Development for *"[t]he purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose"* is permissible with consent in the SP2 zone. The purpose shown on the Land Zoning Map extracted above is that of a *health services facility*, which includes a *hospital*. Accordingly, the proposal is permissible with consent.

7.12.3 Zone Objectives

The objectives of the SP2 zone are:

> *- To provide for infrastructure and related uses.*
>
> *- To prevent development that is not compatible with or that may detract from the provision of infrastructure.*
>
> *- To ensure that the scale and character of infrastructure is compatible with the landscape setting and built form of surrounding development.*

The proposed development is consistent with the zone objectives in that the proposed works facilitate the continuation of and improvement to the existing hospital.

7.12.4 Height of Building

There is no maximum height control for the site under the WLEP, as shown at Figure 52.

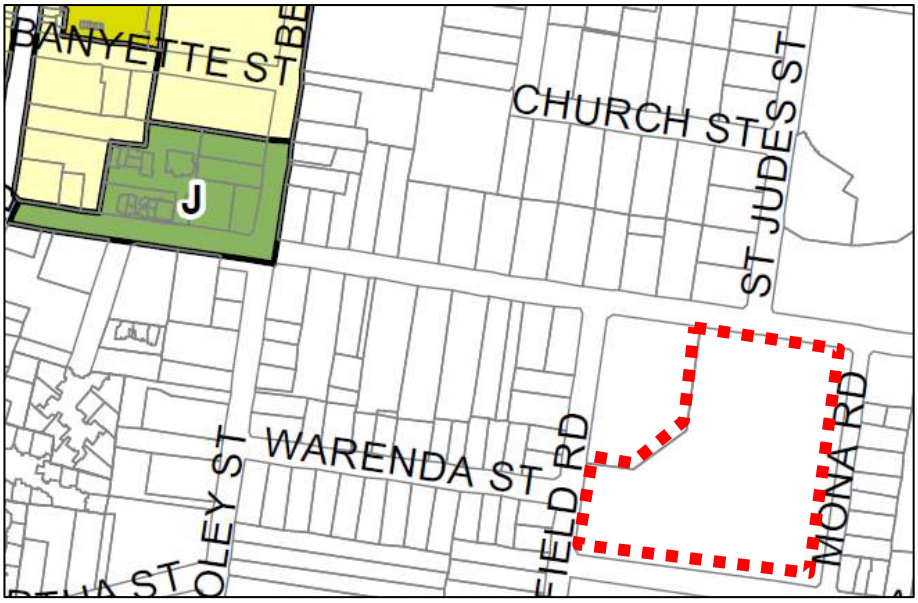

Figure 52: Height of Building extract, subject site outlined in red (Source: NSW Legislation)

7.12.5 Floor Space Ratio

There is no maximum floor space ratio (FSR) for the site under the WLEP, as shown at Figure 53 on the page over.

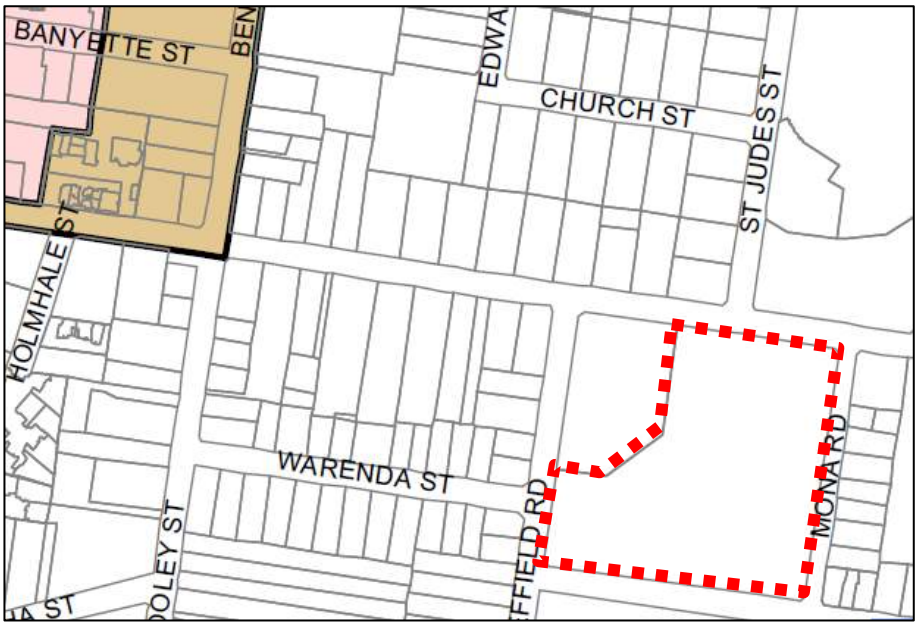

Figure 53: FSR Map extract, subject site outlined in red (Source: NSW Legislation)

7.12.6 Heritage

The site is located in the vicinity of several heritage items, including Bradman Oval, Bradman Museum Collection and Grandstand, as well as the Bowral Conservation Area (Figure 54). A Heritage Impact Statement (HIS) prepared by WPH is provided at **Appendix 2**. The report confirms that the proposed works will not impact upon the heritage significance of the Bradman Oval, Grandstand or Museum. Further, the report demonstrates that the proposal will have no impact to the historic, social and aesthetic significance of and view corridors within the Bowral Conservation Area.

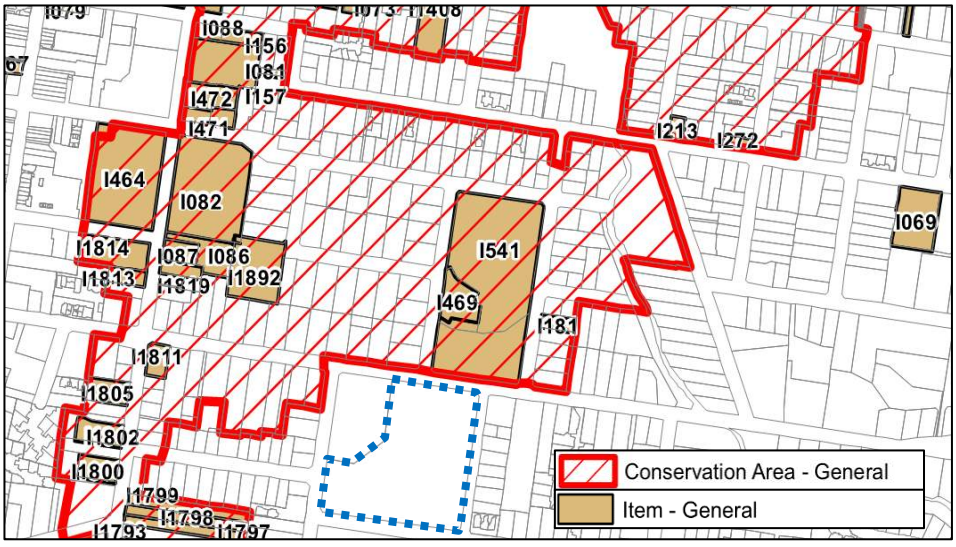

Figure 54: Heritage Map extract, subject site outlined in blue (Source: NSW Legislation)

7.12.7 Flood Planning

The WLEP does not identify the subject site as being located within a flood planning area. Flooding is addressed further with respect to SEAR 14 at Section 9.13 of this EIS.

8. Policies and Guidelines

8.1 Overview

The SEARs require the following non-statutory policies be addressed in the subject EIS:

- NSW State Priorities;
- South East and Tablelands Regional Plan 2036;
- NSW Long Term Transport Master Plan 2012;
- Future Transport Strategy 2056 and supporting plans;
- Crime Prevention Through Environmental Design (CPTED) Principles;
- Planning Guidelines for Walking and Cycling;
- Healthy Urban Development Checklist, NSW Health; and
- Better Placed - An integrated design policy for the built environment of NSW 2017.

These policies are addressed below, where relevant.

8.2 NSW State and Premier Priorities

The NSW government has identified a series of state priorities, targeting particular problems and objectives for the growth and development of the state. The NSW State and Premier Priorities are the strategic vision by NSW Government, including 12 personal priorities and 18 State priorities being actioned by NSW Government. An assessment of the proposal against the relevant priorities is provided below.

The NSW State priorities that are applicable to this proposal are considered at Table 13.

Table 13: NSW State Priorities and their applicability to the proposal

Priorities	Comment
Strong budget and economy	The proposal will assist in strengthening the regional economy by providing essential support services for continued residential and tourism growth throughout the Wingecarribee Shire LGA and the South East and Tablelands Region. Additionally, the proposal will provide valuable employment opportunities throughout both the construction and phases of the proposed development.
Building infrastructure	The proposal will provide essential health infrastructure by augmenting and enhancing existing services at B&DH.
Protecting the vulnerable	The proposal will enhance the level of care offered to sick and vulnerable individuals throughout the region.
Better services	The proposal provides a substantial and well-equipped expansion to B&DH. In doing this the proposal will relieve stress from surrounding medical uses, improve public medical services and reduce waiting times for planned surgeries.
Safer communities	The proposed design takes into account the established Crime Prevention through Environmental Design (CPTED) principles. These are addressed at Section 8.6 of this EIS.

8.3 South East Tablelands Regional Plan 2036

The South East Tablelands Regional Plan 2036 (SETRP) provides a strategy to facilitate the delivery of *"[a] borderless region in Australia's most geographically diverse natural environment with the nation's capital at its heart"*.

Bowral is identified as one of the centres in the South East Tablelands Region. Refer to Figure 55.

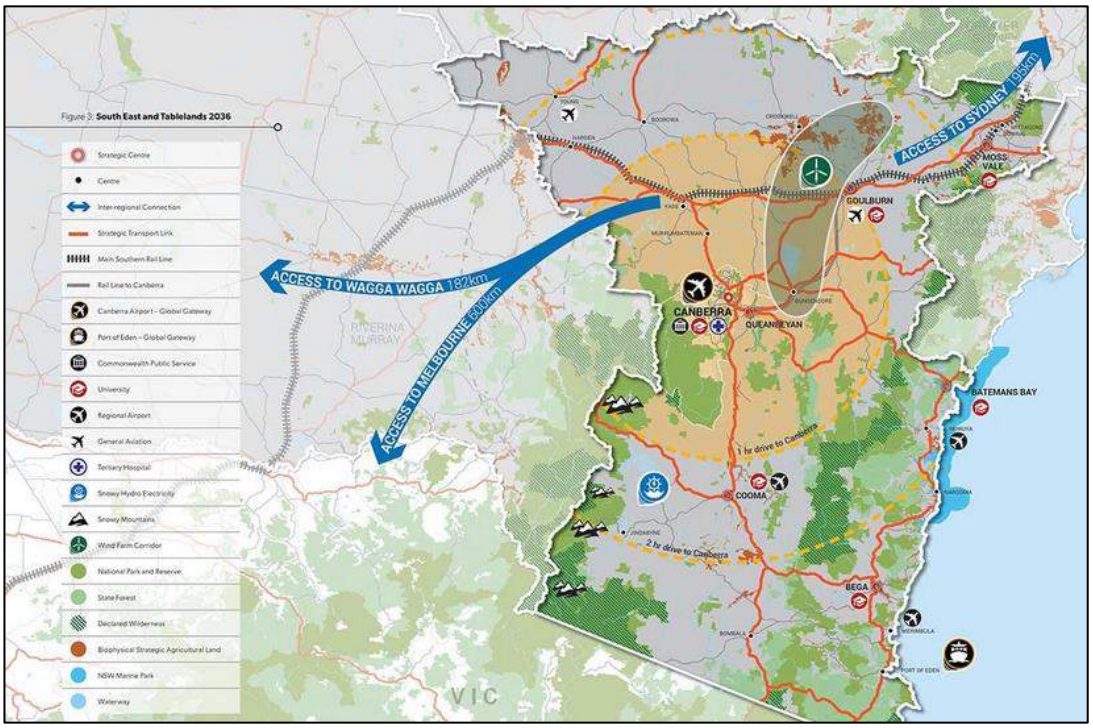

Figure 55: Extract of South East and Tablelands Regional Plan (Source: NSW DPE)

The SETRP is structured around the following four (4) goals:

1. Goal 1: A connected and prosperous economy;
2. Goal 2: A diverse environment interconnected by biodiversity corridors;
3. Goal 3: Healthy and connected communities; and
4. Goal 4: Environmentally sustainable housing choices.

The proposal is consistent with these goals, especially Goal 3: Healthy and connected communities. Specifically, Direction 21 focuses on the increase access to health services. Accordingly, the proposal will provide increased capacity for inpatient beds, as well as a range of services in support of the operations and modernisation of a district hospital. Additionally, and most importantly, the SETRP makes specific reference to the NSW Government's commitment to the redevelopment of Bowral Hospital. The proposal is therefore a direct positive contribution toward the realisation of the NSW Government's strategic vision for the region and the site.

8.4 NSW Long Term Transport Master Plan 2012

The NSW Long Term Transport Master Plan 2012 provides a framework for delivery of integrated and modern transport systems. This Plan has been recently updated by the Future Transport Strategy 2056 which is outlined in Section 8.5 on the page over.

The NSW Long Term Transport Master Plan 2012 provides a range of Statewide Actions at Chapter 8 that are of relevance to this application. It is noted that the *"[t]he Long Term Transport Master Plan focuses on addressing six major statewide transport challenges that apply to the entire transport network, that is they are not specific to any one city or region"*. The "*six major statewide transport challenges"* identified by the NSW Long Term Transport Master Plan 2012 are extracted below:

- Integrating land use and transport planning to shape development;

- Reducing transport inequality;

- Stepping up our efforts to provide safe travel options and networks;

- Taking up the opportunities provided by modern online information communication technologies;

- Promoting sustainability and protecting the environment in our transport planning, decision making and projects; and

- Maintaining our transport infrastructure.

B&DH acts as a hub for the southern portion of the SWSLHD and as a result B&DH provides services to a broad catchment area. The size of the site's catchment area means that patients and visitors to the site are likely to use private vehicle travel as a way of accessing the services at B&DH. Notwithstanding this, the site is accessible by public transport and the proposal does not seek to alter existing arrangements described in Section 3.3.4 of this EIS.

In relation to promoting sustainability, the TIA prepared by GTA notes a series of "[a]ctions that could be implemented by the Hospital to encourage sustainable transport". These actions include:

(a) *Redistribution of pedestrian activity across the hospital. Wayfinding signage at key locations surrounding the hospital and within hospital grounds would also show visitors/ patients the best route and entries for specific hospital facilities;*

(b) *Lighting and active/ passive surveillance for personal security along the frontage streets and beyond;*

(c) *40km/h High Pedestrian Activity zones along Bowral Street, Mona Road and Ascot Road;*

(d) *Linemarking and signage on internal pavements to indicate areas of high pedestrian activity;*

(e) *10km/h speed limits within the hospital to ensure pedestrian amenity and safety;*

(f) *Bicycle loops to be provided near the ED and the main entrance;*

(g) *Improvements to the bus network including increasing the number of accessible routes could potentially increase the number of staff and visitors who travel by bus; and*

(h) *A Green Travel Plan generally aimed to promote the use of public transport may ultimately lead to a further expansion of existing services.*

These actions have been included as proposed mitigation measures at Section 11 of this EIS.

Based on the above the proposal is considered to be consistent with the NSW Long Term Transport Master Plan.

8.5 Future Transport Strategy 2056 and supporting plans

This Strategy and supporting plans seek to update the NSW Long Term Transport Master Plan. It is a suite of strategies and plans for transport developed in concert with the Greater Sydney Commission's Sydney Region Plan, Infrastructure NSW's State Infrastructure Strategy, and the Department of Planning and Environment's regional plans, to provide an integrated vision for the State.

