospital Carpark

Where a proposed development will, or is likely to, require the provision of or increase the demand for public amenities and public services within the area, the consent authority may, under Section 94 of the EP&A Act 1979, grant the development consent subject to a condition requiring dedication of land free of cost, payment of a monetary contribution or both.

Section 94 Contributions

The levy / contribution sought in Contributions Plan is calculated on the basis of an estimated contribution of the development as a proportion of total predicted traffic increases across Lismore. The Contributions Plan predicts that hospitals and universities (collectively) only account for 1% of local traffic increases. This is compared to the 60% contribution from residential developments. As set out in the traffic and parking assessment report prepared by TTW accompanying this EIS, whilst the proposed developments will generate traffic, the impact is acceptable with the level assessed as being "low" by TTW and with the road network continuing to have satisfactory operational characteristics.

Therefore, whilst the development will result in some minor increases in local traffic, given the substantial public benefit flowing to the local community from this development and given the minor traffic implications of the proposal, it is considered that the payment of Section 94 contributions in this instance is not warranted.

Section 64 contributions for water and sewerage headworks

HI will consult with Council to determine if any Section 64 contributions are payable.

8.10.3 Recommended Mitigation Measures

For the reasons set out above, we recommend that no Section 94 contribution be imposed for the development as it will contribute to providing a significant social and health benefit to the community.

HI will consult with Council to determine if any Section 64 contributions are payable.

8.11 Staging (SEAR 12)

8.11.1 SEAR

SEAR 12 requires details regarding the staging of the proposed development, including the proposed multi storey car park.

8.11.2 Assessment - Stage 3B

The staging of the construction works is driven by the functions of the hospital, and ensuring all functions remain operational at all stages of the build. The southern tower (Stage 3B1) will need to be complete and operational prior to the northern building (Stage 3B2) starting construction. This is due to the temporary maternity building and the existing Block A both requiring decanting into the new southern building (3B1) prior to their demolition as part of this development.

8.11.3 Assessment - Hospital Carpark

The construction of the carpark will be undertaken in two (2) stages.

The proposal includes the construction of a hospital carpark between Uralba Street and Dalziell Street (east of the University Centre). Stage 1 of the car park is proposed to have 270 spaces (244 spaces in a multi-storey car park and 26 spaces in the adjoining at-grade car parking area). Eight (8) on-street parking spaces (on Uralba Street) will be removed as a part of the Stage 1 construction works. The future Stage 2 of the car park will remove the at grade parking area and construct an additional multi-story car park increasing the total to 562 parking spaces (including Stage 1).

Stage 2 will be constructed as and when HI determines there to be sufficient demand for parking spaces to warrant the construction and subject to completion of a satisfactory Business Case for Stage 2.

Further details regarding staging of the proposed carpark can be found in the architectural package prepared by Fitzpatrick + Partners.

8.11.4 Recommended Mitigation Measures

Not applicable.

8.12 Drainage (SEAR 13)

8.12.1 SEAR

SEAR 13 requires the application to consider:

> *"Provide details of the drainage associated with the proposal, including stormwater, drainage infrastructure and OSD, which shall be designed in consultation with council and must avoid any adverse impacts on downstream properties."*

8.12.2 Assessment - Stage 3B

TTW has prepared a civil engineering report for the Stage 3B development. With regard to the Stage 3B development site, TTW confirms that there will be no significant change to the

stormwater system including stormwater detention as approved under the Stage 3A development. This system will remain in place "*with minor modifications to stormwater conveyance to the detention tank. Stormwater flows for the 1-year through to the 100-year ARI storm events will be maintained with no negative downstream impact".* Further, *"existing storm water overland flow paths will be maintained across the site"*.

Separate to the above, the modifications to Little Uralba Street and 9, 11, 15 and 15A Little Uralba Street for the purpose of the loading zone will require on-site detention, to be provided in accordance with Council's Development Control Plan (DCP) to maintain stormwater flows for the 1-year through to the 100-year ARI storm events. This is addressed in Section 2.3.2 of the civil engineering report prepared by TTW, with an extract below:

> *The catchment area of the new loading access area was calculated to be 1,475m2. This area is 35% impervious in the existing condition and is proposed to be up to 61% impervious after redevelopment. DRAINs was used to demonstrate that the DCP requirement can be met through provision of an OSD tank with storage capacity of 10m3 and a 200 mm diameter orifice on the outlet.*
>
> *Stormwater pits and piping in Little Uralba Street will [also] be adjusted as required for the proposed street levels.*

A copy of the civil engineering report, accompanying stormwater management plans and the previous Stage 3A civil engineering report, prepared by TTW, all accompany this EIS.

8.12.3 **Assessment - Hospital Carpark**

Cardno has prepared a concept drainage design in accordance with Lismore City Council's DCP, Northern Rivers Local Government Handbook of Stormwater Drainage, AS3500 and Australian Rainfall and Runoff. This design is included in the civil engineering report which accompanies this EIS.

The report identifies that the proposed car park development will reduce or maintain stormwater flows for the 1 year through to 100 year design storm events and will have no negative downstream impact. Refer to the following extracts from the report:

> *The on-site detention storage is proposed as part of the Level 1 and Level 1L car park. On site detention storage will be partially provided by stormwater pits with additional above ground storage provided on the nominated car park levels.*
>
> *Above ground storage will be limited to a maximum of 200mm in depth and surcharge and drain via pit grates.*
>
> *The pit and pipe network that will collect surface water from the upper decks of the car park will be designed to convey the 100 year ARI storm event.*
>
> *Discharge from the on-site detention will be controlled via an orifice plate and 4.5m wide weir, formed by a break in the southern kerb of Level 1L. The orifice plate will be located behind a trash rack constructed from Maximesh RH3030 and will include a lifting handle. Piped flows will discharge to an existing street pit in Dalziell Street. Overland flows will discharge to Dalziell Street.*
>
> *The DRAINS model shows that 72m3 on-site detention storage is required to restrict post development flows to no greater than predeveloped flows for a full range of storm events. Discharge from the OSD storage is controlled via a 197*

mm diameter stainless steel, sharp edged orifice at centreline level RL22.20 mAHD.

Thus the proposed on-site detention restricted flows from the developed site to less than those from the site predevelopment. Flows discharge from the developed site to the downstream overland flow network are restricted to less than those from the predeveloped site.

A copy of the civil engineering report including all relevant stormwater management documentation prepared by Cardno accompanies this EIS.

8.12.4 Recommended Mitigation Measures

Implementation of the proposed stormwater management strategies for the developments to ensure that post-development flow is equal to or less than pre-development flows. Incorporation of water sensitive urban design measures as set out in the accompanying civil documentation should be implemented to minimise any adverse impact on stormwater quality.

8.13 Waste (SEAR 14)

8.13.1 SEAR

SEAR 14 requires the application to consider:

"Identify, quantify and classify the likely waste streams to be generated during construction and operation 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."

