

KEMPSEY DISTRICT HOSPITAL REDEVELOPMENT (SSD5363)

DEVELOPMENT APPLICATION AND ENVIRONMENTAL IMPACT STATEMENT FOR PUBLIC EXHIBITION



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	Project	Kempsey District Hospital Redevelopment	00	Draft Issue to Health Infrastructure	06.05.2013	• Johnstaff	
	Project Status	For State Significant Development Approval	01	As per DP&I Comments following EIS Review	23.07.2013	• BVN Donovan Hill	
	LFA Director	Alf Lester				• Mackenzie Group	
	Checked by	AL				• MW Rogers Associates	
	Date Issued	25 July 2013				• Rahhbein Airport Consulting	
	Issue Type	For Public Exhibition				• RPS	
Proponent	NSW Health Infrastructure				• Safety Engineering & Technical Services		
						• Umow Lai	
						• Enstruct	
						• Graham Brooks and Associates	
						• GTA Consultants	

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STATEMENT OF VALIDITY

Submission of Development Application and Environmental Impact Statement

Prepared under Schedule 2, Part 3 of the Environmental Planning and Assessment Regulation 2000 and Schedule 1, Clause 14 of State Environmental Planning Policy (State and Regional Development) 2011

Environmental Impact Statement prepared by

Name	Alf Lester
Qualifications	Bachelor of Architecture (Hons), University of NSW, 1964 Dip. Civic Design (Distinction), Edinburgh University, 1967 Fellow of the Australian Institute of Architects Member of Planning Institute of Australia
Address	LFA (Pacific) Pty Ltd Suite 4, 2 New McLean Street Edgecliff NSW 2027

In respect of

Applicant & Land Details

Applicant Name	NSW Health Infrastructure
Applicant Address	Level 8, 77 Pacific Highway NORTH SYDNEY NSW 2060
Land to be developed	119 River Street, Kempsey
Lot & DP	Lots 1-8 Sec 20A DP759080, Lots 1 & 14 Sec 23A DP 759080 and Lot 20 DP 112080 River, Tozer and Polwood Streets, Kempsey

Environmental Impact Statement

Statement of Validity	I certify that I have prepared the contents of the Environmental Impact Statement in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000 and the Director General's requirements dated 5 December 2012 and that to the best of my knowledge, the information contained in the Environmental Impact Statement is neither false nor misleading.
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Signature



Date

24 July 2013

EXECUTIVE SUMMARY

The existing Kempsey District Hospital (KDH) is a 66 bed facility providing Level 3 (community/district) services including emergency, high dependency and coronary care, general medicine, general surgery, rehabilitation, maternity, mental health, renal dialysis, and a broad range of primary health care services. Located in West Kempsey, the hospital predominantly services the Kempsey Local Government Area, which has a population of over 28,000 people, providing care to over 11,328 patients every year.

In 2011, the NSW Government submitted an application to the Health and Hospital Fund for the KDH redevelopment. In May 2012, the NSW Government and the Australian Government announced a major capital investment of \$80 million for the redevelopment (\$40 million to be provided by the NSW Government and \$40 million by the Australian Government) through the Health and Hospital Fund.

The KDH redevelopment represents a strategic capital investment in the health infrastructure of the Mid North Coast Local Health District and for rural services more generally across NSW.

The key objective of the redevelopment is to enhance the delivery of health services in the Kempsey LGA and Hastings Macleay Clinical Network by providing a modern, contemporary, culturally appropriate health care facility with high quality care standards that will cater for the current and future demands of the local and regional community.

The proposed KDH redevelopment will involve:

- Construction of a new five storey hospital building
- Refurbishment of existing hospital buildings
- Demolition of existing Blood Bank building
- Modified Main Entrance
- Modified car parking for staff, patients and visitors
- Landscape works
- Associated infrastructure works

The Kempsey District Hospital redevelopment project is identified as a State Significant Development under Schedule 1, Clause 14 of the State Environmental Planning Policy (SEPP) (State and Regional Development) 2011, being a hospital development with a capital investment value of more than \$30 million.

Accordingly, this Environmental Impact Statement (EIS) has been prepared in support of a State Significant Development Application for the proposed development in accordance with Schedule 2, Clauses 3, 6 and 7 of the Environmental Planning and Assessment Regulation 2000 and the Director General's Requirements (DGRs) issued on 5 December 2012.

Schematic architectural and landscape drawings have been prepared and are provided in this EIS. A range of development alternatives have been explored which identified the existing Hospital site and the proposed architectural design as the most appropriate delivery option in terms of cost effectiveness, meeting clinical service priorities, enabling contemporary models of care to be implemented, providing flexibility for changing service delivery requirements and maximising the opportunities provided by the existing site.

An assessment of environmental impacts, together with an environmental risk assessment, has been carried out based on the environmental and technical studies that have been undertaken for the project. The assessment identifies the potential environmental impacts and risks associated with the proposed KDH redevelopment, together with the mitigation measures to be implemented to ensure that there will be no adverse environmental impact as a consequence of the redevelopment.

As described above, the proposed redevelopment has considered biophysical, economic and social factors and is justified on the basis that it is in accordance with the principles of ecologically sustainable development, given that:

- The environmental assessment has not identified any potential for serious or irreversible environmental damage
- The new KDH will contribute to maintaining and enhancing the health of current and future generations of the local and regional community
- There will be no impact on the conservation of biological diversity and ecological integrity; and
- Environmental goals have been set, being the achievement of a 4-star Green Star Healthcare v1 rating, and that achievement of such goals will be pursued in the most cost-effective way

The proposed redevelopment provides an opportunity to deliver new facilities with significantly improved capacity and critical mass to support sustainable, safe and high quality services into the future.

Accordingly, the Minister's favourable consideration of this Development Application is sought.

SCHEDULE OF DIRECTOR GENERAL'S REQUIREMENTS

Below is a schedule showing the DGRs together with the relevant sections of the report in which the requirement is addressed. The Environmental Impact Statement (EIS) for the Development Application must include:

GENERAL REQUIREMENTS		REFER TO
The EIS must meet the minimum requirements in Schedule 2 the Environmental Planning and Assessment Regulation 2000, specifically:		
Form specifications in clause 6:		
(a) the name, address and professional qualifications of the person by whom the statement is prepared,		Statement of Validity
(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		Section 3
(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,		Section 4
(f) a declaration by the person by whom the statement is prepared to the effect that:		Statement of Validity
(i) the statement has been prepared in accordance with this Schedule, an		
(ii) the statement contains all the 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		
Content Specifications in clause 7:		
(1) An environmental impact statement must also include each of the following:		
(a) a summary of the environmental impact statement,		Exec Sum
(b) a statement of the objectives of the development, activity or infrastructure,		Section 1
(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		Section 3
(d) an analysis of the development, activity or infrastructure, including:		
(i) a full description of the development, activity or infrastructure		Section 3
(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		Sections 2 and 4
(iii) the likely impact on the environment of the development, activity or infrastructure, and		Section 4
(iv) a full description of the measures proposed to mitigate any adverse effects of the		Section 5

GENERAL REQUIREMENTS	REFER TO
development, activity or infrastructure on the environment, and	Section 5
(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,	Section 4
(e) a compilation (in a single section of the environmental impact statement) of the measures referred to in item (d) (iv),	Section 5
(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).	Section 6
(2) Subclause (1) is subject to the environmental assessment requirements that relate to the environmental impact statement.	Noted / Section 4
3) Subclause (1) does not apply if:	
(a) the Director-General has waived (under clause 3 (9)) the need for an application for environmental assessment requirements in relation to an environmental impact statement in respect of State significant development, and	
(b) the conditions of that waiver specify that the environmental impact statement must instead comply with requirements set out or referred to in those conditions.	
(4) The principles of ecologically sustainable development are as follows:	Section 6
(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	

GENERAL REQUIREMENTS	REFER TO
enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.	
Notwithstanding the key issues specified below, the EIS/s 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 assessment, must include measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.	Section 4.20

The Environmental Impact Statement (EIS) for the Development Application must address the following key issues:

KEY ISSUES	REFER TO
1. Statutory and Strategic Context Address the statutory provisions applying to the development contained in all relevant environmental planning instruments, including: - SEPP (State and Regional Development) 2011 - SEPP No. 55 - Remediation of Land; - SEPP No. 33 - Hazardous and Offensive Development; - SEPP (Infrastructure) 2007; and - Kempsey Local Environmental Plan 1987. Address the relevant planning provisions, goals and strategic planning objectives in the following: - NSW 2012 - Mid North Coast Regional Strategy - Kempsey Development Control Plans, where relevant.	Section 4.1
2. Built Form and Urban Design - Address the height, bulk and scale of the proposed development within the context of the locality, including the existing hospital buildings and adjoining residential development. - Address design quality, with specific consideration of the overall sitelayout, connection with the existing adjacent hospital buildings, axis, vistas and connectivity, open spaces and edges, primary elements, gateways, façade, rooftop, mechanical plant, massing, setbacks, building articulation, materials, choice of colours, including an assessment against the Crime Prevention Through Environmental Design Principles. - Impact of the proposed development on the existing internal hospital road network and associated car parking.	Section 4.2
3. Amenity Detail amenity impacts including solar access, acoustic impacts, visual privacy, servicing requirements (including but not limited to, waste management, loading zones, mechanical plant), overshadowing and wind impacts. A high level of environmental amenity for land uses adjacent must be demonstrated.	Section 4.3
4. Ecologically Sustainable Development (ESD) - Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000) will be incorporated in the design, construction and ongoing operation phases of the development. - Include a description of the measures that would be implemented to minimise consumption of resources, water and energy.	Section 4.4

KEY ISSUES	REFER TO
- Relevant Policies and Guidelines: - NSW Health's Engineering Services and Sustainable Development Guidelines (TS11)	
5. Noise and Vibration Identify and provide a quantitative assessment of the main noise and vibration generating sources and activities at all stages of construction and any noise sources during operation. Outline measures to minimise and mitigate the potential noise and vibration impacts on existing hospital operations and surrounding occupiers of land. <i>Relevant Policies and Guidelines:</i> - NSW Industrial Noise Policy (EPA) - Interim Construction Noise Guideline (DECC)	Section 4.5
6. Transport & Accessibility Impacts Detail proposed car parking arrangements for the development and expanded services and facilities, including parking requirements generated by construction and the displacement of visitor and patient car parking. Alternative off-site arrangements should be made for staff and construction workers. Detail proposed access arrangements to the hospital, including augmentation requirements and intersection upgrade treatments, the type and size of vehicles accessing the site, and measures to mitigate any associated pedestrian, cycle or traffic impacts. Provide accurate details of daily vehicle movements and assess the impacts of the traffic generated on the local road network, including impact on nearby intersections and any potential need for upgrading or road works (if required). Provide a draft Construction Management Plan.	Section 4.6
Prepare a Transport Accessibility Study that addresses the following: - the proposed access and parking provisions, including the number of car parking spaces and compliance with the relevant Australian standards and parking codes; - demonstrates how users of the development will be able to make travel choices that support the achievement of State Plan targets; - details existing pedestrian and cycle movements within the vicinity of the site and determine the adequacy of the proposal to meet the likely future demand for increased public transport and pedestrian and cycle access; and - describes measures to be implemented to promote sustainable means of transport including public transport usage and pedestrian and bicycle linkages in addition to addressing the potential for implementing a location specific sustainable travel plan. - estimate the total daily and peak hour trips generated by the proposed development,	Appendix E

KEY ISSUES	REFER TO
including accurate details of the current and future daily vehicle movements and assess the impacts of the traffic generated on the local road network, including intersection capacity and any potential need for upgrading or road works (if required), having regard to local planning controls. <i>Relevant Policies and Guidelines:</i> • <i>Guide to traffic generating development (RMS)</i> • <i>Planning guidelines for walking and cycling</i> • <i>EIS Guidelines - road and related facilities (DP&I)</i>	
7. Flora and Fauna	Section 4.7
Address impacts on flora and fauna, including threatened species, populations and endangered ecological communities and their habitats and steps taken to mitigate any identified impacts to protect the environment.	
8. Bushfire	Section 4.8
• A bushfire hazard assessment and report that addresses the requirements of clause 44 of the NSW Rural Fires Regulation 2008 and the requirements for Special Fire Protection Purpose Development as detail in Planning for Bush Fire Protection 2006 guidelines. • The assessment and report shall also address the existing hospital development's compliance with the requirements of Planning for Bushfire Protection 2006 guidelines and recommend any improvements to achieve a better bush fire outcome for the existing facility.	
9. Heritage	Section 4.9
A statement of significance and an assessment of the impact on the heritage significance of any heritage items, including the Kempsey District Hospital site, and/or conservation areas should be undertaken in accordance with the guidelines in the NSW Heritage Manual, if relevant.	
10. Aboriginal Heritage	Section 4.10
The EIS shall address Aboriginal Heritage in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005 and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, if relevant.	
11. Sediment, Erosion and Dust controls	Section 4.11
Prepare a Soil and Water Management Plan that details measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles. <i>Relevant Policies and Guidelines:</i> • <i>Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom)</i>	

KEY ISSUES	REFER TO
• <i>Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA)</i>	
12. Utilities	Section 4.12
• 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.	Refer to Page xi Refer to Page xi
13. Contributions	Section 4.13
Address Council's Section 94 Contribution Plan and Section 64 water and sewer developer service charges and/or details of any Voluntary Planning Agreement.	
14. Flooding	Section 4.14
An assessment of any flood risk on site in consideration of any relevant provisions of the NSW Floodplain Development Manual (2005) including the potential effects of climate change, sea level rise and an increase in rainfall intensity.	
15. Drainage	Section 4.15
In consultation with Kempsey Shire Council, prepare a Stormwater Management Strategy and Plan that addresses drainage associated with the proposal, including stormwater and drainage infrastructure incorporating water sensitive urban design principles, water harvesting techniques with particular attention to the issue of on-site retention/detention and be designed to avoid any adverse impacts on downstream properties.	
16. Servicing and Waste	Section 4.16
Preparation of a Waste Management Strategy that identifies, quantifies and classifies 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.	
17. Hazards	Section 4.17
A description of the proposed storage, use and management of any hazardous materials and measures to be implemented to manage hazards and risks associated with the storage.	
18. Staging	Section 4.19
Details regarding the staging of the proposed development (if proposed), including details of future stages.	

PLANS AND DOCUMENTS	REFER TO
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:	
• Architectural drawings, including internal road works, road layout and car parking;	Appendix A
• Site Survey Plan, showing existing levels, location and height of existing and adjacent structures/buildings and boundaries;	Appendix B
• Site Analysis Plan	Section 2
• Stormwater Concept Plan	Appendix K
• Shadow Diagrams	Appendix A
• View Analysis / Photomontages	Appendix A
• Landscape Plan	Appendix C
• Preliminary Construction Management Plan, inclusive of a Preliminary Construction Traffic Management Plan;	Refer to Page xi
• Geotechnical and Structural Report, including bulk earthworks plan;	Appendix P
• Arborist Report; and	Appendix G
• Sample board and schedule of materials and finishes	Appendix A
The EIS must be accompanied by a Quantity Surveyors report, verifying the capital investment value of the proposed development in accordance with the definition contained within the Environmental Planning and Assessment Regulation 2000.	Appendix O

PLANS AND DOCUMENTS NOT INCLUDED IN THIS SSDA	REFER TO
Infrastructure Management Plan	The provision of utilities and staging of infrastructure provision will be largely carried out under a separate approval process under ISEPP. Accordingly, it is considered that an Infrastructure Management Plan is not relevant to this application. Sections 1.6.1 and 4.12
Integrated Water Management Plan	There is no alternative water supply proposed for the redevelopment in terms of rainwater, greywater or recycled wastewater. Given the very limited scope for cost-effective water reuse, water sensitive urban design and conservation measures for the Kempsey redevelopment, an Integrated Water Management Plan has not been prepared as part of this application. Section 4.12.3
Soil and Water Management Plan	Sediment, erosion and dust impacts have been addressed in this EIS and appropriate mitigation measures identified. It is proposed that the Soil and Water Management Plan be prepared as part of the Preliminary Construction Management and Traffic Management Plan, prior to the commencement of works upon engagement of the relevant construction contractor for the project. Section 4.11 and below.
Preliminary Construction Management Plan including Preliminary Construction Traffic Management Plan	Construction impacts for a broad range of issues have been assessed and appropriate mitigation measures identified. It is proposed that the Preliminary Construction Management and Traffic Management Plan be prepared prior to the commencement of works, upon engagement of the relevant construction contractor for the project.

CONSULTATION	REFER TO
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: • Kempsey Shire Council; • Roads and Maritime Services; • Local Aboriginal Land Council and stakeholders; and • Local Heritage Group/s, if relevant. 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	Sections 1.7 and 3.11
FURTHER CONSULTATION AFTER 2 YEARS	REFER TO
If you do not lodge a development application and EIS for the development within 2 years of the issue date of these DGRs, you must consult further with the Director General in relation to the preparation of the EIS.	Noted
REFERENCES	REFER TO
The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this project.	Noted

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

The Kempsey District Hospital (KDH) redevelopment is State Significant Development in accordance with Schedule 1, Clause 14 of State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP):

Hospitals, medical centres and health research facilities

Development that has a capital investment value of more than \$30 million for any of the following purposes:

- (a) hospitals,*
- (b) medical centres,*
- (c) health, medical or related research facilities (which may also be associated with the facilities or research activities of a NSW local health district board, a University or an independent medical research institute).*

The KDH redevelopment has an estimated Capital Investment Value (CIV) of \$61,497,276 and will involve:

- Construction of a new five storey hospital building (including lower ground level and plant room above) with approximately 9,500m² GFA
- Refurbishment of approximately 2,500m² GFA within the existing hospital buildings
- Demolition of existing Blood Bank building
- Modified Main Entrance
- Modified car parking for staff, patients and visitors
- Landscape works
- Associated infrastructure works

This Environmental Impact Statement (EIS) has been prepared in support of a State Significant Development Application for proposed development described above and in accordance with Schedule 2, Clauses 3, 6 and 7 of the Environmental Planning and Assessment Regulation

2000 and the Director General's Requirements (DGRs) issued on 5 December 2012.

The purpose of this EIS is to provide:

- Details of the proposed development, including analysis of feasible alternatives;
- An assessment of environmental impacts in accordance with the DGRs;
- Describe measures proposed to mitigate any adverse impacts on the environment;
- An assessment of environmental risk; and
- Justification of the development and recommendation for planning approval.

1.2 STRUCTURE OF THE REPORT

The Development Application and Environmental Impact Statement (DA & EIS) is structured as follows:

PART	DESCRIPTION
Introduction	Provides an overview of the KDH redevelopment and relevant background information.
Site Analysis	Provides details of the hospital context together with a social, economic and environmental overview.
The Development Proposal	Provides an overview of the proposed development, as well as analysis of feasible alternatives.
Assessment of Environmental Impacts	Responds to the Director General's Requirements. An assessment of Environmental Risk of the proposed development is also provided.
Mitigation Measures	Provides a compilation of proposed mitigation measures.
Justification of the Development	Provides justification for the proposed development with respect to the principles of Ecologically Sustainable Development.
Conclusion	Summarises the key issues and provides a recommendation to approve the proposals outlined in this SSDA and EIS.
Appendices	Includes plans and technical studies supporting this application.

1.3 BACKGROUND

The existing KDH is a 66 bed facility providing Level 3 (community/district) services including emergency, high dependency and coronary care, general medicine, general surgery, rehabilitation, maternity, mental health, renal dialysis and a broad range of primary health care services. The Hospital predominantly services the Kempsey Local Government Area, which has a population of approximately 29,000 residents).

In 2011, the NSW Ministry of Health submitted a Health and Hospital Fund Application for the Kempsey District Hospital Redevelopment Stage 1. A key section of this Application was the Clinical Service Statement, which identified the projected clinical service needs of the catchment population to the year 2021. Priorities identified include expanding emergency, critical care and peri-operative services; investment in primary, community and ambulatory services; major expansion of renal dialysis services and investment in core clinical support and other support services to align with this increased clinical service capacity.

In May 2012, the Government announced joint funding of \$80 million for the Stage 1 Redevelopment, comprising \$40 million from the NSW State Government and \$40 million from the Federal Government through the Health and Hospital Fund.

In accordance with Schedule 1, Clause 14 of the State Environmental Planning Policy (SEPP) (State and Regional Development) 2011, it was identified that the KDH Redevelopment project is a State Significant Development, being a hospital development with a capital investment value of more than \$30 million.

On 20 June 2012, Health Infrastructure sought the Director General's Requirements (DGRs) for the preparation of the State Significant Development Application for the KDH Redevelopment.

The Department of Planning & Infrastructure (DP&I) issued the DGRs in July 2012, which were subsequently modified upon request from Health Infrastructure to accurately reflect the latest proposed Development Application.

The final DGRs were issued on 5 December 2012 and form the basis of the environmental assessment within this Environmental Impact Statement.

The KDH redevelopment will:

- Optimise access to health services for the local catchment area; particularly for the Aboriginal community, and maximise opportunities to "close the gap".
- Reduce fragmentation of services between hospital, community health, general practice, other Government, Non-Government and community agencies, through an integrated care model facilitated by a functionally consolidated facility.
- Deliver services which are better tailored to meet the specific health care needs of the catchment area.
- Reconfigure the way services are delivered to ensure they continue to be of a high quality, safe, and provided in a sustainable way.
- Enhance specific priority clinical areas to support growth in demand and contemporary and more effective models of care.

1.4 PROJECT OBJECTIVES

The KDH redevelopment project objectives are to:

- Deliver the clinical service priorities and service planning requirements.
- Enable the delivery of contemporary and integrated models of care which better meet the health care needs of the community.
- Strengthen services across the care continuum, in particular investing in primary, community and ambulatory health services (including innovative models to meet the unique needs of the community).
- Focus on Aboriginal Health, delivering culturally appropriate services in culturally appropriate facilities that promote accessibility to services and a streamlined patient journey.
- Enhance capacity to respond effectively to the increasing service demand for emergency services, ambulatory and community based services, day only surgical services, critical care services, and renal dialysis, including training for home dialysis.
- Enhance service integration and collaboration across acute, primary, community and ambulatory services.
- Improve efficiencies in service delivery through effective networking of health services across the Hastings Macleay Clinical Network. This will support workforce development strategies and enable the implementation of streamlined clinical pathways.
- Facilitate opportunities for partnerships with external stakeholders to promote coordinated service delivery across the region and reduce duplication.
- Support education and training strategies to develop a skilled workforce, in partnership with Southern Cross University, Newcastle University, University of New England, and University of NSW. This includes an emphasis on rural and remote health care practice and opportunities to up-skill staff to facilitate changes in models of care.
- Enhance information and communications technology, including e-Health and Telehealth initiatives, and health transport services, which are key enablers to accessing services, and efficient and effective service delivery.
- Deliver a holistic development strategy.
- Deliver an optimal development which provides value for money and a functionally efficient campus pending future stages of work.

1.5 THE SITE

The proposed development will occur on the existing KDH site, which is located at 119 River Street in West Kempsey, approximately 3km north-west of the Kempsey Central Business District.

The site is approximately 4 hectares and is bound by Polwood Street to the north, West Kempsey Cemetery to the south, Tozer Street to the east and River Street to the west, with the Macleay River beyond.

The existing Hospital site consists of a range of hospital buildings arranged in a campus-style setting.

Principal access to the site is via River Street, a major access road servicing the West Kempsey area and the Kempsey airport. Public bus services operate along River Street.



FIGURE 01: Aerial view of Kempsey District Hospital

Source: BVN Donovan Hill

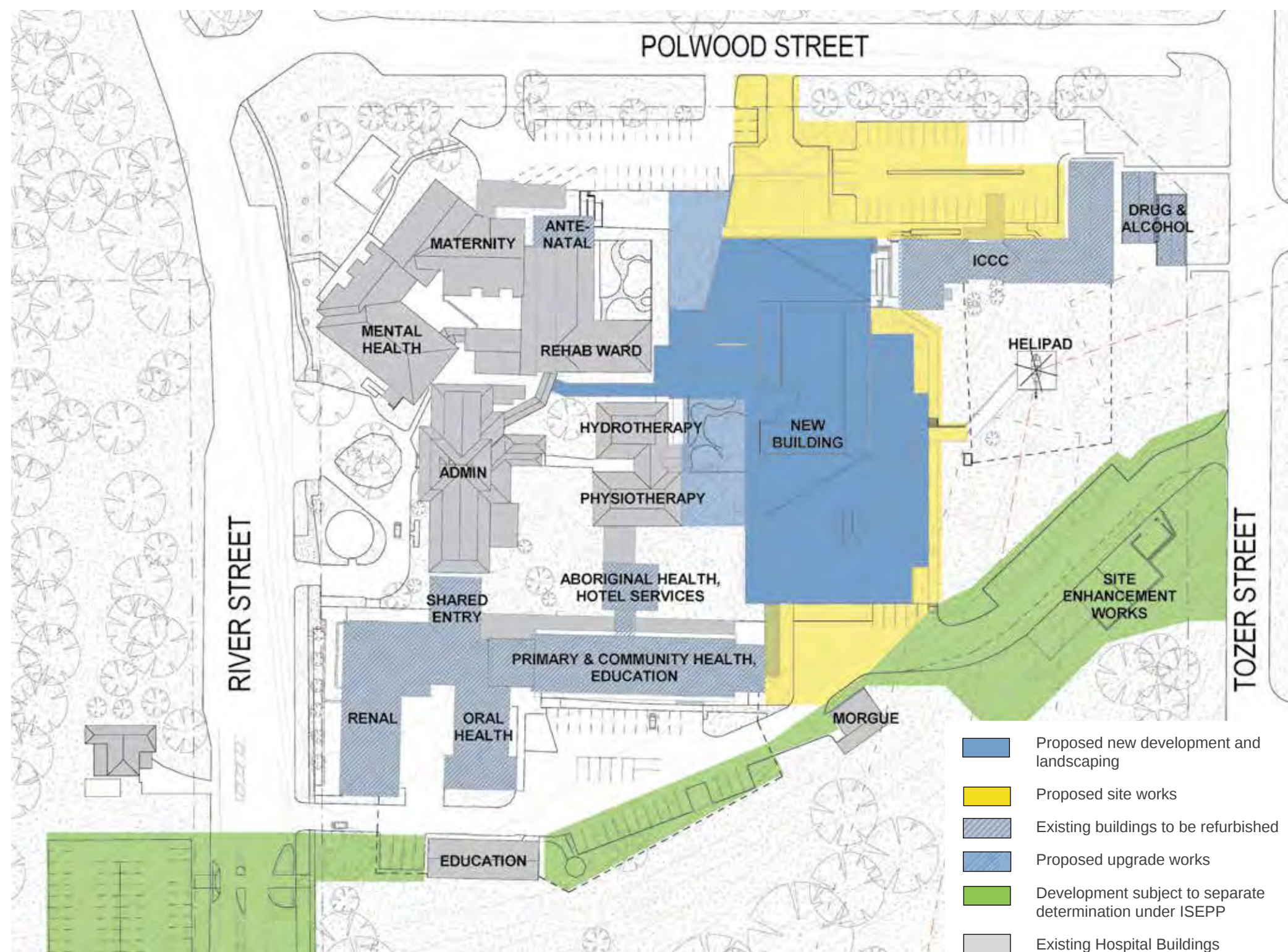


FIGURE 02: Development for which approval is sought

Source: BVN Donovan Hill

1.6 DEVELOPMENT FOR WHICH APPROVAL IS SOUGHT

This Development Application seeks approval for the redevelopment of KDH, comprising:

- Construction of a new five storey hospital building (including lower ground level and plant level above) with approximately 9,500m² GFA, comprising:
 - Front of house services
 - Emergency department
 - Emergency medical unit
 - Medical imaging
 - Integrated high dependency and coronary care unit
 - Operating theatres and procedure room
 - Day surgery unit
 - Inpatient beds
- Refurbishment of approximately 2,500m² GFA within the existing Emergency, Theatre, Ward, and Primary and Community Health buildings to provide for:
 - Major expansion of renal dialysis services (from 5 to 10 chairs)
 - Expanded oral health services (from 2 to 4 chairs)
 - Integrated community care centre
 - Relocated and/or expanded facilities for primary and community health services (including Aboriginal health and drug and alcohol services)
- Demolition of existing Blood Bank building
- Modified main entrance
- Modifications to northern car park, including new ambulance bays and associated access
- Landscape works
- Associated infrastructure works

Refer to Figure 3.

The capital investment value (CIV) of project is estimated to be \$61,497,276. Refer to Appendix O.

1.6.1 Development to be Carried Out Under Separate Approval

Other works are being undertaken on site to remove redundant building infrastructure and to address existing service and parking capacity issues. These works are being carried out under the provisions of State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) and accordingly have been subject to a separate approval process requiring the submission of a Review of Environmental Factors (REF), with Health Infrastructure NSW as the determining authority.

The works were approved in April 2013 and include the following:

- Site remediation
- Building relocation
- Demolition of existing buildings including:
 - Workshop (former Boiler Room) and Old Laundry
 - Waste Management Buildings
 - Storage Sheds
 - Transitional Aged Care Services Building
 - Oral Health Building
 - Drug and Alcohol Building
 - Miscellaneous structures including Garden Shed, Cement Slab, Water Tower and Water Tank
- Construction of a new service road from Tozer Street that will connect existing service access from River Street and associated parking.
- Construction of the services compound and new waste management facility
- Construction of staff car park west of River Street
- Engineering services upgrades
- In-ground services upgrades
- Drainage works
- External services connections

Refer to Figure 2 and Appendix A.

1.7 CONSULTATION

A range of agencies have been consulted and both group and individual consultations have taken place with relevant agency officers and stakeholders. Consultations have ranges from broad strategic issues to specific service infrastructure issues associated with the hospital redevelopment.

Agencies and key stakeholders consulted include:

- Aboriginal stakeholder groups including:
 - Benelongs Haven Ltd.
 - Booroogen Djugun Aboriginal Corporation
 - DFTV Enterprises
 - Dunghutti Elders Council Aboriginal Corporation
 - Goori Galbans Aboriginal Corporation
 - Guri Wa Nghundagar
 - Kempsey Local Aboriginal Land Council
 - Mirrinni Gardens Aboriginal Academy
 - Ngarramang-Kuri Aboriginal Culture and Heritage Group
 - Nulla Nulla Boonghutti Aboriginal Corporation
 - Pandanus People Inc.
 - South Kempsey Aboriginal Men's Group Aboriginal Corporation
 - South West Rocks Aboriginal Corporation
- Ambulance Service of New South Wales
- Elgas
- Essential Energy
- Firesense
- Kempsey Shire Council
- Mid North Coast NSW Local Health District
- NSW Ministry of Health

Further details on the consultation process carried out for the project is in Section 3.7.

1.8 THE PROPONENT AND STUDY TEAM

The Development Application and Environmental Impact Statement has been prepared on behalf of NSW Health Infrastructure.

The principal consultant team for the project includes:

ROLE	COMPANY
Project Management	Johnstaff
Urban Planning	LFA (Pacific)
Architecture	BVN Donovan Hill
Landscape Architecture	360 Degrees
Electrical / Mechanical Engineering	Umow Lai
Noise and Vibration	Resonate Acoustics
Civil and Structural Engineering	Enstruct
Fire and Hydraulic Engineering	Aurecon
BCA/DDA services	Mackenzie Group
Transport	GTA Consultants
Helicopter	Rahhbein Airport Consulting
Geotechnical	Coffey Geotechnics
Surveyor	MW Rogers Associates
Cultural Heritage	RPS
European Heritage	Graham Brooks and Associates
Cost Manager	Altus Page Kirkland
Bushfire	Australian Bushfire Protection Planners
Flora and Fauna / Arborist	Abel Ecology
Hazards and Waste	Safety Engineering & Technical Services

2.0 SITE ANALYSIS

2.1 REGIONAL CONTEXT

Kempsey is located 428km north of Sydney and approximately 20km from the NSW coast on the Macleay River. It is within the Kempsey Shire Local Government Area (LGA) and part of the Mid North Coast Region, which is the fastest growing non-metropolitan area in NSW.

KDH is a local community, Level 3 rural hospital within the Mid North Coast Local Health District. The Hospital predominantly services the Kempsey LGA, which has a population of over 28,000 people, providing care to over 11,328 patients every year.

Within the region, KDH is supported by Port Macquarie Base Hospital, a Referral Level 5 hospital located 1 hour drive away, and Coffs Harbour Health Campus located 1.5 hours drive away. Small facilities at Wauchope, Macksville, Bellingen and Dorrigo also provide local community Level 3 rural hospital services.

Outside the region, the John Hunter Hospital in Newcastle is the Level 6 regional trauma and tertiary referral centre for northern NSW and is 3.5 hours drive to the south.

Refer to Figures 3 and 4.

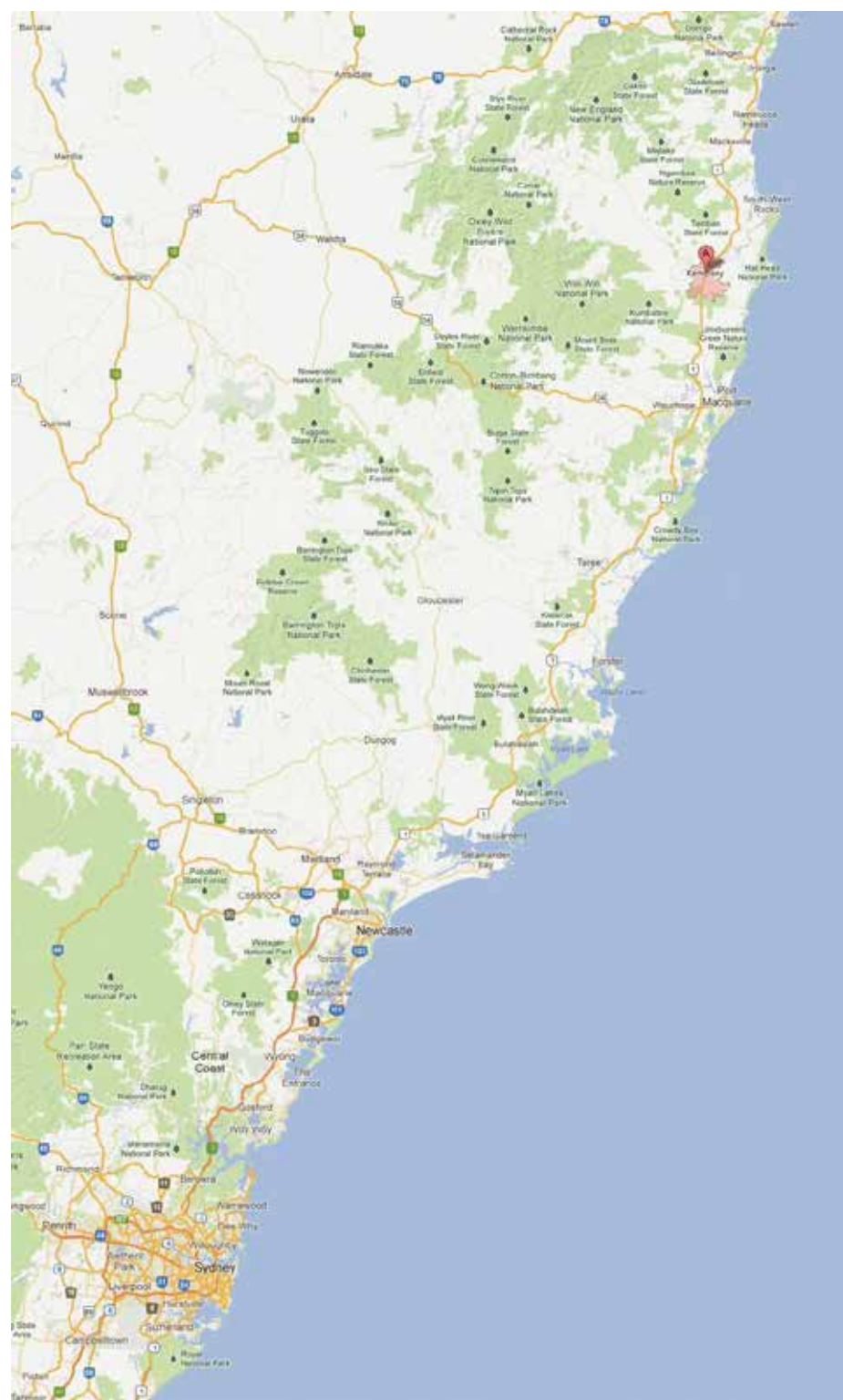


FIGURE 03: Regional Context

Source: Google Maps



FIGURE 04: Mid North Coast Local Health Network Source: NSW Health

2.2 LOCAL CONTEXT

The core elements of the local context are outlined below.