The Supporting Plans are more detailed issues-based or place-based planning documents that help to implement the Strategy across NSW.

Future Transport 2056 outlines six state-wide outcomes which provide a framework to enable change and innovation within the transport network. The Strategy's outcomes relate to the proposed development as outlined in Table 14:

Table 14: Future Transport Strategy 2056

Future Transport Statewide Outcomes	Customer Outcomes	Comment/Response
1. Customer Focused	Convenient and responsive to customer needs	The proposed development will not affect the site's accessibility to the wider transport network. Public transport, such as bus and train services, are available to patients and visitors.
2. Successful Places	Sustaining and enhancing the liveability of our places	The site is serviced by public transport, supported by a safe road environment, suitable pathways, and convenient access for vehicles and pedestrians.
3. A Strong Economy	Connecting people and places in the growing city	The proposal enables convenient access to increased jobs and services by public or active transport.
4. Safety & Performance	Safety, efficiently and reliably moving people and goods	The site is serviced by a safe and reliable transport system, with convenient access to other centres.
5. Accessible Services	Accessible for all customers	The site provides fully accessible transport for all costumers.
6. Sustainable	Makes the best use of available resources and assets	The proposal supports environmentally sustainable travel through a Work Travel Plan. For further details refer to SEAR 5 (Section 9.4 of this EIS).

8.6 Crime Prevention Through Environmental Design (CPTED) Principles

Crime Prevention through Environmental Design (CPTED) is a recognised model which provides that if development is appropriately designed it can reduce the likelihood of crimes being committed. Whilst B&DH is not within a high-risk crime area, by introducing CPTED measures within the design, planning and structure of the environment, it is anticipated that this will assist in minimising the incidence of crime and contribute to perceptions of increased public safety. As outlined in the Architectural Design Statement by MSJ (**Appendix 11**), the proposal has been designed to take into consideration the seven main principles of CPTED as follows:

Table 15: Response to CPTED Principles

CPTED Principles	Responses
Surveillance	This principle provides that crime targets can be reduced by effective surveillance, both natural and technical. In this regard, the overall siting of the development and the internal planning of the new building will allow passive surveillance through the provision of a main entrance pathway, which directly connects to the street and the main vehicular entry road. Notwithstanding this, the entry path will provide access to the hospital rooms and the main foyer. This entry path and the public car parking area will be visible from the building and surrounding areas. The layout of the development and the landscaping works also provide lines of sight between public and private spaces.
Lighting	The hospital's external areas will be maintained during the night by a suitable lighting scheme, particularly to pedestrian pathways, car parks and adjoining areas. Optimising illumination reduces the risk of loitering and vandalism, as it increases the site's overall security.
Territorial Reinforcement	This principle provides that well-used places reduce opportunities for crime and increase risk to criminals. There is a clear delineation between the public streets and footpath verges and the extent of B&DH. Access routes to and from the hospital will be clearly signposted, delineated and will be in frequent use.
Environmental Maintenance	B&DH is currently under existing maintenance procedures, which can be extended to the proposed new building. External materials have been selected to minimise damage and decay, maintaining the site's outlook and enhancing the hospital's overall appearance.
Space Management	This principle provides that space which is appropriately utilised and well cared for reduces the risk of crime and antisocial behaviour. B&DH has continual procedures and practices enhanced by surrounding developments, with respect to space management. The operation of such procedures and practices on the site will not be altered by this proposal and space management will remain a priority in the operation of B&DH.
Access Control	This principle provides that barriers to attract/restrict the movement of people minimises opportunities for crime and increases the effort required to commit crime. A new access control system will be installed in the proposed building, where staff and visitors' access will be controlled by intercoms, car readers and the like, particularly during night time.
Design, Definition and Designation	Areas without an established spatial definition can create conflicts between design, designated purpose and boundaries. Hence, this may create confusion and crime opportunities. In response, B&DH is a well-established facility and the proposed building is consistent with the current use of the site. The expansion of the existing facilities has been designed with defined boundaries, as well as a designated purpose with the corresponding responsible staff.

Based on the discussion above the proposal is consistent CPTED principles and the safety or security of patients and staff resulting from this proposal will be appropriately managed.

8.7 Planning Guidelines for Walking and Cycling

These guidelines aim to assist land-use planners (and other professionals) within local councils, consultancies and State agencies to improve consideration of walking and cycling in their work. At the broadest level, they show how metropolitan strategies, masterplans and Local Environmental Plans (LEPs) can help create urban form that is conducive to walking and cycling. At a more detailed level, they show how Development Control Plans, developer contributions plans and development assessment processes can reinforce these broader plans through funding mechanisms, provision of facilities and design outcomes that are supportive of walking and cycling.

Of particular benefit is the "Checklist", which provides a comprehensive list of the main considerations. The relevant considerations to this project are outlined on Table 16:

Table 16: Checklist - Planning Guidelines for Walking and Cycling

Checklist	Comment/Response
Chapter 3. Plan-making	
3.5 Integrating bicycle and pedestrian plans with the planning instruments	The proposal provides suitable pedestrian access, while also increasing the provision of internal pathways to enhance mobility and connectivity between the Hospital's buildings. Bicycle parking is also provided within the site, with capacity for ten (10) bicycles to promote active transport.
Chapter 5. Designing neighbourhoods	
5.1 The walking and cycling neighbourhood	The proposal improves connectivity within the site and remains integrated to the existing cycling routes. A Work Travel Plan has been proposed as part of this proposal. The WTP includes a series of actions aimed at promoting use of public transport, cycling and walking, carpooling, and other matters. Refer to Section 9.4 of this EIS for further details.
5.5 Security and safety	The proposed pathways will improve pedestrian safety and enable surveillance within the site and through adjoining residences. Refer to Section 8.6 above.
5.8 Building and site design	The proposed development has been designed with adequate pedestrian access. Internal pathways will link the proposed new inpatient building to existing buildings and car parking areas. These pathways will also integrate appropriate internal signage to guide pedestrian mobility on site.
Chapter 8. Paths and trails	
8.3 Path and trail issues and solutions	The proposed paths integrate appropriate signage to guide pedestrian mobility within site. These pathways integrate sensitive design to minimise environmental impacts on site.

8.8 Healthy Urban Development Checklist

The purpose of the Healthy Urban Development Checklist (HUDC) is to assist health professionals to provide advice on urban development policies, plans and proposals. It is

intended to ensure that the advice provided is both comprehensive and consistent. The HUDC provides a useful mechanism for upfront guidance in the identification of key health issues, relevant supporting evidence and recommendations, also suggesting how positive effects can be maximised and negative health effects minimised.

The HUDC is structured into ten chapters, each one focused on a characteristic that is important for healthy urban development. The proposal is consistent with the relevant provisions of the HUDC as follows:

- The proposed development will provide for new hospital facilities that will be co-located with existing health and medical facilities;
- The proposed development will generate additional employment during construction;
- A Work Travel Plan (WTP) will be prepared for B&DH and will include sustainable travel choices and details of programs for implementation, consistent with the HUDC objectives regarding encouragement of physical activity and reduction on car dependency (refer to SEAR 5 at Section 9.4 of this EIS for further detail on public transport and sustainable transport);
- As set out in Section 8.6 of this EIS, the proposed development promotes principles of Crime Prevention Through Environmental Design (CPTED);
- The proposed development reflects the design quality principles which complement recent developments at B&DH and provide an appropriate response to the streetscape; and
- A detailed consultation process has been undertaken with relevant stakeholders to encourage stakeholder involvement in planning for the expansion of B&DH.

The proposal will enable the redevelopment of the B&DH. The proposed development will provide improved functionality and capability whilst improving efficiency of the existing hospital. The proposal is consistent with the intent of the HUDC by providing a new development that contributes to social infrastructure in the locality and region and facilitates cycling and pedestrian accessibility. Refer to SEAR 5 (Section 9.4 of this EIS) on access to public transport and sustainable transport.

8.9 Better Placed - An integrated design policy for the built environment of NSW 2017

Better Placed: an integrated design policy for NSW was released by the NSW Government Architects Office in August 2017 as is described as follows:

> *Better Placed is a policy for our collective aspirations, needs and expectations in designing NSW. It is about enhancing all aspects of our urban environments, to create better places, spaces and buildings, and thereby better cities, towns and suburbs. To achieve this, good design needs to be at the centre of all development processes from the project definition to concept design and through to construction and maintenance.*

Better Placed is an integrated design policy for the built environment of NSW which advocates for sharing the responsibility in delivering good processes and outcomes for NSW, with a focus on "good design".

Better Placed identifies seven Design Objectives for NSW including, better fit, better performance, better for community, better for people, better working, better value & better look and feel.

The design response and urban design considerations are discussed at SEAR 3 (Section 9.2 of this EIS) and in the Architectural Design Statement by MSJ (**Appendix 11**). Overall, the proposed building responds to the clinical needs, functionality and site's location and local

context. The new building has been designed to integrate with existing buildings on site, responding to accessibility, security and operational needs, while contributing to the delivery of more integrated and connected services within B&DH.

The visual qualities of the proposed building will contribute to the surroundings and promote positive engagement. The new main entry will be a clear welcoming path through the existing landscape to the new building.

The design principles which underpin this development are consistent with previous stages of redevelopment in B&DH and therefore, provide a continuation of a high quality, functional and welcoming outcome for B&DH.

8.10 Bowral Town Plan Development Control Plan

The *Bowral Town Plan Development Control Plan* (DCP) provides more detailed provisions, supplementing the provisions of the WLEP.

Under the provisions of Clause 11 of *SEPP (State and Regional Development)*, Development Control Plans do not apply to State Significant Development. Therefore, the Bowral Town Plan DCP does not apply to this SSDA. However, cues have been taken from the controls that would ordinarily apply to B&DH to ensure that the proposal is generally consistent with the desired future character for the site.

9. Environmental Impact Assessment

9.1 Overview

In addition to the statutory and strategic controls addressed in Section 7 and 8 of this EIS, the SEARs state that the environmental impacts of the proposal must be assessed, and specify key issues be considered throughout the assessment of any such impacts. This section contains the assessment environmental impacts and other relevant considerations and includes recommended mitigation measures where necessary. Each matter raised within the SEARs is addressed separately below.

9.2 Built Form and Urban Design (SEAR 3)

9.2.1 SEAR

SEAR 3 requires that the application:

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

9.2.2 Assessment

Height, density, bulk and scale

The B&DH campus currently encompasses a range of buildings and facilities that vary in scale, age and style. Acute and ambulatory services are provided at Milton Mark and Watsons Building, which are centrally located. The Milton Park Wing and well as the Administration Building are the most prominent buildings on site, with heights of 3 storeys and 2 storeys respectively. A cluster of original hospital buildings are located at the south west corner of the B&DH campus. These are known as the "Old Hospital". SHPH sits at the north western corner of the site and currently has two floor levels. SHPH and B&DH are currently linked by a ramp fronting the existing ED. The Mortuary and the back of house services are located in a conglomerate of buildings at the south east corner of the site with direct access from Ascot Road.

The proposed building has been designed in a "L" shaped form comprising two wings to provide an appropriate built form within the context of the existing site and locality. The new building will be sited within the north eastern corner of the site and fronting Bowral Street. A secondary frontage is provided to Mona Road.

As can be seen in the figure on the page over, the "L" shaped layout of the building will reduce the extent of built form that is presented to the north and south. The design of the new building includes a 2-storey northern wing fronting Bowral reducing the bulk of the building as perceived from the public domain. The design of the proposed building is considered consistent with the scale of surrounding development and respectful to the scale and form of the Bowral architectural typology. Refer to Figure 56 on the page over.

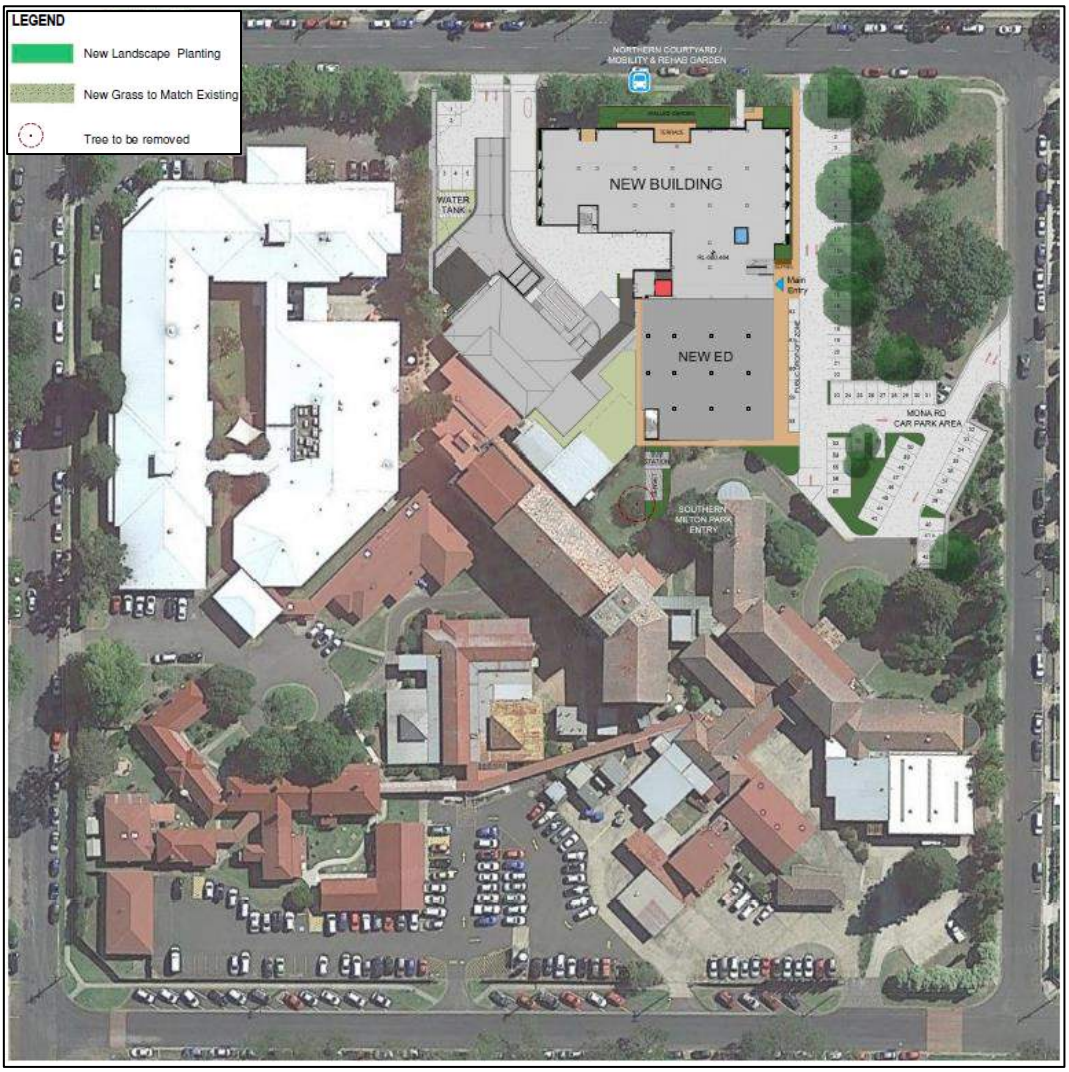

Figure 56: Site Plan (Source: MSJ)

As noted earlier in this EIS, the site is not subject to any maximum building height pursuant to the WLEP. In terms of height and massing, cues have therefore been taken from the adjacent private hospital and the existing hospital buildings on the site.