8.13.2 Assessment - Stage 3B

Construction Waste

A preliminary construction waste management plan (CWMP) has been prepared by Aurora Projects for the Stage 3B development. It includes details regarding waste streams likely to be generated during construction, waste control measures and measure for the disposal of nuclear waste, contamination and potentially biological and sewerage waste (if required).

A copy of the preliminary CWMP accompanies this EIS.

Operational Waste

A series of operational waste management guidelines and statements accompany this EIS which are to be implemented for all NSW Health North Coast Area health facilities. The purpose of these guidelines is to ensure that waste management is undertaken in a manner that promotes waste minimisation and the appropriate management of waste resources to mitigate adverse environmental impact.

Operational waste for the proposed development will be managed in accordance with these existing guidelines and policies at LBH. The implementation of a new loading dock as a part of the proposed Stage 3B development will result in increased capacity within LBH for

operational waste storage and management, but existing waste guidelines and policies will generally remain unchanged and will continue to be implemented.

8.13.3 Assessment - Hospital Carpark

A preliminary construction waste management plan (CWMP) has been prepared by Aurora Projects for the proposed carpark. It includes details regarding waste streams likely to be generated during construction and waste control measures.

In terms of operational waste generated by the carpark, we anticipate that the volume will be limited. Operational waste management will be undertaken in accordance with LBH's existing guidelines and policies.

8.13.4 Recommended Mitigation Measures

Preparation of a final Construction Management Plan for each of the developments incorporating construction waste management measures by the appointed head contractor to ensure that construction waste can be appropriately managed with minimal impacts to the environment.

8.14 Hazards (SEAR 15)

8.14.1 SEAR

SEAR 15 requires the application to consider:

> *"Identify, quantify and classify any proposed storage, use and management of any hazardous materials and measures to be implemented to manage hazards and risks associated with the storage."*

8.14.2 Assessment - Stage 3B

In relation to the Secretary's requirement to provide a description of the proposed storage, use and management of any hazardous materials, we refer to the following documentation:

- Hazardous Materials Survey Report prepared by Environmental & Laboratory Services; and
- Hazardous Materials Storage Policy Statement prepared by NNSW LHD.

Hazardous Materials During Demolition

The survey report addresses the potential for hazardous materials to be found during the proposed demolition of Block A. The hazardous materials surveyed are:

- Asbestos
- Synthetic Mineral Fibre (SMF)
- Lead-containing paint

The "summary of findings" of the survey undertaken by Environmental & Laboratory Services are below:

Summary of findings:

A Block

The existing asbestos register lists the following confirmed or suspected Asbestos Containing Materials (ACMs) that are located within the section of A Block proposed for demolition:

** Level 9, Roof – Bituminous floor covering (Non-friable) (Item 1 on register)*

** Levels 6, 7 and 8, Exterior veranda – Bituminous floor covering and eaves lining (Non-friable) (Items 10,11,14,15,22,23,25 & 26 on register)*

** Level 3, South foyer services cupboard (DB-A3) – Electrical backing board (Non-friable) (Item 48 on register)*

** Level 3, PABX room and adjacent hallway ceiling space – Pipe lagging (Friable) (Item 53 on register)*

** Level 3, cleaners cupboard G1, services duct to ceiling – Ceiling tiles (Non-friable) (Item 57 on register)*

And,

Very small amounts of SMF were observed within services cupboards as pipe insulation.

And,

No suspected lead containing paint was observed in internal or external areas.

All information listed above in relation to A Block is for general information only and should not be relied upon as a thorough list of all ACMs present. A full survey should be conducted prior to demolition works when the area is unoccupied to ensure that all ACMs are identified.

The survey states that a more detailed survey should be conducted prior to demolition works when the area is unoccupied to ensure that all Asbestos Containing Materials can be adequately identified. In undertaking this more detailed survey, we recommend that the relevant consultant also advise HI on the required measures to appropriately manage any hazardous materials to mitigate any potential for environmental or human harm.

Management of Hazardous Materials during Operation

The hazardous materials storage policy statement prepared by NNSW LHD sets out the key existing LBH management processes for clinical waste, cytotoxic waste, pharmaceutical waste, chemical waste and radioactive waste. This statement also confirms that in relation to the proposed development there will be no change to these current policies and procedures for the management of such hazardous waste materials.

8.14.3 Assessment - Hospital Carpark

Hazardous Materials During Demolition

The Hazardous Materials Survey Report prepared by Environmental & Laboratory Services also assesses the potential for hazardous materials in the following dwellings that are proposed to be demolished to facilitate the construction of the carpark:

- 67 Uralba Street, Lismore
- 69 Uralba Street, Lismore
- 24 Dalziel Street, Lismore
- 28 Dalziel Street, Lismore

As for the Stage 3B development, the hazardous materials surveyed are:

- Asbestos
- Synthetic Mineral Fibre (SMF)
- Lead-containing paint

The "summary of findings" of the survey undertaken by Environmental & Laboratory Services are below:

24 Dalziel Street, Lismore NSW

ACMs confirmed in the following area:

** External, all elevations - Soffit linings*

No SMF or suspected lead paint was observed.

28 Dalziel Street, Lismore NSW

ACMs confirmed in the following area:

** External, all elevations - Soffit linings*

No SMF or suspected lead paint was observed.

67 Uralba Street, Lismore NSW

ACMs confirmed in the following areas:

** Downstairs, rear entrance area – ceiling lining*

** Downstairs store room – ceiling lining*

** Upstairs - top of rear stairs – wall lining*

** External infill around bottom of house*

No SMF or suspected lead paint was observed.

69 Uralba Street, Lismore NSW

ACMs confirmed in the following areas:

** Garage – Wall panel to subfloor area*

** Subfloor area – Debris on ground*

** External, East elevation – pipe*

** Garage wall lining*

** Soffit linings*

SMF Insulation (Insulation batts) present on top of ceilings within the roof space. Small amount of SMF present as insulation around pipe within the subfloor area.

No suspected lead paint was observed.

Management of Hazardous Materials during Operation

There will be no storage or use of any hazardous materials associated with the propsoed carpark.

8.14.4 Recommended Mitigation Measures

Undertake a detailed hazardous materials survey prior to undertaking any demolition works on the Stage 3B and carpark site. This survey is to also include any requirements to manage the disposal of any hazardous materials identified in the survey and encountered during demolition.

Continued implementation of the existing LBH management processes for hazardous waste for the proposed Stage 3B development.

8.15 Acid Sulphate Soils

The SEARs state that an acid sulphate soils management plan is to be submitted if required.