Environmental

- Macleay River, which originates from the mountains of the New England Plateau and flows into the Pacific Ocean at South West Rocks.
- Significant flood prone land associated with Macleay River to the south and west of River Street and to the east of Sea Street.

Access

- Good rail and road connections via the North Coast railway line and Pacific Highway.
- Well-connected grid street pattern, which responds to the Macleay River.
- River Street is a major access road serving the West Kempsey area and the Kempsey airport (approximately 7km west of the CBD) and eventually leads to Armidale. Public buses operate along River Street to a limited timetable.

Land use

- Kempsey Town Centre is located some 3km south-west of the site. Local shops and small businesses are located on Elbow Street, approximately 2km south of the site.
- Residential uses are concentrated between River Street and Kemp Street and along the Pacific Highway straddling the Macleay River.
- Rural agricultural hinterland.
- Educational facilities include North Coast TAFE, Kempsey High School and Kempsey Public School to the south-east; and St Paul's College,
- Open space network includes Mountain View Reserve, Kemp Street Sporting Fields and Kempsey Showgrounds.
- Kempsey West Cemetery adjoins the site along the southern boundary.

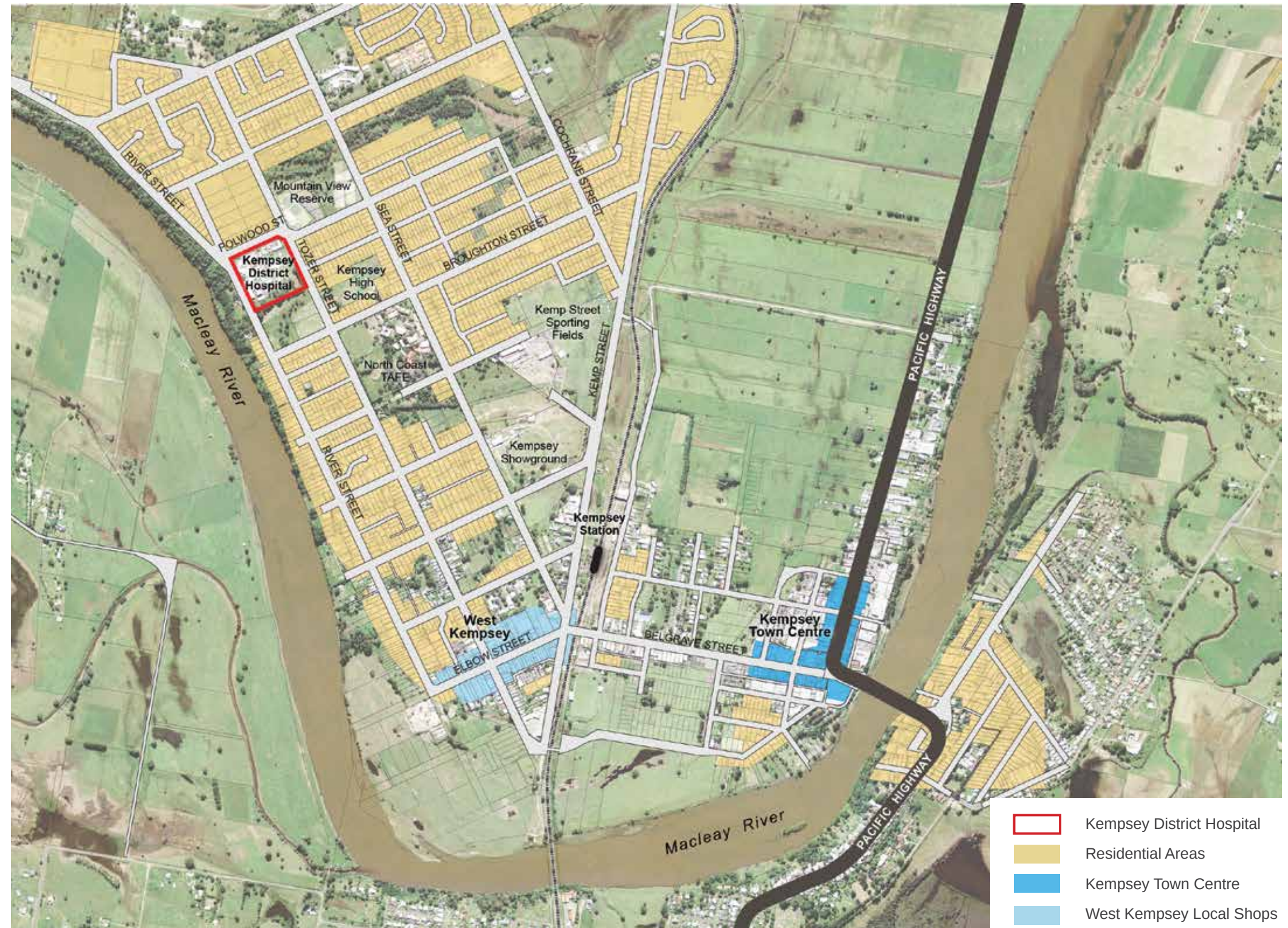


FIGURE 05: Local Context

Aerial Image Source: NSW Land and Property Information



Administration Building



Education Centre



Daisy Turner Kiosk



Blood Bank and Dosing Clinic Building



Ward Block



Emergency / Theatre Block

FIGURE 06: Kempsey District Hospital site photos

Source: BVN Donovan Hill

2.3 KEMPSEY DISTRICT HOSPITAL

KDH was first established in 1881 and subsequently redeveloped in 1913. The existing Hospital consists of a range of hospital buildings dating from the early twentieth century through to buildings of recent construction and is arranged in a campus-style setting. The 1913 Hospital Building and the Blood Bank Building have been identified as having heritage significance. Refer to Figure 6.

The site is located on undulating terrain which falls in a south-easterly direction from a knoll in the north-western corner. The Hospital is above the 1:100 year flood level and affords views to the north-east and south-east over Tozer Street. Views to the Macleay River to the west are interrupted by trees and dense vegetation.

The main entry is located on River Street, providing for public and emergency vehicular access via a drop-off zone and ambulance bay respectively. A bus stop is also located in this area. Staff and service vehicular access is located approximately 60m south of the main entrance and provides access to a staff parking area and various loading docks and service bays. Access from Polwood Street is also available, serving parking and drop-off areas for hospital buildings in the northern sector of the site. An unformed bitumen driveway is provided off Tozer Street, providing access to the helipad and the Old Laundry building.

2.4 ZONING

Under the current Kempsey Local Environmental Plan 1987, the site is zoned 5(a) Special Uses 'Hospital'. This zone has the objective of making suitably located sites available for certain community services and public utilities. Within the zone, the "purpose indicated in black lettering on the map" as well as drainage and roads are permitted with the consent.

The surrounding land is zoned 2(a) Residential and 6(b) Open Space to the north and east and 5(a) Special Uses 'Cemetery' to the south.

Kempsey Shire Council has prepared the Draft Kempsey Local Environmental Plan 2012, which was placed on public exhibition from 27 November 2012 to 19 February 2013.

The Draft LEP proposes an R1 Residential zone over the existing site. Whilst hospital uses are not listed as 'permitted with consent', they are not listed as 'prohibited'. Accordingly, ongoing hospital uses will be permissible with development consent under the proposed R1 Residential zone in the Draft LEP 2012.

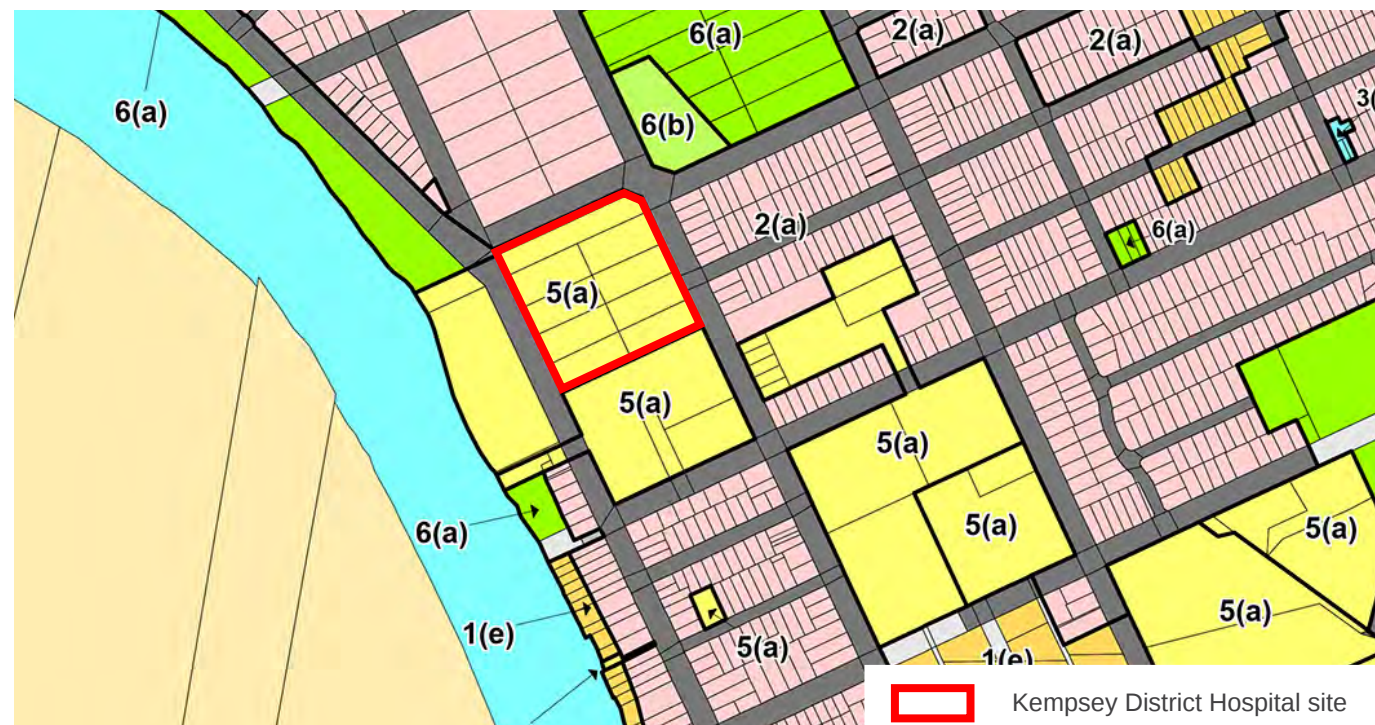


FIGURE 07: Current zoning under Kempsey LEP 1987

Source: Kempsey Shire Council

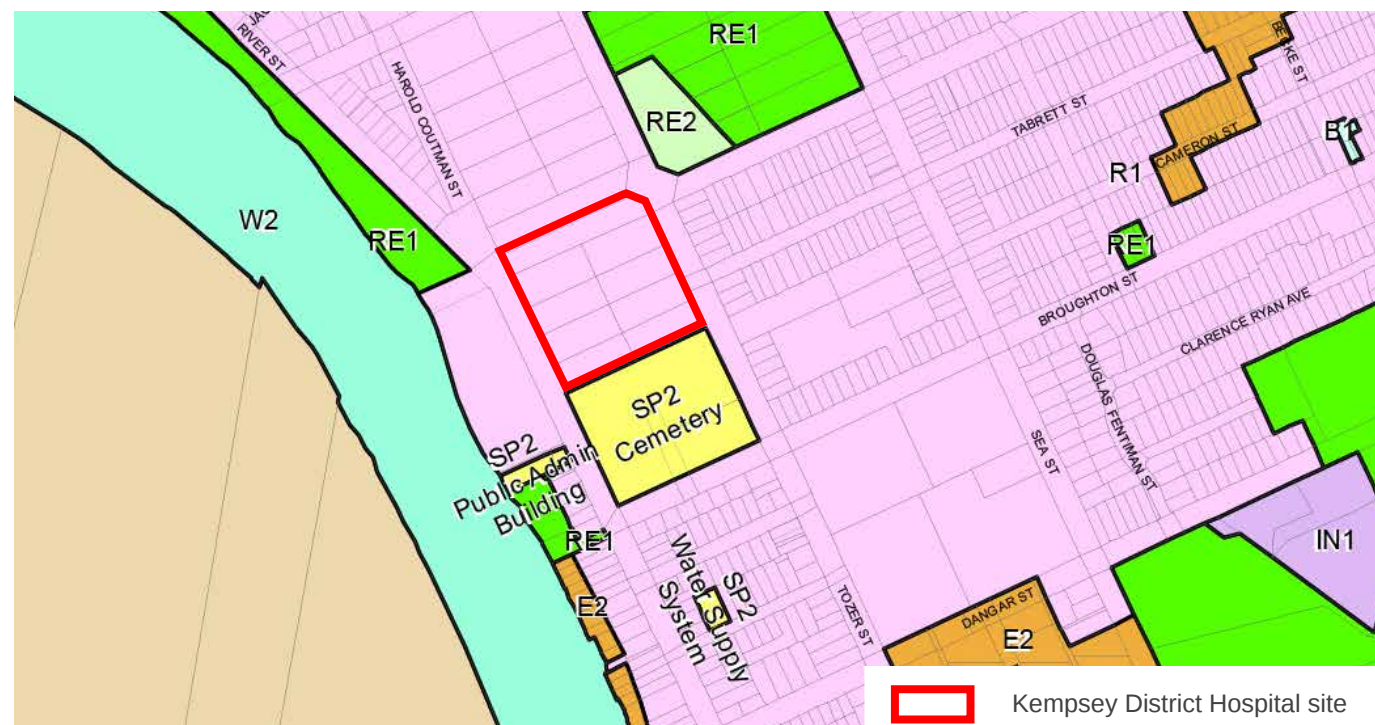


FIGURE 08: Proposed zoning under Draft Kempsey LEP 2012

Source: Kempsey Shire Council



FIGURE 09: Land Ownership

Aerial Image Source: NSW Land and Property Information

2.5 LAND OWNERSHIP

The land on which the hospital site is located is owned by the Health Administration Corporation (HAC) and include:

- Lots 1-8 Sec 20A DP759080
- Lots 1 and 14 Sec 23A DP 759080
- Lot 20 DP 112080 River

Lot 1 DP 115920 is also owned by HAC and is currently vacant. Proposed development on this lot does not form part of this State Significant Development application.

Refer to Figure 9.

2.6 TOPOGRAPHY

The site is located on sloping terrain, with a generally flat area in the north-west which falls away steeply in a south-easterly direction toward Tozer Street and Tozer Street and Kempsey West Cemetary.

The sloping terrain has resulted in varying building floor levels across the site and the need to ramp connecting walkways.

The fall across the site provides opportunities to incorporate a lower ground / basement level below the main hospital for services.

Refer to Figure 10.

2.7 ORIENTATION AND VIEWS

The site is oriented in a north-west to south-east direction, as established by the existing road pattern, and addresses River Street to the west and Polwood Street to the north. The majority of buildings within the site are oriented accordingly.

Views to the west are restricted by the trees and dense vegetation along the top of the river bank. Views to the north are limited from the majority of the hospital buildings due to their location on the south-facing slopes. Extensive views are available over the surrounding residential areas from the north-east to the south-east over Tozer Street. Views to the south over the Kempsey West Cemetary are screened by vegetation.

Prevailing winds come from a south-westerly direction in the morning and from a north-easterly direction in the afternoon.

Opportunities existing for maximising north-east aspect to take advantage of views, cooling breezes and to control solar gain.

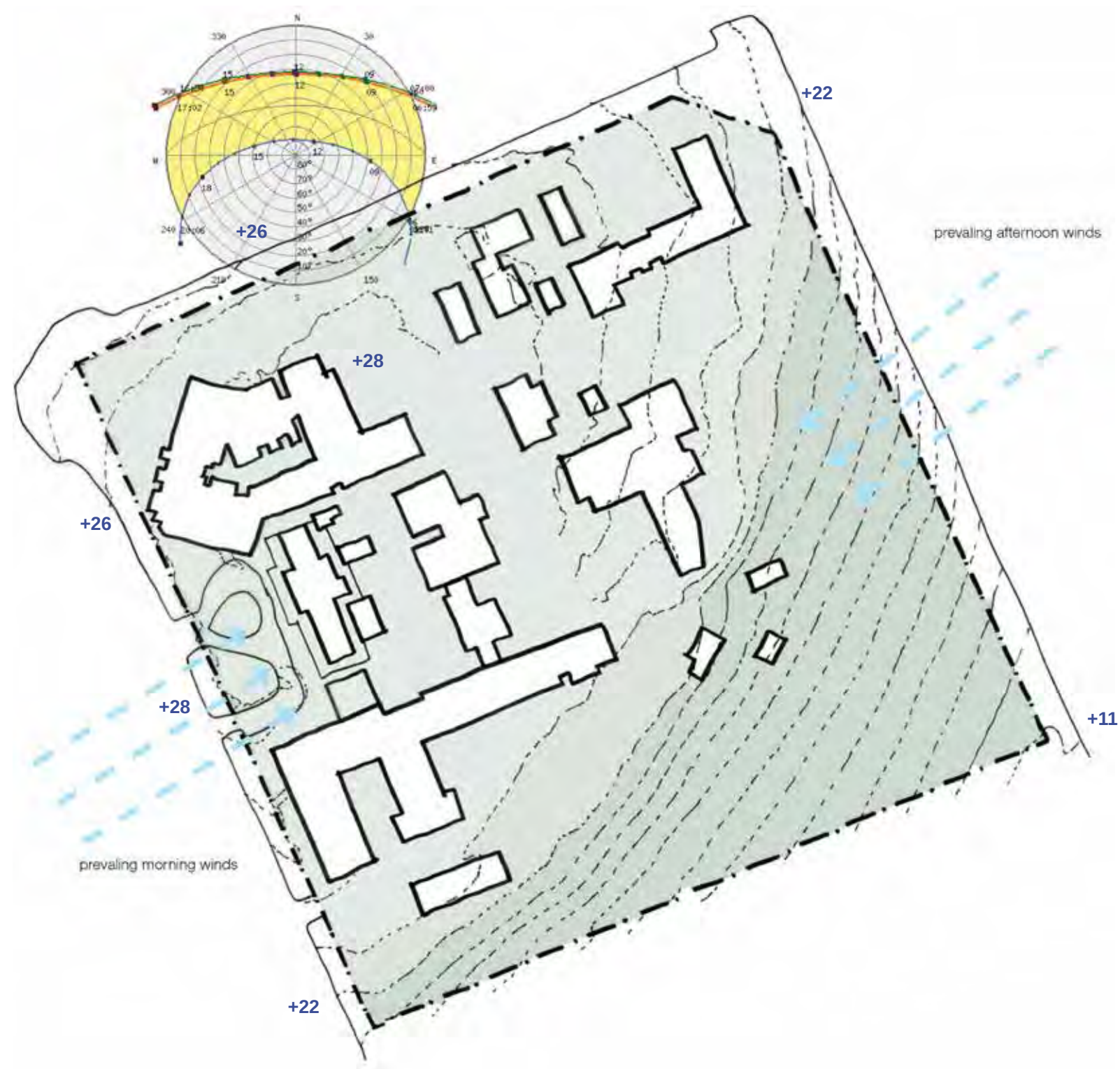


FIGURE 10: Topography and Orientation

Source: BVN Donovan Hill



FIGURE 11: Flooding (1 in 100 year flood extent shown)

Source: BVN Donovan Hill

2.8 FLOODING

As shown in Figure 11, the hospital site is not within the 1:100 year flood zone.

Kempsey Shire Council flood information indicates that the Probable Maximum Flood (PMF) Level in the region of the hospital site is 11.20m AHD. Given the sloping site terrain, the majority of existing buildings are located above 22m AHD. Accordingly, the hospital will not be affected by a PMF event.

The site is not subject to any floodways identified in Council's Flood Risk Management Policy, however the policy sets out a minimum habitable floor level of RL 8.40m AHD for buildings on the site.

Access to the hospital during a major storm event is from the north via North Street as the southern end of River Street is flood prone.

2.9 CONTAMINATION

A Phase 1 Environmental Site Assessment (ESA) was undertaken in November 2012, which identified four areas of environmental concern (AECs) which were associated with the former activities and current land uses of the site.

A Phase 2 ESA was subsequently undertaken and involved drilling of boreholes and surface soil sampling within each AEC. The findings from the field investigation and laboratory results indicated there was localised elevated lead concentrations in the soil near the boiler room and potential lead based paint within the hospital buildings. Accordingly, further investigation and remediation would be required.

The Phase 2 ESA included recommendations for the remediation of land together. The assessment concluded that implementation of such measures would allow for the site to be made suitable for ongoing hospital uses.

Additional work has been undertaken to confirm the extent of lead contamination on site and to assess the requirements for remediation to render the site suitable for the proposed development. A Remediation Action Plan has been prepared which outlines the proposed site remediation process and validation requirements. Such work is to be undertaken via a separate approval process and hence does not form part of this SSDA.

Refer to Section 4.1.3, 4.18, Appendix Q and Appendix R for further details.

2.10 BUSHFIRE

A Bushfire Protection Assessment was undertaken which identified bushfire prone land to the north-west of the site in the form of an unmanaged riparian corridor approximately 63m in width, on the east bank of the Macleay River. The corridor comprises Dry Sclerophyll Open Forest and weedy under storey of Lantana and Blackberry.

The proposed new building will be located more than 100m from the identified bushfire source, which exceeds the maximum setback distances required in *Planning for Bushfire Protection 2006* and *Bushfire Construction Standards*. Accordingly, the building will not be subject to bush fire risk.

Refer to Section 4.8 and Appendix H for further details.



FIGURE 12: Existing Landscape sketch diagram

Source: BVN Donovan Hill

2.11 LANDSCAPE AND OPEN SPACE

Various landscaped areas have been established throughout the site.

The most substantial landscaped area is in the south-eastern corner of the site, where a line of trees was planted in the early 20th century to screen the cemetery from view. An additional row of large pine trees is located along Tozer Street.

Garden areas have been established in front of the Administration Building, including an area within a circular driveway featuring an obelisk and a memorial rose garden behind the Daisy Turner Kiosk.

Tree planting, gardens and lawns have been established around the site perimeter bounding Polwood Street and the intersections with River and Tozer Streets, and within the site around individual buildings.

A Landscape Masterplan for the proposed development is provided in Section 3.8 and Appendix C.

2.12 ACCESS

Existing access conditions for the KDH site are illustrated in Figures 13 and 14 and described below.

2.12.1 Road

Principal road access to the existing Hospital site is via River Street which is well-connected to the arterial road system. It provides connections to the Pacific Highway to the east (via Elbow and Belgrave Streets) and to Kempsey Airport and Armidale to the west (via Sherwood Road and Armidale-Kempsey Road respectively).

There are a number of vehicle access points to the site:

- The main entry to the hospital is centrally located along River Street, comprising a driveway with a drop-off zone in front of the Administration Building and the ambulance bay at the Emergency Department entrance.
- A secondary service and staff entrance is provided off River Street at the southern end of the site.
- Vehicle access is also provided from Polwood Street to the centre of the site. This serves parking and drop-off areas for the buildings located to the north.
- An unformed bitumen driveway is provided off Tozer Street providing access to the helipad and the Old Laundry building.

2.12.2 Rail

Kempsey Rail Station is approximately 2km south-east of the Hospital site and is served by the North Coast railway line which connects Sydney to Brisbane via Grafton and Casino.

2.12.3 Public Transport

The existing Hospital site is served by three bus services (353, 354 and 355) operated by Busways, providing connections between the Hospital site, Kempsey Town Centre and greater western regional areas. Services usually operate four times a day during the week.



FIGURE 13: Regional Access

Aerial Image Source: NSW Land and Property Information

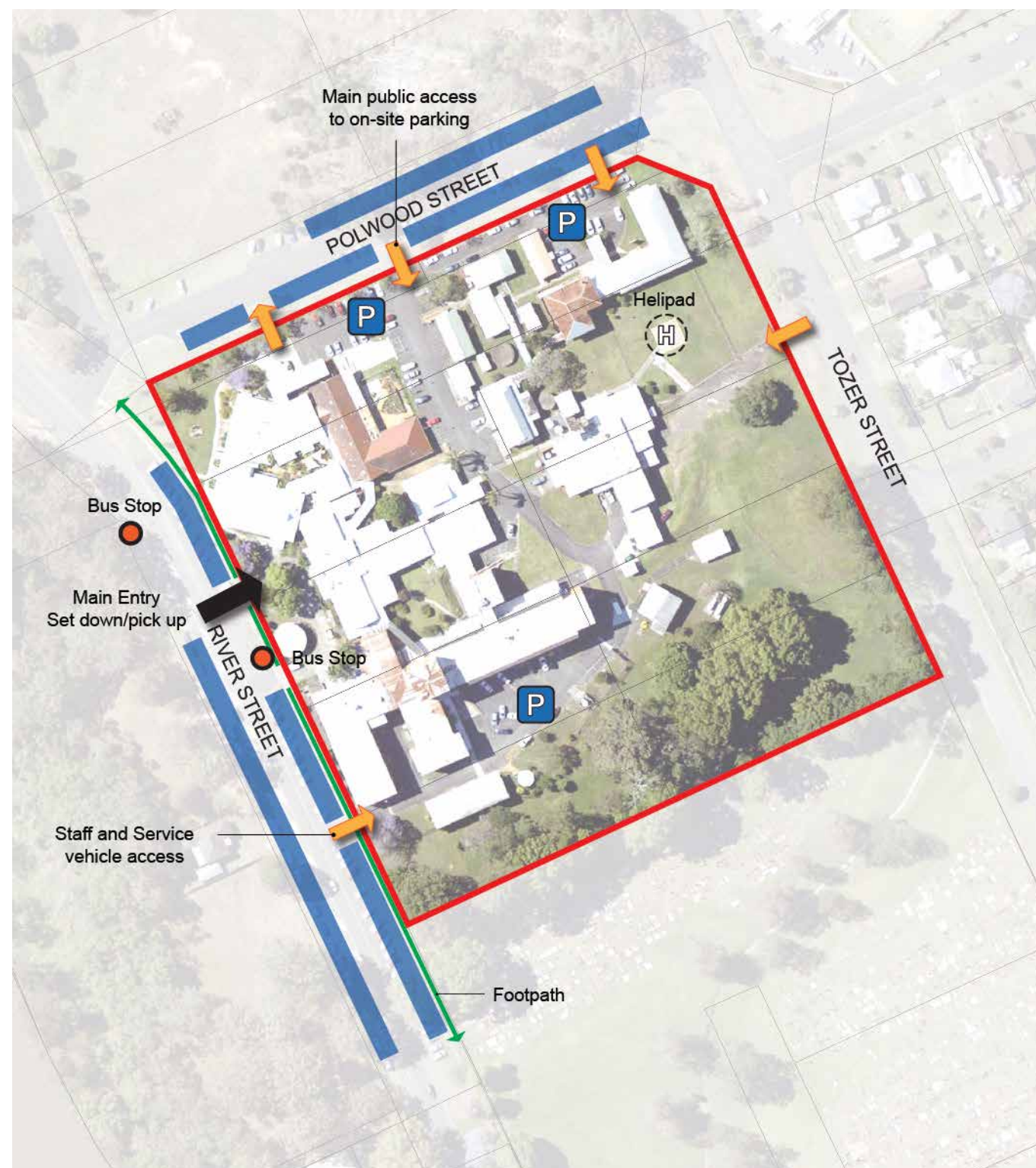


FIGURE 14: Existing Site Access

Aerial Image Source: NSW Land and Property Information

In addition, two public bus services (West 2 and West 3) are provided by Cavanaghs Bus Company and link Kempsey Town Centre with the surrounding residential areas located north and east of KDH. These buses service the Hospital on an hourly basis until 4:30pm.

2.12.4 Pedestrian

The existing Hospital is generally surrounded by landscaped areas, driveways and car parking with limited pedestrian facilities in the vicinity of the site.

River Street provides a 1m wide pedestrian path along its eastern side and provides a direct link between KDH and Kempsey Town Centre.

Internal pedestrian paths link a number of the on-site hospital buildings and accommodate staff, patient and visitor movements.

2.12.5 Cycle

There are no cycle paths located in the vicinity of the site and it is understood that there are no commitments by Council to provide cycle paths in the near future.

2.12.6 Car Parking

There are approximately 113 car parking spaces onsite (including 28 staff car spaces) and a further 187 on-street car spaces on River and Polwood Streets, comprising time-restricted and unrestricted spaces.

On-street car parking demand adjacent to the hospital is relatively high, with peak demands equivalent to an occupancy rate of 81% for on-street parking and 91% for off-street parking.

2.12.7 Helicopter

The hospital currently has a helicopter landing site behind the Community Health and Old Laundry buildings, facing Tozer Street. The site is fenced, serviced by an access driveway and connected to the hospital facilities by external uncovered pathways.

2.13 EXISTING DEVELOPMENT

2.13.1 Kempsey District Hospital

The existing hospital currently houses a wide range of building types, styles and sizes dating from 1913 to more recent developments in the 2000s. Refer to Figure 15.

Given the sloping terrain, the floor levels of the existing buildings vary considerably with the need to ramp connecting walkways.

High level inspections and assessment of the existing individual buildings has been undertaken and is summarised in Table 1. A Heritage Assessment has also been carried out, which found the Administration Building to be of high significance and the Blood Bank to be of moderate significance. The balance of buildings were considered to have little heritage significance. Refer to Appendix I for further details.

Approval for the demolition of the existing Blood Bank building is sought in this application. Details are provided in Section 4.9.2.

Other works being undertaken on site have been approved under ISEPP via Health Infrastructure NSW determination. These works involve location, decanting and demolition of existing buildings including Oral Health, Drug and Alcohol Building, Workshops and Old Laundry, Waste Management Buildings, Aboriginal Health Building and Transitional Aged Care Services buildings. Approval for the demolition of these buildings was achieved under ISEPP.



FIGURE 15: Existing Hospital Buildings

Aerial Image Source: NSW Land and Property Information

No.	Building	Condition / Functionality
1	Administration Building, 1913	Local Heritage item; Good condition; Functionally adequate
2	Daisy Turner Kiosk, 1964	Fair condition; Some limitations to functionality
3	Emergency / Theatre Block, 1960s	Fair condition; Some limitations to functionality
4	Education Building, 1965	Good condition; Functionally adequate
5	Ward Building, 1960s	Fair condition; Poor functionality
6	Mortuary, 1970s	Fair condition; Poor functionality
7	Waste Management Building	Fair condition; Poor functionality
8	Waste Management Building	Fair condition; Poor functionality
9	Workshops and Old Laundry	Poor condition; Poor functionality
10	Helicopter / Aviation Fuel	
11	Various Ancillary Buildings	Garden shed, cement slab, water tower and water tank
12	Blood Bank and Dosing Clinic, 1919	Local Heritage Item; Fair condition; Poor functionality
13A	Community Health, Allied Health Services Building, 1961	Good condition; Some limitations to functionality
13B	Transitional Aged Care Services	Good condition; Some limitations to functionality
13C	Oral Health Building	Fair Condition; Some limitations to functionality
13D	Drug and Alcohol Building	Demountable; Good condition; Some limitations to functionality
14	Aboriginal Health Building	Good condition; Some limitations to functionality
15	Needle and Syringe Program	
16	Rehabilitation Building	
17A	Maternity Building, 2003	Good condition; Functionally adequate
17B	Mental Health, 2001-2010	Good condition; Functionally adequate
17C	Mental Health Offices	
18	Hydrotherapy Pool and Rehabilitation Building, 1987	Good condition; Functionally adequate

TABLE 01: Condition and Functionality of Existing Hospital Buildings



Looking north towards vacant land



Looking east over Tozer Street residences



Looking south into Kempsey West Cemetery



Looking south-west onto River Street

FIGURE 16: Existing Surrounding development

Source: BVN Donovan Hill

2.13.2 Existing Surrounding Development

KDH is predominately surrounded by open spaces and low density residential dwellings.

The land immediately to the west across River Street is vacant, heavily vegetated and forms the eastern bank of the Macleay River.

The properties to the north across Polwood Street are currently undeveloped cleared land.

A bowling club is situated across the intersection of Polwood and Tozer Streets and single residences along Tozer Street opposite the hospital.

Kempsey High School and North Coast TAFE are located further south east along Tozer Street.

The Kempsey West Cemetery adjoins the site along the southern boundary.

2.14 BUILDING HEIGHT

The existing hospital buildings are between one and three storeys in height. Refer to Figure 17.

There are a number of single storey residential buildings to the east addressing Tozer Street. The balance of the surrounding areas are vacant lots and the cemetery.



FIGURE 17: Building Heights

Aerial Image Source: NSW Land and Property Information

3.0 THE DEVELOPMENT PROPOSAL

3.1 INTRODUCTION

The Kempsey District Hospital Redevelopment will provide increased service capacity and contemporary models of care to meet the changing and unique health care needs of the community. The Redevelopment will involve the following:

- The delivery of approximately 12,000m² of new and refurbished facilities including new main entrance and front of house services; new emergency department; new emergency medical unit; new medical imaging department; new medical day procedures unit; new acute inpatient unit with additional shell space; new high dependency and coronary care unit; new operating theatre suite; expansion of renal dialysis services; establishment of a renal dialysis training unit; expansion of oral health; relocation and/or expansion of several primary health care, community, and ambulatory services; and reconfiguration / upgrade of engineering services to meet the future needs of the hospital.
- Maximum 5 storey development, including lower-ground level.
- Demolition of the 1919 Blood Bank building.
- Connections between new facilities and the existing facilities to achieve good connectivity and operational efficiency across the site.
- Modifications to the northern car park, including three new ambulance bays and associated access.

The estimated CIV of the KDH redevelopment is \$61,497,276.



Source: BVN Donovan Hill

FIGURE 18: Rendering of Kempsey District Hospital Main Entry

3.2 SITE LAYOUT

The overall layout of the proposed development has been determined by the following factors:

- The need for the existing hospital to remain fully operational for the duration of the redevelopment;
- The opportunity to create a new focus and main entry on Polwood Street;
- The opportunity to incorporate a lower-ground level by taking advantage of the site's topography;
- The ability to maintain the helipad in its existing location; and
- To establish a configuration which allows for future expansion.

The main entry of the hospital will be relocated from River Street to Polwood Street, together with on-site visitor parking and emergency access.

The new hospital building will be located along the central north-south axis of the site, between the existing Hydrotherapy and Physiotherapy Building and the Community Health and Allied Health Services Building. It will take the place a number of existing non-clinical buildings that can be decanted and demolished with minimal interruption to hospital services.

The buildings in the western half of the hospital site will be retained in situ.