The proposed building will largely comprise three storeys in height, with a roof level plant room at the southern end of the building, resulting in a partial fourth storey component in this location. The maximum height of the building will be 20.3m, when measured from existing ground level. The height of the proposed building can be seen in the elevation extracts on the page over, noting that the height is varied to provide visual interest and reduce overall massing. The fourth storey plant room is substantially setback from Mona Street and even further setback from Bowral Street and comprises a part "pitch" to the room form to again, reduce visual massing.

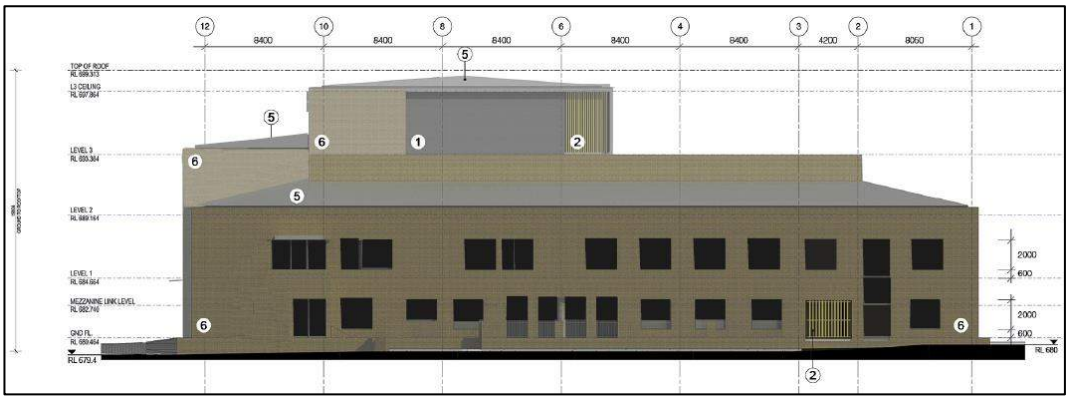

Figure 57: Building elevation showing the proposed works viewed from the north (Source: MSJ)

Figure 58: Building elevation showing the proposed works viewed from the south (Source: MSJ)

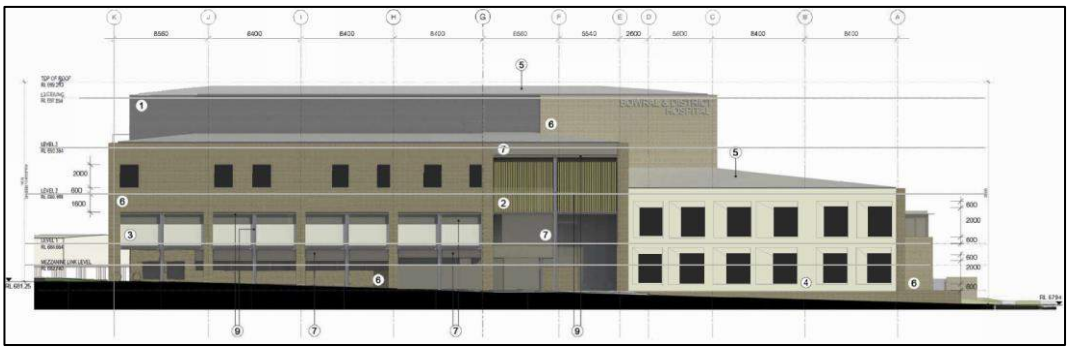

Figure 59: Building elevation showing the proposed works viewed from the east (Source: MSJ)

Figure 60: Building elevation showing the proposed works viewed from the west (Source: MSJ)

As can also be seen in the elevation plans above (and as will be discussed in further detail in Section 9.2 of this EIS), the proposed facades of the new building will incorporate glazed elements and a range of materiality. The varied materiality will assist in breaking up the visual massing of the new building into various vertical and horizontal components. The material and form of the proposed building will provide reference to other hospital buildings, particularly the current Administration Building, which has been B&DH's public address for many decades.

Further to the above, we consider that the height, bulk and scale of the proposal provides an appropriate built form within the context of the existing site and the surrounding social infrastructure network for the following reasons:

- As noted above, the new building will retain a substantial setback at the eastern boundary (Mona Road). Within this setback zone is a generous landscaped setting (existing and proposed), particularly within the north-eastern corner of the site which has a concentration of mature and specimen plantings. The retention of this critical landscape zone at the corner of the site provides important landscaped relief for the building when viewed from the north, east and north-east.
- The site's northern and southern boundaries are adjoined by social infrastructure, including the Glebe Park and the Bradman Museum at the north, and Losbey Park and the Youth Centre at the South. The proposed works will not block the view corridors to and from these times from the public domain;
- The retention of the tree line along Bowral Street will be sought subject to advice from the Project Arborist. Where retention is not possible, they will be replaced at a ratio of 1:1;
- The east and west sides of B&DH campus are generally low density residential beyond;
- B&DH is bounded to the north-west by the SHPH and its car park fronting Bowral Street;
- The proposed new building will be constructed at the north-eastern side of the hospital campus, which currently comprises part of the car parking space accessed through Bowral Street, as well as some open green area; and
- The siting, height and massing of the new inpatient building is responsive to the surrounding development which comprises predominantly a low density residential environment. The proposed building has been designed in consideration with the wider context of the surrounding landscape, which include a diversity of public recreation areas, as well as heritage items within a conservation area.

Figures 59 to 62 provide an illustrative overview of the proposed new building as seen public vantage points. These views are also provided at **Appendix 23**.

Figure 61: Proposed View to the North (Source: MSJ)

Figure 62: Proposed View to the South (Source: MSJ)

Figure 63: Proposed View to the East (Source: MSJ)

Figure 64: Proposed View to the West (Source: MSJ)

Development Statistics

The proposed building will be three storeys in height, with a roof level plant room on a fourth level at the southern end of the building. The proposal will have:

- A maximum height of 20.3m; and
- A total GFA of 8,159m2.

Design Quality

As set out in this SEAR, design quality requires consideration of a range of matters, with each of these addressed in Table 17.

Table 17: Consideration of design quality items

Design Item	Response
Site Layout	The proposed building will be located at the north-eastern side of B&DH campus. This area has a high concentration of mature trees and planting at the boundary of this corner, which are considered of high significance. The location of the proposed new building responds directly to the site's layout given that the proposed building will be sited specifically to preserve the existing landscape. The proposal will consolidate the main entry via Bowral St adjacent to the new building. Pedestrian and vehicular access has been configured to provide an axis and visual focus towards the Administration Building at the end of the drive. The siting of the proposed building takes advantage of the established landscape around the northern and eastern perimeter.
Streetscape	Streetscape is addressed in the discussion above in the context of the appropriateness of the bulk and scale of the proposal. In summary, the proposed building has been designed in a "L" shape, comprising two wings to provide an appropriate built form within the context of the existing site and locality. The new building will be sited within the north eastern corner of the site, addressing Bowral Street and Mona Road. The provision of generous setbacks, along with the existing and proposed landscaping at the north and east boundaries will assist in alleviating the visual bulk and scale of the new building.

Open Spaces	The Geriatric and Rehabilitation units within the new building will be located on ground level facing north to allow immediate access to an enclosed garden via the ADL dining and patient lounge areas. Additionally, the ADL kitchen and dining areas adjoin this enclosed garden through a covered terrace area. The proposed development will provide a new central hospital entry via Bowral Street for both vehicles and pedestrians, framed by the new building on one side and by the existing mature landscaping of established trees on the north-eastern corner of the site.
Façade	The proposed materials for the new building will consist in masonry and concrete elements located at the stairs, lift cores and colonnades to frame entries and access points, including light weight cladding panels. The façade brickwork has been selected to remain sympathetic in colour and tone, to the adjacent private hospital and the other buildings on site. The northern façade of the proposed building (Bowral St) is predominantly composed of brickwork and discrete window openings, in response to the material and form of the surrounding residential properties. Upper levels on the new building will be clad in lightweight metal panels to make reference to the base and upper level stucco composition, as well as the timber cladding of some surrounding properties within the vicinity.
Rooftop	The proposed rooftop will consist of a metal deck with a flat roof appearance. The integration of services within the design of the roof is discussed in the section “Integration of Services into Design” following this table.
Massing	This is addressed earlier in this section of the EIS in the context of the discussion regarding “Bulk and Scale”.
Setbacks	Addressed earlier in this section of the EIS under “Bulk and Scale”.
Building Articulation	Addressed earlier in this section of the EIS under “Bulk and Scale”.
Heritage Significance	Addressed in Section 3.4.3 and Section 7.12.6 of this EIS.
Materials and Colours	Materials for the proposed building have been selected to provide the required level of durability and low maintenance. Colour, tone and texture will be used to express the form of the building and respond sympathetically to the surrounding context. This is further addressed in this table under “Façade” and in Section 4.4.4 of this EIS.
CPTED	Addressed in Section 8.6 of this EIS.

Design quality is addressed further in the Design Statement prepared by MSJ at **Appendix 11** of this EIS.

The design of the proposed new building is illustrated on the perspectives at **Appendix 24** and on Figures 65 to 68 below:

Figure 65: Proposed inpatient building - Perspective 1: Internal view from the north-east (Source: MSJ)

Figure 66: Proposed inpatient building - Perspective 2: Internal view of the main entrance (Source: MSJ)

Figure 67: Proposed inpatient building - Perspective 3: Bowral Street view (Source: MSJ)

Figure 68: Proposed inpatient building - Perspective 4: North-west corner looking east (Source: MSJ)

Integration of Services into Design

Integration of services into the design of the development is briefly addressed by MSJ in their Architectural Design Statement (**Appendix 11**). The relevant section is extracted below:

- the main public pedestrian and vehicular access points are now off Bowral Street with associated public car parking and dedicated drop off zone at the main entry;
- located off Mona Road the existing public pedestrian entry and car parking will link the main entry area whist maintaining the original circular driveway of the Administration Building;
- a separate ambulance and service vehicular access is now provided off Bowral Street;
- the separate service access off Bowral Street is screened by the building and can provide additional access to the site reducing travel distances and any pressure on the existing site;
- the redevelopment maintains the original main service zones in the south of the site for waste disposal linen services and medical gas deliveries and storage;
- the main mechanical plant is located on the roof of the east wing of the building in the centre of the site to provide maximum setback from boundaries and in line with the Milton Park roof plant;
- other services where possible have been integrated into the building to reduce the impact on the site; and
- the substation has been located at the centre of the site away from the boundaries where it can be more effectively screened.

This EIS is also accompanied by Electric, Civil and Hydraulic Services Reports/Drawings that detail the way infrastructure is integrated into the proposed design. The integration of services into the design of the site will minimise amenity impacts by enhancing the site's operation. Improving the operational capacity of B&DH will provide a net positive impact in the delivery of quality health care services throughout the SWS LHD.

9.2.3 Recommended Mitigation Measures

Not applicable.

9.3 Environmental Amenity (SEAR 4)

9.3.1 SEAR

SEAR 4 requires that the application:

> *Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing, reflectivity from building facades and wind impacts. A high level of environmental amenity for any surrounding residential land uses must be demonstrated.*

9.3.2 Assessment

Site Analysis

The factors influencing environmental amenity at the site and of the area surrounding the hospital are illustrated in the site analysis plan extracted in Figure 69 on the page over.

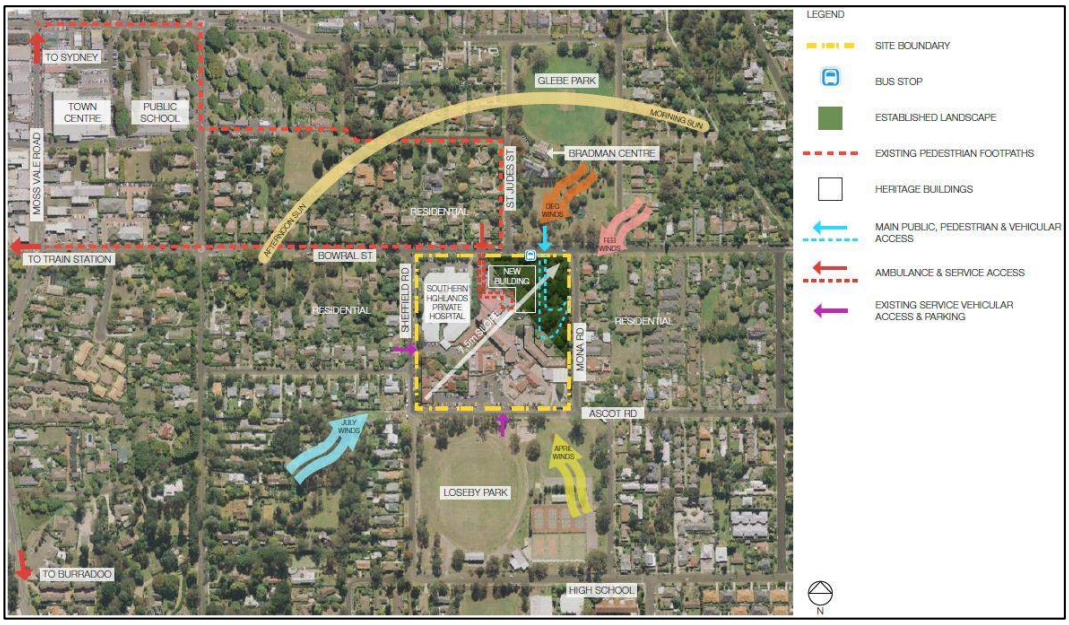

Figure 69: Extract of Site Analysis Plan (Source: MSJ)

Solar Access and Overshadowing

A series of mid-winter shadow diagrams have been prepared by MSJ demonstrating the impact of the proposed development. The proposed scheme design will have no adverse impacts on solar access and overshadowing to other buildings on the site or throughout the surrounding locality. The shadow diagrams provided at **Appendix 8** and extracted in the Figure 70 on the page over demonstrate the following:

- During summer solstice, the proposed new building will overshadow the service yard during morning and the main pedestrian access path during the afternoon, providing a shady walkaway; and
- In winter solstice, the new building will cast a large shadow during the morning across the service zone, with minimal intrusion to Milton Park Ward. During the afternoons, the proposed building will overshadow the main pedestrian entry and part of the car parking area fronting Mona Road. Nonetheless, the Administration Building, as well as the garden at the north eastern side will retain high solar access throughout the day;

The proposed works will not adversely impact solar access on the site or throughout the surrounding locality. It is concluded that there will be no overshadowing of surrounding hospital buildings or residential properties as a result of this proposal. The proposed building has been skilfully designed to provide a high level of environmental amenity within the site and throughout the surrounding locality. The shadow diagrams can be seen in Figure 70.