The LLEP and LDCP includes mapping and provisions relating to acid sulphate soils. The LLEP acid sulfate soils map does not identify the sites as containing any acid sulfate soils. Furthermore, the LDCP shows that the location of acid sulfate soils in the LGA is predominantly in the southern areas of the LGA and to the south of Ballina Road. Also, the geotechnical report prepared by Coffey Geotechnics accompanying this EIS for LBH, does not identify that the Stage 3B development site is subject to any acid sulfate soils: a phenomenon which we understand is typically associated with alluvial soils. As set out in the report prepared by Coffey Geotechnics, the site is formed on basalt.

To this end, we consider that the site are unlikely to comprise any acid sulfate soils and consider that the preparation of a detailed acid sulfate soils management plan is not necessary.

8.16 Consultation

8.16.1 **Consultation Undertaken by HI**

In accordance with the SEARS for this project, consultation has been undertaken with the relevant key stakeholders.

A summary of key consultation undertaken by HI in relation to the proposal is provided in the table below. The information in the table below has been provided by HI.

Table 8: Summary of Consultation

Consultation Forum	Interested Parties/Attendees	Format/Frequency	Issues Discussed
Health Precinct Meeting	Lismore Base Hospital – Local Health District Sydney University Lismore City Council Health Infrastructure	Meeting held between parties. Quarterly (as required)	Stage 3A/3B Redevelopment including carpark progress and status Managing local car parking demand – Note LHD construction of car park Managing other health services including possible future student accommodation
Ngayundi Health Executive	Lismore Base Hospital – LHD Health Infrastructure Contractor – John Holland Ngayundi community representatives	Meeting held between parties. Quarterly (as required)	Stage 3A/3B Redevelopment including carpark progress and status Consultation regarding the redevelopment design – eg implementation of community grieving facilities Discussion of local employment opportunities at the hospital and during construction
Local Resident Consultation - Coffee Cart	Lismore Base Hospital – LHD Health Infrastructure Contractor – John Holland Local Residents	Informal gathering on Hospital grounds. Quarterly (as required)	Upcoming construction activities impacting on local residents Status of arrangements regarding car parking Upcoming operations of the hospital impacting on local residents
Letter Box Drops	Contractor – John Holland Lismore Base	Notice provided by letterbox drop As required	Identification and notification of specific instances of works that will impact on local residents (eg road closures, etc)

	Hospital – LHD Local residents		
Community Consultation Forums	Lismore Base Hospital – LHD Health Infrastructure All local community Aboriginal Community	Gathering held at local workers club. As required (generally annually)	Update as to progress of Lismore Base Hospital Redevelopment including Stage 3B and carpark. Update to status of car parking arrangements
Medical Staff Consultation	Lismore Base Hospital – LHD Health Infrastructure Hospital Staff	Gathering held at Hospital facilities As required (generally annually)	Update as to progress of Lismore Base Hospital Redevelopment Update as to clinical impacts of the redevelopment
Lismore Redevelopment Website	Health Infrastructure All community	Live on internet from June 2014. Continuous availability and will be updated to reflect Stage 3B and carpark development once the SSD has been determined	Update as to progress of Stage 3a Redevelopment.
Lismore Heads of Department	Lismore Base Hospital – LHD LBH Heads of Department	Monthly	Standing Agenda generally around project update and presentations
Staff Consultation	Lismore Base Hospital – LHD All Staff	As Required	Project Update and Presentations

Further to the above, we understand that HI, in collaboration with representatives from NNSW LHD, have continued to consult the local Aboriginal throughout the life of the Stage 3 Redevelopment Project (inclusive of Stage 3B and the carpark). Representatives from NNSW LHD attend the Ngayundi Aboriginal Health executive meetings to not only provide an update on the progress of the project but also provide a forum for two way feedback between the Aboriginal community and the project team and the LHD. These are provided in the form of briefings and presentations and have included information about the development of Stage 3B.

HI has also continued to consult with LCC throughout the life of the redevelopment of LBH. This includes more recent consultation regarding Stage 3B and the proposed hospital carpark. We refer to the letter of support from LCC accompanying this EIS which clearly states Council's positive response to the proposal and particularly, the ongoing engagement that HI has made with LCC at every step of the project. It is also clear from the letter of support that consultation with Council has allowed for particular issues to be resolved upfront to allow for changes to be made to the scheme prior to lodgement *"that have collectively and individually enhanced the hospital's serviceability from a community perspective"*. There is also confirmation in the letter that LCC supports the proposed closure of the southern end of Little Uralba Street subject to addressing the accessibility of the remaining residences on Little Uralba Street, which will ultimately be determined in consultation with Council.

Given LBH has experienced redevelopment over a number of years, there has been ongoing consultation undertaken by HI with the relevant key stakeholders. This consultation will continue to be undertaken by HI through detailed design and staged construction phases of the Stage 3B and hospital carpark developments.

8.16.2 Response to Authority Responses accompanying SEARs

Accompanying the SEARs is a collaboration of correspondence from various authorities including LCC, OEH and Transport for NSW. This correspondence provides preliminary feedback with regard to the *"request for SEARs"* application that was made for the development.

The following table identifies any concerns raised by these authorities in the correspondence accompanying the SEARs and responses accordingly.

Table 9: Response to Issues Raised by Authorities

Authority	Comments	Response
Council comments	There are a significant number of external windows in the building. The reflective nature of the windows could impact adjoining and nearby residential areas	A mitigation measures is included in Section 10 to ensure that reflectivity of the said windows will be minimised to ensure that there is no adverse impact to adjoining and nearby residential areas.
	In order to allow Little Uralba Street to function as the main loading area for the hospital, parts of the road would need to be closed. Residents adjoining on the north should retain serviceable road access to their residences	As set out in Section 8.4 of this EIS and the accompanying Traffic and Parking Assessment prepared by TTW, further investigations will be undertaken to ensure that residents adjoining on the north will retain serviceable road access to their residences. A series of possible arrangements have been suggested by TTW, with further consultation to be undertaken with LCC to finalise these arrangements, particularly with regard to waste collection for these residences.. We also recommend that consultation be undertaken with

		the owners of the remaining residential properties on Little Uralba Street regarding modifications to their vehicular access once the final arrangement has been established in consultation with Council. These recommendations for further consultation are included in Section 10 of this EIS as a mitigation measure/commitment.
	Health infrastructure should negotiate the purchase of the lot located on the north eastern corner of the intersection of Little Uralba Street and Uralba Street. Failure to purchase the lot would make truck movements in and out of Little Uralba Street difficult and possibly unreasonable impacts, and will also adversely impact on the level of services that is provided by Uralba Street.	HI has advised that consultation has been undertaken on a number of occasions with the owner of 78 Uralba Street with regard to the proposal and the possibility of acquisition of this site by the HAC. Should the lot not be available for purchase, TTW confirms in its traffic and parking assessment that it will be necessary to implement traffic management procedures at the entrance into Little Uralba Street to control vehicle access to and from the loading dock. It is considered that traffic lights or similar will be utilised to control the access into the Little Uralba Street and exit from the loading dock, which could incorporate a vehicle activation area within the loading dock. Initial advice provided by Health Infrastructure indicates the loading dock is anticipated to generally have a low traffic movements of approximately 20 vehicles per day.
	Council requires clarification as to when the second stage of the construction of the car park would take place. The application should propose criteria by which the need for the timing of the second stage of the car park can be determined.	HI has advised that the criteria for the construction of the second stage of the carpark are: ▪ Determination of sufficient demand for additional parking beyond that provided under Stage 1; ▪ Demand for additional parking generated by future stages of redevelopment of LBH; and ▪ Following completion of a satisfactory Business Case for