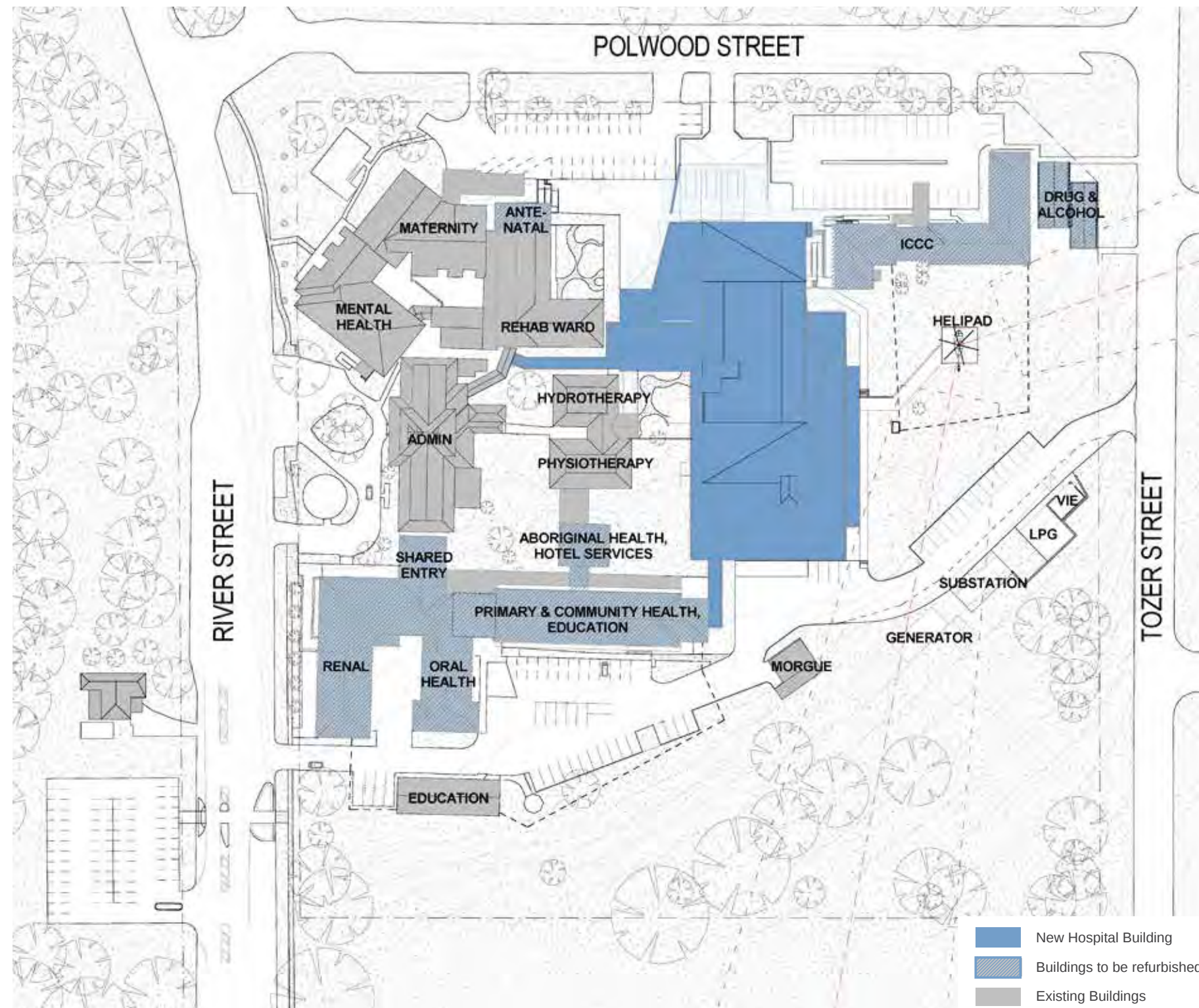
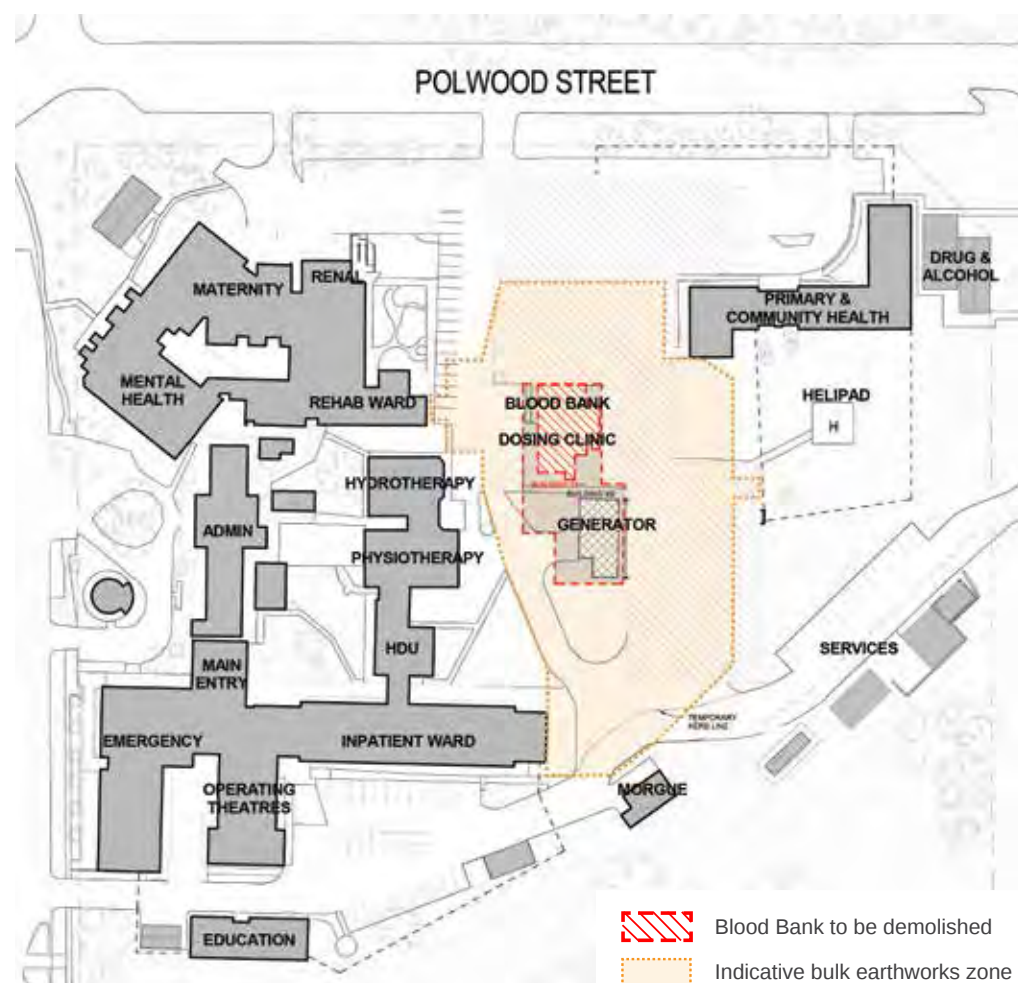


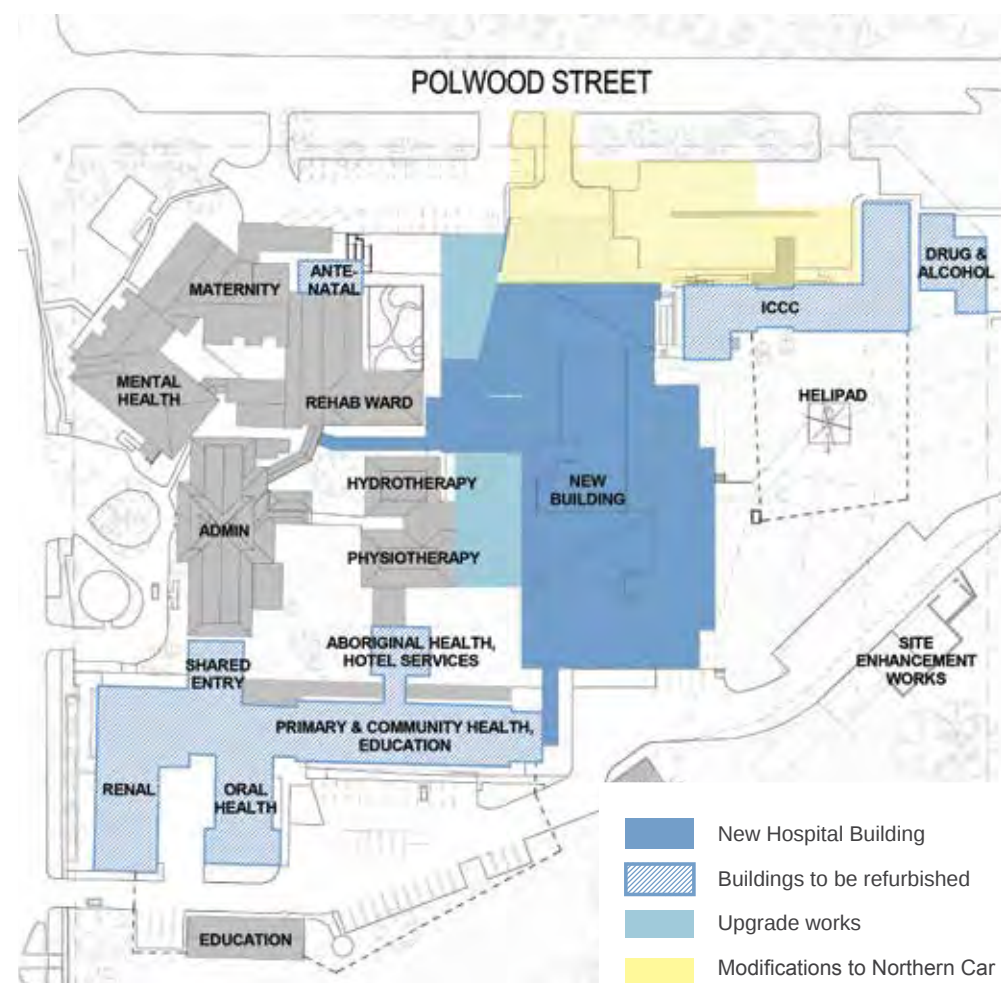
FIGURE 19: Proposed Site Plan

Source: BVN Donovan Hill



Construction Enabling Works

FIGURE 20: Proposed Phasing



Main Construction Works

Source: BVN Donovan Hill / LFA

3.3 PROPOSED PHASING

The redevelopment works will be delivered in two phases to enable the existing hospital to remain operational for the duration of the project – Construction Enabling Works and Main Construction Works.

The Construction Enabling Works phase will involve:

- Demolition of the Blood Bank Building;
- Bulk earthworks;
- In-ground services augmentation.

The Main Construction Works phase will involve:

- Construction of the new five storey hospital building (including lower ground level and plant level above);
- Refurbishment works for renal, oral health, integrated community care and primary and community health services.
- Establishing connections between new and existing hospital buildings;
- Modifications to the Northern Car Park, including new ambulance bay; and
- Associated landscaping
- In-ground services within and around the new hospital building.

3.4 CONSTRUCTION ENABLING WORKS

Demolition of the Blood Bank Building

In order to facilitate the construction of the new hospital building, it will be necessary to demolish the existing Blood Bank Building.

The Blood Bank Building has been identified as having moderate heritage significance. Justification for its demolition with regard to heritage is provide in Section 4.9.2.

The building has been identified as having asbestos containing materials and accordingly, measures will be required to ensure contamination risks associated with such hazardous materials are mitigated appropriately. Refer to Section 4.16.

Services provided within the Blood Bank are to be relocated into the new hospital building and refurbished facilities.

Bulk Earthworks

Given the topography of the site and the proposed location of the new hospital building, bulk earthworks will be required to facilitate construction of the new building.

The proposed building floor levels have been set at:

- Lower Ground Floor RL 23.68
- Ground Floor RL 28.18
- Level 1 RL 32.68
- Level 2 RL 37.18

This arrangement along with the position of the proposed building on the site means that the existing ground levels will be significantly different between the north and south face of the building.

The proposed building steps from Ground to Lower Ground approximately half way along the length of the building, reducing the amount of fill required under the building.

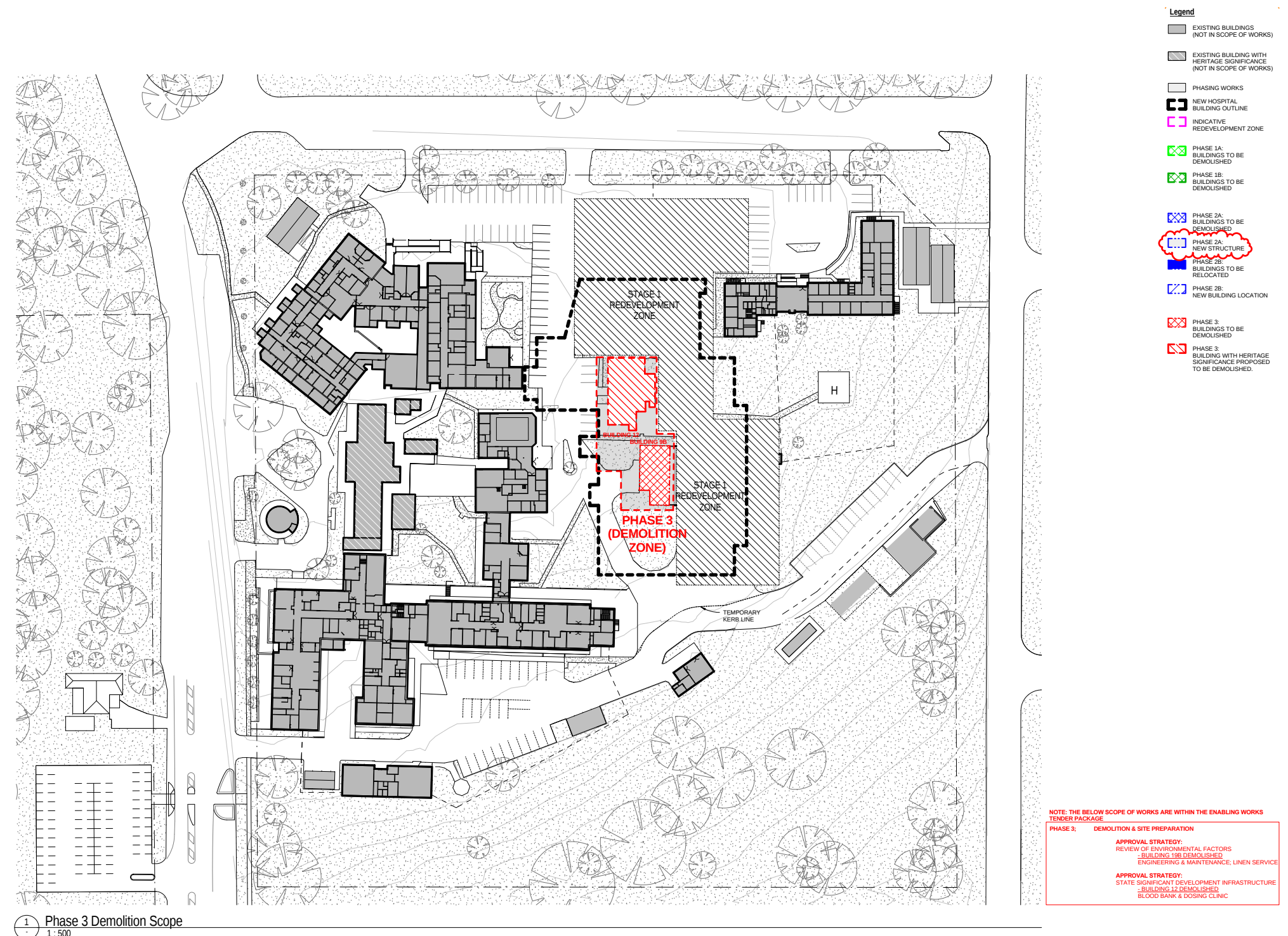
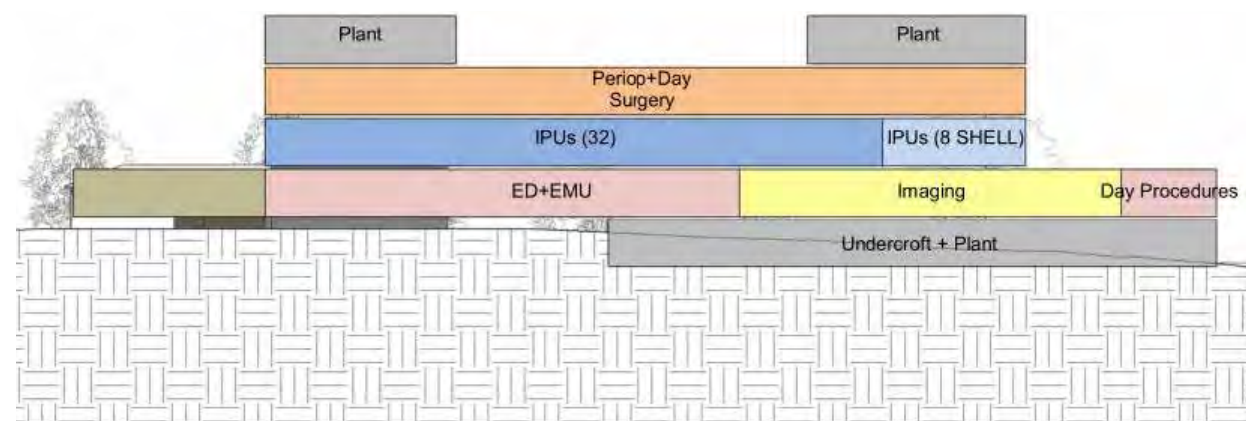
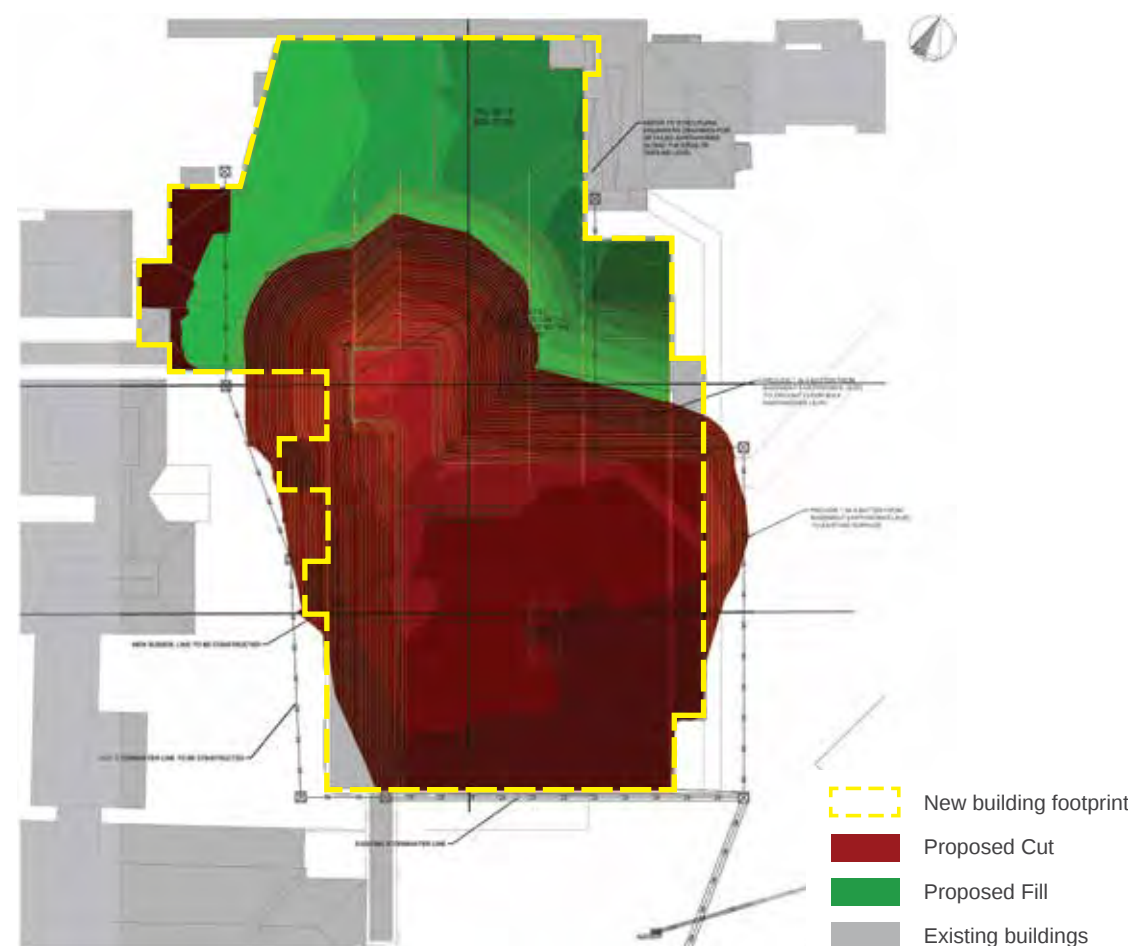


FIGURE 21: Construction Enabling Works - Demolition Scope

Source: BVN Donovan Hill



Cross section through proposed building demonstrating cut and fill



Bulk earthworks plan

FIGURE 22: Construction Enabling Works - Bulk Earthworks

Source: Enstruct

The earthworks associated with the new building will provide a combination of a level, ground bearing platform supporting the lower ground floor plate with a batter slope up to the upper ground floor. This will reduce the earthworks filling associated with the upper ground floor and the need for a more closely specified and controlled material and laying/compaction regime. This will also remove the requirement for retaining structures. The upper ground floor slab will be suspended above the battered slope and will be supported by piled foundations.

This arrangement will however result in a surplus of cut material in the order of 4,450m³, generated from the creation of a level platform at the lower ground floor level. Wherever possible, this material will be disposed of on site in either soft landscaping or below the proposed ambulance delivery bay. Where this material is geotechnically unsuitable or it is otherwise impractical to use the material on site it will be disposed off-site.

Modifications to Northern Car Park

Existing access from Polwood Street will be retained and the majority of existing car spaces will be retained. A new ambulance access and delivery area, including three ambulance bays, will be constructed. New line marking and new kerbing will also be provided.

Services

There will be some in-ground infrastructure works undertaken as part of the construction enabling works associated with this application. Refer to Section 4.12.

3.5 NEW HOSPITAL BUILDING

Architectural Drawings are provided in Appendix A.

The new hospital building is a major insertion in the existing hospital site that will create a cohesive and well-connected hospital campus. The new hospital building will be located at the centre of the site and will become the primary focus of the site whilst respecting the surrounding built form and heritage elements. The new building will take advantage of its hilltop and landscape setting to create an environment which benefits the wellbeing of patients, staff and visitors.

3.5.1 Principles and Aspirations

The following principles and aspirations provide a comprehensive framework for the design:

- People Focused – providing a design that will seek to address intrinsic values of quality, safety, privacy, dignity and respect.
- Community Place – to create a hospital campus that has an identity and recognises the hospital as a dynamic and integrated community place.
- Reinforced Identity – determining a contextually appropriate identity for the hospital.
- Healthy Design – incorporating a range of desirable qualities within the design including maximising access to natural daylight, encouraging mobility and providing access to green spaces
- Clarity of Movement – to ensure that the development of the hospital will provide clear and intuitive wayfinding.
- Connectivity – developing connections to existing building that provide efficient and appropriate flows between old and new
- Future expansion and development potential – providing a design that can facilitate future campus expansion in order to respond to changing health care needs and future service demands.

- Sustainability – incorporating sustainable design and innovation in minimising energy consumption.
- Culturally Appropriate – providing the facilities which are culturally appropriate and respond to the needs of the Aboriginal community
- Services Clusters and Adjacencies – which provide opportunities for sharing collaborative environments.
- Service integration and multi-disciplinary – bringing together clinical service streams; providing formal and informal spaces that encourage interaction and collaboration; sharing space; and providing staff with ease of connectivity

3.5.2 Architectural Form

Refer to Figures 23 to 25 and the descriptions below.

The Existing Site

The building will be located in the centre of the site and will link to the existing hospital facilities, which will allow the existing hospital to continue providing services throughout the redevelopment. A new main entry off Polwood Street will be established.

The Podium

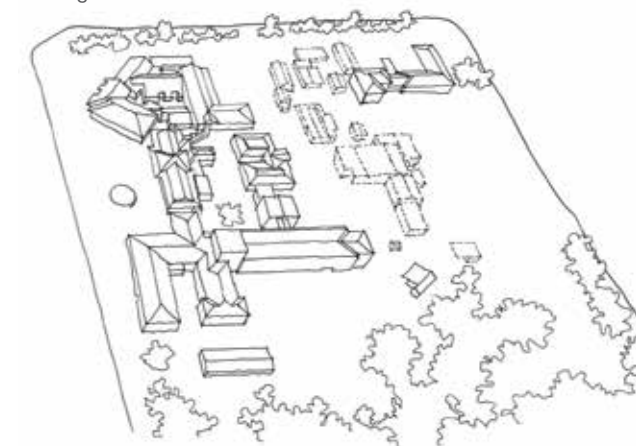
As a result of the clinical planning, the footprint of the ground floor is significantly larger than the floors above, creating a “podium”. The lower ground floor also forms part of the podium, as a consequence of the topography sloping towards the south-east corner of the site.

The podium responds to the existing topography and the existing buildings on the site and establishes a dialogue with the single storey scale of the majority of the existing buildings on site.

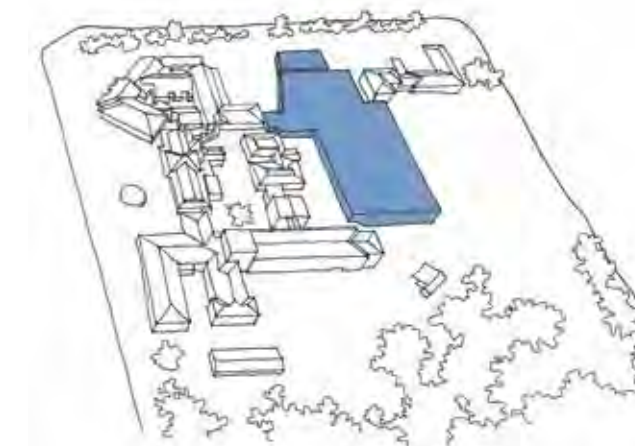
The Block

On the first and second floor of the new building, the Inpatient Units and the Operating Theatres stacked one above the other in a compact and efficient manner. The

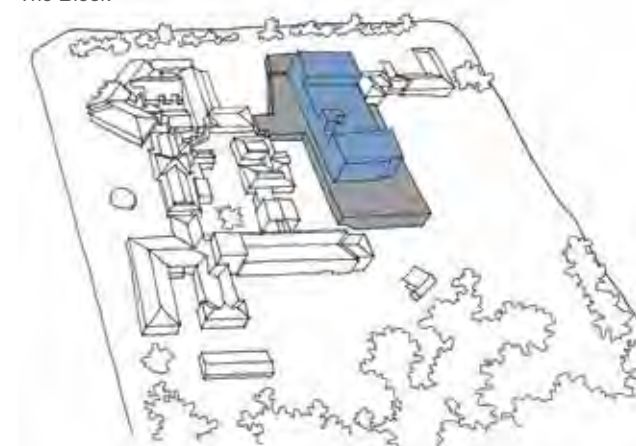
Existing Site



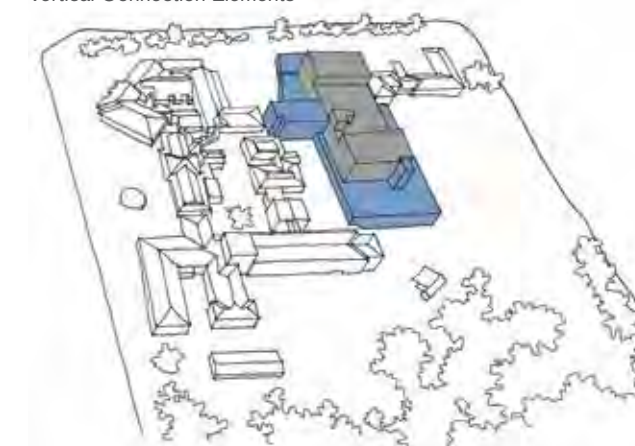
The Podium



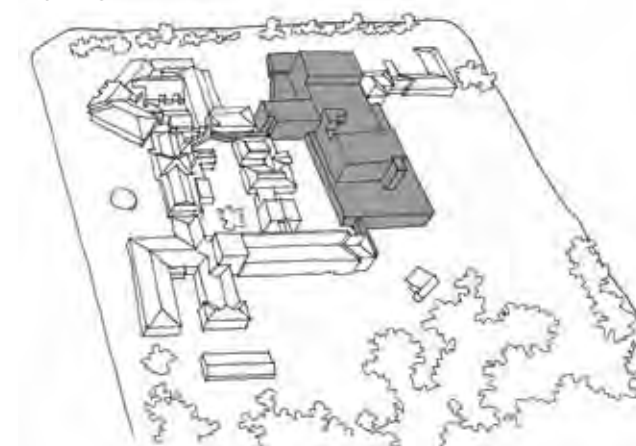
The Block



Vertical Connection Elements



The Links



Horizontal additions

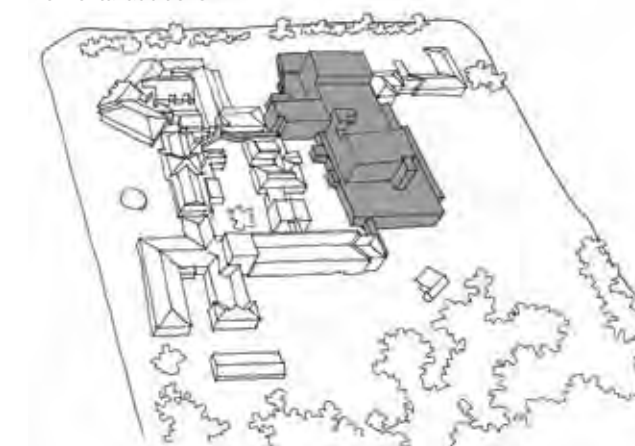


FIGURE 23: Architectural form

Source: BVN Donovan Hill

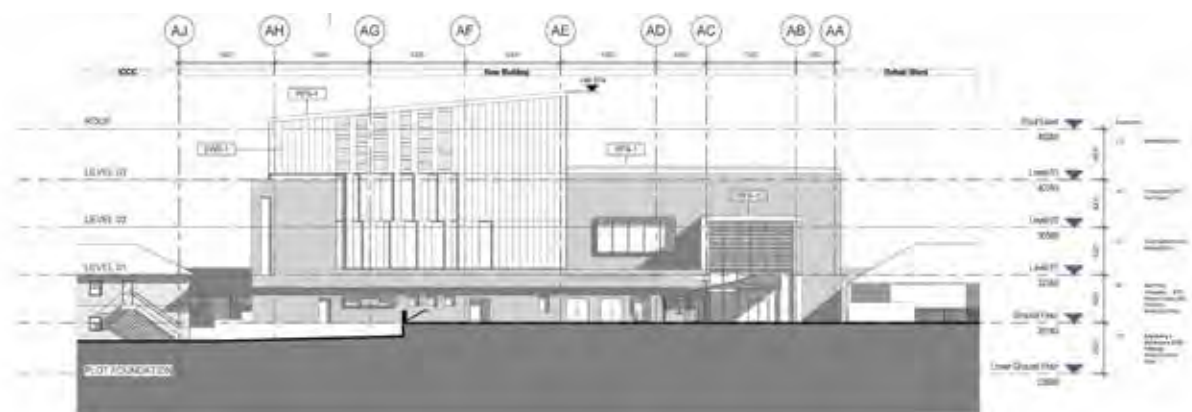


FIGURE 24: North Elevation

Source: BVN Donovan Hill

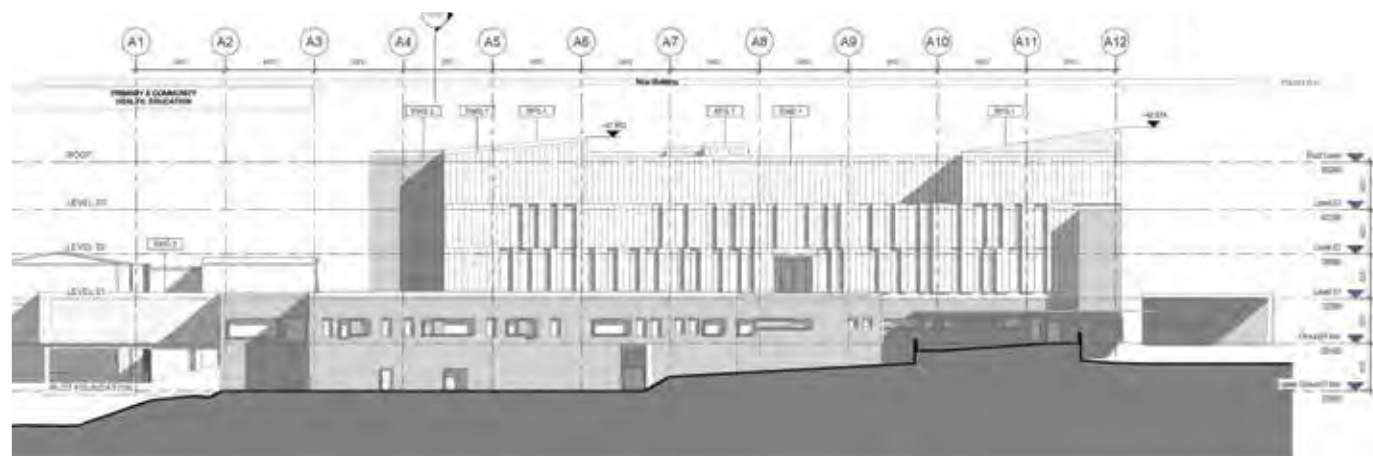


FIGURE 25: East Elevation

Source: BVN Donovan Hill

third floor, housing the mechanical services equipment, has been divided into a northern and a southern plant room in order to serve more efficiently the footprint of the building. External cooling towers sit in the space in between the two plant rooms.

This configuration utilises the voids in to reduce the apparent mass of the building. The geometry of the pitched roofs of the plant rooms gives the “block” sculptural qualities that also serve a similar purpose.

Vertical Connection Elements

The ‘front of house’ is a double and triple height volume, which includes the entry foyer, the public lift and the main circulation stairs.

This element, together with the smaller volumes of the northern and southern fire egress stairs, comes out of the “podium” to interlock the ground floor and the levels above, allowing the building to read as an identity.

A different materiality of the vertical circulation elements would also help breaking the scale of the building down.

The Links

The planning and location of the new building responds to the need of connecting it to the existing hospital facilities, particularly the Maternity and the existing buildings being refurbished. They are considered as light weight elements added to the volume of the “podium”.

Horizontal Additions

The facade of the podium is articulated through a series of elements, rooms, windows, entries and exits. These additions and subtractions from the big mass of the podium enrich the facade with their tridimensional complexity and material qualities.

3.5.3 Connections with Existing Adjacent Hospital Buildings

Principal connections to existing buildings include:

- Link to Maternity and Administration – a new enclosed link will be constructed from the new main entry to the junction of the maternity and administration buildings. In addition to general circulation needs, this link provides discreet access for emergency caesar cases from the maternity delivery rooms to the operating suite. A double entry lift permits general access to be overridden for patient transfers.
- Link to Hydrotherapy Pool. Access to the hydrotherapy pool shall be through the main entry and a covered way through the central landscaped courtyard.
- Link to Ward Block – As all inpatients will be located in the new development, links between the new building and the existing ward block are only required at ground level and basement level.
- Link to New Integrated Community Care Centre (ICCC) – The new building shall have covered, ramped access between the new main entry area and the emergency department for access by both patients and staff.
- Service connections - A new service compound has been approved under ISEPP for construction to the south-east of the new hospital building, with access to a new service road linking Tozer Street to the existing service and loading dock area off River Street.