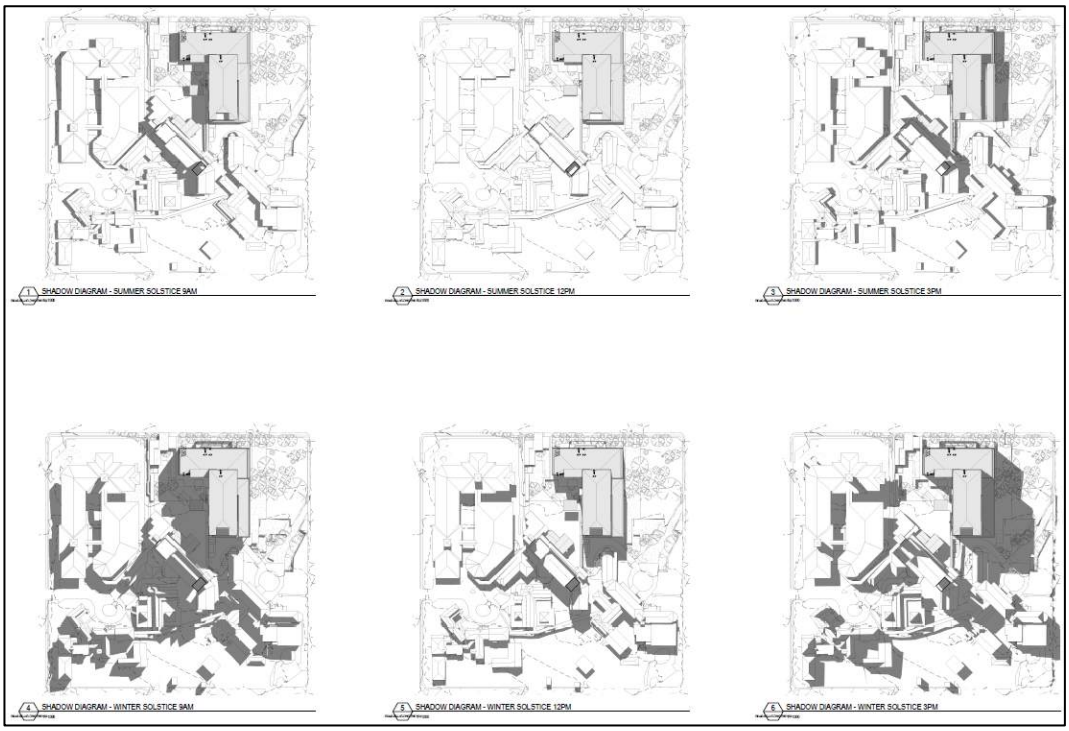

Figure 70: Solar Access Diagrams extracted from the Summer-Winter Solstice Shadow Study (Source: MSJ)

Visual Privacy and View Loss

The proposed inpatient building in the north eastern portion of the site is substantially setback from the site's boundaries and is located approximately 50m from the closest residential dwelling. The site's context is illustrated at Figure 71.

Figure 71: Aerial photograph showing the subject site and approximate location of the proposed building within the context of the site (Source: SixMaps)

It is not anticipated that there will be any adverse view loss or visual privacy impacts arising from the proposed works for the following reasons:

- The proposed development will retain and enhance the landscaping at the north eastern corner of the site fronting Mona Road;
- Separation of the new inpatient building to the surrounding residential properties is enhanced through the proposed setbacks, as well as the width of the road carriage way and road reserves on the opposite sides of Bowral Street and Mona Road;
- The proposed works include an established landscape corner on the north eastern side of the site, minimising overlooking to residential properties on the opposite side of Mona Road;
- The setback and siting of the proposed building will provide opportunities to retain the existing trees along Bowral Street subject to the Arborist's advice;
- Views will also be restricted on the northern façade by discrete window openings, whilst assisting in maintaining patient's privacy;
- Similarly, there are no adverse impacts on key features looking over the hospital's garden to Bradman Oval and the Museum;
- A review of the locality (refer to Section 3 of this EIS) demonstrates that there are no existing views surrounding the site that would be adversely impacted by the proposed building; and
- The siting of the proposed building, as well as the separation provided to other buildings on site and surrounding residential properties, will allow to maintain a high level of internal privacy.

Further to our discussion above, a detailed Visual Analysis of the building within the context of the site and surrounds has been undertaken by MSJ and is provided at **Appendix 7**.

This analysis clearly demonstrates that the new building will maintain an appropriate, and similar scale, when compared with other existing buildings on the site. It is considered that the proposed development will have a minimal and acceptable impact on the wider setting, including the adjoining open areas, the heritage conservation area and the associated heritage items.

For the reasons identified above, the proposed new building is considered to provide a high level of environmental amenity for surrounding residential land uses and public open space.

Acoustic Impacts

The Acoustic Report prepared by WGE (**Appendix 25**) provides details with respect to the acoustic impacts of the proposal. Acoustic impacts are also addressed in response to SEAR 8 (refer to Section 9.7 of this EIS). A summary of the identified acoustic impacts and the recommended mitigation measures is provided below.

The proposed works will not have any adverse acoustic impacts on the site or its surroundings due to the following considerations:

- Noise will be blocked through the building by fixed windows and an A/C system;
- Loading services and truck deliveries are limited to the southern side of the site via Sheffield Rd;
- Ambulance access and minor day deliveries will remain as existing via Bowral Street;
- The new substation will be located at the centre of the site and screened by landscaping, minimising noise emissions that could impact on surrounding buildings or residential properties;
- The A/C plant will be located on the new building's top level at the eastern wing, maximising distance to all residential properties in the surrounds; and

- The new building's façade will be designed in accordance with the recommendations on the Acoustic Report by WGE.

It is noted that no significant noise impacts will occur as a result of the proposed development should the proposed noise mitigation measures by WGE be implemented.

Wind Impacts

It is not anticipated that the proposal will have any adverse environmental impacts with respect to wind. This is confirmed by the Architectural Design Verification Summary, which notes the following:

- The potential impact for wind tunnelling is limited due to the site not being located within a high-density environment with towers;
- Winds and summer breeze from the north east will have no adverse impacts on the site or surrounds given the orientation of the proposed building;
- The new building's location will provide some screening from cold winds coming through diagonally to residential properties on Mona Rd, preventing the creation of wind tunnels; and
- Established residential properties on the western boundary along Sheffield Rd will remain unaffected.

Based on the findings of MSJ and the proposed siting of the building as detailed at Section 9.2 above, it is not anticipated that the proposal will impact on wind throughout the site and locality.

Reflectivity, Lighting and Glare Impacts

The proposed building has been designed with consideration to potential reflectivity, light spill and glare on its surrounds. Therefore, the following measures have been integrated to the proposal:

- The façade fronting Bowral Street will be made of bricks and will not cause reflectivity impacts;
- The elevation at Mona Road will is shaded both by the large roof and side blade overhanging, including its façade in a light-coloured metal cladding to avoid reflectivity on its surrounds;
- The pathway at the main entry via Bowral Street will be restricted to low level lighting during evenings, which will also be screened by substantial landscape at the north east corner of the site; and
- The proposed inpatient building will sit partly at the front of the existing ED, which will remain on a 24-hour operation. Therefore, any potential light spill from the new building will be negligible.

Reflectivity, lightening and glare impacts will not affect the functions of surrounding buildings and will have no detrimental effects on adjacent residential properties.

9.3.3 Recommended Mitigation Measures

Environmental amenity has been a primary consideration throughout the preliminary design phases of this proposal. Therefore, potential issues have been mitigated through the design development stages. To this end, no further mitigation measures are considered necessary.

9.4 Transport and Accessibility (SEAR 5)

9.4.1 SEAR

SEAR 5 requires the SSDA to include a transport and accessibility impact assessment, which details a range of matters relevant to traffic, parking and accessibility.

9.4.2 Assessment

A detailed Transport Impact Assessment (TIA) report has been prepared by GTA for the proposed development (**Appendix 5**). Each of the individual requirements set out in SEAR 5 are addressed in the TIA, with a concise summary provided in Section 2.0 of the TIA.

Table 18 provides a list of each individual requirement set out in SEAR 5, a response giving reference to the TIA and where appropriate, further and more detailed discussion following the table.

Table 18: Response to SEAR 5

SEAR 5 Requirement	Response
accurate details of the current daily and peak hour vehicle, public transport, pedestrian and cycle movement and existing traffic and transport facilities provided on the road network located adjacent to the proposed development;	Section 2.3 of the TIA outlines site access and traffic generation rates. Traffic surveys indicated that the site currently generates approximately 115 vehicles per hour in the AM peak (8:15-9:15), and 132 vehicles per hour in the PM peak (15:15-16:15). Traffic movement counts during peak hour periods are outlined in Section 2.4 of the report. The survey was undertaken during the morning peak (6:30-9:30) and afternoon peak (14:30-18:30) at four (4) different intersections, as outlined in the TIA. The estimated traffic growth rate for 2018, as advised by Council, is 1.5%. Pedestrian and cycle movement are addressed in Section 2.10 of the TIA. Footpaths are provided on most routes to the town centre. Additionally, a cycling route along Mittagong Creek runs between BDH and the town centre. Staff travel mode is outlined on Section 2.8 of the report. The main travel mode in the area is by car (87% driving to work). Other travel modes include the following: ▪ Vehicle passenger (6%); ▪ Walked only (3%); ▪ Train (1%); ▪ Other (1%); and ▪ Not stated (2%). Existing traffic and transport facilities provided in the road network in the vicinity of B&DH are addressed in Section 2.9 of the TIA. B&DH is currently serviced by at least four (4) bus

	services. Bowral train station is located approximately 1km from B&DH.
an assessment of the operation of existing and future transport networks including the bus network and their ability to accommodate the forecast number of trips to and from the development;	An assessment of the operation of existing and future transport networks is undertaken in Section 2.5 and Section 4.3. A summary is outlined below. The operation of the key intersections is assessed in Section 2.5. The assessment includes a SIDRA analysis of the four intersections surrounding the hospital. The analysis indicated that the intersections surrounding the hospital currently operate satisfactorily, with spare capacity on all approaches. RMS rates were applied to the B&DH as discussed in Section 4.3 of the TIA. The results for the survey indicate that the peak hour increase in traffic generation will result in approximately four (4) additional trips per hour. This represents a negligible increase on the existing traffic generation of PM peak from 132 vehicles per hour to 136 vehicles per hour. Hence, the proposed development will not have any notable impact on the surrounding road network. The TIA also confirms that other developments within the vicinity are not expected to have any adverse impacts on the operation of B&DH or the surrounding road network. Pedestrian and cyclist facilities are addressed above and in Section 2.10 of the TIA. Footpaths and cycling routes are provided on most routes to the town centre. Therefore, the existing network and facilities will support the development. In relation to public transport impact, the proposed new access on Bowral Street would be located approximately 45m west of the intersection with Mona Road. Consequently, the existing bus shelter will be relocated further west from the proposed access along Bowral Street. Approval from the Traffic Committee would be sought as outlined in Section 4.5 of the TIA, separately to this SSDA. The current bus network has capacity to cater for the expected growth.
details of estimated total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycle trips;	The total and daily peak hour vehicular trips are summarised above, and is discussed in Sections 2.3, 4.3, 4.5 of the TIA.

	GTA confirms that the increase in public transport and vehicular trips is expected to be negligible due to the minor increase in staff and visitors anticipated.
the adequacy of public transport, pedestrian and bicycle networks and infrastructure to meet the likely future demand of the proposed development;	The adequacy of public transport, pedestrian and cycling facilities is discussed above and in Sections 4.2, 4.5 and 6.1 of the TIA. Existing pedestrian infrastructure and on-site connections will be maintained. Existing infrastructure around the proposed new buildings will be replaced with new pedestrian links, including adequate signage, surveillance, and a new footpath connecting the new buildings to the existing ones. Staff travel mode is outlined in Section 2.8 of the report. The main travel mode in the area is by car (87% driving to work).
the impact of the proposed development on existing and future public transport infrastructure within the vicinity of the site and identify measures to integrate the development with the transport network;	The proposed development will not impact the operation of public transport near to B&DH. As previously discussed, the bus shelter on Bowral Street will be relocated to allow for the proposed new access. The TIA recognises that the existing public transport services are generally under-utilised. Increasing the number of accessible routes and/or the continuous implementation of a Work Travel Plan (WTP) could potentially increase the number of staff and users using active transport. Refer to Sections 4.5, 6.7 and 7 of the TIA for a detailed discussion.
details of any upgrading or road improvement works required to accommodate the proposed development;	The proposed development does not require the upgrading or improvement of any road infrastructure to accommodate the proposed development due to the negligible increase in the net number of beds, and minimal associated traffic generation. For further details refer to Sections 4.3 and 4.4 of the TIA.
details of travel demand management measures to encourage sustainable travel choices and details of programs for implementation;	Sustainable transport infrastructure and details on the WTP are addressed in Sections 6 and 7 of the TIA. The report has considered the following sustainable transport modes: ▪ bicycle facilities, including end of trip facilities for hospital staff and visitors; ▪ walking and cycling network, internal and external to the hospital (links to existing facilities); ▪ local bus services linking the site with Bowral town centre and regional areas; and ▪ expansion of the local bus network.

	The implementation of a WTP aims to promote and encourage sustainable travel as reduce reliance in single occupant vehicle travel. The WTP comprises a number of strategies and incentives to encourage the use of active transport in its future operation.
the impact of trips generated by the development on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity and for a 10-year horizon, and the need/associated funding for upgrading or road improvement works, if required;	The TIA confirms that the increase in peak trips post development is expected to be four (4) additional trips per hour. Future traffic conditions are assessed in Sections 4.3 and 4.4 of the report. As noted above, the impact on the surrounding road network is considered to be negligible. After consulting with WSC and RMS, GTA confirmed that traffic modelling forecasted on a ten-year basis will no longer be required due to the minimum increase in traffic generation. Consultation with Council and other agencies is summarised on Section 8 of the TIA.
the proposed active transport access arrangements and connections to public transport services;	Except for the bus shelter relocation, as previously noted, no further change to the existing active transport access arrangements is proposed, nor considered to be required/warranted. The existing active transport and public transport facilities available to B&DH are discussed in Sections 3.6 and 4.5 of the TIA. The future impact of the development on these facilities, which is negligible, is discussed in Sections 6.2 and 7 of the TIA.
the proposed access arrangements, including car and bus pick-up/drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and bicycle networks, including pedestrian crossings and refuges and speed control devices and zones;	Section 3.3 of the report provides details of the proposed new general vehicle access. Section 4.5 outlines the impacts of the new access point proposed on Bowral Street. The TIA confirms that the increase in peak trips post development is expected to be four (4) trips per hour. Impacts from the proposed development are considered negligible. Future traffic conditions are assessed in Sections 3.4, 4.3 and 4.4 of the report. Impacts on “active transport” are addressed in Sections 3.5, 3.6 and 4.5 of the TIA. These are summarised as follows: ▪ Existing infrastructure around the proposed new buildings will be replaced with new pedestrian links, including a new footpath connecting the new building to the existing ones; ▪ A new footpath will also be provided to link the existing ED with the proposed building;

	▪ New bicycle loops will be provided to cater for a total of ten (10) bicycles; and ▪ The proposed development will not represent an increase in the bus patronage. The current bus network has capacity to cater for the future growth.
measures to maintain road and personal safety in line with CPTED principles;	The proposed car park, including the infrastructure works previously described, will be designed in accordance to the CPTED principles and NSW Car Park Guidelines for Crime Prevention. For further details refer to Section 6.3 of the TIA.
the proposed car and bicycle parking provision, including end-of-trip facilities, which must be taken into consideration of the availability of public transport and the requirements of Council's relevant parking codes and Australian Standards;	Detailed discussion regarding this matter is provided following this table.
proposed bicycle parking facilities in secure, convenient, accessible areas close to main entries incorporating lighting and passive surveillance;	As noted above, the proposal will provide new bicycle loops to cater for a total of ten (10) bicycles. These will be conveniently located at accessible locations near entry points to the new building. Refer to Section 3.6 of the TIA for further discussion.
details of the proposed number of car parking spaces and compliance with appropriate parking codes and justify the level of car parking provided on-site;	Section 5.2 of the TIA outlines the adequacy of parking supply. The proposal would provide a total of 198 spaces on-site at the completion of redevelopment project. This parking provision is the same compared to the existing 198 car spaces currently on site. The proposed parking provision meets the parking requirement as estimated for the proposal. Section 5.1.1 of the report analyses the staffing car parking levels and suggests retaining the existing provisions for staff parking. Section 5.5 of the report relates to the access and parking design review. It is noted that the design of the existing access from Mona Road has been modified to improve the road's connection and providing improved sight distances and swept paths for vehicles accessing the site. The TIA concludes that there is availability for on-street parking on the adjacent streets, allowing to accommodate some parking shortfall within the surrounding street parking. The overall car parking strategy is addressed at the end of this section.