		Stage 2 of the carpark.
	The new car park to be constructed on the southern side if Uralba Street will increase the number of pedestrians crossing Uralba Street on the pedestrian crossing between the car park and the hospital, which would lead to a decreased level of service of this road. Eventually it will no longer be satisfactory to direct pedestrian traffic to the hospital via a pedestrian crossing whilst maintaining reasonable traffic flow. Pedestrian traffic lights should be installed followed by a high level road overpass. The application should propose conceptual detail on options available when the street level pedestrian crossing is no longer acceptable and when and how alternative measures should be introduced and by whom. Plans should be provided that show how the car park and hospital is designed to provide for a future pedestrian overpass at the relevant trigger point.	TTW responds to this comment in the traffic and parking assessment accompanying this EIS as follows: *"Current pedestrian crossing along Uralba Street provides such facility between the car park and the hospital. This is similar to other institutions such as RPA (Missenden Rd) or Wollongong Hospital.* *It should be noted that currently most parking activities are occurring along streets. Therefore, minimal increase pedestrian activities would be generated but a safer and uniform pattern would emerge instead of the current scattered movements along the street. This will result in more efficient and safer pedestrian movements."*
	Proposed parking station and corresponding reduction in on-street car parking requires the development of a Car Parking Management Strategy. Refer to Council's letter for further details required for the strategy.	TTW responds to this comment in the traffic and parking assessment accompanying this EIS as follows: *"A Health Precinct Workshop held in November 2012 discussed future development within the Hospital Precinct and its surrounds (refer to Stage 3A Traffic and Parking Report July 2013, TTW).* *During the proceedings, various parking and traffic management options were discussed, which included support for increasing on-street parking, a multi-storey carpark and traffic calming measures in Uralba Street. Workshop participants, which included Council staff, hospital staff and representatives, as well as local residents and businesses and were generally in support of the hospital redevelopment*

		and anticipated improvement initiatives. *As a result of this workshop, the current proposal of the multi-storey car park has been developed, to address the anticipated parking demands, hospital staff and community and business considerations.* *A Car Parking Management Strategy (to include both street and off street parking areas) could be developed to improve the current parking amenity for residents and hospital users."* HI has advised that a Car Parking Management Strategy will be prepared for the proposed hospital carpark (Stage 1 initially) and all required studies to inform the strategy, prior to occupation. A mitigation measure has been included in Section 10 of this EIS to this effect to reflect this commitment. As required by LCC, this strategy will be prepared in consultation with LCC.
OEH comments	While the SEARs do not include non Aboriginal Historic Heritage, OEH notes in its comments that the Aboriginal cultural heritage and the Historic heritage must be provided as part of the EIS.	In order to address OEH's requirements, as well as considering the site's context being in the vicinity of a heritage item, City Plan Heritage has undertaken a Heritage Impact Statement, incorporating the required Aboriginal cultural heritage as well as the Historical Baseline Heritage Assessments for the built elements of the site that are proposed for demolition or to be extensively modified. Refer to the accompanying HIS prepared by City Plan Heritage for consideration of OEH's comments and additional requirements for assessment.
Transport for NSW	Transport for NSW has requested that consultation be undertaken with itself and RMS during preparation of the EIS.	TTW notes in Section 4.6 of Appendix B of its traffic and parking assessment as follows: *"Consultation had not directly*

		been made with Transport for New South Wales (TFNSW) as it is not deemed necessary. Consultation has been made with Council which refers matters to the Roads and Maritime Services and TFNSW. No issues are foreseen, however, should any arise, then a meeting would be arranged to resolve them."

8.17 Geotechnical and Structural Matters

8.17.1 **SEAR**

The SEAR's require the submission of geotechnical and structural studies, to accompany this EIS. This is set out in the "plans and documentation" section of the SEAR's.

8.17.2 **Assessment - Stage 3B**

Geotechnical

The geotechnical report prepared by Coffey Geotechnics and submitted with the Stage 3A application also applies to the Stage 3B development as it contemplated the construction of a new 11 floor building on the subject site.

Ground conditions as determined by Coffey Geotechnics, are summarised below:-

- A variable depth soil and fill profile, over an underlying rock material of two basalt flow layers separated by a soil layer.
- The upper basalt layer is up to 12m thick, and is distinctly weathered and fractured.
- Deep cuts in this material will require shoring or stabilising.

The report provides a series of recommendations regarding excavation, site filling, foundations for the proposed building and earthquake design.

The report also recommends that additional geotechnical work be undertaken so adequate management of construction risk of excavations, retention and the building foundations can be ensured.

A copy of the report accompanies this EIS.

Structural

TTW has prepared a supplementary structural and civil report for the proposed Stage 3B development. This report supplements the structural and civil reports prepared for the Stage 3A approved building and accompanies this EIS.

The supplementary report states as follows with regard to structural engineering:

As part of the masterplan design, TTW were required to design the Stage 3A structure to accommodate the future extension proposed by the Stage 3B works. This included provision for additional column, earthquake and wind loads in accordance with the relevant Australian Standards.

We confirm that the existing Stage 3A works have been designed to accommodate the additional loadings that will be applied by the Stage 3B works, in accordance with the relevant Australian Standards.

We note it will provide a significant reduction in disruption to the hospital operations if the Stage 3B structure above the current stage 3A,is able to be built continuously in a conventional manner, as an extension of the current works. This removes the requirement for potential backpropping and running of services (in particular hydraulic services) through the newly commissioned Stage 3A.

In general, the design philosophy for Stage 3B structure will follow that of Stage 3A, as outlined in the report of 15 May 2013. Reference should be made to this report for specific detail relating to loadings, design philosophies and structural systems.

8.17.3 Assessment - Hospital Carpark

Geotechnical

A geotechnical assessment report has been prepared by Douglas Partners for the carpark site.

Ground conditions as determined by Douglas Partners, are set out below:-

- Bore hole investigations encountered basalt rock at shallow depth. The basalt, which was found to be in excess of 20 m thick (limit of the investigation) comprised two flows separated by a tephra (ie: volcanic ash) layer up to 6 m thick.
- The upper basalt flow was found to vary considerably across the site from high (or stronger) strength and moderately weathered to very low strength and highly weathered. Below the upper basalt flow a tephra layer was encountered and comprised extremely low strength to medium strength rock.
- The lower basalt flow encountered beneath the tephra layer (in Bores 1 and 2 only) exhibited similar conditions to those observed within the upper basalt flow and comprised either low strength, highly weathered rock, or high strength 'fresher' rock.