3.5.4 External Materials and Colours

The proposed material and colour palette is shown in Figure 26 and described below:

- Podium**

As an element which establishes a dialogue with the existing buildings on the site, the podium is proposed to be built in masonry. The material characteristics of the bricks also allow the podium to respond to the existing topography of the site, facilitating the detail of the junction to the ground.
- Horizontal Additions**

The horizontal additions and subtractions that articulate the facade of the podium, including windows and doors, are proposed to be framed with steel reveals. Steel reveals would add material qualities and elements of interest to the facades most exposed to the public, while allowing for protection and waterproofing of the windows.
- The Block**

The facade of the upper levels of the building is proposed to be a modular metal cladding system, like kingspan or similar. Kingspan panels would allow for a light-weight, easy to install facade system while achieving good thermal performances.
- The Links**

For the links connecting the new building to the existing hospital facilities it is proposed a functional, light weight material, intentionally different from the masonry of the “podium”. For this reason, it is proposed to use a translucent facade system like Rodeca. This system, very cost efficient on other jobs, would enhance the quality of these spaces with the provision of natural light.

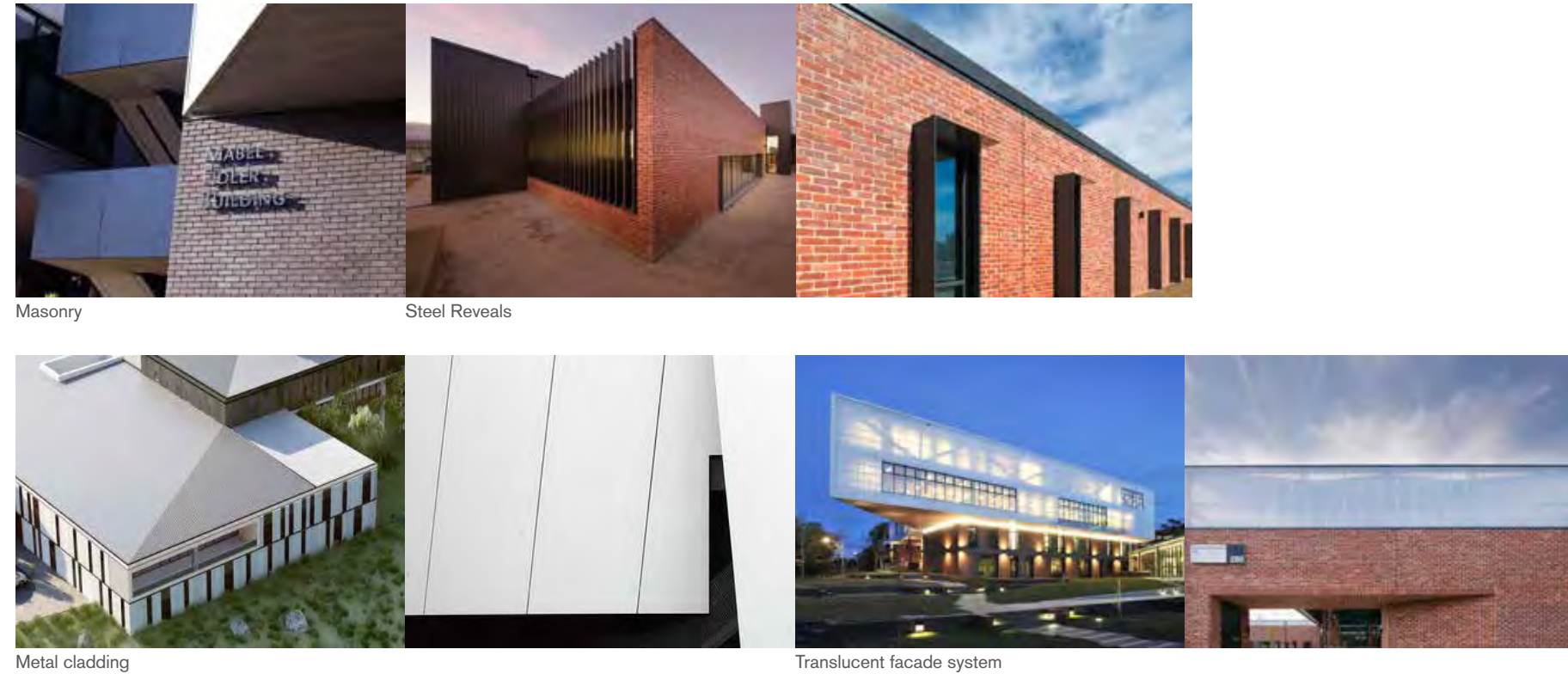


FIGURE 26: Materials and colour palette

Source: BVN Donovan Hill



FIGURE 27: Ground Floor

Source: BVN Donovan Hill



FIGURE 28: First Floor

Source: BVN Donovan Hill



FIGURE 29: Second Floor

Source: BVN Donovan Hill

3.5.5 Internal Circulation and Spatial Organisation

Internal Circulation

The central location of the new hospital building and main entry from Polwood Street will provide a clear new order for the site.

The new circulation system associated with the new building will connect to existing facilities, as well as the new landscaped courtyard at the centre of the site.

The proposed lift strategy will provide for separated movement flows. A lift will be located at the main entry, which will be primarily for public use. Two lifts will be located in the clinical area and be dedicated to the transportation of beds, staff and goods.

Ground Floor

The ground floor will contain the front of house (including main entry and public space, reception / admissions, cultural and volunteer rooms, and security and switch), emergency department (including short stay unit), high dependency unit and coronary care unit, and medical imaging. Refer to Figure 27.

First Floor

First floor will accommodate a 32-bed medical inpatient unit (with shell space for 8 beds) and an accessible rooftop garden. Refer to Figure 28.

Second Floor

Second floor of the new building will contain the peri-operative suite with 2 operating rooms fitted out and a third operating theatre shelled. Refer to Figure 29.

Third Floor (Rooftop)

The third floor (rooftop) will accommodate two mechanical plant rooms, located at the northern and southern ends of the building, with external cooling towers located in the middle. Refer to Figure 30.

Lower Ground Floor

Lower ground floor will accommodate pathology, medical records, engineering and maintenance facilities, plant areas and expansion zone for pharmacy. Refer to Figure 31.



FIGURE 30: Third Floor (Rooftop)

Source: BVN Donovan Hill

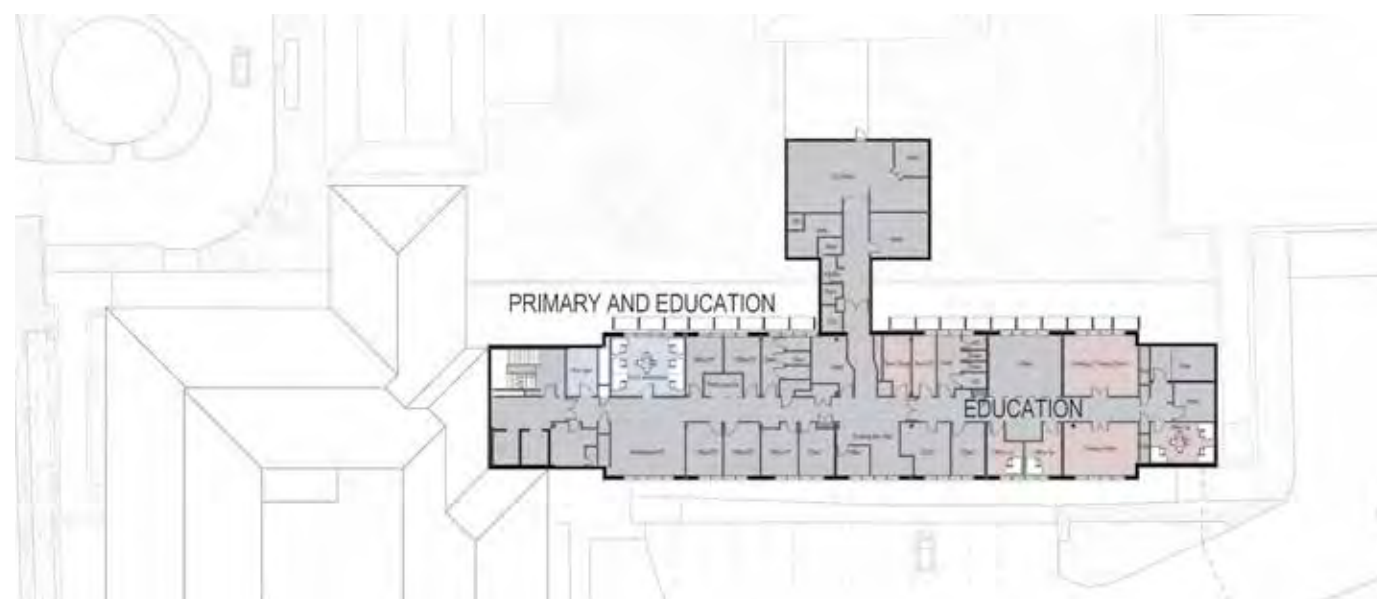


FIGURE 31: Lower Ground Floor

Source: BVN Donovan Hill



Ground Level



Level 1

FIGURE 32: Renal Dialysis, Oral Health and Primary and Community Health

Source: BVN Donovan Hill

3.6 REFURBISHMENT WORKS

It is proposed that approximately 2,500m² of existing floorspace across four buildings be refurbished to accommodate new and expanded services including integrated community care, renal dialysis, oral health and primary and community health. The proposed refurbishment areas are shown in Figures 32 to 34 and described below.

3.6.1 Existing Emergency Department – Renal Dialysis

It is proposed to refurbish the existing Emergency Department to accommodate a new and expanded renal dialysis unit. This will provide for major expansion of renal dialysis services from five to ten chairs.

The existing building fabric is considered readily able to be refurbished as a renal unit, providing effective utilisation of existing building stock.

Easy access for patients to access the service is available directly from the existing drop-off area and car-parking along River Street. The unit has a dedicated entrance from the drop-off area to a reception area.

3.6.2 Existing Theatre Block – Oral Health

It is proposed to refurbish the existing Operating Theatre Suite to accommodate a new oral health unit. This will provide for expanded oral health services from two to four chairs (two standard and two large surgeries will be provided).

The existing building fabric in this area is considered readily able to be refurbished as an oral health unit, providing effective utilisation of existing building stock.

Easy access for patients is available through the existing hospital main entrance from a drop-off area and car-parking along River Street.

Sterilising of dental instruments shall be undertaken at Port Macquarie Base Hospital, eliminating the need for sterilising facilities in the unit.

The existing operating rooms and clean up area at the rear of the unit will be refurbished as a laboratory, clean up room, sterile store, offices, staff amenities, accommodation. The plant room for air compressors and suction units will be located in the existing plant room on the lower level beneath the unit.

3.6.3 Existing Ward Block – Primary and Community Health

The existing hospital main entry and Ward Block are proposed to be refurbished to accommodate Primary and Community Health Services.

These services include child and family, speech, social work, audiometry, sexual health, needle syringe program, HARP, Aboriginal health, transitional aged care and health promotions.

The existing building fabric and ward layout is considered readily adaptable to this new use. This enables effective utilisation of existing building stock and also creates a distinct separate zone from acute services, whereby these services can be accessed by their own entrance from River Street without traversing acute or other 24-hour services.

Existing clinical support facilities such as clean and dirty utilities, and toilets are centrally located and shall be retained for reuse.

The existing paediatric ward will be adapted to accommodate the Aboriginal health services and hotel services administration.

3.6.4 Existing Primary and Community Health Building – New Integrated Community Care Centre

The existing Primary and Community Health Building is proposed to be refurbished to accommodate the new Integrated Community Care Centre (ICCC).

Services will include pre-admissions, continence clinic, podiatry, wound clinic, diabetes, dietetics, aboriginal health, chronic and complex care, and visiting specialists.

The existing building fabric and layout is considered readily adaptable to this new use to enable effective utilisation of existing building stock. Existing community health nursing personnel will be retained in the upper level of the building.

The location creates a distinct separate zone from acute services, whereby these services can be accessed by their own entrance off Polwood Street without traversing acute or other 24-hour services. The location is adjacent to the main entry and the Emergency Department, with direct, discrete staff access available from the Emergency Department to the ICCC.

3.6.5 Drug and Alcohol Services

Drug and Alcohol services are currently located in three separate areas:

- Administrative offices in a demountable building in front of the existing primary and community health building;
- Consulting rooms within the existing Primary and Community Health building; and
- Dosing clinic, in part of the Blood Bank Building.

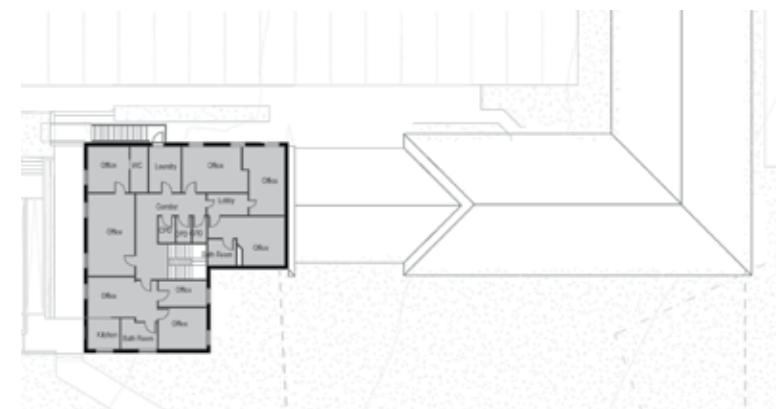
It is proposed that the demountable buildings in the north-eastern portion of the site be refurbished to provide for an integrated facility which co-locates all functions.

3.6.6 Northern portion of Existing Rehab and Dialysis Building – Women's Health

A Women's Health, Antenatal Clinic will occupy a vacated area within the existing Rehabilitation Building. This facility will include two treatment rooms and an open area for group classes. It has a dedicated entry, accessed from Polwood Street as well as a direct connection into Maternity through existing hospital corridors for staff movements.



Ground Level



Level 1

FIGURE 33: ICCC and Drug and Alcohol Services

Source: BVN Donovan Hill



FIGURE 34: Womens Health

Source: BVN Donovan Hill



FIGURE 35: Proposed Access

Source: LFA / BVN Donovan Hill / NSW Land and Property Information

3.7 ACCESS

3.7.1 Proposed Access

The proposed vehicle, parking, loading, service and emergency, helicopter, pedestrian and cycle access for the proposed development is detailed in the Section 4.6 and is summarised below. Refer to Figure 35.

Vehicular Access

Main vehicular access to the hospital will be redirected from River Street to Polwood Street to serve the redeveloped hospital site.

Access and egress to and from new on-site visitor/patient carparks will be provided at a number of locations along Polwood Street, with a separate driveway provided for emergency vehicles.

The existing public set-down and pick-up area at River Street will be retained as secondary public access.

Emergency Access

Three dedicated ambulance bays will be provided at the northern entry of the site with direct access from Polwood Street.

The existing helipad will be retained and upgraded and connections provided to the new hospital building.

Service Vehicle Access

A new services road will have been provided linking Tozer Street to River Street, through the existing loading dock / service access area. The services compound located on the southern side of the service access road, allows large vehicles (up to 19m) to enter and exit the site in a forward direction. Service access from Tozer Street will be entry only, whilst River Street will provide for both entry and exit.

Pedestrian and Cycle Access

The primary pedestrian access is proposed from Polwood Street and secondary pedestrian access would be maintained via River Street and utilised primarily as an out-patient set-down/ pick-up zone.

Internal pedestrian facilities include pedestrian links between hospital buildings to accommodate staff, patient and visitor movements throughout the site.

Bicycle parking will be provided to encourage and facilitate access to the primary hospital services for all user groups.

Parking

A total of 173 car spaces is proposed for the KDH redevelopment.

The northern car park will be modified to provide for 71 spaces, providing convenient access to the Main Entry, Emergency Department, Integrated Community Care Centre and Rehabilitation and Dialysis Departments.

The balance of parking spaces will be provided through a separate approval process under the provisions of ISEPP and will include:

- a new staff car park located on the western side of River Street
- staff / hospital fleet parking, located in the south of the KDH site and along the new services road.

Wayfinding Strategy

A wayfinding strategy has been prepared to direct users to the new main entry of the site and to assist users in finding their way through the redeveloped KDH. A hierarchy of external and internal identification and directional signage will be employed.

3.8 LANDSCAPE DESIGN

3.8.1 Design Statement

The landscape design hinges on creating a legible and inviting place of local character which is unified by the use of Aboriginal bush tucker planting and interpretive symbolism. The new and old hospital buildings shall focus on a “green core”, which will become a verdant oasis activated by regular uses yet tranquil to those who are in need of respite.

The organisation of the landscape will complement the building, accentuating the sense of arrival, settling the building mass, and maximising garden vistas through the core of the building and from within its interior.

The entry forecourt will be a cool, calm and simple space that breaks the scale of the building through well considered tree planting and screening shrubs. It will offer a place to rest at the entry and provide distinct separation between the building and carpark. It will maximise available space and provide opportunities for connections to the central courtyard beyond.

Fully accessible gardens will be provided which respond to the surrounding building form, creating hopeful places with optimal sunlight access.

3.8.2 Landscape Aspirations, Principles and Symbolism

The following aspirations and principles have informed the landscape design:

- Create islands in landscape;
- Use medicinal and bush tucker plants as a means of education and identity;
- Provide hopeful places with good access to sunlight;
- Define an integrated cultural response to highlight needs of the Aboriginal community;
- Establish a strong sense of hospital community through the creation of a green core; and
- Harness the power of healing through landscape.

The use of aboriginal symbolism and bush tucker plants will be incorporated into the hospital landscape to provide a holistic representation of the indigenous and non-indigenous communities of the local area and wider region. The proposed use of such symbolism and indigenous representation within the landscape is a vital component of the overall landscape strategy and has been developed in consultation with community groups.



Create islands in landscape



Use medicinal and bush tucker plants for education and identity



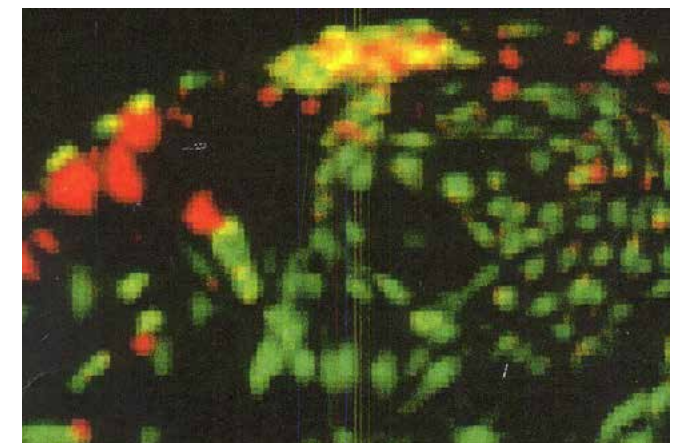
Provide hopeful places with good access to sunlight



Define integrated cultural response



Community through creation of a green core



Healing through landscape

FIGURE 36: Landscape Aspirations and Principles

Source: 360 Degrees

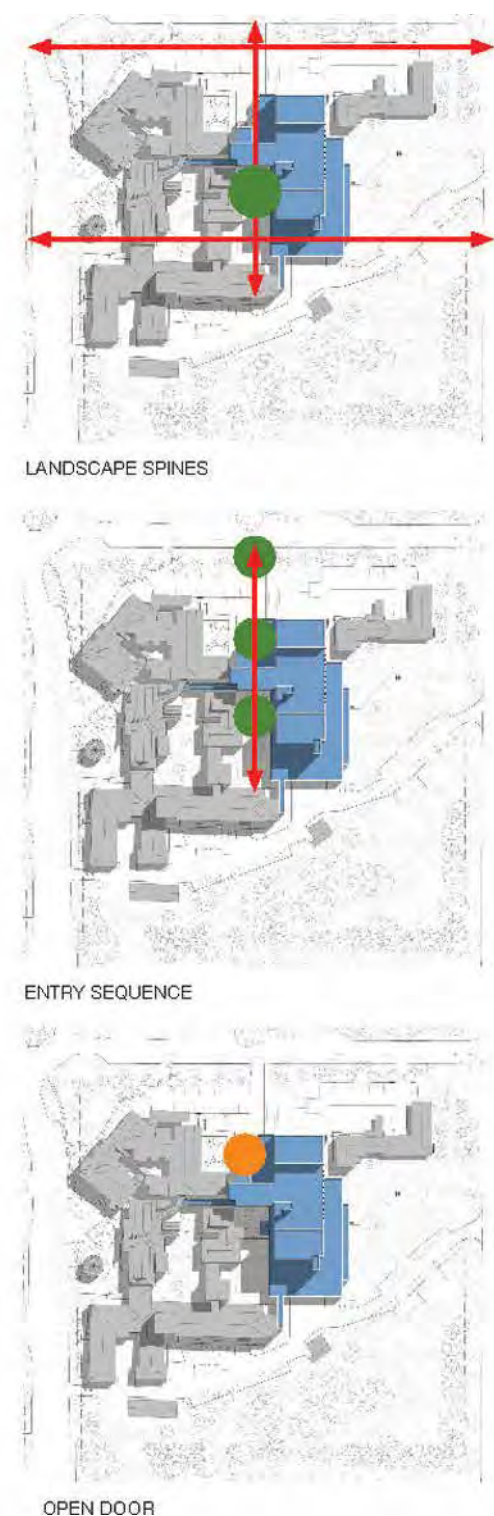


FIGURE 37: Landscape Strategies

Source: 360 Degrees

3.8.3 Landscape Strategy

The landscape design is based on the following strategies:

- Integrating Existing Landscape
 - The landscape design will highlight the existing landscape character that surrounds the hospital site and continue to build upon the existing rural setting.
 - Many established trees are of great value to the hospital and surrounding local streets. The landscape aims to reinforce and use the rich species palette already present on site to ensure a harmonious balance between new and old.
 - Careful consideration for the creation of a range of different sequences that define and support the variety of landscape spaces.
 - The use of Aboriginal symbolism and bush tucker plants will be incorporated into the hospital landscape to provide a holistic representation of the indigenous and non-indigenous communities of the local area and wider region.
- Landscape Spines
 - Strengthen existing mature tree plantings and landscape curtilage along current and proposed hospital buildings.
 - Establish a hierarchy of landscape spines from the centre of the site, highlighting current and future entry points and offering places of passive recreation, particularly the 'green core'.
 - Promote the local and cultural significance of the Hospital to local visitors and the wider community through an integrated/interpretive wayfinding strategy.
 - Develop structured landscape spines to align with possible future development zones and facilities and to reinforce pedestrian links within the existing campus.
 - Align spines with a culturally appropriate meeting place and/or bush tucker garden that is easily accessible to the local Aboriginal community and a that is a place to reflect with ill relatives.
- Entry Sequence
 - Announce the main hospital entries through a sequential and meaningful landscape experience that is inviting, accessible and inclusive.
 - Use a consistent design language throughout the site materially, complementing the architecture, local vernacular and reinforcing safe vehicular pedestrian and circulation.
 - Enhance and integrate the vehicular and pedestrian entries into the landscape, with the use of soft planting zones that provide structure and places for informal passive respite.
 - Enhance the entry experience by using landscape form, planting and discreet but legible signage to help orient visitors and staff alike to various areas of the hospital campus.
 - Provide strong visual cues through the use of symbolic landscape gestures and significant tree plantings.
- Open Door
 - Create a comfortable, clean and calm entry courtyard and front door to the main entry that is a significant meeting place for patients and visitors.
 - Provide clear views to the landscape beyond, which will be a significant visual cue from various areas within the new hospital
 - Connect and strengthen landscape spaces on the ground level to the various hospital departments.
 - Utilise planting and landscape gestures to rationalise desired movement paths and create small garden pockets or islands for passive respite.
 - Improve or modify site topography to enable frequent and inclusive access to gardens by patients, staff and visitors.
 - Build places of respite and healing that will become memorable and enliven an integrated sense of community within the hospital.

3.8.4 Landscape Precincts

The landscape design focuses on three key areas:

- Main Entry Forecourt and Patient Arrival
- Central Healing Garden
- Rooftop Landscape to Patient Bedrooms

Landscape plans have been prepared and are provided in Appendix C.

Main Entry Forecourt

The main entry is defined and celebrated by one strong fluid desire line. The line forms the edge of a generous and welcoming garden which bends to form comfortable seating under the shade of symbolic trees, which visitors and patients alike will be able to enjoy. This will be an important welcoming/meeting place and formally defines the hospital entry, providing a visual cue from the adjoining carparks and formal drop off areas.

Refer to Figure 38.



1. Paved entry from carpark drop off area.
2. Seating arranged in a fluid pattern under shade trees
3. Paving lines are broken by desire line to lobby
4. Screen planting and trees planted to edge
5. Paving flows into lobby to connect interior
6. Desire line continues into lobby as wayfinding device

FIGURE 38: Main Entry Forecourt

Source: 360 Degrees



FIGURE 39: Central Healing Garden

Source: 360 Degrees

Central Healing Garden

The Central Healing Garden is the primary outdoor space on the ground level. It will be central to the arrival experience and can be viewed from all levels on the north western side of the hospital. It will attach and connect the new and old buildings, and will become the “green heart” of the new hospital.

The central location of the garden and connection to a strong desire line from the main entry, will be inviting and offer respite. A variety of small seating areas will be provided within massed planting and a generous open lawn. Planting has been designed to offer privacy whilst maximising connection to the open outdoors and sunlight. The edges of the courtyard will be densely planted to create a green curtilage, and a pleasant view from the buildings interior.

The garden shall be intrinsic to the cultural room and will operate as an indoor / outdoor room giving easy access to patients and their families.

Refer to Figure 39.

Rooftop Garden

The Rooftop Garden will be predominately used by patients and their visitors.

The design will provide a mix of low maintenance shrubs and grasses that form a verdant edge to the building with occasional trees positioned to maximise shade from the western sun in breakout spaces. Screen planting will be positioned allow for privacy to patient rooms yet provide a pleasant view from within. Turf pockets connect to paved paths and breakout spaces.

Refer to Figure 40.



FIGURE 40: Rooftop Garden

Source: 360 Degrees

3.9 ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

The KDH redevelopment will incorporate the following ESD initiatives.

Passive Design

Passive design features will include:

- High performance glazing
- Thermal Mass

An investigation was undertaken to analyse the thermal performance of a number of facade options, taking into consideration capital cost investment and energy performance. Options were based on a 'reference building', which incorporated double-glazing without external shading, and included:

- Option 1 - Vertical shading on east facade;
- Option 2 - Vertical shading on east and west facades;
- Option 3 - Vertical shading on east facade and horizontal shading on north facade; and
- Option 4 - Vertical shading on east and west facade and horizontal shading on north facade.

Option 4 provided the overall best thermal performance however the energy savings payback period would be 50 years. Accordingly, the reference building (double glazing only) was the recommended option. Refer to Appendix M.

Mechanical and Electrical Services

Air conditioning

- The KDH will adopt a Variable-Air-Volume (VAV) system. The volume of air supply is varied to meet requirements of individual rooms and zones, so that when the air conditioning requirement is low, the fans can slow down, thus saving energy. Swirl diffusers will be used to reduce the amount of air blown directly on the patient by distributing the supplied air more evenly, thus providing for patient comfort. The main benefits of VAV air conditioning systems include:

- Good control and thermal comfort;
- Central plant and recirculation of air throughout the building;
- Minimal distributed chilled water throughout the building;
- Minimal maintenance requirements in patient areas; and
- Extensive precedent use and contractor experience.

Advanced Controls and Automation

- Building Management Systems (BMCS) provide intelligent control to electrical and mechanical systems. The BMCS varies the output of energy systems in accordance with actual indoor and outdoor conditions, which saves energy, reduces greenhouse gas emissions, prolongs equipment life and reduces maintenance.
- Economy Cycle can be implemented for the air handling systems where outside ambient conditions are favourable and less than the internal conditions. In this case the cooling system turns off and the air handling system runs on full outside air and full relief air exhaust. This is a method of providing free cooling.
- Variable Speed Drives. The cooling loads in the building in summer and during seasons with mild weather are significantly lower than the designed load. Therefore it is possible to reduce the supply air quantity during these periods without compromising the comfort conditions in the spaces and the minimum ventilation requirements set by Australian standard AS1668.2. Variable Speed Drives (VSDs) will be installed in the Air Handling Units and be linked to the BMCS. Weather conditions will dictate operational parameters. VSDs on chilled water pumps would be controlled by a pressure differential signal, hence maintaining minimum speeds required to provide sufficient water flow through the chiller.
- Electrical Sub Metering. Sub-metering allows building managers to fine-tune operational procedures to peak load, thereby minimising consumption and

detecting any operational problems early. This could include separate metering for chillers, air handling fans; heat pumps; and additional items which have a large energy use.

Energy Efficient Lamps

- Luminaires shall be fitted with fluorescent and LED lamps resulting in reduced energy consumption, extended lamp life, reduced lamp replacements and associated waste.

Energy Saving Lighting Controls

- Occupancy sensor lighting controls will be used where appropriate.

Energy Efficient Lighting Control Gear

High frequency control gear used in luminaires reducing the amount of energy consumed by the control equipment and dissipated into the ceiling void. This reduces overall energy consumption and the lowers the heat gain into the space.

Hydraulic Services

- For fire services, potential water saving methods could be to use recirculating flow switches in the sprinkler system, to have all pump test water discharge back into the tank, and to ensure testing is carried out monthly rather than weekly by ensuring the correct indications are shown on the site’s fire panel to warn of faults.
- It is noted that the potential for rainwater harvesting was considered, however it was not deemed feasible for the proposed development and hence is not proposed.

Green Star

The KDH redevelopment will target a 4 Star Green Star Healthcare version 1 certified design rating. Sustainability initiatives across all aspects of the hospital redevelopment have been considered, and where cost-effective will be pursued. Green Star points will be targeted in the following categories:

Energy	• Ene-2 Energy Sub-metering • Ene-9 Efficient External Lighting
Materials	• Mat-5 Concrete; • Mat-6 Steel.
Management	• Man-2 Commissioning Clauses • Man-3 Building Tuning • Man-9 Building Management System • Man-12 Construction Indoor Air Quality Plan
Indoor Environmental Quality	• IEQ-1 Ventilation Rates • IEQ-2 Air Change Effectiveness • IEQ-5 Thermal Comfort • IEQ-7 Internal Noise Levels • IEQ-8 Volatile Organic Compounds • IEQ-12 High Frequency Ballasts • IEQ-17 Air Distribution System • IEQ-18 Outdoor Pollutant Source Control
Emissions	• Emi-1 Refrigerant ODP • Emi-4 Insulant ODP • Emi-7 Light Pollution

It is noted that options for façade systems, stormwater treatment and water harvesting that would secure Green Star points have been investigated, however were not found to be cost-effective. Accordingly, Green Star points for these components of the project will not be sought.

3.10 ANALYSIS OF FEASIBLE ALTERNATIVES

This section specifically addresses the following EIS requirements under Schedule 2 of the Environmental Planning & Assessment Regulation 2000:

- (1) *An environmental impact statement must also include each of the following:*
- (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*

3.10.1 Alternatives for Service Provision

The development of options for the KDH redevelopment stems from numerous studies that identified service priorities and limitations of the existing facilities to meet increased capacity, functionality and changing service requirements, including:

- Kempsey District Hospital Clinical Service Plan, 2006
- Kempsey District Hospital Master Plan, 2006
- Kempsey District Hospital Brief, August 2011
- Review of service priorities by LHD, NSW Health and Health Infrastructure, September 2011.

A number of concept options were developed for testing and discussion, three of which were considered for further development and consideration:

- **Option 1: Base Case (Keep Safe and Operating).** KDH would be retained and upgraded to address several non-compliance issues, functional improvements, or facilitate the upgrade of existing infrastructure to meet current Australasian Health Facility Guidelines.
- **Option 2: New Four Storey Building and Refurbishment** would involve the construction of a new four storey building to provide emergency department services, medical imaging, and high dependency, co-located with additional medical inpatient capacity, peri-operative services, primary,

community and ambulatory services, selected non-clinical support services and shell space for future expansion. Option 2 would also involve:

- New main entrance to improve way finding, pedestrian hospital street and ambulance entrance
- Demolition of existing facilities including community health buildings, the old boiler house, blood bank and engineering and maintenance building
- Expansion of renal dialysis services
- Development of an ambulatory care zone in vacated refurbished space including specialise outpatient services
- Refurbishment of existing vacated space to achieve enhanced functional areas for drug and alcohol services and palliative care
- Expansion of antenatal clinics in vacated refurbished space adjacent to the existing maternity services

- **Option 3: New Five Storey Building and refurbishment.** New building consistent with Option 2, but with an additional storey to accommodate women's health, medical inpatient beds, and (potentially) sub-acute rehabilitation services.

The lower ground floor would be refurbished for the remaining clinical support and non-clinical support services, enabled through the relocation and consolidation of primary and community services into a stand-alone facility.

This option would also comprise the new main entrance, pedestrian hospital street, and ambulance entrance.

Following evaluation of the options, it was determined that Option 2 was the preferred option for the following reasons:

- Most cost effective means of meeting the future clinical services priorities and enables potential for future stage
- Affordable in terms of recurrent costs (consistent with expected projected growth in demand for services)

- Achieves greatly improved functional relationships
- Provides modern facilities which enable contemporary models of care to be implemented, and provides flexibility for changing service delivery requirements.

3.10.2 Alternative Design Options

Building Footprint

Initial analysis was undertaken examining the feasible number of levels that would optimise opportunities for future expansion as well as addressing the optimal clinical relationships for a facility of this scale. A key assumption was the provision of a service level below the main hospital entry, to take advantage of the site's sloping topography.

A single or double storey building plus basement would result in undesirable travel distances and would disproportionately occupy the developable site area. However, a three storey building plus basement would:

- Provide for a suitable clinical planning outcome as wards could be separated vertically from general hospital level;
- Allows for theatres to be located on the top floor, providing efficient servicing; and
- Leave an optimum balance of site area for future development.

Accordingly, the preferred option was for a three storey building plus basement.

Built Form

Several built form options were prepared as shown in Figure 41 and described below.

- **Option A:** This option incorporates a north-facing "veranda", which would provide an opportunity for arrival as well as connections to the existing buildings to the north-west of the site. However, this would limit connectivity to the existing main ward block, main entry and the south west corner of the site. Potential

future expansion to the south-east would be complex due to the topography.

- **Option B:** This option incorporates a north-south “hospital street”, which would enhance the site connectivity. However, the distribution of clinical functions across two buildings, when tested, did not provide the critical adjacencies of the functional brief and potential future expansion would be limited due to the location of the existing helipad.
- **Option C:** This option explores the combination of the “veranda” with the north-south hospital street and creates a building footprint that enables the clinical alignment of departments to meet the brief. This option would require the replacement of the existing helipad and whilst the connectivity of the site is enhanced, it creates an over provision of “hospital street” area relative to the area of the development.
- **Option D:** The orientation of the new building creates a focal point of entry from Polwood Street, with a footprint which enables the clinical alignment of departments to meet the brief. The north-south “hospital street” provides an access spine and enhances connectivity to existing facilities. Landscaping opportunities along the north-south hospital street provide for a tranquil setting for staff, patients and visitors. The access/landscape spine allows for future expansion in a logical manner.

Accordingly, the preferred built form configuration was Option D and forms the basis of the proposed development in this EIS.