details of emergency vehicle access arrangements;	New access to the ED and an adjoining ramp are currently under development as part of the early works which is subject to a separate approval. The existing two-driveway accessed from Bowral Street will remain as the main access point to the ED. The proposed ED access arrangements have been designed with review from the NSW Ambulance and Local Ambulance and they satisfy their design requirements, as discussed in Section 4.1.1 of the TIA.
an assessment of road and pedestrian safety adjacent to the proposed development and the details of required road safety measures;	GTA confirms that a review of available crash data near to B&DH does not indicate any current road safety issues (refer to Section 2.11 of the TIA). The analysed crash data relate to the latest five-year period to 2016. A total of ten (10) car crashes were found within B&DH's vicinity. The registered crashes do not include any known fatalities.
service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times);	The site currently has three (3) loading areas. Two (2) loading areas are accessed from Ascot Road and the third is accessed from Sheffield Road. Section 2.7 of the TIA refers to these existing loading areas. Service vehicles typically include vans, utes, and small to medium rigid vehicles. Deliveries are spread throughout the day and have a negligible impact with peak periods. No changes are proposed to current loading arrangements as part of the B&DH redevelopment. This is further discussed in Section 4.1.3 of the TIA.
in relation to construction traffic: ▪ assessment of cumulative impacts associated with other construction activities;	A detailed Preliminary Construction Management Plan (CMP) has been prepared by Capital Insight, which accompanies this EIS at **Appendix 3**. The preliminary CMP does not identify other construction activities within the locality that could impact with the proposed development. However, the preliminary CMP should inform the preparation of a final CMP prior to works commencing on-site for the proposed redevelopment.
▪ an assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity;	Sections 2.3, 4.4 and 4.6 of the preliminary CMP relate to road safety subject to construction traffic. The report outlines appropriate measures for efficient traffic movement and pedestrian safety.
▪ details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process;	Section 2.0 of the preliminary CMP notes that the anticipated duration of the construction activities is approximately 24 months. Detailed events during construction process, including milestones stages, are subject to the

	preparation of a final CMP prior commencement of works.
▪ details of anticipated peak hour and daily construction vehicle movements to and from the site;	Section 4.0 of the preliminary CMP relates to construction traffic management. Proposed site access points, construction parking locations and main access routes for construction vehicles are outlined in Sections 4.2 and 4.3 of the report. Section 4.5 notes the construction traffic volumes which identified the traffic generating activities during construction. It is estimated that the peak works would occur during concrete pouring. It is estimated that a maximum of four vehicles (eight two-way vehicle movements) would occur during the peak hour.
▪ details of access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicle;	Section 4.2 of the preliminary CMP relates to construction workers parking. Construction workers will be instructed not to park either within Hospital grounds or on the street within the typical daily Hospital parking catchment. Construction workers car parking will be designated immediately south of B&DH towards Loseby Park. Section 4.3 of the report notes that access to the site during construction works will be primarily via Bowral Street. As noted above, access routes for heavy vehicles are also outlined in this section. Section 4.4 notes that a final CMP will need to address the necessary arrangements to maintain permanent access to and from the hospital for emergency and service vehicles, and minimise disruption associated with construction vehicles.
▪ details of temporary cycling and pedestrian access during construction;	Pedestrian, cyclists and vehicular access to the site will be maintained and appropriately signed during construction works. If alternate routes are necessary, they will be clearly defined by signage. Hoardings and fences will be installed in stages to allow access to in-use areas during construction works. For further detail refer to Sections 2.3 and 4.6 of the preliminary CMP.
▪ details of proposed construction vehicle access arrangements at all stages of construction; and	This item is discussed above and in Section 4.0 of the preliminary CMP.
▪ traffic and transport impacts during construction, including cumulative impacts associated with other construction activities, and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact (which must include vehicle routes, number of trucks, hours of operation, access arrangements	Construction vehicle routes, access arrangements and traffic control measures are outlined above and in Section 4.0 of the preliminary CMP. Construction traffic impacts are detailed in Section 4.4 of the report. Construction hours are outlined in Section 2.2 and include the following: ▪ Monday to Friday: inclusive 7.00am - 6.00pm; ▪ Saturday: 8am - 5pm; and ▪ No work on Sundays and Public Holidays.

and traffic control measures for all demolition/construction activities).	As mentioned above, pedestrian, cyclists and vehicular access to the site will be maintained during construction works. A mitigation measure has been included in Section 11 of this EIS requiring that the preliminary CMP inform the preparation of a final CMP prior to works commencing on-site for the proposed redevelopment.

9.4.3 Proposed Parking Provision

Currently, two parking areas are being constructed as part of the early works that were approved subject to separate Part 5 assessment. One of the parking areas will be located at the frontage of Mona Road, and the second will be used as a short-term drop off zone near the existing ED, as previously discussed in Section 4.5 of this EIS.

The proposed development will require the removal of the existing car park fronting Bowral Street, resulting in a total loss of 66 car parking spaces. The proposed design includes two (2) new parking areas adjacent to the new inpatient building to accommodate for the loss of these spaces. Additional parking will be provided at the east side of the new building, along the proposed access road which connects Bowral Street to the new car park accessed from Mona Road. Modifications are proposed at the parking area accessed via Ascot Road to provide nine (9) additional parking spaces. Finally, seven (7) additional parking spaces will be provided at the driveway accessed from Sheffield Rd towards the Imaging Centre Building. The proposed development will provide a total of fifty-two (52) car park spaces on site. This, with the additional spaces provided as part of the early works, will result in 198 car parking spaces on site at completion of the proposed works.

Figure 72 outlines the parking demand and provision summary during each stage of the redevelopment project.

Table E1: Parking summary

Project Delivery Phase	Peak Parking Demand	Parking Provision	Difference
During Enabling Works	184	182	-2
During Main Works	184	148	-39
Project Completion	198	198	0

Figure 72: GTA Parking Summary

The current supply and demand of on-site and on-street parking is addressed in detail in Section 2.6 of the TIA. In summary, a total of 198 car spaces are provided on-site. On-street parking is permitted on each of the frontage roads of B&DH and the adjacent private hospital. In regard to the parking demand, B&DH generates a peak on-site parking demand of 184 spaces (94% occupancy).

As shown in Figure 72 above, the proposed development will provide a total of 198 spaces on-site at the completion of the proposed redevelopment. This parking provision meets the car parking requirements as estimated for the proposal.

Additionally, the proposal will provide a total of ten (10) accessible spaces, which is compliant with the BCA and is consistent to what is currently provided on-site. The relevant parking requirements are outlined in Section 5.3 of the TIA.

A total of five (5) motorcycle spaces will be provided to encourage staff travelling through this alternative (refer to Section 5.4 of the TIA). As outlined on Table 18, a total of ten (10) bicycle loops are proposed to promote active transport (see Section 3.6 of the TIA).

Based on the above and the detailed discussion in the TIA, we are satisfied that the parking demand generated by the proposed development can be accommodated within the existing parking provision for B&DH.

9.4.4 Recommended Car Parking Strategy

In accordance with the TIA, the measures outlined below are recommended for the development during construction and operational stages. For further details refer to Sections 5.6 and 5.7.

Construction of Main Works:

- The parking area accessed from Ascot Road will be restricted to 2P to discourage staff parking within that area;
- As advised by Council, 2P parking will be also installed on bounding streets to encourage hospital users to use on-site parking; and
- Parking associated with construction activities is addressed in the preliminary CMP prepared by Capital Insight (**Appendix 3**).

Completion of Main Works:

- New parking areas accessed from Mona Road and Bowral Street will be available for visitors and patients, restricting staff parking within these areas to 2P; and
- The TIA recommends that some car parking spaces in the parking area accessed from Ascot Rd should be designated for night time staff; however, these spaces can be used by the public during the day.

In conclusion, CPSD is satisfied, based on the findings of the TIA prepared by GTA and subject to the strategies and measures identified above, that there will be no unacceptable transport and accessibility impacts resulting from the proposed works.

9.5 Ecologically Sustainable Development (SEAR 6)

9.5.1 SEAR

SEAR 6 requires that the application:

> *(a) 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 and ongoing operation phases of the development.*
>
> *(b) Demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice.*
>
> *(c) Include a description of the measures that would be implemented to minimise consumption of resources, water (including water sensitive urban design) and energy.*

9.5.2 Assessment

The principles of Environmental Sustainable Design (ESD) are defined by Clause 7(4) of Schedule 2 of the EP&A Regulation. Each principle is set out in Table 19 with a description of how they have been incorporated in the proposal.

Table 19: Principles of ESD

ESD Principle	Means of Incorporation
(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,	The proposed redevelopment at B&DH presents no threats of serious or irreversible environmental damage. The proposal serves an important public purpose and is not inconsistent with this principle.
(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,	The proposal will not have an adverse effect on the health, diversity or productivity of the environment. Rather, it will provide valued community services for current and future generations.
(c) conservation of biological diversity and ecological integrity, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,	The proposal will have a negligible effect on biological diversity and ecological integrity given there will be no adverse impacts as a result of the proposed works. This is largely because there are no items of significant biological or ecological value on the subject site.
(d) improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services, such as: (i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement, (ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste, (iii) environmental goals, having been established, should be pursued in the most cost-effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems."	The proposal relies on utility services that are already priced in accordance with these principles. Accordingly, the proposal has been designed to conserve energy and water at levels that are greater than the minimum benchmarks in order to reduce the ongoing operating costs of B&DH and improve environmental performance. Additionally, a Water Sensitive Urban Design strategy is proposed for the development as assessed in SEAR 13 (Section 9.12 of this EIS for further detail.

An ESD Statement has been prepared by Wood & Grieve Engineers (WGE) which describes the ESD strategies identified for B&DH, how the ESD principles will be incorporated into the design of the development and the measures to be incorporated to minimise consumption of resources. The intent of this Statement is to ensure that a high environmental outcome is facilitated for the development. This ESD Statement is at **Appendix 26** and a summary is provided in Table .

Table 20: ESD Strategies

ESD Strategy	Proposal
Environmental Concept Design	The proposed development has been assessed against a 4 Green Star accredited rating scheme, consistent with the

	'Australian Industry Best Practice in Environmental Design and Construction'.
Environmental Management	The project will integrate diverse initiatives which aim to minimise undesirable environmental outcomes. Contractors will be requested to provide and abide Environmental Management Plan and System in accordance with the 'NSW Environmental Management Systems Guidelines.'
Passive Design	The proposed building will improve thermal and acoustic comfort for occupants while reducing environmental impacts from HVAC refrigerants. This will minimiser indoor pollutants such as volatile organic compounds and formaldehyde emissions. Building materials have a high-performance value, with all complying with section J of the BCA as a minimum.
Energy Conservation	The proposal will commit to the reduction of greenhouse gas emissions via energy efficiency initiatives such as: LED lighting, automated controls, variable speed fans, economy cycle on air-conditioning, high efficiency MEPS rated equipment, optimised HVAC zoning, energy metering and BMS controls. The implementation of metering and monitoring systems will ensure optimal outcomes on operational energy.
Water Conservation	Low-flow fixtures and fittings will be used to reduce water consumption throughout the building. Additionally, metering and monitoring systems will be implemented for improved water efficiency.
Quality of Indoor Environment and Places of Respite	Improve daylight access and enhanced views promoted through external façade glazing for enhanced occupant amenity. Noise control to ensure that noise levels from building services are not disruptive to occupants.
Sustainable Materials	Use of sustainable materials in construction, recycling and waste minimisation (construction and operation). Where possible, WGE has sought to incorporate materials that may be described as 'responsible building materials', such as 'best practice' PVC products and steel sourced from sustainable supply chains.

The design measures outlined above (and discussed in detail throughout the ESD Statement) demonstrate the way in which ESD is entrenched into the design proposal. Through the incorporation of these ESD measures, CSPD is satisfied that the proposal has been designed in accordance with recognised best practice principles, which are capable of being applied throughout the design and ongoing operation phases of the development.

9.5.3 Recommended Mitigation Measures

ESD has been a primary consideration throughout the preliminary design phases of this proposal. However, the following mitigation measures are to be included to ensure that ESD is applied throughout the detailed design and ongoing operation phases of the development:

- The proposal is to demonstrate compliance/consistency with the targets identified in NSWHI Engineering Services Guidelines, specifically those relating to:
  - Sustainability and Energy (Principle 2.5.8);
  - Potable Water (Principle 2.5.9); and
  - Materials (Principle 2.5.10).

9.6 Biodiversity (SEAR 7)

9.6.1 SEAR

SEAR 7 requires that the application:

> *Biodiversity impacts related to the proposal and the preparation of a Biodiversity Development Assessment Report are to be addressed in accordance with the requirements of the Biodiversity Conservation Act 2016.*

The proposed development is within an established urban area that has been significantly disturbed over time. It has been determined that the hospital redevelopment will have very low biodiversity impacts.

In accordance with Section 7.9(2) of the BC Act, "*the Planning Agency Head and the Environment Agency Head determine[d] that the proposed development is not likely to have any significant impact on biodiversity values*."

As addressed in Section 7.5 of this EIS, the proposed development does not require to be accompanied by a BDAR. Waiver letters from the DP&E and the OEH are provided in **Appendix 18**.

9.7 Noise and Vibration (SEAR 8)

9.7.1 SEAR

SEAR 8 requires that the application:

> *Identify and provide a quantitative assessment of the main noise and vibration generating sources during construction and operation and outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land.*
>
> *Relevant Policies and Guidelines:*
>
> *(a) Noise Policy for Industry 2017 (EPA)*
>
> *(b) Interim Construction Noise Guideline (DECC)*
>
> *(c) Assessing Vibration: A Technical Guideline 2006*
>
> *(d) Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning 2008)*

9.7.2 Assessment

This EIS is accompanied by an Acoustic Report prepared WGE (**Appendix 25**). The report's assessment is based on relevant acoustic criteria to provide measures to mitigate the potential noise impacts on surrounding sites as a result of the proposed development.

The Acoustic Report identifies that the main noise and vibration sources, as a result of the proposal, relate to the following:

- Noise from mechanical plant;
- Noise from additional traffic movements; and

- Noise and vibration from construction.

There will be no change to helipad and ambulance operations as a result of the proposed development.

The Acoustic Report sets out the results of the background noise survey, and the relevant noise emissions and vibration criteria to be satisfied in considering the impact of the above. The noise controls and guidelines that determine the relevant emission criteria are as follows:

- EPA Noise Policy for Industry 2017;
- EPA Interim Construction Noise Guidelines;
- Assessing Vibration: A Technical Guideline 2006; and
- NSW Road Noise Policy.

Unattended noise measurements of existing ambient noise levels were undertaken within a week (from the 1st November to 8th November 2017). The noise assessment is based on noise data collected by two (2) noise loggers which were positioned within the B&DH campus and along Sheffield Rd to determine the existing ambient environment at sensitive receivers.

Figure 73 on the page over outlines the site and surrounding, identifying the catchment of noise receivers.

Figure 73: Overview of the Site - Figure 1 of Acoustic Report (Source: WGE)

The unattended noise survey registered continuous measurements at 15-minute intervals. The measured noise data is defined in terms of equivalent continuous (LAeq) noise levels and rated background (LA90) noise levels. A summary of the noise emission assessment is provided in Figure 74 on the page over.