The assessment report identifies that due to the subsurface conditions encountered and the requirement to excavate close to the boundaries of the site, the anticipated major implications for the design and construction of the proposed building and basement are:

- Excavatability;
- Stability of excavated faces during construction; and
- Foundation options, particularly high level footings.

Douglas Partners provides a series of recommendations to address the above. These recommendations also include a requirement that all batters, excavations and footing excavations (particularly those personnel are to enter) be inspected by an experienced geotechnical engineer. Inspection is particularly required along excavation faces and

batters to ensure that there are no adversely orientated joints or shear planes, which could lead to failure especially within the highly fractured to fractured basalt which contained numerous clay filled fractures, joints and some near vertical seams. Footing inspections will also particularly important to confirm base material strength of all footings in the Stage 1 area, where very low strength basalt was encountered.

Douglas Partners also recommends that a dilapidation/building condition survey of the adjacent buildings be undertaken prior to commencing site work, coupled with vibration, noise and movement monitoring.

All of the recommendations of the assessment report are included as mitigation measures.

A copy of the report accompanies this EIS.

Structural

A structural application report has been prepared by Cardno for the proposed carpark. The following is an extract from the report which includes a summary of the key structural elements for the project:

> ***Bulk excavation and Shoring***
>
> *Deep excavations which require shoring or stabilizing as battering appears to not be feasible due to the proximity to the adjacent boundaries and the requirement for the on-grade car park in Stage 1.*
>
> ***Foundations***
>
> *Foundations are proposed to be single or double large diameter bored piers founded in the higher strength Basalt layer. If any rock daylights at bulk level, high level pad foundations will be employed.*
>
> ***Structural Framing***
>
> *The structural system will typically consist of a banded one way post tensioned concrete slab and supporting beam system spanning between concrete columns and stair/lift shaft walls.*
>
> ***Building Phasing***
>
> *The proposed car park is to be constructed in two stages with Stage 1 being the lower southern end.*

There are various recommendations of the report that will need to be satisfied in the construction of the development and are included as mitigation measures.

8.17.4 Recommended Mitigation Measures

Adopt and satisfy the recommendations of the geotechnical report prepared by Coffey Geotechnics and the structural report prepared by TTW for the Stage 3B development.

Adopt and satisfy the recommendations of the geotechnical report prepared by Douglas Partners and the structural application report prepared by Cardno for the proposed carpark development.

8.18 Construction Management

8.18.1 **SEAR**

The SEARs require the preparation of a preliminary construction management plan ("CMP") inclusive of a preliminary construction traffic management plan.

8.18.2 **Assessment - Stage 3B and Hospital Carpark**

The objectives of CMP are typically to:-

- Minimise inconvenience to the public and adjoining properties during the constructions stages;
- Maintain effective communication with the developer and the community;
- Maintain a safe working environment; and
- Ensure the requirements of relevant approvals, licenses codes or standards are met.

A preliminary CMP has been prepared by Aurora Projects for the proposed developments which addresses the following:

- project phasing;
- legislative requirements;
- hours of operation;
- contractors site amenities and compound;
- site fencing and public protection;
- dilapidation reporting requirements;
- traffic management;
- crane management;
- construction programme;
- disruption notice process;
- environmental management (noise, vibration, dust, odour, storage of dangerous goods, stormwater runoff);
- complaints procedure;
- waste management;
- hazardous materials management;
- work health and safety;
- services disconnections; and
- site emergency contact.

A copy of the preliminary CMP accompanies this EIS at Appendix 33.

8.18.3 **Recommended Mitigation Measures**

Preparation of a comprehensive CMP for each of the two (2) proposed developments by the appointed Contractor(s), incorporating a construction traffic management plan and the other matters set out in the mitigation measures in Section 10 of this EIS. The CMP

8.19 Conclusion

The environmental assessment undertaken in Sections 8.1 - 8.18 of this EIS identifies the potential environmental impacts that may result from the development. The significance of these identified impacts and ability to management those impacts has been addressed, with the required input from specialist technical consultants. In accordance with the SEARs, the assessment and accompanying specialist technical plans and reports:

- considers appropriate and adequate baseline data;
- the potential cumulative impacts arising from other developments in the vicinity of the site; and
- measures to avoid, minimise and/or offset the predicted impacts, including recommendations for managing any significant risks to the environment. Such measures may include further investigations and therefore, possible further recommendations/mitigation measures, to be undertaken at different stages of the development (prior to construction or operation) following the issue of any consent notice.

Subject to adopting these "measures", the potential risk to the environment is assessed as being minimal and acceptable. These measures are set out in Section 10 of this EIS.

9. Section 79C Evaluation Summary

In addition to the assessment undertaken in Section 8 of this EIS, this section provides an evaluation of Section 79C of the EP&A Act.

The table below, identifies the matters for consideration under Section 79C, that apply to SSD, in accordance with Section 89H of the EP&A Act.

Table 10: Section 79C(1) Matters for Consideration

Section 79C	Comment
(a)(i) any environmental planning instrument	Consideration of the Lismore Local Environmental Plan 2012 is undertaken in Section 5.10 of this EIS. The proposal is consistent with all relevant provisions.
(a)(ii) any proposed instrument	Not applicable.
(a)(iii) any development control plan	Pursuant to Clause 11 of SEPP SRD, DCP's do not apply to SSD.
(a)(iiia) any planning agreement	Not applicable.
(a)(iv) the regulations	This SSDA is considered to satisfactorily meet the relevant requirements of the EP&A Regulations relating to applications and the requirements for EIS's in Schedule 2. Refer to Section 5.4 of this EIS.
(a)(v) any coastal zone management plan	Not applicable.
(b) the likely impacts of that development	The likely impacts of the development have been considered in Section 7 of this EIS. Mitigation measures to manage these impacts are set out in the "recommendations" section of Section 8 and the mitigation measures summarised in Sections 9 & 10 of this EIS.
(c) the suitability of the site for the development	The sites are located in an established urban area and emerging health precinct will all urban services available or capable of augmentation to meet the needs of the development. Investigations into contamination, geology, slope, flora and fauna, cultural heritage, access and services show that the sites are suitable for the proposed development and capable of accommodating development of the intensity proposed. Measures will be put in place to manage impacts during construction and operation to protect the amenity of adjoining residents and patients, staff and visitors to LBH.
(d) any submissions	This is a matter for the Department of Planning and Environment.