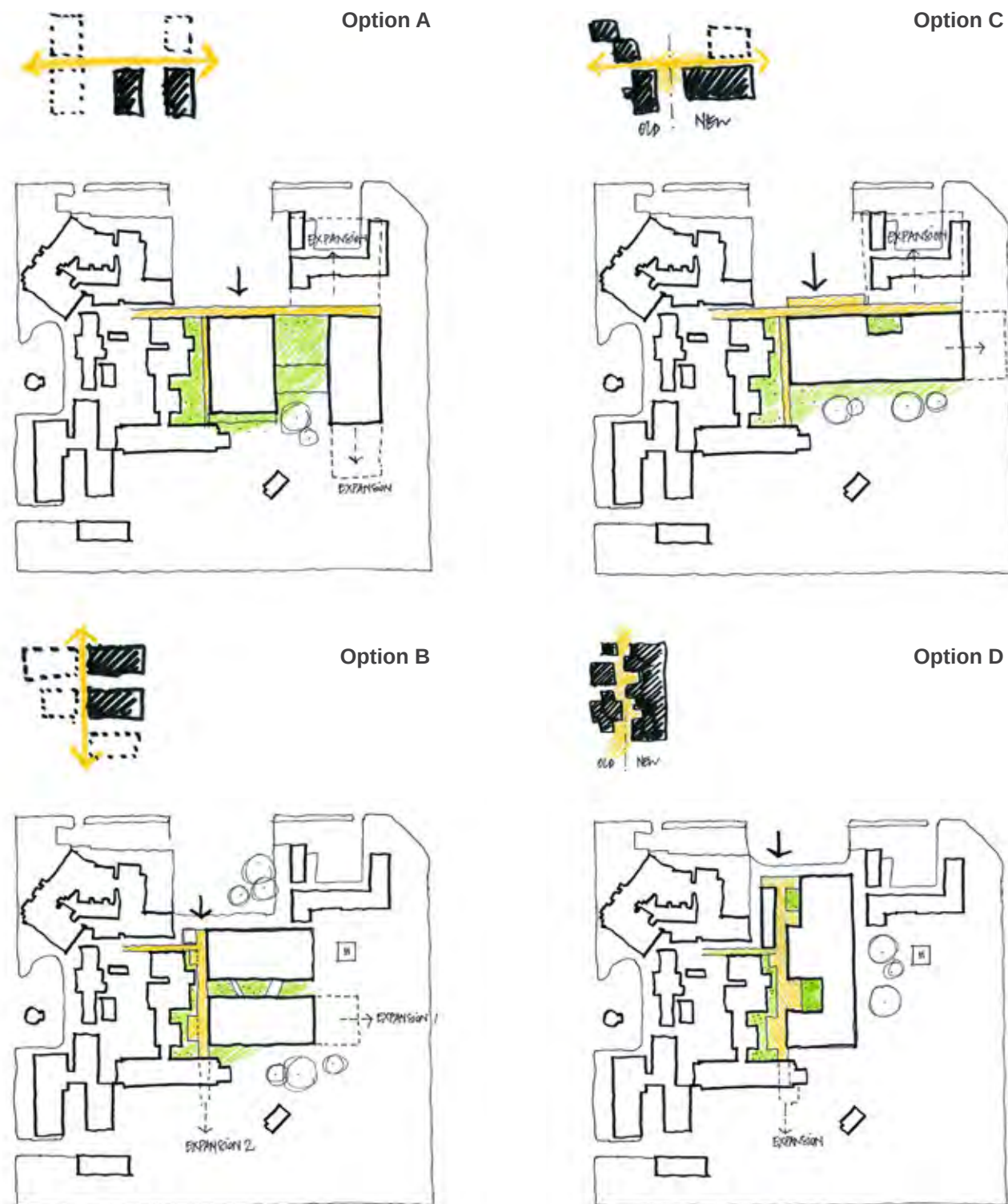


FIGURE 41: Built Form and Siting Options

Source: BVN Donovan Hill

3.10.3 Consequences for Not Carrying out the Development

The existing KDH has limited physical capacity to meet the current and future needs of the residents of the local Kempsey LGA and Hastings Macleay Clinical Network. The physical infrastructure is out-dated and not well suited to the delivery of contemporary models of healthcare.

The proposed redevelopment of the hospital provides an opportunity to deliver new facilities with significantly improved capacity and critical mass to support sustainable, safe and high quality services into the future. This investment will enable the delivery of a broad range of services that are integrated across the full spectrum of care: illness prevention, primary care, acute, sub-acute, and chronic care; and that are more welcoming and responsive to the local Aboriginal community.

The implications of not proceeding with the redevelopment include:

- Insufficient capacity to meet the healthcare needs of the growing and ageing catchment population. This will significantly impact on the following service streams where increased physical capacity is seen to be critical to meet future demand: emergency services, critical care services, renal dialysis (including training for home dialysis), day only surgical services and ambulatory and community based services. Ongoing limitations to clinical capacity will result in the need to divert patient care thus increasing pressure on referral hospitals, increased travel distances to access health care for local residents and potentially poorer health outcomes.
- A lack of culturally appropriate facilities will limit accessibility to services for Aboriginal People and the achievement of improved health outcomes for the Aboriginal community, including chronic illness and infant mortality rates.
- Limited opportunity to promote integration and collaboration between health care providers across

the local region. This will impact on the ability to streamline patient care, better manage patients with chronic and complex conditions, ensure patients are being connected in to the appropriate services, and reduce avoidable hospitalisations.

- Limited improvement in the accessibility of health services for local residents e.g. enabling care closer to home for renal dialysis patients. Without the provision of locally accessible services, patients will need to continue travelling significant distances to receive care.
- Poor staff morale and lower staff retention.
- Potential increased occurrence of occupational health and safety incidents.
- Ongoing service inefficiencies relating to service duplication/lack of integration and inappropriate facility design.
- Ongoing significant repair and maintenance costs associated with the ageing facilities.

3.11 CONSULTATION

An integral part of the KDH redevelopment has been the ongoing consultation with a wide range of Government agencies, service providers, key organisations, health professionals and community groups.

Kempsey Shire Council has been consulted on a broad range of issues including traffic and parking, stormwater, fire water, sewer and potable water supply.

Consultation with Council has identified that River Street is under the management and control of Council under delegated authority from the Roads and Maritime Services (RMS). Road maintenance is dealt with under block funding arrangements, with Council the authority responsible for any road works. Accordingly, consultation regarding traffic related issues has been undertaken with Council rather than RMS.

Consultation with Aboriginal stakeholder groups regarding Aboriginal cultural heritage has been carried out in accordance with the Aboriginal Cultural Heritage Consultation Requirements (ACHCRs) for Proponents (DECCW, 2010a). Aboriginal stakeholder groups consulted include :

- Benelongs Haven Ltd.
- Booroogen Djugun Aboriginal Corporation
- DFTV Enterprises
- Dunghutti Elders Council Aboriginal Corporation
- Goori Galbans Aboriginal Corporation
- Guri Wa Nghundagar
- Kempsey Local Aboriginal Land Council
- Mirrinni Gardens Aboriginal Academy
- Ngarramang-Kuri Aboriginal Culture and Heritage Group
- Nulla Nulla Boonghutti Aboriginal Corporation
- Pandanus People Inc.

- South Kempsey Aboriginal Men’s Group Aboriginal Corporation
- South West Rocks Aboriginal Corporation

Service providers including Kempsey Shire Council, Elgas, Essential Energy, and Firesense have been consulted with regard to utility supply and augmentation requirements.

The Ambulance Service of New South Wales has been consulted with regard to the ongoing operation of the existing helipad.

Extensive internal stakeholder consultation and user group engagement has been undertaken, with design outcomes tested through this process. Regular meetings and workshops have been undertaken with project working groups, project user groups, infrastructure project working groups, Kempsey District Hospital Staff and Mid North Coast Local Health District Board. The Durri Aboriginal Medical Service has also been consulted.

The following table provides a schedule of the consultation process with Council, Government Agencies, utility providers and Aboriginal stakeholders in accordance with the DGRs. Further details of consultation are provided in the relevant consultant reports.

Date	Stakeholder Group	Issue(s) discussed	Design Outcomes / Response
7 September 2012	Kempsey Shire Council	Initial Meeting with Council.	Initial introduction to the project, general scope of works, forward program, communication processes with Council.
10 September 2012	Firesense	Fire services - Dry Systems.	Advised that an interface panel could be installed adjacent to the existing conventional panel to provide connectivity with the new addressable one.
Mid September 2012	Essential Energy	Meeting on-site for preliminary site briefing.	
27 September 2012	Kempsey Shire Council	Sewer Connection.	Received drainage diagram from Council but are awaiting formal approval that they accept the small increase in discharge from the site into the existing Council sewer system.
28 September 2012	Kempsey Shire Council	- Identified parking problems along Polwood Street - Received Kempsey Shire Council Parking Report - New time restrictions were put in place along Polwood Street and River Street following Council parking report in 2011 - No significant traffic issues within the vicinity - Casual parking on the north side of Polwood Street is acceptable by Council - Issues identified with late night secure parking for staff (need for more)	Issues discussed in the Traffic Report (refer to Appendix E).
Week ending 5 October 2012	Kempsey Shire Council	- River Street RMS permanent counter traffic volumes - Speed and accident environment along River Street - Regional and local traffic distribution between Kempsey Town Centre and the north and north-west - Further discussion on localised parking issues as outlined above - Potential change in the arrival/ departure profile as a result of Hospital redevelopment"	Issues discussed in the Traffic Report (refer to Appendix E).
8 October 2012	Essential Energy	Correspondence sent to Essential Energy and Level 3 Designer regarding project details and maximum demand. Subsequent correspondence sent on 26 November 2012 and 4 March 2013.	Initial response received 9 October 2012 confirming project details and maximum demand. Subsequent response received on 24 October 2012.
1 November 2012	Kempsey Shire Council	Capacity of existing town main pressure and flow to provide for fire water for the proposed development.	Existing maximum flow could not be proven to be of sufficient capacity to supply the hydrant system directly from the town main. In response, the design was revised from a 50kL sprinkler tank to a 150kL hydrant tank with 10L/s infill from the town main. The sprinkler system would then be fed directly from the town main supply alone.
1 November 2012	Kempsey Shire Council	Domestic Water Supply.	Received town main pressure and flow enquiry but have not yet received approval of the proposed new connection of the existing water main in Tozer Street.
2 November 2012	Ambulance Service of NSW	Feedback and comments on Draft Helicopter Landing Study.	Identification of upgrades required to achieve current safety standards.

TABLE 02: Summary of Consultation undertaken for KDH redevelopment project.

Date	Stakeholder Group	Issue(s) discussed	Design Outcomes / Response
8 November 2012	Kempsey Shire Council	Discussion on storm water strategy and issues with existing drainage. The in-ground drainage pipe which runs under adjacent properties and discharges into a channel to the North East of the site is known to have poor flow capacity and regularly surcharges following heavy rainfall. Kempsey Shire Council advised that they are supportive of any measures that reduce the flow directed to this drainage network.	Agreed strategy for discharge.
8 November 2012	Kempsey Shire Council	Kempsey Council Project and Coordination Workshop.	Presentation of Masterplan, Stage 1 Concept Plan; review of engineering services infrastructure strategies; carparking requirements.
9 November 2012	General Aboriginal Stakeholders	Advertisement places in Macleay Argus calling for registration of interest for Aboriginal Cultural Knowledge Holders in the area. Letters were also sent to Kempsey Local Aboriginal Land Council, Native Title Tribunal, Native Title Services Corporation Ltd, Office of Environment and Heritage Northern Region, the Registrar of Aboriginal Owners and the Northern Rivers Catchment Management Authority.	As per Aboriginal Cultural Heritage Consultation Requirements (ACHCRs) for Proponents (Department of Climate Change, Environment and Water, 2010a).
20 November 2012	Aboriginal Stakeholders including: • Benelongs Haven Ltd. • Booroogen Djugun Aboriginal Corporation • DFTV Enterprises • Dunghutti Elders Council Aboriginal Corporation • Goori Galbans Aboriginal Corporation • Guri Wa Nghundagar • Kempsey Local Aboriginal Land Council • Mirrinni Gardens Aboriginal Academy • Ngarramang-Kuri Aboriginal Culture and Heritage Group • Nulla Nulla Boonghutti Aboriginal Corporation • Pandanus People Inc. • South Kempsey Aboriginal Men's Group Aboriginal Corporation	In response from both the letters and advertisement on 9 November 2012, letters inviting expressions of interest were sent.	As per ACHCRs for Proponents (DECCW, 2010a).

TABLE 02 (CONTINUED): Summary of Consultation undertaken for KDH redevelopment project

Date	Stakeholder Group	Issue(s) discussed	Design Outcomes / Response
18 December 2012	Kempsey Shire Council	Deluge / Safety Showers.	Advice from Council that if the hospital is to install a deluge shower beside the ambulance entry for washing down contaminated patients, a holding tank would need to be provided to ensure this water does not reach the local sewer system. Subsequently, we have made a provision for such a system with emergency overflow.
20 December 2012	Registered Aboriginal Stakeholders	Information regarding the proposed heritage assessment methodology and strategy for collecting information on cultural heritage significance was provided in writing.	As per ACHCRs for Proponents (DECCW, 2010a).
20 December 2012	- South West Rocks Aboriginal Corporation - Kempsey LALC - DFTV Enterprises - Ngarramang-Kuri Aboriginal Cultural and Heritage Group	Invitation to on-site Archaeological Survey	As per ACHCRs for Proponents (DECCW, 2010a).
6 January 2013	- South West Rocks Aboriginal Corporation - DFTV Enterprises	The South West Rocks Aboriginal Corporation and DFTV Enterprises subsequently provided comment on the proposed methodology	As per ACHCRs for Proponents (DECCW, 2010a).
11 January 2013	Elgas	Delivery of LPG	Advised that Elgas is quite comfortable on delivering LPG within a 10 day cycle to essential services such as a hospital. Elgas is not interested in and tries to avoid the installation of underground or mounded tanks for vapour supply. Apart from the initial huge capital cost required for this, there are additional maintenance and safety issues during the life of such installations.
16 January 2013	Ambulance Service NSW	Business Case being developed to determine preferred option for new Kempsey Ambulance Station.	
17 January 2013	- Kempsey LALC - DFTV Enterprises	On-site Archaeological Survey	As per ACHCRs for Proponents (DECCW, 2010a). No new Aboriginal sites or items identified.
24 January 2013	Kempsey Shire Council	Kempsey Council Coordination Meeting	Project status update
24 January 2013	Kempsey Shire Council	Coordination Meeting with Local Council	Project status update; validation and endorsement of the strategies being proposed; confirmation of Project Delivery Strategy; opportunities for coordination of effort / resourcing / capital.
25 January 2013	Kempsey Shire Council	Briefing with Local Mayor and General Manager	Project status update
25 January 2013	Kempsey Shire Council	Presentation to Mayor and General Manager of Kempsey Shire Council	Project status update
30 January 2013	Registered Aboriginal Stakeholders	Draft Report issued for comment.	As per ACHCRs for Proponents (DECCW, 2010a).

TABLE 02 (CONTINUED): Summary of Consultation undertaken for KDH redevelopment project

Date	Stakeholder Group	Issue(s) discussed	Design Outcomes / Response
19 February 2013	Ambulance Service of NSW	Final comments on Helicopter Landing Study	Confirmation of applicable standards and identification of additional upgrade requirements.
28 February 2013	Kempsey Shire Council	- Clarification that River Street is under the management and control of Council under delegated authority from the RMS. River Street maintenance is dealt with under block funding arrangements, with Council the authority responsible for any road works. - Indicated that Council is committed to discussing these aspects with project team members should confirmation be sought.	Accordingly, consultation with RMS is not required as part of the KDH redevelopment.
28 February 2013	Registered Aboriginal Stakeholders	Contact was made reminding the registered Aboriginal parties of the closure date for comment and inviting them to forward any comments they wished to make.	No comments were subsequently received.
28 February 2013	Kempsey Shire Council	Coordination Meeting with Local Council	Project status update; validation and endorsement of the strategies being proposed; confirmation of Project Delivery Strategy and REF works; opportunities for coordination of effort / resourcing / capital.
1 March 2013	Surrounding Community	Community Update	Community newsletter March 2013 delivered to 12,000 households in the Kempsey District Hospital catchment
7 March 2013	Kempsey Shire Council	Correspondence advising Council of electrical works to be undertaken at Tozer Street	Council response on 18 March 2013 advising of conditions under which work must be carried out.
10 March 2013	Essential Energy	Correspondence sent to Essential Energy and Level 3 Designer regarding substation design and certification. Subsequent correspondence sent 5 May 2013.	Responses received regarding substation design, deeds, easements and certification on 12 March, 9 April, 14 May and 15 May 2013.
21 March 2013	Durri Aboriginal Medical Service (AMS)	Presentation of Redevelopment works, key outcomes, next steps and opportunities for integration with the Durri AMS.	

TABLE 02 (CONTINUED): Summary of Consultation undertaken for KDH redevelopment project

4.0 ASSESSMENT OF ENVIRONMENTAL IMPACTS

This section specifically addresses the following EIS requirements under Schedule 2 of the Environmental Planning & Assessment Regulation 2000:

- (1) *An environmental impact statement must also include each of the following:*
 - (d) *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,*
 - (iii) *the likely impact on the environment of the development, activity or infrastructure*
 - (iv) *a full description of the measures proposed to mitigate any adverse effects of the development, activity or infrastructure on the environment*
- (2) *Subclause (1) is subject to the environmental assessment requirements that relate to the environmental impact statement.*

The environmental assessment requirements referred to in Clause (2) above were issued by the Director General on 5 December 2012 and include the following Key Issues:

- Statutory and Strategic Context;
- Built Form and Urban Design;
- Amenity;
- Ecologically Sustainable Development (ESD);
- Noise and Vibration;
- Transport and Accessibility Impacts;
- Flora and Fauna;
- Bushfire;
- Heritage;
- Aboriginal Heritage;
- Sediment, Erosion and Dust Controls;
- Utilities;
- Contributions;
- Flooding;
- Drainage;
- Servicing and Waste;
- Hazards; and
- Staging.

In addition to the above, Contamination issues will be addressed. All other EIS requirements are addressed elsewhere in this report, as indicated on pages vii and viii.

An Environmental Risk Assessment of the above issues has been undertaken and is provided at the conclusion of Section 4.0.

4.1 STATUTORY AND STRATEGIC CONTEXT

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

State Environmental Planning Policy (State and Regional Development 2011) (SRD SEPP) came into force on 1 October 2011. The SRD SEPP defines development that is State Significant Development (SSD) and is determined by the Minister for Planning and Infrastructure.

The KDH redevelopment is SSD pursuant to Part 2 of the SEPP because it falls within Schedule 1, Clause 14:

Hospitals, medical centres and health research facilities
Development that has a capital investment value of more than \$30 million for any of the following purposes:

- (a) hospitals,
- (b) medical centres,
- (c) health, medical or related research facilities (which may also be associated with the facilities or research activities of a NSW local health district board, a University or an independent medical research institute).

The project conforms to the class of development identified in Clause 14, given that it is a hospital building with a capital investment value of \$61,497,276. A Quantity Surveyors Report is provided in Appendix O.

4.1.2 State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) (ISEPP) came into force on 1 January 2008 and aims to facilitate the effective delivery of infrastructure across NSW.

Hospital development falls within 'Division 10 Health service facilities' of the ISEPP, which permits certain types of development with or without consent in a prescribed zone.

Development permitted without consent, as set out in Clause 58 (2) '*...may only be carried out without consent under that subclause if the development will not allow for an increase in:*

- (a) the number of patients accommodated at the facility, or
- (b) the number of staff employed at the facility,

that is greater than 10 per cent (compared with the average of each of those numbers for the 12 month period immediately prior to the commencement of the development).'

Given that the scale of KDH redevelopment will result in a 10% or greater increase in patients and / or staff, the provisions of ISEPP do not apply and hence approval is sought under the SRD SEPP.

It is noted that other works on the KDH site, which satisfy the above criteria for development permitted without consent, will be carried under such provisions. Refer to Section 1.6.1 and Figure 2 for further details.

4.1.3 State Environmental Planning Policy No. 55 – Remediation of Land

SEPP No. 55 – Remediation of Land (SEPP 55) states that land must not be rezoned or developed unless contamination has been considered and, where relevant, land has been appropriately remediated.

As described in Section 2.9, a Phase 1 Environmental Site Assessment (ESA) was undertaken for the site, which identified four areas of environmental concern that were associated with the former activities and current land uses of the site. A Phase 2 ESA was subsequently undertaken, which indicated localised elevated lead concentrations in the soil to the east of the Old Boiler Room. On that basis, it was identified that site remediation would be required to make the site suitable for ongoing hospital uses.

Additional work has been undertaken to confirm the extent of lead contamination on site and to assess the requirements for remediation. A Remediation Action Plan (RAP) has been prepared which outlines the proposed site remediation process and validation requirements.

Clause 9 of SEPP 55 states that consent is required for remediation work that is to be carried out in an area or zone which is classified as conservation or heritage conservation under an environmental planning instrument. The KDH site is listed in the Kempsey LEP 1987 as an item of environmental heritage, hence consent would be required. Clause 10 of SEPP 55 indicates that the relevant consent authority would be Council in this regard.

Accordingly, approval for the site remediation works is subject to a Development Application being made to Kempsey Council and hence is not sought as part of this SSDA.

Notwithstanding, details on the contamination investigations and site remediation works (including the RAP) are provided in Section 4.18, Appendix Q and Appendix R.

Following Council development approval, HI will remediate the site in accordance with the approved RAP and will have the site validated as suitable for development prior to the commencement of works proposed in this SSDA.

On that basis, the issues raised by SEPP 55 will be addressed and the site will be made suitable by means of appropriate remediation prior to the commencement of the proposed development.

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

SEPP No. 33 – Hazardous and Offensive Development came into force on 11 March 1992 and provides clear definitions of hazardous and offensive industries where used in environmental planning instruments. It aims to facilitate development defined as hazardous and/or offensive, or potentially so, as defined in the SEPP by ensuring sufficient information is made available to the consent authority to assess whether development is hazardous or offensive, and in doing so impose conditions accordingly, taking into account measures proposed by the proponent to reduce or minimise any adverse impact to human health, life, property or to the biophysical environment.

An assessment of the proposed redevelopment against SEPP 33 has been carried out and is detailed in the Waste and Hazards Report provided in Appendix L.

The assessment found that the quantity of dangerous goods to be stored and used in the redeveloped KDH site are below the threshold limits that would classify the redevelopment as potentially hazardous and hence is not a “potentially hazardous industry”.

There is no licence required pursuant to the *Protection of the Environment Operations Act*, hence the KDH is not a “potentially offensive development.”

As a consequence of being neither potentially hazardous nor potentially offensive development, SEPP 33 does not apply to the proposed redevelopment.

4.1.5 Kempsey Local Environmental Plan 1987

The Kempsey Local Environmental Plan (LEP) 1987 came into force on 29 May 1987. The following sections of the LEP are relevant to the KDH redevelopment:

Part 2 General restrictions on development of land

Under the Kempsey LEP 1987, the development site occupies an area zoned 5(a) Special Uses (Hospital).

This zone has the objective of making suitably located sites available for certain community services and public utilities.

Within the zone the “purpose indicated in black lettering on the map” as well as drainage and roads are permitted with consent. On that basis, the proposal is permissible with consent.

Part 3 Special provisions

Clause 18A sets out special provisions for development of land within Zone 5(a) as well as 5(b), 6(a) and 6(b), being:

Despite any other provision of this plan, the Council may consent to development of land within Zone No 5(a), 5(b), 6(a) or 6(b) for commercial purposes or community purposes if use of the land for that purpose is, in the opinion of the Council, occasional, infrequent or subordinate to, but compatible with, the primary use of the land.

Given that the proposed development is for ongoing hospital use, Clause 18A does not apply.

Clause 21 Filling of Land states that:

- (1) *A person shall not place fill on any land to which this plan applies except with the consent of the Council.*
- (2) *The Council may grant consent only if, in the opinion of the Council, the placing of fill will not have an adverse environmental impact.*

Bulk earthworks are proposed as part of this development application and will be undertaken in a manner to ensure there is not adverse environmental impact. Refer to Section 3.4 for further details.

Clause 26 requires that works involving items of environmental heritage such as demolition, damage or despoil, excavation, erection of a building or subdivision of land shall not be carried out except with the consent of Council. The entire KDH site is listed as an item of environmental heritage in the LEP. A heritage assessment has been undertaken which has identified the 1913 Administration Building as having high heritage significance and the 1919 Blood Bank building as having moderate heritage significance. The balance of existing buildings on site were found to have little heritage significance. It is proposed that the 1919 Blood Bank be demolished (amongst other existing buildings) to facilitate the construction of the new hospital building. The heritage assessment found that the demolition of the Blood Bank will be an acceptable impact and hence consent for demolition is sought from the Minister. Refer to Section 4.9 and Appendix I for further details.

Clause 29 requires that the Heritage Council must be given notice prior to Council granting consent for the demolition of environmental heritage items. Given that approval for the KDH redevelopment is sought from the Minister under the SRD SEPP, Clause 29 does not apply.

Schedule 1 - Environmental Heritage

The entire KDH site is listed in Part 1 - Items of Environmental Heritage as Item No. 92. Accordingly, special provisions apply, as discussed earlier.

4.1.6 Relevant Planning Provisions, Goals and Strategic Planning Objectives

NSW State Plan ‘NSW 2021’

NSW 2021 was released in September 2012 and is the NSW Government's 10-year plan to deliver the best possible services to the people of NSW.

The key goals with respect to health services include:

- *Keep people healthy and out of hospital*
- *Provide world class clinical service with timely access and effective infrastructure*
- *Invest in critical infrastructure*

The KDH redevelopment contributes to achieving this goal by providing renewed critical infrastructure to meet health demands towards 2021.

Mid North Coast Regional Strategy

The Mid North Coast Regional Strategy was released in March 2009 and applies to the eight local government areas of Clarence Valley, Coffs Harbour, Bellingen, Nambucca, Kempsey, Port Macquarie-Hastings, Greater Taree and Great Lakes.

The primary purpose of the Strategy is to ensure that adequate land is available and appropriately located to accommodate the projected housing and employment needs of the Region's population to 2031. The Strategy foreshadows expansion of residential areas to the north-west and south-west of Kempsey, including potential future urban release areas west of Greenhill.

Whilst the Strategy does not set out any particular planning provisions, goals or strategies for the delivery of improved health infrastructure, the proposed KDH redevelopment have an important role in supporting the growth of the population.

Kempsey Development Control Plans

Clause 11 of the SRD SEPP states that development control plans (whether made before or after the commencement of the SEPP) do not apply to State significant developments.

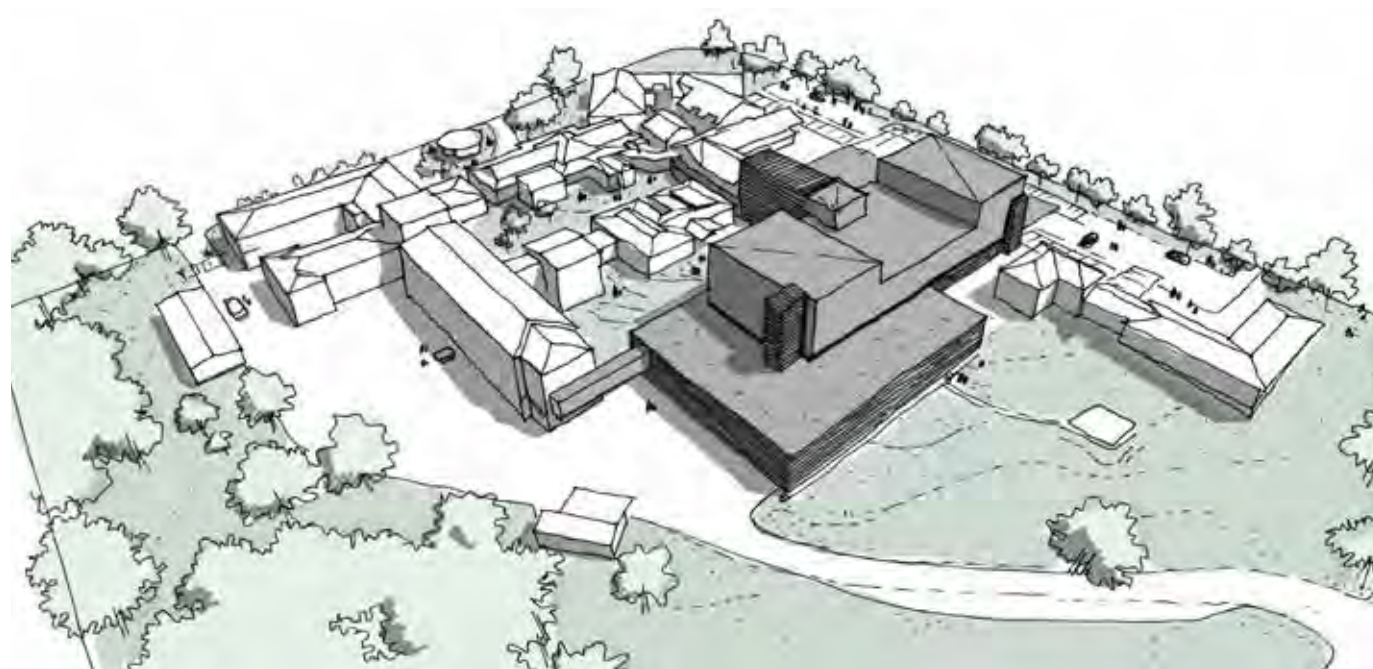
Notwithstanding, there are no relevant Development Control Plans that apply to the site.

4.1.7 List of Other Approvals

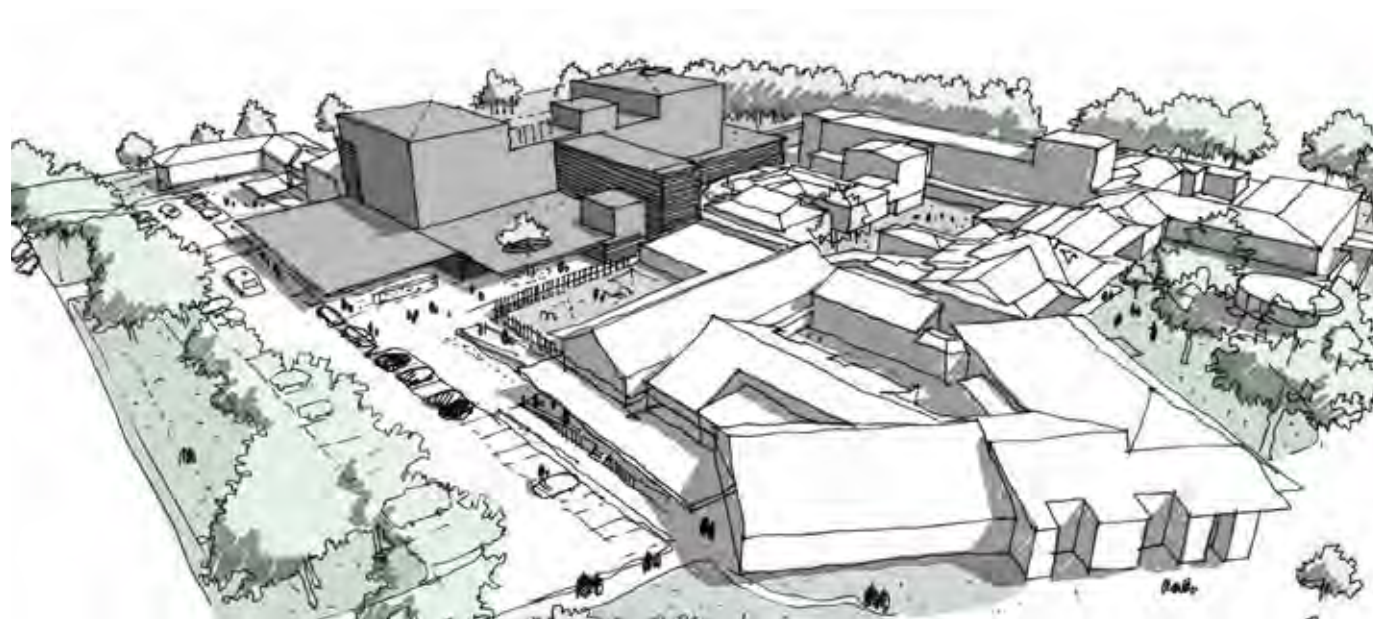
Clause 7(1)(d) of the *Environmental Planning & Assessment Regulation 2000* requires an analysis of the development including:

- (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.*

No other approvals under any other Act or law are required to be obtained before the development may be carried out under the provisions of the SRD SEPP 2011.



View looking north-west



View looking south-east

FIGURE 42: Built Form sketches

Source: BVN Donovan Hill

4.2 BUILT FORM AND URBAN DESIGN

The DGRs state that the following items must be addressed:

- *Address the height, bulk and scale of the proposed development within the context of the locality, including the existing hospital buildings and adjoining residential development.*
- *Address design quality, with specific consideration of the overall site layout, connection with the existing adjacent hospital buildings, axis, vistas and connectivity, open spaces and edges, primary elements, gateways, façade, rooftop, mechanical plant, massing, setbacks, building articulation, materials, choice of colours, including an assessment against the Crime Prevention Through Environmental Design Principles.*
- *Impact of the proposed development on the existing internal hospital road network and associated car parking.*

4.2.1 Height, Bulk and Scale of the Development

The majority of existing buildings on site are between one and three storeys. Single storey buildings are generally located to the north of the site on higher ground, whilst the two storey Emergency/Theatre Block and the three storey Ward Building are located towards the south of the site on lower ground. The effect is a fairly consistent roofline whereby additional height is taken up in response to the slope of the land.

The new hospital building will be taller than the existing buildings on site and will have a maximum height of five storeys (including the lower ground level and rooftop plant level) with a maximum RL of 48.574m AHD. The height of the new hospital building responds to the sloping topography of the site as well as the need to provide for optimal clinical relationships, such as allowing wards to be separated vertically from the general hospital level and locating theatres on the top floor to provide efficient servicing. The floor levels have been set to allow the new building to connect to existing levels of surrounding hospital buildings.

The building mass consists of a single storey ground floor podium with three upper storeys which are significantly set back from the southern and eastern building lines. The lower ground storey occupies approximately half of the ground floor footprint at the southern end of the building and is at grade with the new service road. The circulation core projects from the western side of the building and rises consistently to the ceiling height of the plant level.

Figure 43 illustrates the proposed new built form within the context of the existing hospital buildings on site.

A series of photomontages have been prepared which demonstrate the built form mass of the new hospital building as seen from a number of viewpoints.

It is noted that sites immediately adjacent to the KDH site include vacant lots, open space and West Kempsey Cemetery. Accordingly, view analysis has been assessed from locations where there are existing residential dwellings or where there will be substantial change to the existing streetscape. Refer to Figures 44, 45 and 46.



FIGURE 43: 3D impression of the proposed built form in the context of the existing hospital site

Source: BVN Donovan Hill



Existing View

FIGURE 44: Existing and proposed view looking south-east from Northern Car Park

Source: Johnstaff



Proposed View

Source: BVN Donovan Hill

Figure 44 demonstrates significant change at the Polwood Street frontage as seen from the Northern Car Park. The new hospital building is expressed as a new, contemporary element with the existing hospital site. The scale and architecture reinforce the new main entry to the hospital complex and hence is a positive addition to the Polwood Street streetscape.

Figure 45 demonstrates the built form mass of the new building as seen from Tozer Street residences. The use of dark masonry on the podium levels responds to the existing scale of the surrounding hospital buildings. The use of a lighter colour on the upper storey facades serves to minimise the potential visual impact.



Existing View

FIGURE 45: Existing and proposed view looking west from Tozer Street

Source: Google Maps



Proposed View

Source: BVN Donovan Hill

Figure 46 illustrates the view from Tabrett Street residences in which the Hospital's hilltop setting is pronounced. As shown in the proposed view, the new building will reinforce the existing skyline established by the trees to the south and north of the site. The lighter colours used on the upper storey facade serve to minimise potential visual impact.