Location	Rating Background Noise (RBL) Level L_{A90}			Equivalent Continuous Noise Level L_{Aeq}		
	Day	Evening	Night	Day	Evening	Night
L1	41	38	37	51	47	48
L2	42	38	37	60	58	53

Figure 74: Summary of Unattended Noise Measures (Source: WGE)

External Noise Criteria

The external noise criteria, such as mechanical plant, has been assessed in accordance to the guidelines discussed in the NSW NPI. The criteria are based on the results of the unattended noise monitoring. The external noise criteria considered two components:

- Controlling intrusive noise into nearby residences (Intrusiveness Criteria); and
- Maintaining noise level amenity for particular land uses (Amenity Criteria).

The intrusiveness criterion can be summarised as LAeq, ≤ 15-minute RBL background noise level plus 5 dB(A). The recommended noise levels are outlined in Section 5.2 of the Acoustic Report.

Project specific noise levels (PSNLs) where applied to steady state noise sources, such as the mechanical plant. The PSNLs are summarised in Figure 75.

Period	Descriptor	PSNL
Residential Areas		
Day	$L_{Aeq, period}$	**47**
Evening	$L_{Aeq, 15\ min}$	**43**
Night	$L_{Aeq, period}$	**42**
Hospital		
Internal	$L_{Aeq, period}$	**33**
External	$L_{Aeq, period}$	**48**

Figure 75: Project specific noise levels, dB(A) (Source: WGE)

Internal Noise Criteria

Environmental noise intrusion to B&DH is to comply with the acoustic requirements and satisfactory noise level targets as addressed on Section 5.3 of the Acoustic Report.

WGE provide a series of recommendations based on steady noise levels, such as those generated by the proposed the mechanical plant.

The maximum noise level from the mechanical plant should be considered in aggregate with the environmental noise intrusion from external steady state noise sources to satisfy the maximum noise levels outlined in Section 5.3 of the Acoustic Report. The appropriate mitigation measures are addressed at the end of this section.

Traffic Noise Criteria

The NSW Road Noise Policy sets out the assessment criteria for residential and other sensitive land uses affected by traffic generated noise (refer to Figure 76 on the page over).

Any increase in the total traffic noise level should be limited to 2dB. Refer to Section 5.5 of the Acoustic Report for further detail.

Road Category	Type of Project/Land Use	Day, dB(A) (7:00am to 10:00pm)	Night, dB(A) (10:00pm to 7:00am)
Local roads	Existing residences affected by additional traffic on existing local roads generated by land use developments	$L_{Aeq\ (1\ hr)}$ 55 (external)	$L_{Aeq\ (1\ hr)}$ 50 (external)

Figure 76: Road Traffic Noise Assessment Criteria for Residential Land Uses (Source: WGE)

Sleep Disturbance Criteria

The EPA Noise Policy for Industry sets out the sleep disturbance criteria for residential receivers in proximity to the potential noise sources. The sleep disturbance criteria and maximum noise levels are as follows:

- LAeq,15min 40 dB(A) or prevailing RBL plus 5dB, whichever is greater; and/or
- LAFmax 52 dB(A) or prevailing RBL plus 15dB, whichever is greater.

The sleep disturbance criteria considered for the proposed development is summarised in Figure 77.

Period	Sleep Disturbance Criteria	
	$L_{Amax,RBL+15\ dB}$ – dB(A)	$L_{Aeq,15min}$ – dB(A)
Night (10:00pm to 7:00am)	63	53

Figure 77: Sleep disturbance criteria (Source: WGE)

Construction and Vibration Criteria

The maximum allowable magnitudes of vibration levels in accordance to the NSW EPA are outlined in Section 5.7 of the Acoustic Report.

The vibration assessment is based on Vibration Dose Values (VDVs) and the acceptable VDVs for intermittent vibration during the construction of the proposed development are outlined in Figure 78.

Location	Daytime (7:00am to 10:00pm)		Night-time (10:00pm to 7:00am)	
	Preferred value	Maximum value	Preferred value	Maximum value
Residences	0.20	0.40	0.13	0.26
Offices, schools, educational institutions and place of worship	0.40	0.80	0.40	0.80
Critical areas	0.10	0.20	0.10	0.20

Figure 78: Acceptable VDVs for Intermittent Vibration (m/s^1.75) (Source: WGE)

Potential noise associated with construction and its related activities is outlined in Figure 79. The assessment sets out the noise management levels for various sensitive receivers and provides the adequate measures to respond to each noise level.

Time of Day	Management Level $L_{Aeq,15min}$ *	How to Apply
Recommended Standard Hours: Mon – Fri (7am – 6pm) Sat (8am – 1pm) No work on Sunday & Public Holidays	Noise Affected RBL + 10dB	The noise affected level represents the point above which there may be some community reaction to noise. • Where the predicted or measured $L_{Aeq,15min}$ is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. • The proponent should also inform all potentially impacted residences of the nature of works to be carried out, the expected noise levels and duration as well as contact details.
	Highly Noise Affected 75 dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. • Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur in, taking into account: • Times identified by the community when they are less sensitive to noise (such as before and after school, for works near schools, or mid-morning or mid-afternoon for works near residences) • If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside Recommended Standard Hours	Noise Affected RBL + 5dB	• A strong justification would typically be required for works outside the recommended standard hours. • The proponent should apply all feasible and reasonable work practices to meet the noise affected level. • Where all feasible and reasonable practices have been applied and noise is more than 5 dB(A) above the noise affected level, the proponent should negotiate with the community. • For guidance on negotiating agreements see Section 7.2.2. of the NSW ICNG

Figure 79: NSW EPA ICNG Construction Noise Criteria (Source: WGE)

Construction Vibration is further addressed in Section 6.3 of the report. Additionally, the assessment recommends consideration to vibration associated with structural damage.

9.7.3 Recommended Mitigation Measures

Mitigation measures and responses in relation to the identified noise sources include the following to ensure compliance with the criteria stated above

- Equipment selection of the proposed mechanical plant will require to meet the needs of the assessed sound levels at the receivers. Acoustic mitigation measures such as attenuators, acoustic louvres and internal acoustic lining will be required;
- Vehicle movements in the proposed car parks are not anticipated to cause any additional noise for nearby receivers;
- Noise levels generated by emergency and service vehicles will be similar to those currently experienced in the area. Residential properties located along local roads will remain unaffected; and
- Road noise intrusion will be minimised by the implementation of the recommended glazing selection for the facades of the proposed development as outlined in Section 8 of the Acoustic Report.

It is recommended that the mitigation measures contained in the Acoustic Report prepared by WGE are adopted to ensure that construction activities and the operation of the site does not result in any adverse noise and/or vibration impacts.

9.8 Sediment, Erosion and Dust Controls (SEAR 9)

9.8.1 SEAR

SEAR 9 requires that the application:

"Detail measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles.

Relevant Policies and Guidelines:

(a) Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom)

(b) Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA)

(c) Guidelines for development adjoining land and water managed by DECCW (OEH, 2013)

9.8.2 Assessment

Erosion and sediment control plans have been prepared by Enstruct and are provided at **Appendix 27**. The erosion and sediment control plans provide detailed soil and water management notes to minimise and manage off-site transmission of sediment, dust and fine particles in accordance with this SEAR.

In addition, the preliminary CMP prepared by Capital Insight (**Appendix 3**) identifies the erosion and sediment controls during construction. The CMP details precautionary measures to mitigate *any* potential for such impacts, as summarised below:

- Appropriate elements of the drainage system on the site will be cleaned out to remove sediments, prior to commencing the works on site.
- Drainage of surface run-off will be allowed to flow along existing contours (down slope) with the existing drainage system on-site of kerbs, gutters, gully pits, pipes and stormwater runoff passing through installed filtration systems prior to being discharged off-site.
- The site will be continually cleaned of rubble to minimise possible sediment flow during rainfall periods. Stormwater kerbs and drainage lines will have sediment controls in the form of hay bales or sedimentation socks.
- Stormwater grate inlets surrounding works areas will be covered with geotextile fabric to allow water to enter into drains whilst retaining sediments.
- Should external surface run-off flow into work areas, it may need to be diverted (using hay bales or socks) to reduce sediment transportation. All drainage control devices will be regularly checked particularly during heavy rainfall periods.
- The head contractor will be required to prepare a detailed Stormwater Management Plan which will cover all aspects of stormwater and sediment management and control during construction.

These measures in conjunction with those identified by the erosion and sediment control plans, summarised above, are considered to be sufficient to minimise and manage the generation and off-site transmission of sediment, dust and fine particles.

9.8.3 Recommended Mitigation Measures

It is recommended that the erosion and sediment control measures prepared by Enstruct and Capital Insight be implemented throughout construction.

9.9 Contamination (SEAR 10)

9.9.1 SEAR

SEAR 10 requires that the application:

> *Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55.*
>
> *Relevant Policies and Guidelines:*
>
> *(a) Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP)*

9.9.2 Assessment

SEPP 55 has been addressed at Section 7.9 of this EIS. As described, Douglas Partners (DP) has prepared a Contaminated Land Preliminary Site Investigation (dated September 2016) which accompanies this EIS at **Appendix 22**. A 'Phase 2' Environmental Site Assessment prepared by Environmental Investigation Services (dated 13 June 2018), is provided at **Appendix 34**.

The assessment determined that the risk to the receptors was 'low to moderate' and would require remediation and/or management.

A Remedial Action Plan (RAP) has been prepared by Environmental Investigation Services at **Appendix 35**.

Based on these report, it has been concluded that consent may be granted in the terms of SEPP 55, Clause 7 on the basis that:

- A detailed environmental site investigation has been undertaken on site and the potential risks have been appropriately identified; and
- The consent authority can be satisfied that the land will be remediated before it is used for the proposed purpose, by the imposition of conditions to implement the recommendations of the Detailed Site Investigation and associated RAP.

9.9.3 Recommended Mitigation Measures

Implementation of the management procedures and recommendations in the RAP by Environmental Investigation Services to ensure the removal of any source(s) of contamination and the suitability of the site for the proposed development.

9.10 Utilities (SEAR 11)

9.10.1 SEAR

SEAR 11 requires that the applicant:

> *Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure.*

Prepare an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design.

9.10.2 Assessment

Gas

An Authority Utility Supply Report (**Appendix 27**) has been prepared by Acor which addresses gas services. The statement confirms that they have assessed the condition, capacity and compliance reliability of the existing Jemena natural gas infrastructure on site and they consider it to be suitable to accommodate the proposed works.

Sewer

The Authority Utility Supply Report confirms that Acor has consulted with Council and confirmed that the existing authority sewerage infrastructure system can accommodate the additional demand/load generated from the proposed development. However, Council is still to determine the capacity of the downstream system and will be subject to servicing head work charges.

Hydraulic Services

The Authority Utility Supply Report by Acor addresses water supply. The report confirms that *"ACOR have assessed and reported on the condition, capacity, compliance reliability and efficiency of the existing Wingecarribee Council water supply infrastructure system and have found them to be suitable for the proposed building. New development works will be subject to Wingecarribee Council servicing head works charges."* Water performance data for flows and pressures was provided by Council to undertake this assessment.

Electricity

An Electrical Services, ICT and Security Report (**Appendix 28**) has been prepared by Wood & Grieve Engineers (WGE) which addresses electrical services. The report confirms that a new 1,000kVA substation will be required at the south west of the new building as part of the proposed works. A new substation will serve a new main switchboard located in the new building. A new generator will be installed in an external acoustic enclosure and will have a nominal standby rating of 440kVA (352kWe). The new building will be supplied of continuous power by a new centralised UPS room.

A complete list of the proposed electrical services provided as part of the redevelopment are outlined on the report by WGE. The statement also confirms that sustainability and energy saving initiatives will be implemented in the design.

Telecommunications

An Electrical Services, ICT and Security Report has been prepared by WGE which addresses telecommunications services. The report confirms that the proposed works include a series of IT upgrades as a result of the proposed development.

A new structured telecommunications cabling system will be installed in the proposed building. The existing Carrier lead-ins (Telstra & NBN) are being relocated as part of the early works (REF). The report notes that additional carrier services may be provided as part of the proposed development.

Integrated Water Management

Integrated water management has been addressed in the hydraulic services statement prepared by Acor (**Appendix 16**). The Integrated Water Management Plan (IWMP) contained within the hydraulic services statement confirms the following:

- Sewer and trade waste water from B&DH discharging into Council's sewer main via existing internal 'house drainage' system will be in accordance with AS.3500: 2015 and Wingecarribee Council requirements;
- Water pressure/flow results have been provided and verified by Wingecarribee Council;
- Water supply provided will be in accordance with Australian Drinking Water Guidelines;
- Rainwater from roof areas will not be collected, stored and re-used;
- Roofwater will discharge through several rainwater outlets and eaves gutters systems designed in accordance with AS.3500: 2015L; and
- Environmental sensitive design (ESD) principles as nominated in Section 4.3 of the report will be incorporated within the hydraulic infrastructure systems.

9.10.3 Recommended Mitigation Measures

Implementation of the recommendations in the IWMP prepared by Acor Consultants to ensure reduction in contamination of the potable water supply and reduction in water consumption within the development.

9.11 Contributions (SEAR 12)

9.11.1 SEAR

SEAR 12 requires that the application:

> *Address Council's Section 94A Contribution Plan and/or details of any Voluntary Planning Agreement, which may be required to be amended because of the proposed development.*

9.11.2 Assessment

Section 94 Contributions

The Wingecarribee Section 94 Contributions Plan applies to the land within the Local Government Area (LGA) of Wingecarribee Shire shown on the maps contained in Part F of the Plan. B&DH is outside of the Bowral Section 94 Contributions Catchment. Therefore, this plan does not apply and the Section 94 Developer Contributions Plan for Section 94 Administration 2011 (the 94 Plan) applies.

Section 3.12 of the 94 Plan note that Council may consider exempting some development from requiring a contribution. There are certain types of development listed as being exempt, but a hospital or Crown development is not explicitly listed. Notwithstanding this, Section 3.12.4 states that "other development" may be exempt from the payment of contributions as directed by the Minister under s94E of the EP&A Act. Whilst no specific direction applies to hospitals, in the circumstances of this case, we submit that payment of a 94 levy would be punitive and unreasonable, for the following reasons:

- Imposition of a development contribution is not a statutory requirement but rather a discretionary matter by the consent authority. The Minister may therefore exempt the

proposed development from paying the Section 94 development contributions for this development.

- The project provides a clear and distinctive community benefit through improved accessibility to contemporary health services for the community. In this particular case, given the significant capital investment in the public hospital, the development is considered to result in a material public benefit.
- 'Circular No D6 - Crown Development Applications and Conditions of Consent' issued by the former Department of Urban Affairs and Planning allows for development by the Crown under Part 4 or Part 5A of the EP&A Act to be exempt from Section 94 contributions. This exemption to Section 94 conditions for Crown activities is provided with an underlying philosophy of essential community service. For the provision of health service facilities, such as the proposed development, Council may only seek payment of contributions for off-site works as a condition of consent. These off-site works must specifically relate to drainage upgrades and upgrades of local roads and local traffic management off-site. As confirmed by Enstruct in the Civil Engineering Report accompanying this EIS, "*flooding was considered to mitigate flood risk on site and to ensure no adverse effect was generated by the development on surrounding catchments*." Therefore, adverse impacts to downstream properties will be avoided. In terms of local traffic management, it is not anticipated that upgrade works will be required to directly cater for the impact of the proposed development (refer to the Transport Impact Assessment prepared by GTA accompanying this EIS). Therefore, there is a limitation on payment of contributions under this planning circular issued by the Department for Crown Development under part 4 of the Act.
- Circular No D6 notes that Crown development is "not likely to require the provision of public services and amenities in the same way as developments undertaken with a commercial objective". Accordingly, the public nature of the development is in direct contrast to a strictly commercial development where a full levy might be considered reasonable.
- Although Circular D6 was introduced in 1995, it is relevant to note that recent interpretations by planning authorities in respect to this Circular and other Departmental Guidelines have considered Crown development including hospitals and tertiary education establishments and have not sought to impose the Section 94 Levy.
- In simple dollar terms, the levying of a development contribution would realistically translate to diverting of a large sum of public funds specifically allocated to the improvement of B&DH to other unrelated services and facilities within the LGA. This reduction in investment in B&DH would significantly impact on the provision of health and related infrastructure to meet current and future demands for such services. There would be also be other flow-on impacts to the social and economic outcomes for B&DH and also, at a strategic level, the wider community. This would include the inability for some of the social and economic outcomes of the development, as set out in Section 9.17 of this EIS, to be realised.
- The proposed development will not create demand for additional open space, recreation, community or cultural facilities and therefore, there is no nexus to contribution.