(e) the public interest	Having regard to the provisions of the Environmental Planning and Assessment Act 1979 and this environmental impact statement, it is concluded that the development is significantly in the public interest because of the important improvements in health and hospital services resulting from the new hospital facilities to be provided. Furthermore, this EIS demonstrates that the development does not result in any adverse environmental impacts subject to adopting the recommendations and mitigation measures contained herein and therefore, on balance, is very much in the public interest.
Biodiversity values exempt if: (a) On biodiversity certified land (b) Biobanking Statement exists	Not applicable.

10. Mitigation Measures

10.1 Stage 3B Development

The following measures have been compiled following review and consideration of the issues raised in this assessment and in consultation with government agencies.

They relate specifically to the proposed Stage 3B development.

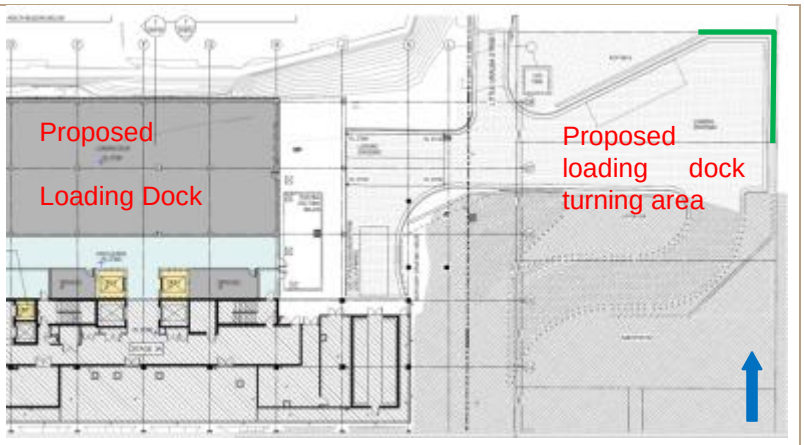
They provide a commitment by HI and indicate the responsibilities required to implement measures to prevent potential environmental impacts that have been identified through the assessment.

This will ensure that the project is environmentally, socially and economically sustainable.

Schedule 2 of the Environmental Planning and Assessment Regulation 2000 requires a full description of the measures proposed to mitigate any adverse effects of the development on the environment.

Table 11: Mitigation Measures

Issues	Action
General	The development will be undertaken in accordance with the Environmental Impact Statement dated January 2015 prepared by City Plan Strategy and Development (including relevant accompanying Appendices) and drawings. All construction documentation and building work will be certified in accordance with Section 109R of the Environmental Planning and Assessment Act 1979.
Visual Bulk and Scale	▪ Consideration will be given to some additional screening above the retaining wall structures that are proposed directly on the common site boundaries in the north-eastern corner of the turning area for Stage 3B. The final outcome will be determined in consultation with the design team. ▪ Consideration will be given to some form of vertical wall screening to the outer face of the retaining walls on the common site boundaries in the north-eastern corner of the turning area for Stage 3B. Some form of vertical greenery or planting that will "spill" or "cascade over the retaining walls should be implemented. As with the recommendation above, the final outcome will be determined in consultation with the design team and specifically, the project landscape architect 360º. The location of the recommended screening and vertical greenery is marked on the plan extract below in green.

	 Figure 48 Loading dock and turning area plan extract, area of recommended additional visual screening and landscaping above retaining walls marked in green (Source: Woods Bagot)
Reflectivity	The building materials used on the facades of all buildings shall be designed so as not to result in glare that causes discomfort or threatens the safety of pedestrians or drivers. A report/statement demonstrating consistency with this requirement is to be submitted to the satisfaction of the Certifying Authority prior to the commencement of above ground works.
Hours of Work	Demolition / construction / civil work will be undertaken between the same hours as stipulated for the Stage 3A consent (reference Condition C1 of the consent for SSD_5816)
Building Code of Australia	The development will comply with the statutory energy efficiency requirements of Section J of the BCA. The development will also generally comply with the "deemed to satisfy" provisions of the BCA and where required, 'alternative solutions' complying with the performance objectives and requirements of the BCA will be employed to address any deviations from DTS provisions.
Approvals	The Proponent will obtain all necessary approvals required by State and Commonwealth legislation in undertaking the development. The Proponent will continue to liaise with Lismore City Council during the development process, particularly with regard to the proposed closure of the southern end of Little Uralba Street and associated works.
Consultation	The Proponent will continue to consult with Lismore City Council during the detailed design and construction phases of the project, particularly where Council's assets are involved (such as the Little Uralba Street works).
Erosion and Sediment Control	A detailed soil and sedimentation plan will be prepared in accordance with The Blue Book prior to construction and will be included in the Construction Management Plan. The plan will be prepared in accordance with the preliminary erosion and sediment control plan prepared by TTW

	accompanying this EIS.
Hazardous Materials	The Proponent will undertake a detailed hazardous materials survey for Block A prior to undertaking any demolition works. This survey will also include any requirements to manage the disposal of any hazardous materials identified in the survey and encountered during demolition.
Hazardous Waste	The Proponent commits to the continued implementation of the existing LBH management processes for hazardous waste.
Geotechnical	In accordance with the findings of the Geotechnical Assessment undertaken by Coffey Geotechnics accompanying this EIS, the additional geotechnical investigations recommended will be undertaken prior to construction. All other recommendations of the geotechnical report will be satisfied.
Dilapidation	A dilapidation/building condition survey of the adjacent buildings will be undertaken prior to commencing site work, coupled with vibration, noise and movement monitoring.
Structural	The detailed structural design of the development will comply with the recommendations of the structural report dated 15 May 2013.
Contamination	The contamination assessment undertaken for the site indicates that there is unlikely to be significant contamination on site. However, should any new information come to light during demolition or construction works which has the potential to alter previous conclusions about site contamination then the Managing Contractor will be immediately notified and works will cease. Works will not recommence on site until the site is remediated in accordance with an approved Remedial Action Plan, and a Validation and Monitoring Report together with a notice of completion of remediation pursuant to Clause 18 of State Environmental Planning Policy No 55 - Remediation of Land (as if that Policy applied) has been submitted to and approved by Office of Environment and Heritage.
Services	The Proponent will comply with the requirements of the relevant public authorities in regard to the connection to, relocation and/or adjustment of services affected by the construction of the proposed development.
Accessibility	The design of the facilities is required to permit effective, appropriate, safe and dignified use by all people, including those with disabilities and will be in accordance with the relevant NSW Health Facility Guidelines for access and mobility and relevant accessibility standards.
Drainage	All of the recommendations of the civil engineering report prepared by TTW accompanying this EIS will be satisfied and all final civil documentation will be prepared generally in accordance with the plans prepared by TTW and Lismore City Council Requirements. Water Sensitive Urban Design measures identified in the civil engineering report prepared by TTW will be implemented into the detailed design of the development.