As demonstrated in Figures 43 to 46, the new hospital building will be a major new addition to the KDH site. It will mark the new main entry to the hospital campus on Polwood Street and will feature prominently in more distant views from Tabrett Street, reinforcing the importance of the Hospital within the locality. The north-south orientation of the building minimises the extent of bulk and scale presented to Polwood Street and the stepped built form envelope minimises bulk and scale impacts on the retained hospital buildings.

The photomontages demonstrate that the height, bulk and scale of the proposed development will not adversely impact on the locality, the existing hospital buildings or the nearby residential properties.



Existing View

FIGURE 46: Existing and proposed view looking west to KDH site along Tabrett Street



Proposed View

Source: BVN Donovan Hill

4.2.2 Design Quality

The design quality of the KDH redevelopment can be assessed against the following design quality criteria, which have been adapted from the design principles contained in State Environmental Planning Policy 65 Residential Flat Buildings, given that the proposed development is a multi-storey building:

- Context
- Scale
- Built Form
- Resource, energy and water efficiency
- Landscape
- Amenity
- Safety and Security
- Social dimensions
- Aesthetics

Context

The KDH redevelopment responds and contributes to its immediate context by:

- Adopting a stepped built form which responds to the topography of the site and the scale of existing buildings;
- Maximising outlook to the existing surrounding landscape, including open space to the north, West Kempsey Cemetery to the south, the wider Kempsey locality to the east and vegetation associated with the Macleay River to the west.
- Cohesively integrating with existing hospital buildings and providing for greater connectivity throughout the hospital campus.
- Retaining key heritage elements including the 1913 Administration Building and associated structures, the row of established trees along the boundary of the West Kempsey Cemetery and the Memorial to the Casements.

Scale

The scale of the KDH redevelopment reinforces the campus-style setting of the existing hospital site. The new hospital building is larger in scale than the existing hospital building, which reflects the need to provide for increased service capacity and contemporary models of care to meet the changing and unique health care needs of the community. Refer to Section 4.2.1.

Built Form

The proposed built form, architectural design and relationship to existing hospital buildings has been addressed in detail in Section 3.5.

The built form reads as a new addition to the existing KDH site, signifying a new phase in the provision of health services in Kempsey, whilst reinforcing the existing identity of the site by enhancing the campus-style character of the hospital site and responding appropriately to the surrounding context.

Resource, Energy and Water Efficiency

The KDH redevelopment will incorporate a range of measures to minimise consumption of resources, energy and water. These measures are discussed in detail in Section 3.9.

Landscape

The landscape design of the KDH redevelopment builds on existing natural and cultural features of the locality. The landscape design optimises access, usability, and amenity and will contribute to a positive image for the hospital. Refer to Section 3.8.

Amenity

The KDH redevelopment has been designed to maximise amenity for patients, staff and visitors by:

- Optimising room sizes and layouts in accordance with

the Australasian Health Facility Guidelines (AHFG) and Room Data Sheets (which are to be further developed in consultation with Project User Groups).

- Maximising access to natural daylight.
- Providing for visual connectivity. Vistas from internal spaces to landscaped internal courtyards and external views will be provided by maximising inpatient units and other treatment and workspaces along the perimeter of the building as well as designing internal layouts to permit views from deep within the building.
- Adopting universal design to provide ease of access for all age groups and degrees of mobility
- Providing access to green space. Fully accessible courtyards and healing gardens will be provided, including the main entry forecourt, the central healing garden on the ground floor and the rooftop garden (on Level 1).

Potential impacts on the amenity of surrounding development as a consequence of the KDH redevelopment are addressed in detail in Section 4.3.

Safety and Security

The Crime Prevention Through Environmental Design (CPTED) guidelines under Section 79C of the EP&A Act 1979 are based on key principles for designing buildings and places that are safe and secure and which deter criminal behaviour. The four key CPTED principles are:

- Surveillance
- Access Control
- Territorial Reinforcement
- Space Management

The KDH redevelopment has been designed with consideration for the safety and security of patients, staff and visitors. Good initial planning and detailed design shall be incorporated to overcome the main problems around security. This includes:

- Avoiding opportunities for concealment and unauthorised access,

Principle	Design Response
Surveillance	- A new central security office will be provided adjacent to the Main Entry and Emergency Department. - Remote CCTV monitoring of all access and egress points to the new facility will be provided with particular attention given to strategic external points, staff car-parking areas (particularly after-hour areas) and weekend fleet car security. - Appropriate external lighting will be provided - Careful consideration will be given to the type of planting used externally
Access Control	- The number of entry points to the hospital will be reduced as a result of the redevelopment. Entry to the various areas and departments within the facility shall be managed. - After-hours access shall be controlled and public access shall generally be through the Emergency Department. Some exceptions will apply, such as for Maternity and Renal, but these shall also be monitored. - Movement of staff between various departments shall be managed and may include limiting or recording access to sensitive areas. - Night staff shall be allocated parking in secure areas. - Entry to the facility grounds, particularly after-hours, shall be appropriately managed to minimise unauthorised entry and vandalism. Vehicle compounds shall be fenced and the design restricts after hours access to all areas other than the periphery of the site. Particular areas for consideration include the Emergency Department, Dosing Clinic, staff entry points, staff and fleet vehicle car park and after-hour entry points.
Territorial Reinforcement	Separate public and staff/patient circulation routes.
Space Management	- Patient security and safety will be addressed by: - Managing wandering patients, particularly in Mental Health and Aged Care - Minimising risk of illegal removal of babies and children from Maternity and Paediatric units - Managing mental health and other behaviourally disturbed patients – e.g. providing safe areas for containment and observation - The high risk areas have been identified and will be managed accordingly: - Drug and alcohol beds within the inpatient unit - Emergency Departments - Any location where staff may work alone in isolation or for extended hours - Dosing clinic - Any area where child protection or domestic violence may be an issue – Primary and Community / Child and Families. - Provision for inmate presentations has been considered. Secure, enlarged rooms have been appropriately located within each department away from primary patient flows which can be observed by staff.

TABLE 03: CPTED responses for the proposed redevelopment

- Appropriate management and containment of high risk patients e.g mental health patients, and
- Design of circulation including external circulation, internal circulation within and connecting departments, and links between buildings (where applicable) for the safe transit of patients and staff.

The four CPTED principles are incorporated in the redevelopment as outlined in Table 3.

Social Dimensions

The KDH redevelopment will provide for increased service capacity and deliver contemporary and integrated models of care which better meet the changing and unique health care needs of the community.

One of the key objectives of the KDH redevelopment is to deliver culturally appropriate services which meet the needs of the high proportion of Aboriginal people in the Kempsey Local Government Area. This includes factoring in specific requirements for some services / departments such as culturally sensitive outdoor spaces, family/ relative rooms and providing a strong connection from the outside in and the inside out. The use of Aboriginal symbolism and bush tucker plants will be incorporated into the hospital landscape to provide a holistic representation of the indigenous and non-indigenous communities of the local area and wider region.

Aesthetics

The design of the proposed new building is composed of building elements, materials and colours which establish a dialogue with the surrounding hospital buildings whilst expressing the building as a new addition to the existing hospital site. A detailed description of the built form components, materials and colours of the proposed new hospital building is provided in Section 3.5.

4.2.3 Internal Road Network and Parking

The internal road network of the existing KDH site consists primarily of service access roads and access and egress to staff car parking.

The KDH redevelopment will involve the relocation of the main entry at River Street to Polwood Street and the modification of the Northern Car Park, including three new ambulance bays and associated driveway access from Polwood Street. No internal road works are proposed as part of this application.

Modifications to the internal road network will be carried out prior to the KDH redevelopment, involving the construction of a new service road linking Tozer Street to the existing service/loading area through to River Street.

Accordingly, the proposed KDH redevelopment will not impact on the internal road network and will provide for increased on-site parking. Refer to Section 4.6 for further details.

4.3 AMENITY

The DGRs state that the following items must be addressed:

- *Detail amenity impacts including solar access, acoustic impacts, visual privacy, servicing requirements (including but not limited to, waste management, loading zones, mechanical plant), overshadowing and wind impacts. A high level of environmental amenity for land uses adjacent must be demonstrated.*

4.3.1 Solar Access

Figures 47 and 48 indicate the overshadowing impact of the new hospital building at 9am, 12pm and 3pm during winter solstice (June 21) and summer solstice (December 21) and are provided in Appendix A.

Surrounding Development

There will be no overshadowing impacts on properties surrounding the KDH site, given that they predominantly consist of vacant lots, open space and the West Kempsey Cemetery. There will be no impact on the residential properties along Tozer Street given that the new hospital building is located some 70m west of the properties.

Overshadowing within the Site

As indicated in the shadow diagrams, there will be some overshadowing impact in the morning winter period on the central healing garden, Rehabilitation Building, and Hydrotherapy and Rehabilitation Building. During the summer morning period, there will be some overshadowing impact on the central healing garden.

Given the nature of the uses within the affected buildings and spaces, the shadow impacts associated with the new building are considered to be very minor.

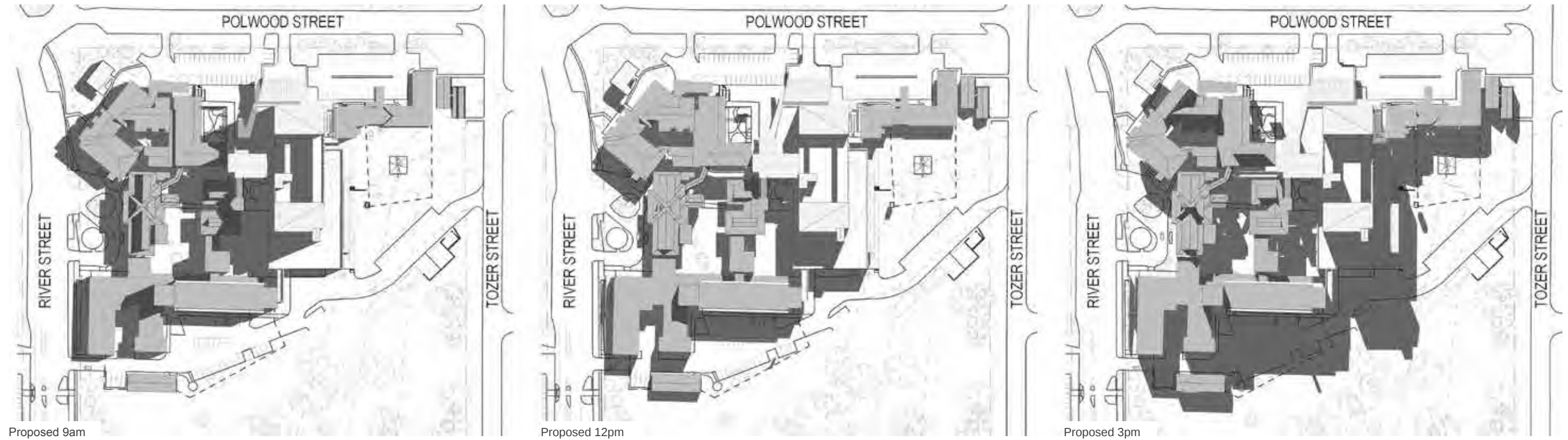


FIGURE 47: Shadow diagrams - Winter Solstice

Source: BVN Donovan Hill

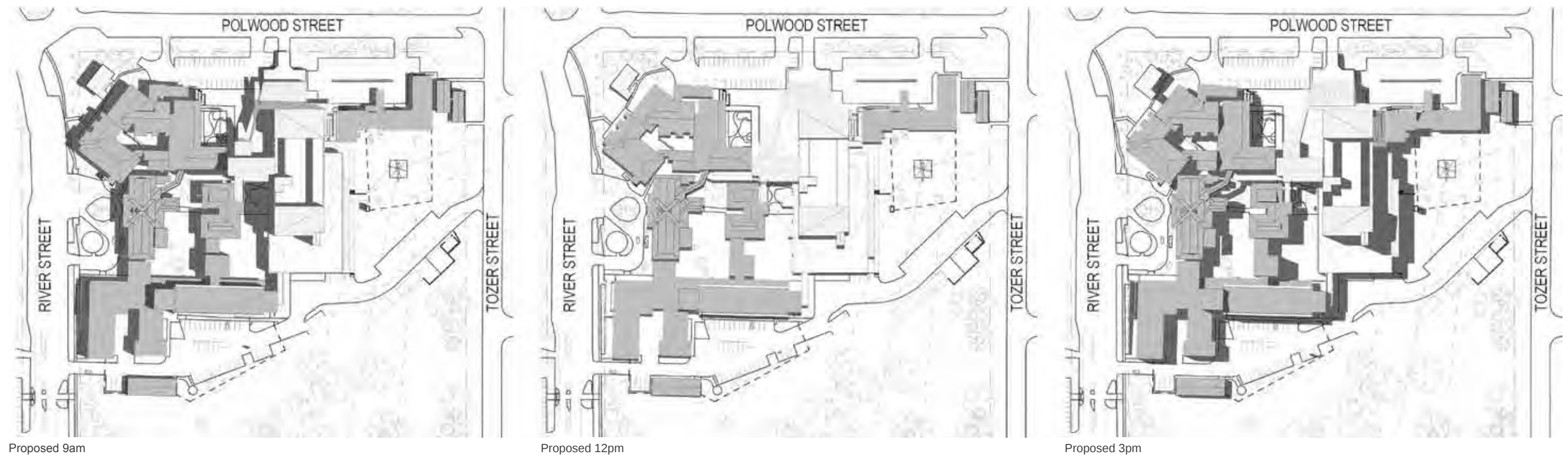


FIGURE 48: Shadow diagrams - Summer Solstice

Source: BVN Donovan Hill

4.3.2 Acoustic Impacts

A Noise and Vibration Assessment (refer to Appendix D) has been carried out and is discussed in Section 4.5.

The assessment identified that the dominant source of operational noise will be the rooftop plant. Acoustic controls will be required to ensure acoustic impacts to nearby hospital buildings and nearest residential receivers are minimised.

Traffic noise levels generated by the proposed redevelopment will be within acceptable noise criteria and accordingly will not adversely impact on surrounding properties.

Noise generated by service vehicles entering the site from Tozer Street during the daytime period (one vehicle per hour) will not exceed acceptable noise criteria. An increased number of smaller delivery vehicles (such as 10m rigid trucks) could be accommodated whilst maintaining compliance.

The assessment identified that construction noise is likely to exceed acceptable noise criteria and that mitigation measures will be required to minimise acoustic impacts on residential receivers. Refer to Section 4.5.

Accordingly, mitigation measures will be implemented to ensure that the acoustic amenity of surrounding properties will not be adversely impacted.

4.3.3 Visual Privacy

The surrounding properties predominantly consist of vacant lots, open space and West Kempsey Cemetery and the nearest residential property is some 70m east of the new hospital building. Accordingly, there will be no impacts on the visual privacy of neighbouring properties.

4.3.4 Wind Impacts

Prevailing winds come from a south-westerly direction in the morning and from a north-easterly direction in the afternoon.

Airlocks will be provided at the Main Entry and at the entry to the Emergency Department, to provide internal wind/weather protection and to maintain internal air pressurisation.

In terms of external wind impacts, the proposed new building is of a scale that is unlikely to generate any adverse wind impacts.

A Helicopter Landing Study has been undertaken and is provided in Appendix F. The assessment concluded that the existing helicopter landing site (HLS) does not need be to relocated as a result of the new development, however there may be occasions when the HLS is unusable in strong winds, due to the limited flight paths available (approach and depart from the north east and south east between 040° - 160°).

4.3.5 Servicing Requirements

A new service compound has been approved for construction in the southern portion of the site, together with a new service road linking Tozer Street to the existing service / loading area off River Street. This will allow for the separation of public and service vehicle access, ensuring the amenity of patients and visitors accessing the Main Entry of the site.

4.4 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

The DGRs state that the following items must be addressed:

- *Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000) will be incorporated in the design, construction and ongoing operation phases of the development.*
- *Include a description of the measures that would be implemented to minimise consumption of resources, water and energy.*
- *Relevant Policies and Guidelines:*
 - *NSW Health's Engineering Services and Sustainable Development Guidelines (TS11)*

4.4.1 ESD Principles

Table 4 discusses the manner in which the principles have been incorporated in the design, construction and ongoing operation phases of the development.

4.4.2 ESD Measures

A description of ESD initiatives to be implemented in the KDH redevelopment is provided in Section 3.9.

ESD Principles (Clause 7 (4) of Schedule 2)	KDH Redevelopment Response
Precautionary Principle <i>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.</i>	Environmental technical studies have been carried out to identify if there are any serious or irreversible threats of environmental damage as a consequence of the proposed development. The studies have concluded that there will be no adverse environmental damage caused as a consequence of the design, construction and operation of the development. Where potential environmental impacts may occur, mitigation measures will be implemented to ensure there is no adverse impact. Refer to Section 5.0.
Inter-generational Equity <i>The present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.</i>	The new KDH will offer modern, contemporary health care facilities with increased capacity, thereby improving and enhancing the delivery of health services for the benefit of present and future generations. The incorporation of ESD initiatives (refer to Section 3.9) will enhance the health and productivity of the hospital environment with flow-on effects to the general community.
Conservation of Biological Diversity and Ecological Integrity <i>Conservation of biological diversity and ecological integrity should be a fundamental consideration,</i>	The biological diversity and ecological integrity of the site has been considered in the Flora and Fauna Assessment (refer to Appendix G) undertaken for the site. The assessment concluded that the site does not contain any threatened or ecologically endangered species, populations, communities or significant habitat. A number of existing trees in the vicinity of the Hydrotherapy building will be retained, as well as the row of mature trees along the southern border screening the West Kempsey Cemetery.
Improved Valuation, Pricing and Incentive Mechanisms <i>Environmental factors should be included in the valuation of assets and services,</i>	One of the key environmental goals of the KDH redevelopment is to target a 4-Star Green Star Healthcare Version 1 certified design rating. As described in Section 3.9, Green Star points will be targeted in a variety of categories in the most cost effective way.

TABLE 04: KDH Ecologically Sustainable Development Principles

4.5 NOISE AND VIBRATION

The DGRs state that the following items must be addressed:

- *Identify and provide a quantitative assessment of the main noise and vibration generating sources and activities at all stages of construction and any noise sources during operation. Outline measures to minimise and mitigate the potential noise and vibration impacts on existing hospital operations and surrounding occupiers of land.*
- *Relevant Policies and Guidelines:*
 - *NSW Industrial Noise Policy (EPA)*
 - *Interim Construction Noise Guideline (DECC)*

A Noise and Vibration Assessment (Appendix D) has been undertaken and is summarised below.

4.5.1 Operational Noise

The nearest residential receivers are located in Tozer Street approximately 80m to the east, whilst Kempsey Heights Bowling Club is located approximately 90m to the north east. Undeveloped land is located to the north of Polwood Street.

As part of the acoustic schematic design process, an unattended noise logging exercise was undertaken to determine the quantitative noise emission criteria for the following:

- Normal Operation
- Emergency equipment maintenance and testing
- Road Traffic Noise
- Helicopter Noise
- Internal noise levels and reverberation times
- Rainfall noise
- Internal Acoustic separation

The following noise emission criteria have been provided for:

- Stationary mechanical noise sources using the NSW Industrial Noise Policy (INP) and
- Road traffic noise sources using the Road Noise Policy (RNP).

Hospital Operations

The assessment identified the rooftop (Level 3) mechanical plant room being the dominant source of external noise emissions. In particular, the sound power of the two cooling towers running simultaneously would be 99 dB(A), which is above the 90dB(A) limiting sound power criterion for Hospital Wards.

Accordingly, acoustic controls will be required for the external noise criteria to be satisfied. Mitigation measures include:

- Selection of equipment with lower acoustic emissions
- Architectural treatment for the plant room, such as utilising acoustically absorptive material, silencers / acoustic louvres, floor slab thickness and ceiling treatment for floors below.

Traffic Noise

An assessment of traffic noise was carried out based on the predicted traffic generated by the project. The results indicate that the relative traffic noise level increases on surrounding roads are within the acceptable relative noise increase criterion of 2dB, as set out in the NSW Road Noise Policy (RNP). Accordingly, mitigation measures are required with regard to traffic noise.

Helicopter Noise Intrusion

In the absence of any formal Health Infrastructure NSW criteria for helicopter noise (in terms of maximum internal noise levels), a range of criteria from other authorities and peers within the acoustic consulting industry, together with criteria adopted by the project architects at similar facilities, has been considered. On that basis, a maximum noise level of 70dB L_{AFmax} would be appropriate given the anticipated infrequency of helicopter noise events.

An assessment of applicable helicopter noise data (based on Bell 412 helicopter) and the proposed helicopter operating conditions was undertaken with respect to noise outcomes for a range of construction types. The assessment found that it would be impractical to target maximum noise levels lower than 70 dB(A) as the glazing types required far exceed commercially available systems and construction norms.

It is proposed that for clinical areas on the most affected facade (eastern) and for clinical areas generally, insulated glass unit (IGU) and a jockey sash spaced approximately 50mm from the IGU will be used.

4.5.2 Construction Noise and Vibration

The nearest sensitive receptors to the construction works are hospital wards located in the existing areas of the Kempsey District Hospital. A passive recreation area for acute care patients is also located approximately 25 metres from the new building.

The nearest residential receptors to construction works are:

- Tozer Street residences: nearest residences located approximately 100m from the centre of the new building and 30m from the services compound and site access road to Tozer Street
- River Street residences: nearest residence located approximately 150m from the new building.

The interim Construction Noise Guideline (ICNG) was used as the basis of criteria for the following assessment.

Construction Noise

Construction noise levels have been predicted based on general acoustic principles, taking into account calculated sound power levels of the construction equipment and relevant acoustic factors such as distance attenuation and ground effects

The predicted construction external noise levels associated with the construction enabling works and main construction of the new hospital building generally exceed the acceptable noise management levels for hospital and residential receivers. Accordingly, management measures will be required to mitigate adverse construction noise impacts.

Construction Vibration

Potential construction vibration levels have been predicted based on the various potential sources of vibration (i.e. construction plant), the distance to the nearest sensitive receivers and site specific ground factors.

Vibration levels at residential locations are generally expected to achieve human comfort vibration management levels.

The structural damage limits for residential buildings are predicted to be achieved at distances less than 10 metres. The structural damage limits for commercial buildings at the hospital are not expected to be exceeded at distances greater than 5 metres from construction activities. Given the distances from construction activities to the nearest residential and commercial structures, vibration from construction activities is not expected to exceed structural damage limits.

For sensitive areas of the existing hospital (operating theatres, precision labs and wards), it is likely that the vibration management levels will be exceeded at times during construction. Implementation of management measures to mitigate adverse impacts will be required.

Mitigation Measures

All feasible and reasonable work practices are to be implemented to reduce construction noise and/or vibration. These include:

- Adopting standard construction hours – 7am to 6pm Monday to Friday and 8am to 1pm Saturday, as recommended in the Interim Construction Noise Guideline.
- Work site induction and training, including discussion of noise and vibration issues and appropriate noise-related on-site behaviour.
- Where works are to be ongoing near sensitive receivers for long periods of time, hoarding up to 2.4m in height, constructed of solid material with no gaps will be placed as close as feasibly possible to the construction works.
- Site Management, including:
 - Locating noisy plant and activities away from sensitive receivers
 - Reducing 'drumming' noise generated by dropping

materials into an empty truck tray or disposal bin by lining tray/bin with soil or equivalent material to reduce impact where practicable.

- Machines that are used intermittently to be shut down in the intervening periods between works or throttled down to a minimum
- Minimising vehicle related noises such as reverse signals and horns
- Truck operators to ensure tailgates are cleared and locked at the point of unloading
- Two way radios to be used at the minimum effective volume
- Minimise noise associated with packing up plant and equipment and departing from the site.
- Equipment Management, such as using low noise and vibrations settings, shutting down equipment when not in use, ensuring silencers and enclosures are intact, maintaining all plant and equipment to minimise frictional and cutting noise and restricting vehicular speed and reversing.
- Community Consultation – all affected residential receivers (i.e. Tozer Street residences) should be notified in writing of relevant construction activities, 5 to 14 days prior to the commencement of the activities.
- Complaint Management – clearly visible signage should be erected on the perimeter of the site identifying key site contact details for complainants.

4.6 TRANSPORT AND ACCESSIBILITY

The DGRs state the following:

- *Detail proposed car parking arrangements for the development and expanded services and facilities, including parking requirements generated by construction and the displacement of visitor and patient car parking. Alternative off-site arrangements should be made for staff and construction workers.*
- *Detail proposed access arrangements to the hospital, including augmentation requirements and intersection upgrade treatments, the type and size of vehicles accessing the site, and measures to mitigate any associated pedestrian, cycle or traffic impacts.*
- *Provide accurate details of daily vehicle movements and assess the impacts of the traffic generated on the local road network, including impact on nearby intersections and any potential need for upgrading or road works (if required).*
- *Provide a draft Construction Management Plan.*
- *Prepare a Transport Accessibility Study that addresses the following:*
 - *the proposed access and parking provisions, including the number of car parking spaces and compliance with the relevant Australian standards and parking codes;*
 - *demonstrates how users of the development will be able to make travel choices that support the achievement of State Plan targets;*
 - *details existing pedestrian and cycle movements within the vicinity of the site and determine the adequacy of the proposal to meet the likely future demand for increased public transport and pedestrian and cycle access; and*
 - *describes measures to be implemented to promote sustainable means of transport including public transport usage and pedestrian and bicycle linkages in addition to addressing the potential for implementing a location specific sustainable travel plan.*
- *estimate the total daily and peak hour trips generated by the proposed development, including accurate details of the current and future daily vehicle movements and assess the impacts of the traffic generated on the local road network, including intersection capacity and any potential need for upgrading or road works (if required), having regard to local planning controls.*
- *Relevant Policies and Guidelines:*
 - *Guide to traffic generating development (RMS)*
 - *Planning guidelines for walking and cycling*
 - *EIS Guidelines - road and related facilities (DP&I)*

A Transport and Accessibility Impact Assessment (Appendix E) has been undertaken and is summarised below.

4.6.1 Existing Traffic Context

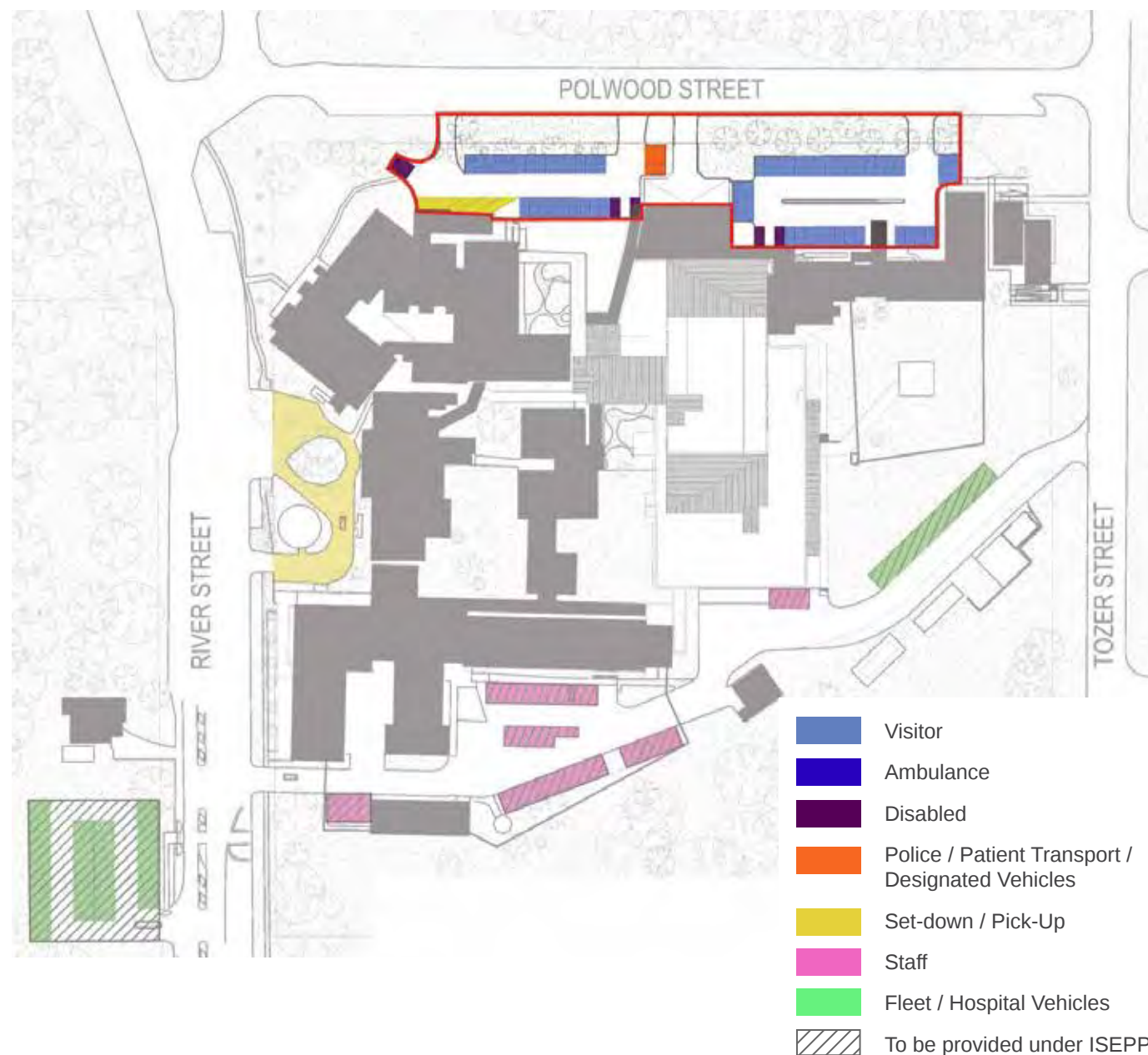
Main access to the KDH site is from River Street, which is a regional road which provides a link between the Pacific Highway and rural areas to the west. The balance of surrounding streets are generally local streets.

The surrounding intersections are all priority controlled and site observations indicate that they are operating well and do not currently experience queuing or delay due to their residential surrounds. The intersection of Tozer Street and Polwood Street does however have limited sight lines due to its location on the crest of a hill.

Based on intersections counts and on-site observations, the existing site generation is estimated to be in the order to 100 vehicles per peak hour and approximately 560 vehicles per day.

The existing hospital site has a current parking supply of 113 off-street spaces and 187 on-street spaces. On-street and off-street parking demand surveys were undertaken in October 2012 during the weekday morning (to 10:00am) and afternoon (from 2:30pm) peak periods. The surveys indicate that on-street car parking demand associated is relatively high, with peak demand at 10:00am equal to an occupancy rate of 81% for on-street parking and 91% for off-street parking. The overall peak parking demand is 85%, indicating that there is currently adequate parking supply.

A review of the bus network in the vicinity of the site shows that there are a number of bus routes which serve the Hospital site. These include the 353, 354 and 355, which are provided by Busways, and the West 2 and West 3, which are provided by Cavanaghs Bus Company. Access to bus services for local area staff and visitors is regular; however less frequent for those travelling from



regional areas. The existing bus shelters and bus stops located on River Street adjacent to the site are well located for existing and future purposes. However it is understood that the existing services are under-utilised.

There are limited external pedestrian facilities in the vicinity; however there is a 1 metre wide pedestrian path on River Street connecting the Hospital with Kempsey Town Centre. There are no formal cycling facilities in the vicinity of the site.

4.6.2 Proposed Access

Existing vehicular access to the site would be maintained from River Street and Polwood Street, with the main entry and associated patient/visitor parking relocated to Polwood Street.

Ambulance access will also be relocated to Polwood Street with direct access to a dedicated driveway and three ambulance bays.

Emergency helicopter access will be maintained with upgrading of the existing helipad.

Staff and service access will be separated from public and emergency vehicle access to minimise potential traffic conflicts, particularly with pedestrians. Access to staff parking (hospital fleet vehicles) and servicing / loading areas will be provided towards the south of the site, as part of the construction of the new service road. The service road will provide for an additional entry at Tozer Street and will connect to River Street via the existing service / loading dock area, allowing service vehicles to enter and exit the site in a forward direction. The service road is designed to allow 12.5m large rigid vehicles as well as 19m articulated vehicles. These works do not form part of this application.

The main pedestrian access is proposed from Polwood Street and secondary pedestrian access would be maintained via River Street and utilised primarily as an out-patient set-down/ pick-up zone.

As a result of the shift in hospital focus from River Street to Polwood Street, the existing connection from River Street via the pedestrian path, which wraps around the north-western corner of the site in front of the Maternity and Mental Health Buildings, will be retained to provide access toward the new Main Entry. A way-finding signage strategy will be implemented to guide pedestrians from the existing River Street entry and nearby bus stops, towards the new main hospital access.

Bicycle parking will be provided to encourage and facilitate access to the primary hospital services for all user groups.

4.6.3 Proposed Car Parking

Operation

In the absence of relevant Council parking requirements, RMS requirements together with an empirical assessment of existing parking demand have been used to determine that additional off-street car parking will be required as a result of an increase in staff and in-patient beds. Accordingly, a total of approximately 135-170 off-street parking spaces would be required to service the new hospital, noting that up to 50% of the existing off-street parking will require reconstruction as a result of the future site layout.

It is proposed that a total off-street parking supply of 173 car spaces be provided. Refer to Figure 49.

71 of the 173 off-street car spaces are proposed to be constructed as part of the KDH redevelopment. These spaces will be provided to the north-east and north-west of the site, accessible from Polwood Street.

The balance of car spaces (102) have been approved for construction to the south of the KDH site (associated with the new service road) and west of River Street (within the wider Hospital Precinct) as part of a separate determination made under the provisions of ISEPP.

Construction

The existing parking supply of 113 spaces will be maintained (as much as practicable) during the construction enabling works and main construction works to reduce disruption and the traffic impact on the external road network. As such, the proposed staging and timing of construction works ensures a minimum of 113 spaces is available during construction.

4.6.4 Traffic Impact Assessment

The existing site traffic generation is estimated to be in the order of 100 vehicles per peak hour and approximately 560 vehicles per day.

Additional daily vehicle movements were calculated based on a range of acceptable criteria and are summarised in Table 5. On that basis, the proposed development is expected to generate and additional 50 vehicles during the peak period and approximately 250 to 300 additional vehicles a day.

Given the small increase in hourly traffic volumes and the existing performance of the surrounding road network, the external road network would be capable of accommodating additional traffic associated with the KDH redevelopment.

4.6.5 Sustainable Transport

There is potential for encouraging sustainable transport infrastructure and improved public transport utilisation and hence greater travel choice.

Walking and Cycling

Given the existing and proposed on-site services together with the known socio-demographics of the area, end-of-trip facilities would be of benefit to staff and visitors alike. Such facilities are proposed to be interspersed throughout the site with a focus on services such as Drug and Alcohol, Integrated Community Care Centre and Aboriginal Health. Additional facilities would also be provided within the entry forecourt area.

Bus Transport

As identified in Section 4.6.1, existing bus services are under-utilised. There are opportunities to improve bus usage rates through:

- Improvements to the bus network, such as increasing the number of accessible routes to potentially increase staff and visitor patronage numbers.
- Implementation of a Green Travel Plan. This would encourage staff and visitors to reduce their reliance on private vehicle use and promote the use of public transport, which may ultimately lead to a further expansion of existing services.

4.6.6 Construction Traffic Management Plan

A Construction Traffic Management Plan will be prepared as part of the Construction Management Plan prior to the construction phase.

Guideline / Criteria	Assumptions	Additional vehicles during peak hour	Additional vehicles per day
Guide to Traffic Generating Developments (RMS, 2002)	64 beds	37 (morning) 45 (afternoon) 32 (evening)	N/A
Increase in Gross Floor Area (GFA)	Increase by 35% GFA	35	200
Full Time- Equivalent (FTE) Staff Levels	Increase by 45%	45	255
Parking	Increase in parking by 45%	45	255

TABLE 05: Traffic Generation Rates

Source: Adapted from GTA

4.7 FLORA AND FAUNA

The DGRs state that the following item must be addressed:

- *Address impacts on flora and fauna, including threatened species, populations and endangered ecological communities and their habitats and steps taken to mitigate any identified impacts to protect the environment.*

A Flora and Fauna Assessment, including an Arborist Report, has been undertaken and is summarised below. Refer to Appendix G for further details.