In accordance with the above, and due to the nature of the public amenities and services provided by the proposed development, it is considered that no development contribution should be imposed for the development.

Voluntary Planning Agreement

A VPA is not considered to be necessary or appropriate in this instance given the material public benefit that will flow to the community through the provision of high quality public health services.

9.11.3 Recommendation

We recommend that no Section 94A be imposed for the development as it will contribute to providing a significant social and health benefit to the Wingecarribee Shire LGA and the SWS LHD.

9.12 Drainage (SEAR 13)

9.12.1 SEAR

SEAR 13 requires that the application:

> *(a) Detail drainage associated with the proposal, including stormwater and drainage infrastructure.*
>
> *(b) Detail measures to minimise operational water quality impacts on surface water and groundwater.*
>
> *Relevant Policies and Guidelines:*
>
> *- Guidelines for development adjoining land and water managed by DECCW (OEH, 2013).*

9.12.2 Assessment

The Civil & Structural Design Report and Drawings prepared by Enstruct detail the existing stormwater arrangements and connections at the site, as well as the proposed stormwater design. Based on the information provided by Enstruct, stormwater infrastructure comprises:

- The existing stormwater networks will be diverted as part of the main works to ensure no additional flooding occurs on site or at the downstream catchments in close proximity to the site;
- The new stormwater network will be constructed around the perimeter of the proposed new building to collect all downpipes from the roof and overland flow adjacent to the proposed building;
- The remaining catchment of the developed area will be attenuated in an OSD tank located below the new access road to the proposed impatient building. An 8-cartridge filtration system located within the OSD tank is proposed to treat the runoff from the building;
- An overflow pit will be provided within the rain garden to manage excess flows and bypass them into the drainage system;
- Detailed water quality modelling has been undertaken to develop a strategy for Water Sensitive Urban Design (WSUD). To measure water quality on site, MUSIC (Model for Urban Stormwater Improvement Conceptualisation) modelling was implemented;
- To ensure water quality continues to be protected, stormwater discharging from the site must be proven to have a neutral or beneficial effect (NorBE); and
- A WSUD strategy is proposed for the development utilising a treatment train approach, consisting of a rain garden, catch pit inserts and storm filter cartridges which will achieve Council's pollutant reduction targets.

On this basis, CPSD is satisfied that the proposed stormwater infrastructure design will not have any unacceptable impacts with respect to the operation B&DH or the amenity of the surrounding locality.

9.12.3 Recommended Mitigation Measures

Implementation of the measures set out in the Civil & Structural Design Report and Drawings.

9.13 Flooding (SEAR 14)

9.13.1 SEAR

SEAR 14 requires that the application:

> *Assess any flood risk on site (detailing the most recent flood studies for the project area) and 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.*

9.13.2 Assessment

The Flood Mitigation Letter prepared by Enstruct (**Appendix 30**) notes that according to the Mittagong Creek Catchment Flood Study (2009) conducted by Bewsher Consulting, the site is not affected by flooding in any event (including the 100-year design flood event). Refer to Figure 80 on the page over.

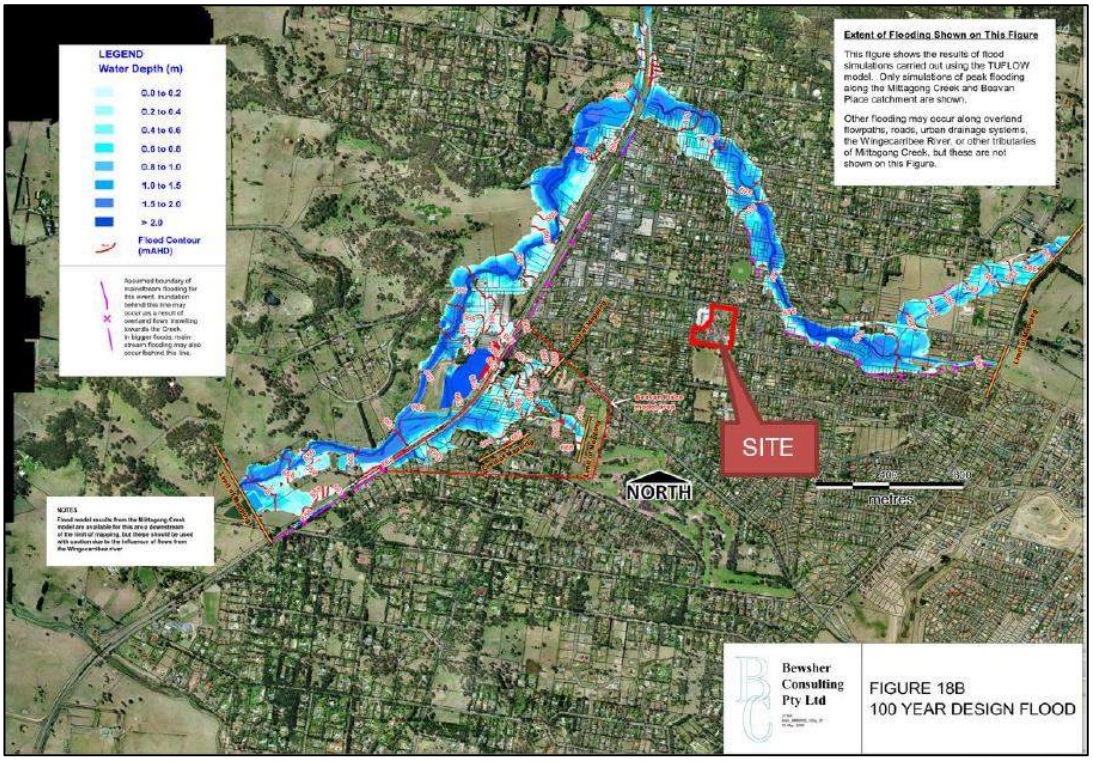

Figure 80: Mittagong Creek 100 Year Design Flood Map (Source: Wingecarribee Shire Council)

It is also noted that the site is not located within a "Flood Planning Area" pursuant to the WLEP 2010. Refer to Figure 81.

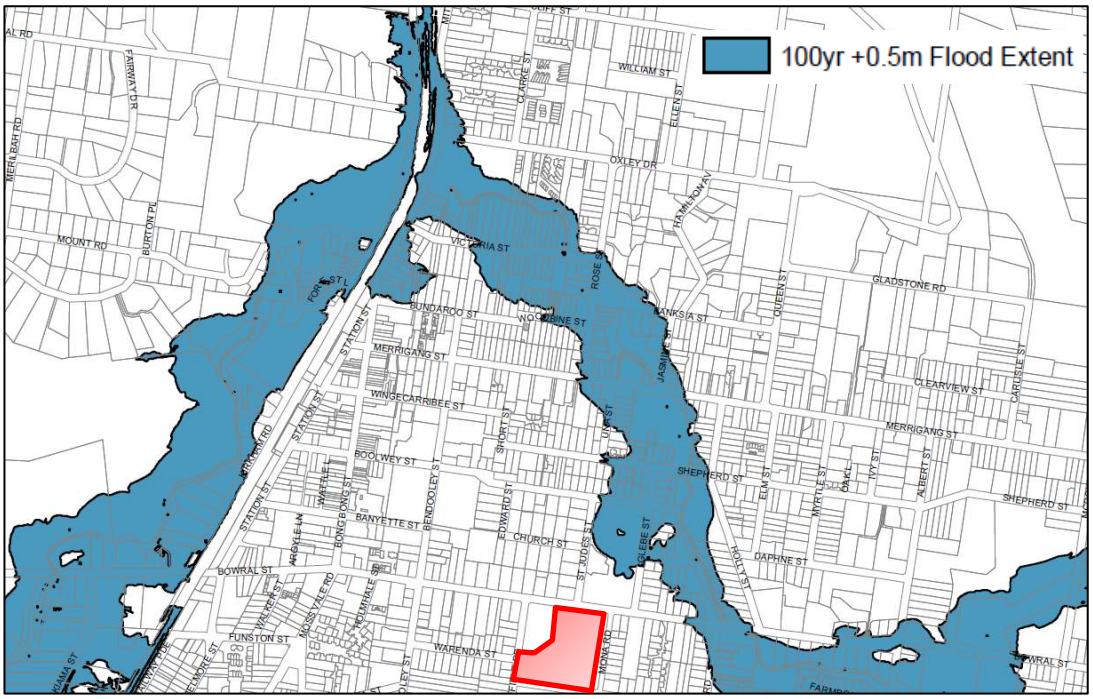

Figure 81: Extract from WLEP Flood Planning Map Sheet FLD_007D, showing the site outlined in red (Source: NSW Legislation)

The extent of flooding produced by a combination of probable maximum flood (PMF) events, shows that a small portion of the north-east corner of the site has been classified as a 'Low Flood Risk Precinct' (refer to Figure 82). This has also been confirmed by Wingecarribee Shire Council on a Flood Certificate issued on 1 March 2018 (File: PN 1704811; FL 18/0010).

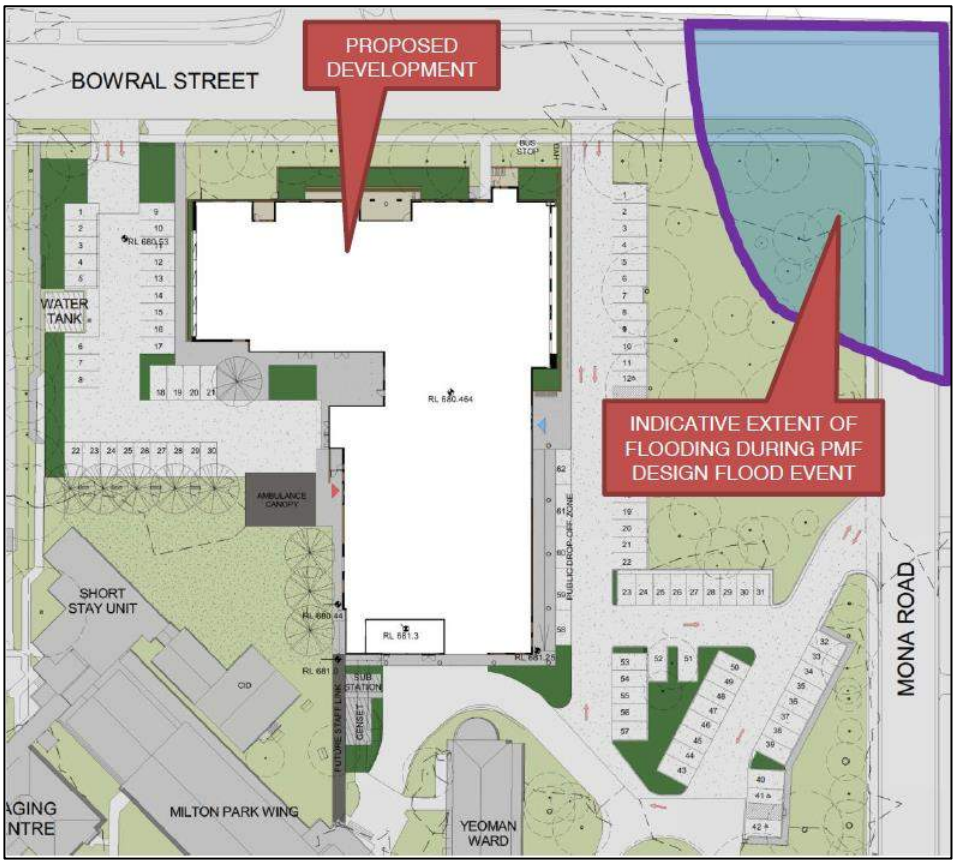

Figure 82: Site Plan Extract with Extent of Flooding During PMF (Source: Enstruct & MSJ Architects)

9.13.3 Recommended Mitigation Measures

Mitigation measures have been provided by Enstruct. To mitigate flooding risk on site, the area categorised as a 'low flood risk precinct' will remain unaltered. Additionally, the floor level of the proposed building is to be set above the adjacent PMF flood level of 679.30 mAHD. Therefore, the proposed development will not be impacted by any potential flood risk and will not have any adverse effects on surrounding areas.

9.14 Waste (SEAR 15)

9.14.1 SEAR

SEAR 15 requires that the application:

> *Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.*

9.14.2 Assessment

This EIS is accompanied by a preliminary Waste Management Plan (WMP) prepared by Capital Insight (**Appendix 31**). The WMP provides details regarding waste streams likely to be generated during construction and operations. This information is outlined in the section below, including the proposed waste control measures.

Construction Waste

The estimated volume of waste produced during excavation works is outlines in Figure 83 below. This calculation assumes the maximum amount of waste and no reuse of fill. However, it is anticipated that fill is likely to be reused on site. There are no demolition works as part of the proposed development.

Description	Excavation Material (m^3)
Removal of excavated material off site (assume no reuse)	1,526

Figure 83: Estimated volume of waste from excavation (Source: CI)

Capital Insight has prepared a preliminary Construction Management Plan (CMP) for the proposed development, which accompanies this EIS at **Appendix 3**. The preliminary CMP includes details regarding likely waste streams to be generated during construction and measures to manage and dispose of waste.

Operational Waste

There are existing operational waste management guidelines and statements for B&DH which are implemented for all NSW Health Care Facilities. The purpose of these guidelines is to ensure that waste management is undertaken in a manner that promotes waste minimisation and the appropriate management of waste resources to mitigate adverse environmental impact. Operational waste for the proposed development will be managed in accordance with these existing guidelines and policies at B&DH. Additionally, B&DH is required to comply with the SWS LHD Waste Management Plan.

Whilst the proposed development will result in an increased capacity within B&DH for operational waste storage and management (refer to Figure 84 below), the existing waste guidelines and policies for B&DH will generally remain unchanged and will continue to be implemented. This has been verified in the preliminary WMP prepared by the Capital Insight at **Appendix 28**.

	Total Waste Per Week (kg)		
Waste Type	**Current**	**Increased Bed/Treatment Space 8%**	**Estimated Total**
General Waste	5,762	461	6,223
Recyclable Waste	1,944	156	2,100
Clinical/Cytotoxic Waste	253	20	273
Total	**7,959**	**637**	**8,596**

Figure 84: Existing and estimated waste volumes (Source: CI)

The proposed mechanical plant at the rooftop of the proposed building will also become a source of waste. The mechanical plant will be serviced on a six (6) month basis. Disposable items include air handling unit filters (15), panel filters (160) and bag filters (160). These will be disposed every six (6) months as general waste/recycling waste.

Hazardous Waste

Dangerous goods (DGs) will be stored in a lockable compound that allows sufficient ventilation, as required. Material safety data sheets (MSDS) on all potential flammable and harmful liquids will be provided by the head contractor.

As outlined previously in Section 7.8 of this EIS, a separate SEPP 33 Assessment has been undertaken as part of this proposal and is provided at **Appendix 21**. This assessment confirmed that the quantities of DGs stored at the proposed development, including the associated transportation movements, will not exceed the thresholds of 'hazardous' materials. Therefore, a Preliminary Hazards Analysis is not a requirement under this proposal.