	Plans of the final stormwater drainage system will be submitted to the Certifying Authority. Where works are located outside the site boundary, an application will be made to Council under Section 68 of the Local Government Act 1993 to carry out stormwater drainage work.
Transport Management	The recommendations of the traffic and parking assessment report prepared by TTW in relation to transport management will be implemented, including, but not limited to, the preparation of a Travel Plan and Transport Access Guide for the hospital. These plans are to be prepared prior to occupation of the proposed Stage 3B development.
Road Closure and maintenance of vehicular access for 78 Uralba Street	Final details of the Little Uralba Street road closure, works to Little Uralba Street and details regarding ongoing vehicular access for the Little Uralba Street properties under private ownership (private vehicle access and waste collection/access) are to be determined in consultation with Lismore City Council, prior to construction taking place. Further, prior to the closure of the southern end of Little Uralba Street, an easement/right of way is to be registered on title to ensure that vehicular access will be maintained for 78 Uralba Street.
Noise and Vibration	The recommendations of the Noise Emission Assessment prepared by Acoustic Logic will be implemented to ensure that any potential adverse construction and operational noise and vibration impacts are adequately managed and mitigated.
Heritage	The recommendations of the Heritage Impact Statement prepared by City Plan Heritage will be implemented. In summary, these recommendations relate to "stop work" provisions during site works if something is discovered that would be an Aboriginal object and archival recording of LBH.
External Lighting	All external lighting will be installed to meet the minimum Australian and New Zealand Lighting Standards that will not only provide wide and even spread of illumination but will also be adequate to meet operational requirements. In addition, appropriate signage is to be installed to reinforce the building's main entrance and other secondary entrances. External lighting will be installed so as to not result in any light spill or other lighting-related impacts on the surrounding locality.
Construction Management	Prior to commencement of construction, a detailed Construction Management Plan will be prepared which addresses (but is not limited to) the following: ▪ Construction noise and vibration; ▪ Construction traffic management ▪ Dust management and air pollution monitoring;

	▪ Odour control; ▪ Removal and management of hazardous materials; ▪ Soil and erosion control; ▪ Tree protection (where relevant); ▪ Site management in accordance with legislative requirements; ▪ House of construction work; ▪ Waste management; ▪ Implementation of Groundwater Policy Framework and Groundwater Quality Protection Policies; ▪ Community safety plan; ▪ Arrangements for temporary pedestrian and vehicular access; and ▪ Contact and complaints handling procedures.
Operational Management	An operational environmental management plan will be prepared prior to the opening of the development to the public, a copy is to be submitted to the Department of Planning and Environment for information. The plan will address, but will not be limited to, the following matters: ▪ Minimisation of anti-social behaviour. ▪ Visitor safety. ▪ Site security. ▪ Noise management. ▪ Traffic and pedestrian management. ▪ Storage of materials. ▪ Emergency and evacuation procedures. ▪ Fire safety. ▪ Waste management and ESD initiatives. ▪ Lighting and signage.

10.2 Hospital Carpark

The following measures have been compiled following review and consideration of the issues raised in this assessment and in consultation with government agencies.

They specifically relate to the proposed hospital carpark development.

They provide a commitment by HI and indicate the responsibilities required to implement measures to prevent potential environmental impacts that have been identified through the assessment.

This will ensure that the project is environmentally, socially and economically sustainable.

Schedule 2 of the Environmental Planning and Assessment Regulation 2000 requires a full description of the measures proposed to mitigate any adverse effects of the development on the environment.

Table 12: Mitigation Measures

Issues	Action
General	The development is to be undertaken in accordance with the Environmental Impact Statement dated January 2015 prepared by City Plan Strategy and Development (including relevant accompanying Appendices) and drawings. All construction documentation and building work is to be certified in accordance with Section 109R of the Environmental Planning and Assessment Act 1979.
Reflectivity	The building materials used on the facades of the carpark shall be designed so as not to result in glare that causes discomfort or threatens the safety of pedestrians or drivers. A report/statement demonstrating consistency with this requirement is to be submitted to the satisfaction of the Certifying Authority prior to the commencement of above ground works.
Hours of Work	Demolition / construction / civil work will be undertaken between the same hours as stipulated for the Stage 3A consent (reference Condition C1 of the consent for SSD_5816)
Building Code of Australia	The development will comply with the statutory energy efficiency requirements of Section J of the BCA. The development will also generally comply with the "deemed to satisfy" provisions of the BCA and where required, 'alternative solutions' complying with the performance objectives and requirements of the BCA will be employed to address any deviations from DTS provisions.
Approvals	The Proponent will obtain all necessary approvals required by State and Commonwealth legislation in undertaking the development. The Proponent will continue to liaise with Lismore City Council during the development process.
Erosion and Sediment	A detailed soil and sedimentation plan will be prepared in accordance with

Control	The Blue Book prior to construction and will be included in the Construction Management Plan. The plan will be prepared in accordance with the preliminary erosion and sediment control plan prepared by Cardno accompanying this EIS.
Geotechnical	In accordance with the findings of the Geotechnical Assessment undertaken by Douglas Partners accompanying this EIS, the additional geotechnical investigations recommended will be undertaken prior to construction. All other recommendations of the geotechnical report are to be satisfied.
Dilapidation	A dilapidation/building condition survey of the adjacent buildings will be undertaken prior to commencing site work, coupled with vibration, noise and movement monitoring.
Structural	All of the recommendations of the structural application report prepared by Cardno will be implemented in the final design and construction of the carpark.
Contamination	The recommendations of the Preliminary Site Investigation for Contamination report prepared by Douglas Partners (section 9) will be implemented. Furthermore, should any new information come to light during demolition or construction works which has the potential to alter previous conclusions about site contamination then the Managing Contractor will be immediately notified and works will cease. Works will not recommence on site until the site is remediated in accordance with an approved Remedial Action Plan, and a Validation and Monitoring Report together with a notice of completion of remediation pursuant to Clause 18 of State Environmental Planning Policy No 55 - Remediation of Land (as if that Policy applied) has been submitted to and approved by Office of Environment and Heritage.
Services	The Proponent will comply with the requirements of the relevant public authorities in regard to the connection to, relocation and/or adjustment of services affected by the construction of the proposed development.
Accessibility	The design of the facilities will permit effective, appropriate, safe and dignified use by all people, including those with disabilities and will be in accordance with the relevant NSW Health Facility Guidelines for access and mobility and relevant accessibility standards.
Drainage	All of the recommendations of the civil engineering report prepared by Cardno accompanying this EIS will be satisfied and all final civil documentation will be prepared generally in accordance with the plans prepared by Cardno and Lismore City Council requirements. Plans of the final stormwater drainage system will be submitted to the Certifying Authority. Where works are located outside the site boundary, an application will be