The existing KDH site was cleared for construction of the hospital in 1881, and the subsequent construction of the Administration Building in 1913. Vegetation on the site comprises planted specimen trees of mostly exotic species. Some remnant native trees occur along the road reserve of River Street and on the bank of the Macleay River.

The site was inspected in January 2013 with the aim to determine whether the proposed KDH is likely to cause a significant effect on any endangered ecological community (EEC), endangered population, threatened species or their habitats. Trees proposed for removal or near proposed works were also assessed, as well as any potential for fauna use.

Impact Assessment

There are no threatened species, populations and communities, or their habitats, listed in the Threatened Species Conservation Act 1995 or Environment Protection and Biodiversity Conservation Act 1999. No part of the land has been identified as critical habitat.

The site is not natural habitat for any species of flora or fauna, having been cleared more than 100 years ago and supporting recent horticultural landscape plantings. No species of threatened native fauna are likely to use the planted trees on site.

A number of trees are proposed to be removed due to the proposed new hospital building. Of these trees, the Bangalow Palms are suitable for relocation and are recommended for transplanting elsewhere on the site so that any possible use by native fauna is not lost.

Accordingly, the proposed development will not have an adverse environmental impact on flora and fauna.

4.8 BUSHFIRE

The DGRs state that the following item must be addressed:

- *A bushfire hazard assessment and report that addresses the requirements of clause 44 of the NSW Rural Fires Regulation 2008 and the requirements for Special Fire Protection Purpose Development as detail in Planning for Bush Fire Protection 2006 guidelines.*
- *The assessment and report shall also address the existing hospital development's compliance with the requirements of Planning for Bushfire Protection 2006 guidelines and recommend any improvements to achieve a better bush fire outcome for the existing facility.*

A Bushfire Hazard Assessment (Appendix H) has been prepared and is summarised below.

A site inspection was carried out in January 2013 to determine the landform, slopes, aspect, drainage, vegetation types and adjoining land use. The identification of existing bushfire protection measures and visual appraisal of bushfire hazard and potential fire paths were also undertaken.

It is noted that the assessment includes Lot 1, DP115920 which is part of the hospital precinct but does not form part of the land for which development approval is sought in the this State Significant Development Application.

4.8.1 Bushfire Hazard Assessment

The following has been observed with regard to Clause 44(a) of the Rural Fires Regulation 2008.

- Vegetation Classification:
 - The vegetation within the main Hospital precinct consists of managed landscape gardens with a pocket of pine trees with managed under storey along the south-eastern boundary. This vegetation is not bushfire prone, nor is the vegetation adjacent in the Cemetery site.
 - Vegetation along the east bank of the Macleay River varies in width, comprising Dry Sclerophyll Open Forest and weedy under storey of Lantana and Blackberry. The section of vegetation within Lot 1, DP115920 is less than 50m in width with managed understorey and therefore is classified as low hazard. The balance is generally unmanaged riparian corridor, approximately 63m wide to the north, and is bushfire prone.
 - Other areas surrounding the hospital site contain generally cleared, vacant land that is not bushfire prone.

- The effective slope for predicting fire behaviour is level to 5 degrees downslope, taking into account the main Hospital precinct and the slope towards Macleay River.
- There are no significant environmental features (such as wetlands, koala habitat, land of geological interest etc, threatened species or Aboriginal places or relics on the property.
- The assessment of bushfire risk to the KDH redevelopment found that:
 - The proposed new building is located more than 100m from the identified bushfire sources and exceeds the maximum distance required to meet the setback requirements in *Planning for Bushfire Protection 2006* and *Bushfire Construction Standards* and hence will not be at risk of bushfire.
 - The proposed redevelopment will include the upgrade of existing potable water supply and fire-fighting water supply.
 - There existing public road network provides for an alternative means of access to and egress from the Hospital precinct, including for increased traffic during emergencies. Given that the hospital is served by existing public roads, there is no requirement for a fire trail.
 - The only bushfire hazard to the site is generated by the vegetation on the land within Lot 1 DP 115920 and the narrow corridor of vegetation in the riparian corridor that extends northwest of the Hospital site. Whilst this unmanaged vegetation presents a hazard to the existing hospital buildings, the hazard has been deemed to be low to moderate. Therefore, there is no requirement to produce bushfire maintenance plans and bushfire emergency procedures for the development site.
 - The bushfire protection to the proposed new building does not rely on the provision of external sprinkler systems and other fire protection systems.

4.8.2 Existing Compliance

- The separation distance between the Administration and Emergency Buildings, 65m and 70m respectively, exceed that required by Table A2.6 of Planning for Bushfire Protection 2006, and hence satisfies the applicable setback requirements.
- The existing Mental Health/Maternity building has a separation of 42m from the closest unmanaged vegetation and is opposite an upslope fire path. This separation width does not satisfy the setback requirements of Table A2.6 Planning for Bushfire 2006. Fire protection measures, such as ember protection, would be required to mitigate bushfire risk.
- A review of construction standards to the existing buildings was undertaken, recommending that all buildings located within 100m of the bushfire hazard shall be upgraded to provide ember protection to the buildings, involving:
 - Ensuring windows and doors are tight fitting with weather seals fitted to the bottoms of external doors
 - operable windows shall be fitted with corrosion resistant steel or bronze flymesh (maximum aperture 2mm).
 - All vents, louvres and weeps holes shall also be fitted with corrosion resistant steel or bronze flymesh having a maximum aperture of 2mm
- Glazing of the Mental Health/Maternity building shall be inspected to ensure ember protection is compliant and whether existing glazing is toughened glass. If the glass is not toughened, the following may be adopted:
 - Replace existing glass with 6mm toughened glass; or
 - Fit 'Crimsafe' or heavy duty mesh to both the fixed and opening sashes of the windows as well as to the exterior of the glazing within the external doors.

Roof gutters to the Mental Health/Maternity building shall be fitted with corrosion resistant steel or bronze

mesh to prevent the accumulation of combustible material.

- The existing Evacuation Policy for the Hospital will be updated to include protocols to address the potential for the western corner of the site to be impacted by radiant heat, smoke and possible ember attack.

4.9 HERITAGE

The DGRs state that the following items must be addressed:

- *A statement of significance and an assessment of the impact on the heritage significance of any heritage items, including the Kempsey District Hospital site, and/or conservation areas should be undertaken in accordance with the guidelines in the NSW Heritage Manual, if relevant.*

A Heritage Impact Statement (HIS) has been prepared to address the heritage impacts arising out of works proposed as part of the KDH redevelopment. The HIS is provided in Appendix I and is summarised below.

The site of the Kempsey Hospital is a listed heritage item on Schedule 1 of the Kempsey LEP 1987. It is also included on the Health Infrastructure Section 170 Register, and is in the vicinity of two local heritage items being West Kempsey Cemetery and Kempsey High School.

The proposed redevelopment of the Kempsey District Hospital, will involve the demolition of a number of buildings within the eastern section of the site. Given that the entire site is heritage listed, and that only a number of buildings are proposed to be demolished, a heritage assessment of the various components of the hospital has been undertaken to ascertain the potential impact of the redevelopment.

4.9.1 Statement of Significance

The HIS identifies the European heritage significance of the site through a revised Statement of Significance, as provided below:

The site of the Kempsey (formerly the Macleay) District Hospital is of historical significance due to its long-established and on-going association with health care within Kempsey and the broader Macleay district since 1881. The expansion, evolution and periodic redevelopment of the site throughout the course of the twentieth century are illustrative of the commitment to long-term provision of health services for the community.

The site is associated with David Colvin Coombes, who initiated the drive to establish a hospital at Kempsey. Later periods of hospital development are associated with the Hospital Committee and with fundraising efforts from the local community. The hospital has strong social and cultural associations within the Macleay community.

The principal Hospital Building, designed by the NSW Government Architect's Office and constructed in 1913 on the site of an earlier building, is a representative example of early twentieth century institutional architecture. A single storeyed structure with restrained architectural detailing, the Hospital Building has been modified, with partial enclosure of its verandah, changes to the internal fabric and inter war and post war additions to the rear. The original form and configuration, however, is still legible, with the building a relatively intact example of its type. It has a strong presence within the local streetscape, and is complemented by a partial retention of its original setting. The 1913 Hospital Building is the core of the early hospital complex, with later expansion radiating out towards the side and rear boundaries of the site.

The southern boundary is defined by a line of mature trees which screen the hospital from the adjacent cemetery.

The remainder of the site is occupied by a number of inter war, post war and late twentieth century buildings that have resulted from successive phases of development across the property. These have been repeatedly altered, adapted and/or upgraded to meet the changing needs of the hospital. Generally, these buildings are utilitarian structures and do not have aesthetic, architectural, historical or social merit.

The site of the Kempsey District Hospital has been subject to repeated and extensive soil disturbance throughout the twentieth century as a result of periodic expansion and redevelopment. This is likely to have reduced the potential for any information that will contribute to a greater understanding of the history and/or role played by the Kempsey Hospital within the local community.



FIGURE 50: 1913 Administration Building

Source: GBA



FIGURE 51: 1919 Blood Bank Building

Source: GBA



FIGURE 52: View of KDH from row of trees between KDH and West Kempsey Cemetery

Source: GBA

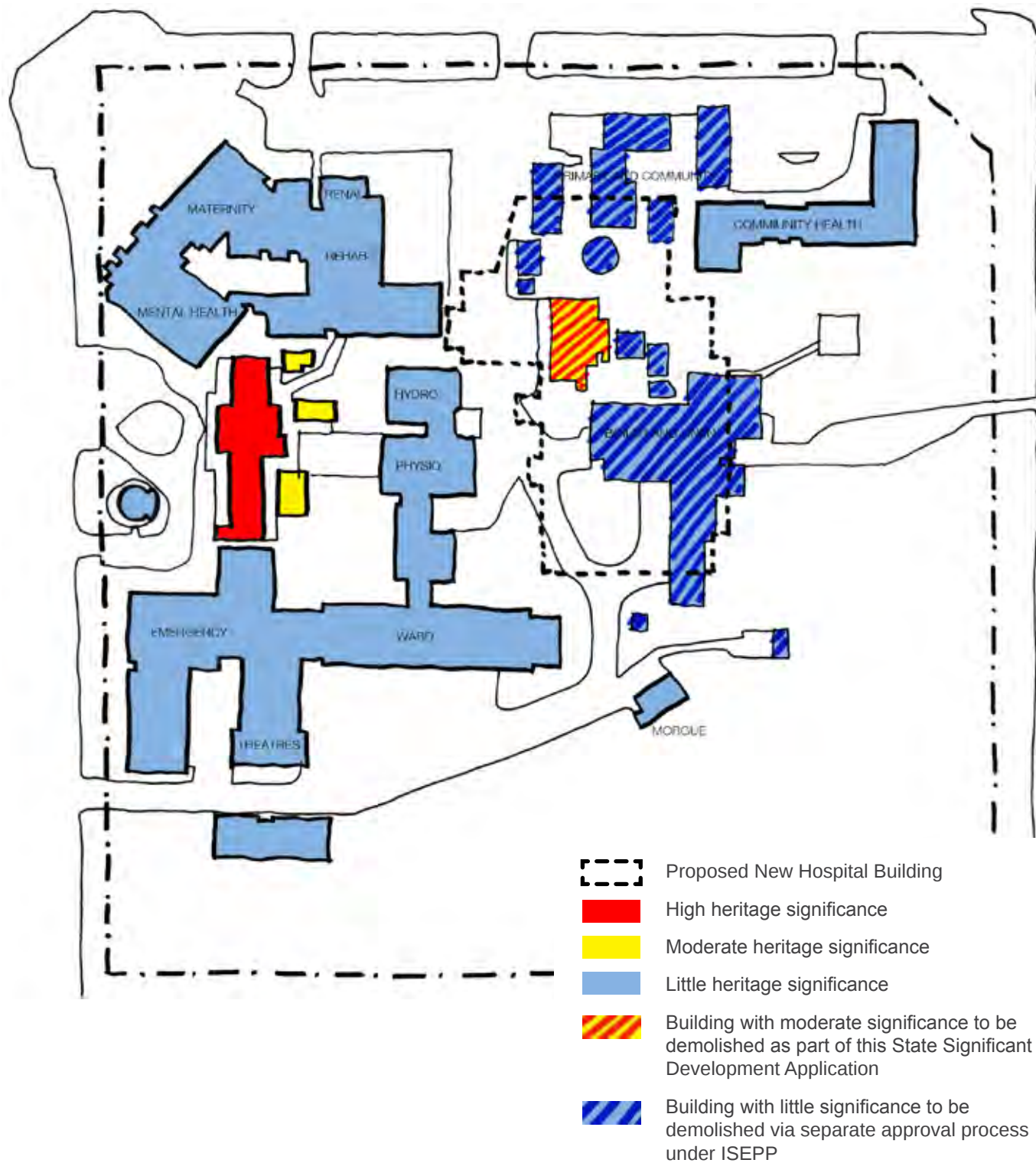


FIGURE 53: Heritage Significance of Existing Buildings with Proposed Building Overlay

Source: BVN

4.9.2 Assessment of Heritage Impact

An assessment of the heritage impact of the proposed redevelopment has been made in light of the revised Statement of Significance.

As part of the assessment, the heritage significance of each existing building was identified and is shown in Figure 53 and Table 6.

Grading of Significance	Site Elements
High	1913 Hospital Building (Administration Building) - Row of established trees between the hospital site and the West Kempsey Cemetery
Moderate	- IT Office associated with the 1913 Hospital Building (Administration) - Cleaning Storage building associated with the 1913 Hospital Building (Administration) 1919 Blood Bank - Memorial to the Casements located within the landscaped area in front of the 1913 Hospital Building, other and foundation stones
Little	All other buildings

TABLE 06: Heritage significance of Existing Buildings

Site elements with high heritage significance, being the 1913 Administration Building and the row of established trees at the boundary of West Kempsey Cemetery, will be retained. Accordingly, the proposed redevelopment will have an acceptable level of impact on the heritage significance of the KDH site and the heritage items in the vicinity.

Site elements with moderate heritage significance, particularly the IT Office, Cleaning Storage building and the Memorial to the Casements will also be retained and therefore have an acceptable impact on the heritage significance of the KDH site.

The 1919 Blood Bank Building, which is identified as having moderate significance, is proposed for demolition in this application. The Blood Bank has seen numerous alterations and additions and a change of use which has degraded the integrity of the building. This has reduced its significance and overall contribution to the heritage significance of the KDH site. In addition, the building cannot be feasibly retained and incorporated as part of the redevelopment without seriously impacting on the delivery of health care services and potentially impacting on the 1913 Administration Building and heritage items in the vicinity. On that basis, the demolition of the Blood Bank is justified and will be an acceptable impact.

It is noted that the buildings identified for demolition which have little heritage significance have been approved to be demolished as part of a separate determination under the provisions of ISEPP.

4.9.3 Recommendations

It is recommended that an archival photographic record be prepared for the Blood Bank Building. Memorials, foundation stones, etc. of buildings proposed to be demolished should be relocated to the new building and interpreted.

4.10 ABORIGINAL HERITAGE

The DGRs state that the following item must be addressed:

- *The EA shall address Aboriginal Heritage in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005.*

An Archaeological Assessment has been undertaken and is provided in Appendix J and summarised below.

A search was undertaken of the Office of Environment & Heritage (OEH) Aboriginal Heritage Information Management Systems (AHIMS) in October 2012 for identified sites within a 10km radius centred on the project area. A total of 78 sites were identified, however none were inside KDH site.

An archaeological survey was conducted on 17 January 2013 in conjunction with representatives of the Kempsey Local Aboriginal Land Council and DFTV Enterprises. No new Aboriginal sites were identified during the survey.

Although the site is close to the Macleay River and would therefore normally be considered as an archaeologically sensitive area, the disturbances through construction of the existing hospital and associated infrastructure have modified the area to such an extent that it would be unlikely that any in situ Aboriginal objects or places would be identified.

As a result of the archaeological investigation and on-site discussions with the participating Aboriginal community stakeholders, it is considered that there are no constraints to the proposed development on the basis of Aboriginal heritage.

Recommendations

- All relevant staff, i.e. contractors and subcontractors, should be made aware of their statutory obligations for heritage under NSW National Parks and Wildlife Act (1974) and the NSW Heritage Act (1977).
- If Aboriginal object/s are identified in the site area during works, then all works in the immediate area must cease and the area cordoned off. OEH must be notified by ringing the Enviroline 131 555 so that the site can be adequately assessed and managed.
- In the unlikely event that skeletal remains are identified work must cease immediately in the vicinity of the remains and the area must be cordoned off. The proponent must contact the local NSW Police who will make an initial assessment as to whether the remains are part of a crime scene or possible Aboriginal remains. If the remains are thought to be Aboriginal, OEH must be contacted by ringing the Enviroline 131 555. An OEH officer will determine if the remains are Aboriginal or not; and a management plan must be developed in consultation with the relevant Aboriginal stakeholders before works recommence.

4.11 SEDIMENT, EROSION AND DUST CONTROLS

The DGRs state that the following items must be addressed:

- *Prepare a Soil and Water Management Plan that details 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)*

The Construction Enabling Works and Main Construction Works will involve a range of activities that have the potential to cause run-off and dust impacts on surrounding land uses, including:

- Demolition of the Blood Bank building;
- Excavation works associated with the construction of the lower ground level of the new hospital building;
- Site preparation works;
- Pavement works associated with the Northern Car Park; and
- In-ground services augmentation works.

Erosion and Sediment Control

The civil design has considered measures to control soil erosion and sediment transportation to mitigate the risk of sediment being washed out and adversely affecting other parts of the site or areas off-site during construction.

An Erosion and Sediment Control Plan (Early Works) has been prepared and is provided in Appendix K (Refer Drawing 5027-ENS-CV-DWG). It provides details regarding measures to be implemented including sediment fences, settlement ponds and shaker grates.

Dust Control

Measures to mitigate impacts on air and water quality as a result of the generation and off-site transmission of dust and fine particles include:

- No burning of vegetation or other materials will be permitted on site or at the construction compound.
- Dust generation during demolition activities would be controlled by regular control measures such as on-site watering.
- Construction vehicles and equipment would be suitably serviced within the six-month period prior to commencement of construction activities and all necessary maintenance undertaken during construction period. In addition, where practicable, the

excessive use of vehicles and powered construction equipment would be avoided.

- Vehicle wash down areas would be established to ensure all mud and soil from construction vehicles is not carried onto public roads.
- All vehicles involved in the demolition process and departing the property with demolition materials or loose matter must have their loads fully covered before entering the public roadway.
- Mud deposited on the road network due to truck movements to and from the site would be either prevented or cleaned up immediately.
- Ensure that all dust is contained within the site and that the adjoining buildings are not disadvantaged
- Installing perimeter fencing designed to minimise the impact of dust on the public and adjacent areas
- Using equipment powered by internal combustion engines which must be properly maintained and regularly serviced
- Cutting materials in designated areas set away from boundaries and public areas
- Controlling dust generation during demolition by regular control measures such as on-site watering
- Ensuring that all vehicles involved in the site enhancement works have proper processes in place for bringing materials into and out of the site.

The above measures will be incorporated a Soil and Water Management Plan (SWMP), which will be prepared and implemented prior to the commencement of the construction phase. The SWMP will be prepared in accordance with Managing Urban Stormwater - Soils & Construction Volume 1 (Landcom, 2004) and Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA).

4.12 UTILITIES

The DGRs state that the following items must be addressed:

- *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.*

Schematic Design Reports have been prepared with regard to the proposed mechanical, electrical, fire and hydraulics services for the new hospital building and refurbishments. Refer to Appendices P and Q.

4.12.1 Existing Capacity

Electricity

The existing site is supplied via high voltage (HV) dual feeders from the Essential Energy Electricity Aerial Network. This includes one in Polwood Street and one in Tozer Street. These feeders are serving two 1000kVA transformers, both located in the existing Engineering building which was installed in 2005.

Sewer

The existing KDH site is serviced with gravity sanitary drainage running from west to east, north to south and toward the south-east corner where it discharges through boundary trap to Kempsey Shire Council's sewer main located in the Tozer Street.

Domestic Water

Water is currently supplied to the site from the authority main in the River Street via two 100mm diameter incoming services each with 50mm water meter including backflow preventers on each assembly. The town's water main is considered suitable to supply domestic water to the current site.

Fire Water

The hydrant system in the existing Ward Building is supplied by a 100mm diameter town mains and booster assembly on River Street. Hydrant and hose reel coverage is provided throughout the existing Ward building in accordance with Ordinance 70 requirements. Hydrant coverage is provided to the remainder of buildings on site via a number of external valves which are run straight from the town mains supply (independent of the boosted supply from River Street).

Gas

Liquefied Petroleum Gas (LPG) is available to serve the site from two 7,500 litre each storage tanks located behind Mortuary building at the south-east corner of site. Currently LPG is supplied from existing fuel farm to gas fired boilers located on Level 2 in the main building and to Mental Health building. LPG is also supplied to gas fired boilers located in Hydrotherapy building for pool water and space heating.

Stormwater

Refer to Section 4.15.

4.12.2 Other Infrastructure Works

As described in Section 1.6.1, infrastructure works are being carried out on the KDH site prior to the commencement of the works proposed in this development application

The works involve the reconfiguration and upgrading of engineering services including medical gases, LPG, electrical and information communication technology (ICT), hydraulics and fire water. Such works are to be carried out under the provisions of ISEPP and hence approval authority for such works is Health Infrastructure NSW. Consultation with relevant agencies regarding utility supply and augmentation proposals for existing services has been undertaken as part of this separate process.

The site enhancement works will provide the KDH site with the capacity to serve the proposed redevelopment of the hospital. The works are outlined below:

- Electrical Services (including ICT):
 - Diversion of ICT and low voltage cabling and services
 - Installation of new kiosk sub-stations
 - Installation of new temporary main switchboard
 - Installation of new diesel generator (and underground fuel storage tank)

- Installation of new mains cabling to external high voltage supply
- Reticulation of new sub-mains cabling to existing buildings
- Relocation, diversion and termination of existing services.
- Sewer
 - Installation of new sewer pipework in the eastern sector of the site to allow existing hospital facilities to be operational at all times during construction. The new pipes will connect to the existing junction connection to Council's sewer main in Tozer Street and be used as a main discharge point.
 - Run sewer pipework to new pits from the existing buildings which are to remain following works
 - Re-route existing sewer pipework to new connection
- Domestic Water
 - New water connection to authority water main in Tozer Street to be established (underneath proposed service access road)
- Fire Water
 - Removal of existing external hydrant valves
 - Installation of new external hydrant valves (3 valves)
 - Run temporary above-ground pipework connection to each new valve
 - Ensure temporary connections are provided to the existing community health building for ongoing operation of hose reels.
- Gas (LPG)
 - Existing LPG storage to be relocated and supplemented with an additional tank to cater for the increased gas demand.
 - Supply agreement is to ensure LPG supplies are provided at a 9 day frequency between each to negate the need for a 3 week supply on site (TS-11 requirement). Services compound to be collocated with new service access road to allow

access by LPG tankers for refilling.

- Run connection from new LPG tanks to existing buildings.
- Medical Gases
 - New bulk oxygen VIE enclosure
 - Reticulation of oxygen piping to existing hospital services and to new hospital buildings
 - Decommissioning of existing VIE

Accordingly, it is considered that an Infrastructure Management Plan is not relevant to this development application given that the augmentation and staging of utility infrastructure is being largely carried out under a separate approval process under ISEPP, prior to the commencement of the proposed works.

4.12.3 Proposed Infrastructure

New connections to the new hospital building and adjustments of existing connections in buildings to be refurbished are proposed including the following:

Electrical

- A new main switch board will be provided to serve the new hospital building and existing hospital services.
- New power supplies and communication cabling will be provided to facilitate the new building installation.
- The electrical services system will include power supply; back-up power supply provision; uninterruptable power supply system arrangement; power reticulation; protected wiring system in patient areas; lighting and lighting control system; emergency lighting and exit sign system; communication system; security system and nurse call system. Details are provided in Appendix M.

Sewer

- Connect to new sewer pipework as required.

Domestic Water

- A 10kL domestic water tank will be installed on the lower ground level of the new hospital building

for emergency purposes, which will be fed by the connection to the authority main in Tozer Street.

- A new 100mm diameter pressurised water ring main is to be constructed around new building with provision for future connections (exact location to be coordinated during detailed design phase). Adjacent to the water storage tank located in the undercroft space of new building, a pumping station and filtration plant shall be installed. Existing community building shall be fed from new ring main. Future provision for connections to the Mental Health and Maternity building shall be allowed for.
- A new domestic hot water plant to be installed within the new building. Thermostatic mixing valves will be used for outlets where warm water is required.

Deluge / Safety Showers

- There will be an on-site holding tank to contain any residual contaminants which come from the deluge shower which is being installed beside the ambulance entry. This waste will be disposed of by a waste management team to ensure it does not leach into the local environment.
- Fire Water
 - The fire sprinkler system will be fed directly from town main (as will the domestic water under regular use), and the hydrant system shall have a 150kL storage tank in the undercroft area to ensure there is a 4hr supply using a 10L/s infill rate.
 - Within the refurbished areas, allowance shall be made for any necessary adjustments and diversions of existing hydraulic services to ensure the height, clearances and operation of hose reel and hydrant valves comply with code.
- Gas
 - Connect to gas supply as required.
- Stormwater
 - Refer to Section 4.15.

4.12.4 Alternative Water Supply

There is no alternative water supply proposed for the redevelopment in terms of rainwater, greywater or recycled wastewater.

Rainwater harvesting for the purposes of irrigation and toilet flushing were investigated, however it was not deemed feasible for the project and hence is not proposed.

There is limited scope for the incorporation of water sensitive urban design measures given that the catchment will discharge directly into the Macleay River and hence stormwater detention is not required. It is noted that a gross pollutant trap will be provided to ensure adequate stormwater quality prior to discharge. The rooftop garden on Level 1 will assist in attenuating stormwater runoff from the new building, but is primarily designed for landscape and amenity purposes.

Given the very limited scope for cost-effective water reuse, water sensitive urban design and conservation measures for the Kempsey redevelopment, an Integrated Water Management Plan has not been prepared as part of this application.

4.13 CONTRIBUTIONS

The DGRs state that the following items must be addressed:

- Address Council's Section 94 Contribution Plan and Section 64 water and sewer developer service charges and/or details of any Voluntary Planning Agreement.

Planning Circular D6 Crown Development Applications and Conditions of Consent (revised issue September 1995) sets out procedures and advice to Crown agencies for the lodgement and determination of Crown Development Applications (DA). It includes advice on the policy relating to conditions of consent appropriate for Crown DAs, particularly section 94 conditions on Crown activities provided with an underlying philosophy of essential community service.

For the provision of Health Services, such as the KDH redevelopment, Council may seek payment of contributions for the following off-site works as a condition of consent:

- Drainage
- Upgrading of local roads and local traffic management off-site.

Accordingly, such development may be exempt from paying contributions toward open space, community facilities, parking, local road, sub-arterial non-classified roads and arterial classified roads.

In accordance with Planning Circular D6 Crown Development Applications and Conditions of Consent (revised issue September 1995) and Section 64 of the Local Government Act 1993 (which enables Council to levy developer charges for water supply, sewerage and stormwater), the following contribution plans are relevant to the KDH redevelopment:

- Local Roads and Traffic Infrastructure Developer Contribution Plan 2009;
- Kempsey Shire Council Macleay Water Development Servicing Plans for Water Supply Services 2006; and
- Kempsey Shire Council Macleay Water Development Servicing Plans for Sewerage Services 2006.

4.13.1 Local Roads and Traffic Infrastructure Developer Contribution Plan 2009

The Local Roads and Traffic Infrastructure Developer Contribution Plan came into effect on 12 January 2010. The Plan applies to all land within the Kempsey Shire, including the KDH site which is identified in Catchment 6: Established Areas Kempsey Hospital Precinct. (Refer to Figure 54)

The Plan *'authorises Kempsey Shire Council to require payment of a monetary contribution, a dedication of land or in lieu of, to accept the provision of material public benefit, including the dedication of land, or the carrying out of a works in kind agreement, towards provision, extension or augmentation of public road infrastructure that will, or are likely to be, required or have an increased demand, as a consequence of development in the Kempsey Shire'*. It establishes strategies that allow Section 94 contributions to be levied towards the provision of the following categories of infrastructure or service, provided these relate to the need generated through increased development demands:

- Local Road Upgrades
- Intersection Upgrade
- Cycle Paths
- Drainage associated with road infrastructure

Section 2.9 of the Plan notes that where an application is made from a Crown Authority, Council can only impose conditions that are acceptable to that Authority or agreed to by the Minister of Planning.

The proposed redevelopment will generate the need to undertake upgrade works on Polwood Street, which will be carried out and funded by Health Infrastructure NSW. The redevelopment does not generate the need for intersection upgrades, new cycle paths or drainage works associated with Council's road infrastructure.

Given that Health Infrastructure NSW will carry out local road improvements and that there are no other upgrades generated by the proposed redevelopment it is considered that Health Infrastructure be exempt from the payment of developer contributions under Council's Developer Contribution Plan.

4.13.2 Kempsey Shire Council Macleay Water Development Servicing Plan for Water Supply Services 2006

The Kempsey Shire Council Macleay Water Development Servicing Plan for Water Supply Services 2006 commenced on 1 July 2006 and covers the areas served by Macleay Water. This includes the Kempsey Lower Macleay water supply system, which services the KDH site.

Macleay Water plans to augment its water supply systems to cater for future growth. Capital works estimated at \$66.6m (2005/06 \$) will be required over the next 30 years to provide water supply services to the Shire, comprising both new works and renewals. Accordingly, developer servicing charges apply.

HI has consulted with Council and is currently in negotiations to determine the applicable water supply charge.

4.13.3 Kempsey Shire Council Macleay Water Development Servicing Plan for Sewerage Services 2006.

The Kempsey Shire Council Macleay Water Development Servicing Plan Sewer 2006 also commenced on 1 July 2006 and covers the sewerage catchments served by Macleay Water, including West Kempsey.

Macleay Water plans to augment its sewerage treatment and transfer systems to cater for future growth. Capital works estimated at \$69.7m (2005/2006) will be required over the next 30 years to provide sewerage services to the Shire, comprising both new works and renewals. Accordingly, developer servicing charges apply.

HI has consulted with Council and is currently in negotiations to determine the applicable sewerage charge.



FIGURE 54: Catchment 6: Established Areas Kempsey Hospital Precinct.

Source: Kempsey Shire Council

4.14 FLOODING

The DGRs state that the following item must be addressed:

- *An assessment of any flood risk on site in consideration of any relevant provisions of the NSW Floodplain Development Manual (2005) including the potential effects of climate change, sea level rise and an increase in rainfall intensity.*

The existing hospital site is located outside of the 1:100 year flood zone, as shown in Figure 11 in Section 2.8 of this EIS.

Kempsey Shire Council flood information indicates that the Probable Maximum Flood (PMF) level in the region of the Hospital site is 11.20m AHD.

The lowest point on the KDH site is approximately 10.8m AHD at the south-eastern corner of the site, however the existing hospital buildings are located on higher ground between 22m AHD and 26m AHD, which is well above the PMF level. It is noted that the proposed lower ground floor level of the new hospital building is 23.68m AHD.

As a consequence of being above both the 1:100 year flood and the PMF level, the hospital site is not at risk of flooding and hence the provisions of the NSW Floodplain Development Manual do not apply.

4.15 DRAINAGE

The DGRs state that the following items must be addressed:

- *In consultation with Kempsey Shire Council, prepare a Stormwater Management Strategy and Plan that addresses drainage associated with the proposal, including stormwater and drainage infrastructure incorporating water sensitive urban design principles, water harvesting techniques with particular attention to the issue of on-site retention/detention and be designed to avoid any adverse impacts on downstream properties.*

4.15.1 Existing Stormwater Drainage

The existing stormwater from the site is split in six sections – North, North-West, South, East, West and Central – and is described below and shown in Figure 55.

- **North** – Drains initially towards Polwood Street. The Maternity Building at the north west corner of the site connects to Council's drainage system underground while the buildings to the east discharge by a series of kerb connectors. Water then runs east down the kerb and gutter of Polwood Street to Council's in-ground drainage system located at the intersection with Tozer Street. Rainfall runoff in excess of the design capacity of the drainage system will run as overland flow towards Polwood Street and then either east toward River Street or west toward Tozer Street.
- **North-West** – Runoff is conveyed across this section of the site underground and is then discharged under River Street in a north westerly direction.
- **South** – The southern drainage catchment contains the vegetated embankment to the south of the hospital development. All runoff is conveyed as overland flow towards the cemetery and the Tozer Street drainage system.
- **East** – Drains east towards Tozer Street. These areas are not substantially developed and mainly consist of landscaped areas and the existing helipad. No apparent in-ground drainage exists within this section of the campus and both minor and major storm flows are conveyed over land and discharge into Council's in-ground drainage system in Tozer Street.

Flows in excess of the capacity of this system will run south along the road corridor towards the swale located between the hospital site and the cemetery.

- **West** – This western catchment drains directly onto River Street as overland flow. This flow then runs as overland flow within the road corridor of River Street to the low point between the hospital and cemetery where the flows run into a kerb inlet structure and discharge into the swale running through the cemetery towards Tozer Street.

- **Central** – The central drainage catchment drains towards the existing service access road south of the Emergency/Theatre Block and Ward Building via direct downpipe connections to the kerb and gutter. The in-ground drainage running under this road falls with the road to the south of the site.

It is understood that a stormwater line runs under the existing site fence to the south of the morgue and then turns to run west along the boundary fence, under River Street and discharges into the Macleay River.

The existing in-ground drainage for the site discharges to the Macleay River under River Street while all flows from the North, East, West South and the overflow from the Central catchment will drain to the swale running between the hospital and the cemetery. From this point, the water runs north east under Tozer Street through a large in-ground drainage pipe which runs under adjacent properties and discharges into a channel to the north east of the site. This drainage system is known to have poor flow capacity and regularly surcharges following heavy rainfall. Kempsey Shire Council has advised that they are supportive of any measures that reduce the flow directed to this drainage network.

4.15.2 Proposed Stormwater Management Strategy

Stormwater within the site will be collected into roof drainage systems and will run off over sealed pavements. Water will then enter the drainage system through a series of surface and kerb inlet pits. This flow will be conveyed downstream through a new in-ground pipe network consisting of concrete pipes and concrete pits which will be routed around existing and proposed structural foundations.

The proposed stormwater drainage system has been sized to safely convey all flows resulting from design rainfall events up to and including the 10 year annual rainfall intensity (ARI) within the new underground pipe system.

Rainfall events in excess of this will generate additional flows which will be conveyed overland within the road corridor and in turn to drainage infrastructure external to the campus including council managed highway kerb and gutter, in ground pipes and discharge directly to the River Macleay.

Ultimately all flows from the site will be discharged to the River Macleay and a new 675mm diameter arterial pipe will convey a greater percentage of rainfall falling on the hospital campus area below River Street and directly to the river. The proposed distribution of rainfall catchments is illustrated in Figure 56.

No stormwater detention is required for this system given that the catchment will discharge directly into the river water body. This discharge is likely to have a negligible impact on peak flows within the river Macleay following significant rainfall given the size of the river catchment area when compared to the size of the hospital campus.