	made to Council under Section 68 of the Local Government Act 1993 to carry out stormwater drainage work.
Tree Planting	Replanting of 13 local native rainforest trees to offset the removal of 13 trees for the development will be undertaken on the site in accordance with the recommendations of the Tree Report prepared by Northern Tree Care.
Tree Protection	If Tree No. 12 is to be retained, it will be protected during demolition and construction. Care will be taken when removing the fence and path to ensure that no roots are damaged and movement of earthmoving plant in the TPZ is minimised. When the construction works are in progress, a temporary fence will be erected around the tree to protect as much of the TPZ as possible. The Project Arborist will be asked to supervise the demolition near the tree and inspect the tree protection measures put in place.
Noise and Vibration (Construction)	The recommendations of the Noise Emission Assessment prepared by Acoustic Logic will be implemented to ensure that any potential adverse construction noise and vibration impacts are adequately managed and mitigated. This includes the following: ▪ On completion of the construction program, acoustic review of proposed construction activities and plant/methods should be undertaken to identify the extent and duration of potential exceedances of EPA construction noise management levels. ▪ Identify feasible acoustic controls or management techniques (for example, selection of plant, use of screens around static plant, scheduling of noisy works, notification of adjoining land users, respite periods) when exceedance of management noise levels may occur. ▪ For activities where acoustic controls and management techniques still cannot guarantee compliant noise levels, implement a notification process whereby nearby development is made aware of the time and duration of noise intensive construction processes. ▪ If bulk excavation in rock or driven/vibrated piles are proposed, where practicable, excavation in rock should be done using rock saws as opposed to pneumatic hammers.
Noise (Operational)	The recommendations of the Noise Emission Assessment prepared by Acoustic Logic will be implemented to ensure that any potential adverse operational noise and vibration impacts are adequately managed and mitigated. This includes the following: ▪ The car park pavement shall be smooth and level to ensure minimal vertical displacement and potential for noise generated by wheel to concrete impacts. The surface finish shall be of a type that minimises squealing of car tyres.

	▪ Concrete to have a broom finish or similar, to prevent tyre squeal. ▪ Signs reminding staff and visitors to minimise noise at night shall be installed at entry and exit points from the car park. ▪ Traffic calming devices should be applied to control vehicle speeds 20km/Hour. ▪ No speed humps are to be installed within the car park. ▪ Grates and any cover plates are to be fixed flush and tight. ▪ A detailed construction noise and vibration management plan should be undertaken following preparation of the construction program. Review of the mitigation techniques outlined in section 5.3 of the acoustic report should be conducted, and implemented where feasible.
Heritage	The recommendations of the Heritage Assessment and Impact Statement prepared by City Plan Heritage will be implemented. In summary, these recommendations relate to "stop work" provisions during site works if something is discovered that would be an Aboriginal object.
External Lighting	All external lighting will be installed to meet the minimum Australian and New Zealand Lighting Standards that will not only provide wide and even spread of illumination but will also be adequate to meet operational requirements. In addition, appropriate signage is to be installed to reinforce the car park's main entrance and other secondary entrances. External lighting will be installed so as to not result in any light spill or other lighting-related impacts on the surrounding locality.
Construction Management	Prior to commencement of construction, a detailed Construction Management Plan will be prepared which addresses (but is not limited to) the following: ▪ Construction noise and vibration; ▪ Construction traffic management ▪ Dust management and air pollution monitoring; ▪ Odour control; ▪ Removal and management of hazardous materials; ▪ Soil and erosion control; ▪ Tree protection (where relevant); ▪ Site management in accordance with legislative requirements; ▪ House of construction work;

	▪ Waste management; ▪ Implementation of Groundwater Policy Framework and Groundwater Quality Protection Policies; ▪ Community safety plan; ▪ Arrangements for temporary pedestrian and vehicular access; and ▪ Contact and complaints handling procedures.
Safety and Security	A closed-circuit television (CCTV) system will be installed to provide surveillance for the premises, to mitigate any potential for crime and enhance public safety.
Operational Management	A Car Parking Management Strategy will be prepared for the proposed hospital carpark (Stage 1 initially) prior to occupation. The strategy will: ▪ include local resident parking proposals which are acceptable to the residents and enforceable by Council; ▪ be developed in consultation with the relevant Council staff; ▪ be developed in consultation with the community; ▪ be prepared in accordance with the "Brief" set out by Lismore City Council's response to the SEARs request for the development dated 12 December 2014; ▪ be guided by the RMS guidelines including the publication "Permit Parking Guideline" published in November 2012 (or if this version is superseded, the most recent version available at the time of the preparing the strategy.. The strategy will also include measures for operational environmental management, including, but not limited to the following matters: ▪ Minimisation of anti-social behaviour. ▪ Visitor safety & site security. ▪ Noise management. ▪ Traffic and pedestrian management. ▪ Emergency and evacuation procedures and fire safety. ▪ Waste management. ▪ Lighting and signage.

11. Conclusion

This Environmental Impact Statement (EIS) is submitted to the Minister for Planning for the Stage 3B redevelopment of LBH and the construction of a new hospital carpark.

In accordance with the requirements of Schedule 2 of the EP&A Regulation, this EIS considers the relevant statutory and strategic instruments, built form and social and environmental impacts.

Further, this EIS provides an assessment of the environmental impacts of the proposed development in accordance with the SEARs issued on 19 December 2014 and sets out the undertakings made by HI to manage and minimise potential impacts and environmental "risk" arising from the development.

Subject to the mitigation measures outlined in Section 10 of this EIS, we recommend approval of this application for the following reasons:-

- The sites are capable of accommodating the proposed development by virtue of their capacity, size and location.
- The design of both developments has emerged from a detailed analysis of the sites, having regard for the streetscape, environmental effects, heritage, urban form and preservation of the amenity of the surrounding area and the desired future character of the emerging "health" precinct surrounding the existing LBH.
- The written Clause 4.6 variation request which applies to the proposed hospital carpark development meets all relevant requirements as set out in Clause 4.6 of the LLEP and demonstrates that:

  (a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and

  (b) that there are sufficient environmental planning grounds to justify contravening the development standard.
- The potential environmental impacts of the developments as outlined in this EIS are able to be satisfactorily mitigated subject to implementing the recommendations of the technical supporting documentation accompanying this EIS.
- The completion of Stage 3 of the Masterplan for LBH will further support and improve the medical services provision to the Lismore LGH and the wider Northern NSW catchment.
- The provision of a new carpark for LBH will greatly assist in meeting the increasing demand for car parking in the locality surrounding LBH.
- Both developments are contemporary and exhibit a high quality of architectural design and will be positive additions to the Lismore LGA.

The proposed application will result in significant social benefits for the local community and in the absence of any adverse environmental (and other) impacts, the proposed development is in the public's interest.

The EIS fulfils the requirements of the EP&A Act & Regulation and addresses all relevant matters for consideration prescribed by the SEARs, demonstrating that the impacts of the proposal can be satisfactorily managed or mitigated. In light of the above, and the benefits of the proposal, we recommend that the proposal be approved.