This strategy is intended to alleviate the known flow capacity issues associated with existing downstream off-site Council drainage infrastructure East of Tozer Street. This replacement drain will also rectify the known issues with the existing on-site pipe. This strategy has been developed in consultation with Kempsey Shire Council and has their support. Refer to Appendix K.

As discussed in Section 4.12.3, rainwater harvesting for the purposes of irrigation and toilet flushing were investigated, however it was not deemed feasible for the project and hence is not proposed. There is limited scope for the incorporation of water sensitive urban design measures given that stormwater detention is not required and it is noted that a gross pollutant trap will be provided to ensure adequate stormwater quality prior to discharge. The rooftop garden on Level 1 will assist in attenuating stormwater runoff from the new building, but is primarily designed for landscape and amenity purposes.

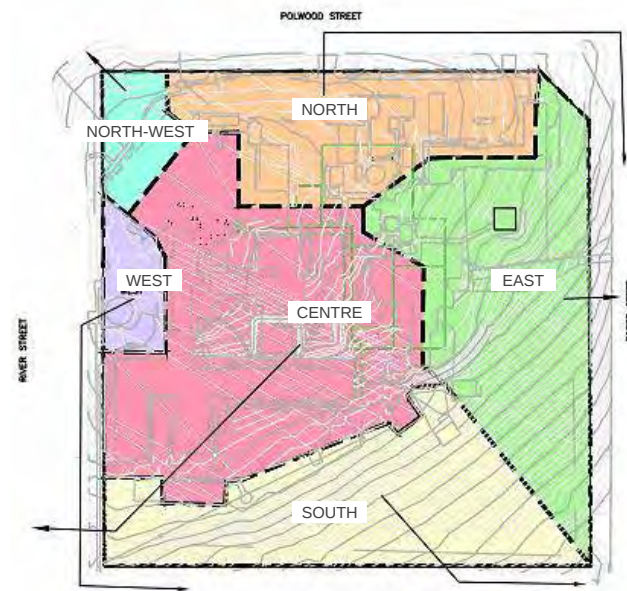


FIGURE 55: Existing stormwater catchments Source: Enstruct

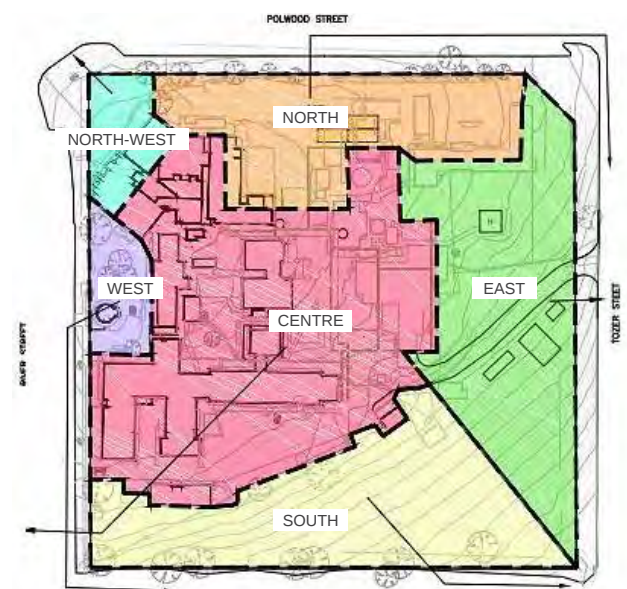


FIGURE 56: Proposed stormwater catchments Source: Enstruct

4.16 SERVICING AND WASTE

The DGRs state that the following items must be addressed:

- *Preparation of a Waste Management Strategy that identifies, quantifies and classifies 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.*

A Waste and Hazards Report (Appendix L) has been prepared and is summarised below with regard to the DGR to address Servicing and Waste.

4.16.1 Waste Management Strategy - Construction

A Waste Management Plan (WMP) will be prepared as part of the Construction Management Plan, prior to the construction phase of the project. The WMP will:

- Address the waste streams likely to be generated, including those that may contain dangerous goods and hazardous substances expected to be created during demolition and construction; Describe the objectives of the Plan;
- Detail the involvement of the waste contractor; and
- Detail any other specific requirements as identified during the pre-planning of demolition and construction works.
- Outline measures to be implemented to minimise, re-use, and recycle any construction and demolition wastes (with the exception of hazardous wastes), where practical.
- Outline measures for the responsible and compliant disposal of waste (where minimisation, re-use and recycling cannot be achieved), including the use of licensed waste transport and waste disposal contractors with fully compliant documentation to prove due diligence has been exercised over the transport, custody and disposal processes.

It is noted that asbestos containing materials (ACMs) have been identified in Blood Bank building, which is to be demolished. Accordingly, the WMP will address the removal of asbestos, including the following:

- Requirements under NSW Work, Health and Safety Regulation 2011
- Safety compliant procedures described in NSW WorkCover Code of Practice - How to safely remove asbestos (December, 2011).
- The main obligations of persons removing asbestos (or directing asbestos to be removed).

4.16.2 Waste Management Strategy - Operation

Likely Waste Streams

Waste streams from the proposed Stage 1 Redeveloped Hospital operations will include:

- general waste (including putrescible garbage)
- recyclable waste (glass, plastic, metal cans, paper, cardboard)
- confidential waste
- contaminated waste including clinical waste and sharps (Class 6, Division 6.2 infectious waste)
- cytotoxic waste (Class 6, Division 6.1), and
- trade waste and sewage.

Table 7 describes the nature and quantity of each of the waste streams identified above, along with the measures to be implemented to minimise, reuse, recycle and safely dispose of these waste streams.

No nuclear waste streams are to be generated by, or emanate from, KDH facilities or its operations. All patients receiving radiotherapy procedures are transported to Port Macquarie Hospital for treatment.

No chemical waste will be generated in (or by) the proposed redevelopment.

Waste Servicing

Waste will be conveyed to the new Waste Management Building located south of the new hospital building in the existing servicing zone.

This waste facility will provide improved vehicle and logistical access for waste pick up as well allowing for better supervision and management of wastes.

All waste streams will be transported by approved (licensed) waste transporters. The current contractors to the Mid North Coast Local Health District are J R Richards for general and recyclable wastes and SteriHealth for clinical waste.

All wastes generated by the KDH will be disposed of responsibly at approved waste disposal activities in accordance with NSW Health Policies and Guidelines, and in full compliance with all relevant legislation for waste transport and disposal.

Waste type	Description	Existing KDH Average Qty / month	Proposed Redevelopment Qty / month	Comment
General waste	General waste from KDH facilities is to be collected from specific departments daily by KDH hotel services.	76m ³ per month	99m ³ per month	General Waste (including putrescible waste) is currently decanted from 240L bins into 3m ³ skips (3) at the waste accumulation/ despatch building, 5 days per week (daily pick up Monday to Thursday; 2 pick-ups on Friday) by the current waste contractor. The waste is compacted on loading into the truck and is transported to the Kempsey Shire Council landfill tip site at Crescent Head Road, a licensed waste disposal landfill facility.
Recyclable waste	Co-mingled waste consisting of the following streams: - Cardboard/paper - Glass - Plastics - Steel / aluminium and other metals	49.3m ³ per month	63m ³ per month	240L bins of co-mingled recyclable waste from each of the Disposal Rooms (or other nominated local collection point) are picked up daily and conveyed to the central wastes building where they are placed in 3m³ bins. These bins are picked up once per week and then transported by the waste contractor (J R Richards) to their Cairncross Waste Site at Telegraph Point. - Recyclable wastes streams are sorted and segregated at the Cairncross waste transfer site. - Segregated waste (except for the general waste component) is then transported to Sydney for beneficial re-use - The annual aggregate total of co-mingled waste for year ending June 2011 was 579m³.
Confidential waste	Lockable bins of confidential records and patient information	2.3m ³ per month	3m ³ per month	Security shredding bags and 240 L bins will be located at each photocopier station generating confidential waste. As bins are filled they will be conveyed to a central collection site at the waste building elsewhere on the KDH campus to be picked up on request, the licensed contractor shreds, bales, and on-sells the paper for recycling into paper.
Contaminated waste including sharps and Clinical Waste	Anatomical (human tissue) waste collected in colour coded bins (yellow with a burgundy lid) held in the departments	17 kg per month	19 kg per month	- Double-bagged and collected in a 240L bin and then conveyed to a refrigerator in the waste accumulation building. - Maximum stored inventory based on a full month's accumulation is 19kg. - Assume at worst all wastes classified as Class 6.2 infectious waste - All anatomical wastes are to be incinerated at a high temperature at a licensed waste disposal facility. (Currently picked up by SteriHealth and incinerated in a high temperature furnace at Silverwater).
	Clinical waste in C64 (100L) & 240L bins	353 kg/month	460 kg/month	- Clinical wastes collected in 120L and 240L bins - Wastes are picked up weekly by the contractor to MNCLHD (SteriHealth) - Assume at worst all wastes classified as Class 6.2 infectious waste - Maximum stored inventory is 115 kg (average) - Clinical wastes are taken to a processing centre at Silverwater, are autoclaved and then buried at an authorised land-fill waste disposal activity (tip) operated by SITA subject to EPA licence conditions.
	Sharps	233.7 kg 2 x S2 (1.2 kg) 15 x S14 (60 kg) 25 x S22 (145 kg) 4.x S32 (27.2 kg)	280 kg per month	- Average figures from SteriHealth records for calendar year 2012 and based on estimated weights for the various size Sharp containers of 0.6 kg (S2), 4.0 kg (S14), 5.8 kg (S22), and 6.8 kg (S32). - Sharps are picked up fortnightly from a lockable container by SteriHealth under contract to MNCLHD - Maximum stored inventory is 140kg - Sharps (other than those contaminated with cytotoxic drugs) are autoclaved and are buried at an authorised land-fill waste disposal activity (tip) operated by SITA subject to EPA licence conditions. - The containers undergo a 6-stage process of sterilisation and reassembly before being returned on an exchange system for re-use

TABLE 07: Nature, quantity and management measures for operational waste streams at KDH

Source: Adapted from Safety Engineering & Technical Services

Waste type	Description	Existing KDH Average Qty / month	Proposed Redevelopment Qty / month	Comment
Contaminated waste including sharps and Clinical Waste (cont.)	Cytotoxic Waste materials including sharps contaminated with a cytotoxic drug	3.7 kg/month (average),	5 kg per month 50 kg/month (peak demand)	- There is only a small intermittent demand for disposing of cytotoxic wastes (68.5 kg for the entire year ending June 2011 on then only in 4 months of the year) - Collected in 240L bins - Pick up from KDH campus is on an as-needed basis - maximum stored inventory at KDH based on bi-weekly pick-up at peak rate is ~ 25 kg - Assume at worst case all cytotoxic waste is classified as dangerous goods Class 6.1 PG II - Transported from site by SteriHealth and incinerated at high temperature at a licensed waste disposal activity.
Trade Waste Plumbing and Drainage	Waste from fixtures and equipment that generate non domestic waste (sewage) are considered Trade Waste discharges.	Not quantified	Not quantified	- KDH is serviced with gravity sanitary drainage running from west to east, north to south and towards the south east corner of the site where it discharges through a boundary trap to Kempsey Shire Council's sewer main located in Tozer Street. - Currently KDH has a trade waste agreement with Kempsey Shire Council for an existing trade waste system on-site serving a commercial kitchen. Trade waste from the existing kitchen is discharged to the sanitary system through a grease arrestor – grease trap waste will continue to be collected on-site and disposed of in accordance with EPA and Kempsey Shire Council requirements. - The proposed new building will be connected to the existing system. - A new deluge shower decontamination system located in the emergency department will discharge directly to 5,000L holding tanks. Captured contaminated water will be collected by a waste disposal contractor and disposed of on an as-required basis. This system will be provided with a high level alarm and any effluent water overflowing from the tank once maximum capacity is reached, will be retained in a landscaped area away from the building.
	Waste from fixtures and equipment that generate non-domestic waste (sewage) are considered Trade Waste discharges.	Not quantified	Not quantified	In order to comply with discharge conditions: - Kitchen trade waste or trade waste from retail or food outlets will be collected by a special system of arrestor basket floor drainage, before discharging to the grease arrestor. - High temperature discharges may be treated on-site to limit temperature discharge to the sewer main to maximum 38°C, to meet Council's requirements. Additional pipe support and additional allowance for thermal expansion will be considered in the immediate vicinity of very hot discharges. Pipe materials will be selected on their ability to handle the high discharge temperatures - Laundry waste products – KDH does not have a laundry. Linen services will be provided off-site subject to a service contract and hence no laundry effluent will be discharged. - Plaster rooms discharge – plaster sinks will be provided with plaster traps located beneath the sink. The plaster traps will be stainless steel with castor mounts and union disconnection pipe work for ease of removal and service - Helipad surface water drainage will be provided in accordance with Office of Water and Kempsey Shire Council requirements.

TABLE 07 (CONTINUED): Nature, quantity and management measures for operational waste streams at KDH

Source: Adapted from Safety Engineering & Technical Services

4.17 HAZARDS

The DGRs state that the following items must be addressed:

- *A description of the proposed storage, use and management of any hazardous materials and measures to be implemented to manage hazards and risks associated with the storage.*

A Waste and Hazards Report (Appendix L) has been prepared and is summarised below with regard to the DGR to address Hazards.

Proposed Storage and Management of Hazardous Materials

Dangerous goods, i.e. substances that have been recognised as having some immediate public safety threat due to their hazardous properties, that will be present on the redeveloped KDH site include:

- Small quantities of compressed oxygen in cylinders in portable ready use units, up to a maximum of 10 x G-size with total cylinder water capacity of 500L.
- Flammable liquids:
 - In very small quantities (only in proprietary cleaning solutions such as methylated spirits) in Cleaner's stores. This is estimated to be less than a maximum of 60L
 - 1 x 250L cabinet in the Maintenance area for paint and paint-related material (likely to be moderate to low risk).
- Class 6.1 cytotoxic drugs, with small quantities of active ingredients. The active component will be less than 1kg, and cytotoxic contaminated waste is only 4 kg.
- Class 6.2 Infectious Substances - Clinical Waste. The maximum quantity of clinical waste to be kept at the Hospital at any one time is about 315kg. This figure is based on current transport scheduling and could be reduced with more frequent pick-up should this be necessary to meet the policy objective of keeping less than 500kg in storage. Refer to Section 4.16.
- Class 8 Corrosive Substances (acids/alkalis). Whilst most cleaning chemicals are either detergents or other non-hazardous goods, bleach solutions and acidic toilet bowl cleaning solutions can be used in a Hospital environment. Such substances will be stored in six Cleaners Stores with an assumed average maximum quantity of 8L per store, aggregating to 48L.

It has been confirmed that no radioactive wastes of Class 7 (radioactive substances) are to be generated or kept in the building.

It is noted that the following dangerous goods will also be present within the Hospital site, but are outside of the proposed redevelopment works:

- Three LPG tanks, with 7,500L capacity each
- Two above-ground liquefied oxygen tanks, 15,000L and 3,000L respectively
- One underground diesel tank, with a 10,000L capacity

These tanks will be installed in the new services compound as part of the site enhancement works, which are subject to a separate application under the provisions of ISEPP.

Diagnostic and clinical treatment radiation equipment will be present and used in the KDH. A specialist report on the appropriate shielding requirements will be prepared upon the final the selection of diagnostic imaging equipment. The design will be fully compliant with the relevant Australian Standards.

The design of the facilities for the receiving, storage, handling and use of hazardous materials, and the proposed operations of the KDH, will be in accordance with the relevant Australian Standards and legislation to ensure an acceptable level of safety.

4.18 CONTAMINATION

The DGRs do not include Contamination as a Key Issue. Nevertheless, the issue has been addressed with regard to SEPP 55 Remediation of Land (refer to Section 4.1.3). The following provides a summary of the Environmental Site Assessments which have been undertaken as part of the proposed development.

A Phase 1 Environmental Site Assessment (ESA) was undertaken in November 2012, to identify any past or present potentially contaminating activities on the site and to determine if more detailed investigation would be necessary.

The Phase 1 ESA involved a site history study and a site walkover. Four areas of environmental concern (AECs) were identified, including:

- The former laundry and boiler room, incinerator, fumigation and coke storage buildings.
- The existing diesel above ground storage tank.
- Former nurse quarters building.
- Fill embankments in the vicinity of the former laundry and boiler room, constructed of unknown material within the site.

Following the identification of the AECs, further investigation was recommended and a Phase 2 ESA was subsequently undertaken in December 2012.

The lab results indicated that 41 of 42 samples analysed reported levels of potential contaminants of concern below adopted investigation criteria, with the exception of a surface sample taken adjacent to the east of the boiler room building which was found to contain elevated lead concentrations.

The findings from the field investigation and laboratory results indicated that the localised elevated lead concentrations near the boiler room and potential lead based paint within the hospital buildings warrant further investigation and remediation.

It was recommended that contaminated soils adjacent to the east of the boiler room building be stripped, removed and disposed of to a licensed landfill facility. It was also recommended that a detailed Hazmat survey be completed for all buildings to be demolished and that validation sampling of soil beneath the laundry building be undertaken. The Phase 2 ESA concluded that the

implementation of such recommendations would allow for the site to be made suitable for ongoing hospital uses.

Additional work has been undertaken to confirm the extent and degree of contamination on site in the form of a review of the Phase 1 and 2 ESAs, a Data Gap Assessment and a Sampling Analytical and Quality Plan. The investigations identified asbestos impacted soil in the civil works zone which would require remediation.

Accordingly, a Remedial Action Plan (RAP) has been prepared which outlines the proposed site remediation process and validation requirements, including:

- Identification of the contaminants that require remediation and the waste classification of that material;
- Establishment of the most effective remedial strategy to render the site suitable for ongoing hospital uses;
- Details of the validation sampling that will be undertaken to measure the effectiveness of the remediation; and
- Details of the standards and guidelines that the remediation and validation sampling will follow.

Approval for the site remediation works is subject to a Development Application being made to Kempsey Council, being the relevant approval authority under SEPP 55 (refer to Section 4.1.3 of this EIS), and hence is not sought as part of this SSDA.

Notwithstanding, details on the contamination investigations and Remedial Action Plan are provided Appendices Q and R respectively.

Following Council development approval, HI will remediate the site in accordance with the approved RAP and will have the site validated as suitable for ongoing hospital uses.

Construction of the proposed SSDA works shall not commence until such time that a site auditor has issued a Site Validation Report and a Site Audit Statement identifying the site as suitable for ongoing Hospital uses.

4.19 STAGING

The DGRs state that the following items must be addressed:

- *Details regarding the staging of the proposed development (if proposed), including details of future stages.*

Proposed Staging

The KDH redevelopment works will involve two phases – Construction Enabling Works and Main Construction Works. This will enable the existing hospital to remain operational for the duration of the redevelopment.

The Construction Enabling Works phase will involve:

- Demolition of the Blood Bank Building;
- Bulk earthworks;
- Benching of the site at Polwood Street;
- Construction of car parking; and
- In-ground services augmentation.

The Main Construction Works phase will involve:

- Construction of the new five storey hospital building.
- Refurbishment of existing Ward Building etc;
- Establishing connections between new and existing hospital buildings;
- Landscaping and external works including construction of pedestrian pathways; and
- In-ground services within and around the new hospital building.

A detailed description of the phases above is provided in Section 3.0.

Future Stages

There are no future stages proposed.

4.20 ENVIRONMENTAL RISK ASSESSMENT

The following Environmental Risk Analysis matrix for the KDH redevelopment project assesses the 'significance of environmental impacts' and the 'ability to manage those impacts' to establish a residual risk rating.

The significance of environmental impacts are assigned a value between 1 (Low) and 5 (Extreme) based on:

- The receiving environment;
- The level of understanding of the type and extent of impacts; and
- The likely community response to the environmental consequence of the project.

The manageability of environmental impact is assigned a value between 1 (Simple) and 5 (Complex) based on:

- The complexity of mitigation measures;
- The known level of performance of the safeguards proposed; and
- The opportunity for adaptive management.

The sum of the values assigned provides an indicative ranking of potential residual impacts after the mitigation measures are implemented.

Refer to Table 8.

Significance of Impact	Manageability of Impact				
	5 Complex	4 Substantial	3 Elementary	2 Standard	1 Simple
1 - Low	6 (Medium)	5 (Low-Medium)	4 (Low-Medium)	3 (Low)	2 (Low)
2 - Minor	7 (High-Medium)	6 (Medium)	5 (Low-Medium)	4 (Low-Medium)	3 (Low)
3 - Moderate	8 (High-Medium)	7 (High-Medium)	6 (Medium)	5 (Low-Medium)	4 (Low-Medium)
4 - High	9 (High)	8 (High-Medium)	7 (High-Medium)	6 (Medium)	5 (Low-Medium)
5 - Extreme	10 (High)	9 (High)	8 (High-Medium)	7 (High-Medium)	6 (Medium)

TABLE 08: Residual Environmental Risk Matrix

Issue	Phase	Potential Environmental Impact	Proposed Mitigation Measures	Risk Assessment		
				Significance of Impact	Manageability of Impact	Residual Impact
Built Form and Urban Design		No adverse impact associated with built form or urban design	No mitigation measures required.	1	1	2
Amenity	Construction	Acoustic impacts - refer to 'Noise and Vibration' below.	Refer to 'Noise and Vibration' below.			
Ecologically Sustainable Development (ESD)	N/A	N/A	N/A	-	-	-
Noise and Vibration	Construction / Operation	The Noise and Vibration Assessment identified that noise management levels and vibration management levels are predicted to be exceeded at the nearest sensitive receivers at times during the construction phase. The assessment also identified that potential operational noise impacts would be generated from the mechanical plant room on the rooftop (Level 3) as well as from helicopter activity.	Construction All feasible and reasonable work practices are to be implemented to reduce construction noise and/or vibration. The following management measures will be implemented to mitigate noise impacts: • Standard construction hours • Worksite training • Temporary barriers and acoustic screening of construction activities • Site management • Equipment management • Community consultation • Complaint Management Operation • Mechanical Plant: – Selection of equipment with lower acoustic emissions – Architectural treatment for the plant room, such as utilising acoustically absorptive material, silencers / acoustic louvres, floor slab thickness and ceiling treatment for floors below. • Helicopter Noise: – Insulated glass unit (IGU) and a jockey sash spaced approximately 50mm from the IGU will be utilised.	2	2	4

TABLE 09: KDH Redevelopment Risk Assessment

Issue	Phase	Potential Environmental Impact	Proposed Mitigation Measures	Risk Assessment		
				Significance of Impact	Manageability of Impact	Residual Impact
Transport and Accessibility	Construction / Operation	As identified in the Transport Impact Assessment (Appendix E), there will be no adverse environmental impacts associated with traffic and accessibility.	No mitigation measures required.	1	1	2
Flora and Fauna	Construction / Operation	No adverse impact on ecology or biodiversity. The Flora and Fauna Assessment identified that there are no threatened species, populations, communities, or their habitats and no ecologically endangered communities on site. The tree survey identified a number of trees that would be impacted by the proposed redevelopment.	A number of trees are proposed to be removed due to the proposed new hospital building. Of these trees, the Bangalow Palms are suitable for relocation and are recommended for transplanting elsewhere on the site so that any possible use by native fauna is not lost.	1	1	2
Bushfire	Operation	Bushfire risk associated with the 63m wide riparian corridor located to the north-west of the KDH site.	The proposed new hospital building is located more than 100m from the potential bushfire source, which exceeds the minimum setback requirements in <i>Planning for Bushfire Protection 2006</i> and <i>Bushfire Construction Standards</i> and hence will not be at risk of bushfire.	1	1	2
Heritage	Construction / Operation	The 1919 Blood Bank has been identified as having moderate local heritage significance however is proposed for demolition. The Heritage Impact Statement (Appendix I) found the demolition to be an acceptable impact. Refer to Section 4.9.	- Archival photographic recording of the Blood Bank Building. - Moveable objects, such as memorials, foundation stones etc. should be relocated to the new building and interpreted.	1	2	3
Aboriginal Heritage	Construction / Operation	As identified in the Cultural Heritage Impact Assessment (Appendix J), there will be no adverse environmental impacts associated with Aboriginal Heritage.	No mitigation measures required.	1	1	2
Sediment, Erosion and Dust Controls	Construction	Air quality and water quality impacts associated with demolition, earthworks and construction activities.	A Soil and Water Management Plan (SWMP) will be prepared which will include measures for erosion, sediment and dust control. The SWMP will be prepared as part of the Construction Management Plan prior to the construction phase of the project.	3	2	5
Utilities	N/A	N/A	N/A	-	-	-

TABLE 09 (CONTINUED): KDH Redevelopment Risk Assessment

Issue	Phase	Potential Environmental Impact	Proposed Mitigation Measures	Risk Assessment		
				Significance of Impact	Manageability of Impact	Residual Impact
Contributions	N/A	N/A	N/A	-	-	-
Flooding	Construction / Operation	The site is outside of the 1:100 year flood level and accordingly is not at risk of flooding.	No mitigation measures required.	1	1	2
Drainage		As identified in the Civil Report (Appendix K), there will be no adverse environmental impacts associated with site drainage. The proposed stormwater strategy will alleviate known flow capacity issues associated with existing downstream off-site Council drainage infrastructure East of Tozer Street.	No mitigation measures required. It is noted that a gross pollutant trap will be installed to improve the quality of stormwater discharge into the Macleay River.	1	1	2
Servicing and Waste	Construction / Operation	Construction Environmental impacts associated with the disposal of hazardous waste. Operational Health risks associated with Contaminated Waste (including clinical waste and sharps).	Construction A Waste Management Plan (WMP) will be prepared as part of the Construction Management Plan, prior to the construction phase of the project. This will include measures to minimise, re-use and recycle construction and demolition wastes, except for hazardous waste materials. Measures for responsible disposal of hazardous waste, including the removal of asbestos, will also be included, in accordance with the relevant statutory requirements. Operational Operational waste will be managed and disposed of in accordance with the Waste Management Strategy contained in Appendix L to secure a level of safety and environmental performance that complies with relevant statutory instruments and obligations.	3	2	5
Hazards	Operation	There will be dangerous goods present on the KDH site, however at quantities below the threshold that would classify the development as a “potentially hazardous industry” or “potentially offensive industry”. Accordingly, potential environmental impacts are related to the disposal of hazardous waste. Refer to the section above on ‘Servicing and Waste’.	As above.	3	1	3

TABLE 09 (CONTINUED): KDH Redevelopment Risk Assessment

Issue	Phase	Potential Environmental Impact	Proposed Mitigation Measures	Risk Assessment		
				Significance of Impact	Manageability of Impact	Residual Impact
Contamination	Construction / Operation	As discussed in Section 4.18, the site will be made suitable for ongoing hospital uses prior to the commencement of works proposed in this SSDA. Potential construction / demolition issues associated with will be addressed as part of the Construction Management Plan.	No mitigation measures required.	1	1	2
Staging	Construction	The phasing of the redevelopment has been sequenced to ensure that the hospital can remain fully functional whilst the redevelopment works are being carried out. The existing on-site parking will be retained throughout the construction period for construction vehicles to minimise parking impacts on surrounding streets.	No mitigation measures required.	1	1	2

TABLE 09 (CONTINUED): KDH Redevelopment Risk Assessment

The environmental risk analysis illustrates that there are no anticipated high residual risks associated with the proposed redevelopment. The majority of potential environmental impacts have been identified with low residual impact, with no mitigation measures required. A number of potential environmental impacts have been identified with low-medium residual impact, for which standard mitigation measures can be applied.

Accordingly, there will be no adverse impacts on the environment stemming from the proposed development.

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5.0 MITIGATION MEASURES

This section specifically addresses the following EIS requirements under Schedule 2 of the Environmental Planning & Assessment Regulation 2000:

(1) *An environmental impact statement must also include ...the following:*

(e) *a compilation (in a single section of the environmental impact statement) of the measures referred to in item (d) (iv).*

The following provides a summary the proposed mitigation measures to be implemented for the environmental impacts identified in Section 4.0.

5.1 BUILT FORM AND URBAN DESIGN

- No mitigation measures required.

5.2 AMENITY

- Refer to 'Noise and Vibration' below.

5.3 NOISE AND VIBRATION

5.3.1 Construction

- All feasible and reasonable work practices are to be implemented to reduce construction noise and/or vibration. The following management measures will be implemented to mitigate noise impacts:
 - Standard construction hours
 - Worksite training
 - Temporary barriers and acoustic screening of construction activities
 - Site management
 - Equipment management
 - Community consultation
 - Complaint Management

5.3.2 Operation

- Mechanical Plant:
 - Selection of equipment with lower acoustic emissions
 - Architectural treatment for the plant room, such as utilising acoustically absorptive material, silencers / acoustic louvres, floor slab thickness and ceiling treatment for floors below.
- Helicopter Noise:
 - Insulated glass unit (IGU) and a jockey sash spaced approximately 50mm from the IGU will be utilised.

5.4 TRANSPORT AND ACCESSIBILITY

- No mitigation measures required.

5.5 FLORA AND FAUNA

A number of trees are proposed to be removed due to the proposed new hospital building. Of these trees, the Bangalow Palms are suitable for relocation and are recommended for transplanting elsewhere on the site so that any possible use by native fauna is not lost.

5.6 BUSHFIRE

The proposed new hospital building is located more than 100m from the potential bushfire source, which exceeds the minimum setback requirements in *Planning for Bushfire Protection 2006* and *Bushfire Construction Standards* and hence, no mitigation measures are required.

5.7 HERITAGE

- Archival photographic recording of the Blood Bank Building.
- Moveable objects, such as memorials, foundation stones etc. should be relocated to the new building and interpreted.

5.8 ABORIGINAL HERITAGE

- No mitigation measures required.

5.9 SEDIMENT, EROSION AND DUST CONTROLS

- A Soil and Water Management Plan (SWMP) will be prepared which will include measures for erosion, sediment and dust control. The SWMP will be prepared as part of the Construction Management Plan prior to the construction phase of the project.

5.10 UTILITIES

- No mitigation measures required.

5.11 FLOODING

- No mitigation measures required.

5.12 DRAINAGE

- No mitigation measures required.
- It is noted that a gross pollutant trap will be installed to improve the quality of stormwater discharge into the Macleay River.

5.13 SERVICING AND WASTE CONSTRUCTION

5.13.1 Construction

- A Waste Management Plan (WMP) will be prepared as part of the Construction Management Plan, prior to the construction phase of the project. This will include measures to minimise, re-use and recycle construction and demolition wastes, except for hazardous waste materials. Measures for responsible disposal of hazardous waste, including the removal of asbestos, will also be included, in accordance with the relevant statutory requirements.

5.13.2 Operational

- Operational waste will be managed and disposed of in accordance with the Waste Management Strategy contained in Appendix L to secure a level of safety and environmental performance that complies with relevant statutory instruments and obligations.

5.14 HAZARDS

- As above in Section 5.13.1

5.15 CONTAMINATION

- No mitigation measures required as part of this SSDA.

6.0 JUSTIFICATION OF THE DEVELOPMENT

This section specifically addresses the following EIS requirements under Schedule 2, Clause 7 of the Environmental Planning & Assessment Regulation 2000:

(1) *An environmental impact statement must also include each of the following:*

(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).*

(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.*

6.1 PRECAUTIONARY PRINCIPLE

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.

A comprehensive assessment of environmental impact has been undertaken involving the preparation of numerous environmental and technical studies. The studies have not identified any potential for serious or irreversible environmental damage to occur as a consequence of the proposed development.

On that basis, the proposed KDH redevelopment is in accordance with the precautionary principle.

Notwithstanding, any environmental impact or (potential impact) identified will be mitigated by the measures outlined in Section 5.0 to ensure that the proposed development will not result in environmental degradation.

6.2 INTER-GENERATIONAL EQUITY

The present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

The new KDH will offer modern, contemporary health care facilities with high quality care standards to cater for current and future demand, thereby improving and enhancing the delivery of health services to the local and regional community.

Accordingly, the proposed development is in accordance with the principle of inter-generational equity.

6.3 CONSERVATION OF BIOLOGICAL DIVERSITY AND ECOLOGICAL INTEGRITY

That conservation of biological diversity and ecological integrity should be a fundamental consideration.

A Flora and Fauna Assessment has been undertaken for the entire Hospital site, which concluded that it does not contain any threatened or ecologically endangered species, populations, communities or significant habitat.

Accordingly, there will be no impact on the conservation of biological diversity and ecological integrity.

6.4 IMPROVED VALUATION, PRICING AND INCENTIVE MECHANISMS,

Environmental factors should be included in the valuation of assets and services.

One of the key environmental goals of the KDH redevelopment is to achieve a 4-Star Green Star Healthcare Version 1 certified design rating, which influence the capital and ongoing costs of the redeveloped hospital.

Green Star points will be targeted in a number of categories including energy, management, indoor environmental quality, emissions and materials, where it has been identified cost-effective to do so. Refer to Sections 3.9 and 4.4.

7.0 CONCLUSION

This Environmental Impact Statement has been prepared for the proposed Kempsey District Hospital Redevelopment, comprising the construction of a new hospital building; refurbishment of existing facilities to allow for upgraded and expanded services; demolition of the existing Blood Bank; modified main entrance; modified car parking and associated landscape and infrastructure works.

The key objective of the proposal is to enhance the delivery of health services in the Kempsey LGA and Hastings Macleay Clinical Network by providing a modern, contemporary, culturally appropriate health care facility with high quality care standards that will cater for the current and future demands of the local and regional community.

A range of development alternatives have been explored which identified the existing Hospital site and the proposed architectural design as the most appropriate delivery option. The consequences of not proceeding with the development would be that NSW Health will be unable to meet the future health care demands of the

local and regional community with serious implications for the health and wellbeing of the community.

The functional requirements of the proposed development have been carefully balanced against the need to safeguard the amenity and environmental quality of the existing hospital site.

An assessment of environmental impact together with an environmental risk assessment has been carried out in accordance with the Director General's Requirements, which demonstrate there are no significant environmental impacts or risks associated with the proposed redevelopment. Notwithstanding, a range of mitigation measures are proposed to ensure that there are no adverse environmental impacts.

The proposed development is justified on the basis that it is in accordance with the ESD principles of precaution, inter-generational equity, biological diversity and improved valuation, pricing and incentive mechanisms.

Accordingly, the Minister's favourable consideration of this Development Application is sought.

SCHEDULE OF APPENDICES

ATTACHED TO EIS DOCUMENT		
A. Architectural Drawings	Prepared by BVN Donovan Hill	Includes architectural drawings and shadow diagrams as required.
B. Site Survey	Prepared by MW Rogers Associates	
C. Landscape Masterplan	Prepared by 360 Degrees	Includes Landscape Drawings
VOLUME 1		
D. Noise and Vibration Assessment	Prepared by Resonance	
E. Transport & Accessibility Study	Prepared by GTA	
F. Helicopter Landing Study	Prepared by Rahhbein Airport Consulting	
G. Flora and Fauna Assessment	Prepared by Able Ecology	Includes Arborist Report
VOLUME 2		
H. Bushfire Hazard Assessment	Prepared by Australian Bushfire Protection Planners	
I. Heritage Impact Statement	Prepared by Graham Brooks & Associates.	
J. Archaeological Assessment	Prepared by RPS Australia	
K. Civil Report	Prepared by Enstruct	Includes Bulk Earthworks Plan and Stormwater Management Plan

VOLUME 3		
L. Waste and Hazards Report	Prepared by Safety Engineering & Technical Services	
M. Mechanical and Electrical Services Report	Prepared by Umow Lai	
N. Fire and Hydraulic Services Report	Prepared by Aurecon	
O. Quantity Surveyor's Report	Prepared by Altus Page Kirkland	
P. Structural Report	Prepared by Coffey Geotechnics	Includes Geotechnical Report
VOLUME 4		
Q. Environmental Site Assessments	Prepared by Coffey Geotechnics	
R. Remedial Action Plan	Prepared by GHD	For Information Only / Subject to Council DA