9.14.3 Recommended Mitigation Measures

Preparation of a final Construction Management Plan for the development incorporating construction waste management measures by the appointed principal contractor(s) to ensure that construction waste can be appropriately managed with minimal impacts to the environment. The adopted measures should be consistent with those identified in Capital Insight's preliminary WMP.

Continued implementation of existing operational waste management policies at B&DH for the proposed development in accordance with the specification of the preliminary WMP.

9.15 Construction Hours (SEAR 16)

9.15.1 SEAR

SEAR 15 requires that the application:

> *Identify proposed construction hours and provide details of the instances where it is expected that works will be required to be carried out outside the standard construction hours.*

9.15.2 Assessment

Construction work would be undertaken in accordance with development consent conditions.

The proposed working hours are as follows:

- Monday to Friday: 7:00am to 6:00pm
- Saturday: 8:00am to 5:00pm
- Sundays and public holidays: No work.

9.15.3 Recommended Mitigation Measure

No work will be carried out outside of proposed construction hours, due to the nature of the Hospital services and the surrounding residential properties, unless works are required in accordance with the Interim Construction Noise Guidelines.

9.16 Plans and Documents

The "Plans and Documents" section of the SEARs provides a list of "Plans and Documents" to be submitted as part of the SSDA. All of the plans and documents identified in this section of the SEARs have been provided where necessary. Refer to Table 20:

Table 20: Plans and Documents

Plan and Documents	Prepared by	Found at Appendix
Architectural drawings (dimensioned and including RLs) and site and context plans	MSJ Architects	8
Site Survey Plan	Linker Surveying	4
Site Analysis Plan	MSJ Architects	8
Stormwater Concept Plan	Enstruct	32
Sediment and Erosion Control Plan	Enstruct	27
Shadow Diagrams	Enstruct	8
View Analysis Photomontages	MSJ Architects MSJ Architects	7 23
Landscape Plan (identifying any trees to be removed and trees to be retained or transplanted)	Landscape Plan/Report - Site Image Arborist Report - Naturally Trees	12 6
Preliminary Construction Management Plan, inclusive of a Preliminary Construction Traffic Management Plan detailing vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures	Construction Management Plan - Capital Insight	3
Geotechnical and Structural Report	Geotechnical - Douglas Partners Structural - Enstruct	10 9
Accessibility Report	iAccess	33
Schedule of materials and finishes	MSJ Architects	8
Heritage Impact Statement*	WPH	2

*Not addressed in the SEARs.

Further detailed commentary is provided below with respect to construction management, geotechnical and structural matters.

9.16.1 Construction Management

The SEARs require the preparation of a preliminary CMP. The objectives of a CMP are typically to:

- Minimise inconvenience to the public and adjoining properties during the constructions stages;
- Maintain effective communication with the developer and the community;
- Maintain a safe working environment; and
- Ensure the requirements of relevant approvals, licenses codes or standards are met.

To implement such objectives, a CMP will usually address the following matters:

- An overall construction management framework;
- Construction traffic management and parking arrangements,
- Construction zones;
- Pedestrian management;
- Hoardings;
- Dust management;
- Hours of work;
- Materials handling;
- Waste Management and recycling;
- Construction program; and
- Specific matters nominated within the consent notice.

The objectives and specific items identified above are addressed in the preliminary CMP that has been prepared by Capital Insight for the proposed development. A copy of the preliminary CMP accompanies this EIS at **Appendix 3**. Final CMPs will be prepared by the principal contractor(s) once known and prior to the commencement of construction.

It is recommended that comprehensive CMPs be prepared for the proposed development, incorporating a construction traffic management plan and the other matters set out in the mitigation measures in Section 11 of this EIS.

9.16.2 Geotechnical and Structural Matters

A Structural Design Report has been prepared by Enstruct for the proposed development to assess the required conditions for the construction of the new inpatient building and to set out the relevant structural requirements for the development. The report also identifies at the forefront the geotechnical conditions of the site, which have been previously investigated more extensively and recently by Douglas Partners. A concise summary of these previous investigations can be found in Section 3 of the report. The conditions remain unchanged from those addressed previously in the early works (REF).

The report notes that structurally, the proposed structural system for the development will require a piled foundation system with a suspended concrete ground floor slab. The new building will require framing with post-tensioned suspended concrete floorplates, a lateral system with a hybrid shear wall frame, and a typical lightweight steel roof.

Whilst the structural design of the development appears to comply with the relevant criteria set out in the report, a mitigation measure has been included in this EIS requiring compliance with these criteria for due caution.

9.16.3 Accessibility

An Access Report has been prepared by iAccess and is provided at **Appendix 33**. The assessment has been subject to the scope of proposed main works at the north western corner of the hospital campus.

The proposed development will provide new vehicular access at the east of the site on Bowral Street. Driveway access will also be provided from Mona Road to the proposed parking area. Emergency vehicle access will be maintained at the west side along Bowral Street.

Pedestrian access is proposed next to the existing bus stop on Bowral Street. A new pathway will link the boundary of the street to the main entry. This pathway will also provide accessible connection from the new facilities to other areas and buildings within the site. Further to the proposed works, iAccess recommends accessibility guidelines for the likelihood of access by people with disabilities. Further detail is provided in the Access Report at **Appendix 33**.

9.17 Social and Economic Benefits

A range of social and economic benefits that will result from the proposed development are addressed generally throughout this EIS. This section of the EIS consolidates those "benefits" as follows.

The **social impacts** that will result from the proposal are set out below:

- Upgrade and expansion of out-dated hospital infrastructure and enhanced capacity to provide a wide range of medical services;
- The project will provide contemporary healthcare facilities addressing clinical services suited to the current and future needs of the SWS LHD's catchment population;
- Achieve critical mass of allied health staffing enabling more specialised allied health services to be provided to inpatient and ambulatory patients;
- More effective and efficient use of available clinical staff, improved staff satisfaction and greater capacity to attract and retain staff;
- Improved integration of hospital and community health services including greater capacity to provide more integrated models of care;
- Greater capacity to meet the health care requirements of the growing aged population now and into the future;
- Integrated care and new models of care, including clinical redesign and service innovation;
- Improved patient safety through reduced clinical errors and infection;
- Improved amenity for patients, their families and staff; and
- Identify benefits to the SWS LHD health network including support to B&DH.

The **economic** impacts that will result from the proposal are set out below:

- Increase in employment opportunities during the construction phase of the development (refer Section 4.8 of this EIS). This will result in a positive contribution to the local economy.
- A range of economic benefits for B&DH including:
  - Increased outcome efficiency;
  - Increased output or cost efficiency. The development results in a value for money outcome which addresses the specific objectives for the redevelopment and incorporates efficient future flexibility for redevelopment at B&DH;

- Maximisation of capital investment provides the opportunity to further reduce service fragmentation and continue to improve continuity of care, to ensure safe and effective service delivery;
- Better staff attraction and retention; and
- Higher workforce productivity.

- The redevelopment will provide a catalyst for change within B&DH, support the development and enhancement of integrated services that maintain and improve the reliability and quality of patient care, as well as improve patient outcomes.

Further to the above, the proposed development will result in approximately $43M investment in public health and related services for Bowral and the SWS LHD. This is a significant level investment in public health in the region and will directly benefit the local and regional community.

9.18 Cumulative Impacts

This EIS has assessed the cumulative impacts of the proposed development and the matters for consideration nominated within the SEARs. Subject to the mitigation measures outlined IN Section 11 of this EIS, the proposal is considered to have a net positive impact on the environmental and operational amenity of the B&DH site and the surrounding locality.

10. Environmental Risk Assessment

Based on the environmental assessment in Sections 7, 8 and 9 of this EIS, the following Environmental Risk Analysis assesses the significance of the identified impacts and the ability to manage those impacts to establish a residual risk rating. Refer to Figure 85 below.

Significance of Impact	Manageability of Impact					
	5 Complex	4 Substantial	3 Straightforward	2 Standard	1 Simple	
1 - Low	6 (Medium)	5 (Low-Medium)	4 (Low-Medium)	3 (Low)	2 (Low)	Residual Impact
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)	

Significance of Impacts:

5 Extreme	E1 - Undisturbed receiving environment E2 - Type or extent of impacts unknown E3 - Substantial level of community concern
4 High	H1 - Sensitive receiving environment H2 - Type or extent of impacts not well understood H3 - High level of community concern
3 Moderate	Mo1 - Resilient receiving environment Mo2 - Type or extent of impacts understood Mo3 - Community interest
2 Minor	Mi1 - Disturbed receiving environment Mi2 - Type or extent of impacts well understood Mi3 - Some level of local community interest
1 Low	L1 - Degraded receiving environment L2 - Type or extent of impacts fully understood L3 - Negligible level of local community interest

Manageability of Impacts:

5 Complex	C1 - Extensive/complicated range of mitigation measures required C2 - Safeguards or technology are unproven C3 - Adaptive management not appropriate
4 Substantial	Sub1 - Significant mix of mitigation measures required Sub 2 - Limited evidence of effectiveness of safeguards Sub 3 - Adaptive management feasible
3 Straightforward	Str1 - Straightforward range of mitigation measures required Str2 - Good understanding of effectiveness of safeguards Str3 - Adaptive management readily applicable
2 Standard	Sta1 - Simple range of mitigation measures required Sta2 - Substantial evidence for effectiveness of safeguards Sta3 - Adaptive management unlikely to be required
1 Minimal	Min1 - Minimal/no mitigation measures required Min2 - Safeguards are standard practice Min3 - Adaptive management not required

Figure 85: Environmental Risk Assessment Values

The significance of identified environmental impacts is 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 21 for the complete environmental risk analysis.

Table 21: Environmental Risk Analysis

Issue	Phase C- construction O - operation	Identified Environmental Impact	Risk Assessment		
			Significance of Impact	Manageability of Impact	Residual Impact
Built Form and Urban Design	O	The height, bulk and scale of the new building will not be greater than that of the existing surrounding developments.	2 Minor	2 Standard	4 Low-Medium
Environmental Amenity	O	Potential impacts on pedestrian wind comfort of occupants	1 Low	1 Simple	2 Low
		Overshadowing.	1 Low	1 Simple	2 Low
		Light spill.	1 Low	1 Simple	2 Low
		Potential impact on amenity of existing hospital buildings (noise, overshadowing, privacy).	2 Minor	2 Standard	4 Low-Medium
		For noise and vibration, refer to below relevant point in table.	N/A	N/A	N/A
Safety and Security	O	Surveillance of activities in proposed carpark to be mitigated through incorporation of CCTV.	1 Low	2 Standard	3 Low-Medium
Transport and Accessibility	C	Construction traffic impacts on road network.	2 Minor	2 Standard	4 Low-Medium
	O	Impact of additional car parking on traffic generation and operation of road network.	2 Minor	2 Standard	4 Low-Medium
Ecologically Sustainable Development (ESD)	All	The proposed ESD measures will have a positive impact on the environment. Hence, there is no environmental risk identified.	N/A	N/A	N/A

Noise and Vibration	C	Noise generated and potential impact on nearby sensitive residential receivers during excavation and construction	2 Minor	3 Straightforward	5 Low-Medium
	O	Noise generated by mechanical plant and traffic noise (carpark) and potential impact on residential receivers.	2 Minor	3 Straightforward	5 Low-Medium
Biodiversity	O	No identified impact	N/A	N/A	N/A
Heritage	O	No impact identified	1 Low	1 Simple	2 Low
Sediment, Erosion and Dust Controls	C	Potential sediment pollution as a consequence of excavation and construction activities.	2 Minor	1 Simple	3 Low
Utilities	All	Existing utilities/services may require augmentation/upgrade.	2 Minor	2 Standard	4 Low-Medium
Flooding	O	No identified impact	1 Low	1 Simple	2 Low
Drainage	All	The construction of the developments will alter the imperviousness of the sites.	2 Minor	3 Straightforward	5 Low-Medium
Servicing and Waste	C	Environmental impacts associated with the disposal of construction and hazardous waste.	2 Minor	1 Simple	3 Low
	O	Health risks associated with Contaminated Waste (including clinical waste and sharps).	2 Minor	1 Simple	3 Low
Hazards	C	Potential spills or leaking of hazardous substances.	2 Minor	1 Simple	3 Low
	O	Potential spills or leaking as a consequence of handling, use and storage of hazardous substances.	2 Minor	1 Simple	3 Low
Hazardous Materials	C	Potential hazardous materials in buildings/structures to be demolished	2 Minor	2 Standard	4 Low-Medium

Contamination	C	Potential impacts will be mitigated in accordance with the detailed Environmental Site Investigation and associated RAP	2 Minor	3 Straightforward	5 Low-Medium
Air and Water Quality	C	Potential for reduced air and water quality during construction	2 Minor	2 Standard	4 Low-Medium

11. Mitigation Measures

The following measures have been compiled following review and consideration of the issues raised in consultation with government agencies and input from various subconsultants in response to the SEARs (Section 9).

Schedule 2 of the EP&A Regs requires a full description of the measures proposed to mitigate any adverse effects of the development on the environment. The mitigation measures at Table 22 below provide a commitment by HI and indicate the responsibilities required to prevent potential environmental impacts arising from the proposed works. This will ensure that the project is environmentally, socially and economically sustainable.

Table 22: Mitigation Measures

Issues	Action
General	The development will be undertaken in accordance with the Environmental Impact Statement prepared by CPSD (including relevant accompanying Appendices) and drawings prepared by MSJ (**Appendix 8** of this EIS). All construction documentation and building work will be certified in accordance with Section 6.28 of the EP&A Act.
Reflectivity	The building materials used on the facades of all buildings will be designed so as not to result in glare that causes discomfort or threatens the safety of pedestrians or drivers. A report/statement demonstrating consistency with this requirement will be submitted to the satisfaction of the Certifying Authority prior to the commencement of above ground works.
Maintenance of vehicular access	At all stages of construction, construction vehicle access to the site will be provided mainly via Bowral Street.
Road Closures and maintenance of vehicular access	Construction vehicle access to the site will be provided from Bowral Street. It is not anticipated that any road closures will be required during construction to facilitate the works, however this would be subject to the approved Contractor. At all stages of construction vehicular access to the Hospital will be available from Bowral Street.
Hours of Work	The proposed working hours are as follows: ▪ Monday to Friday: 7am to 6pm ▪ Saturday: 8am to 5pm ▪ Sundays and public holidays: No work. No work will be carried out outside of standard construction hours, due to the nature of the Hospital services and the surrounding residential properties, unless works are required in accordance with the Interim Construction Noise Guidelines, extracted below. "The five categories of works that might be undertaken outside the recommended standard hours are: 1. The delivery of oversized plant or structures that police or other authorities determine require special arrangements to transport along public roads 2. Emergency work to avoid the loss of life or damage to property, or to prevent environmental harm 3. Maintenance and repair of public infrastructure where disruption to essential services and/or considerations of worker safety do not allow work within standard hours 4. Public infrastructure works that shorten the length of the project and are supported by the affected community

	5. Works where a proponent demonstrates and justifies a need to operate outside the recommended standard hours." Other exceptions relate to those set out in the Preliminary Construction Management Plan prepared by Capital Insight. The out of hours works are to be justified and approved in advance in writing by the relevant Certifying Authority or in accordance with an approved Out of Hours Work Protocol.
Building Code of Australia	The development is to comply with the statutory energy efficiency requirements of Section J of the BCA. The development will also generally comply with the "deemed to satisfy" (DTS) provisions of the BCA and where required, 'alternative solutions' complying with the performance objectives and requirements of the BCA will be employed to address any deviations from DTS provisions.
Approvals	The Proponent will obtain all necessary approvals required by State and Commonwealth legislation in undertaking the development. The Proponent will continue to liaise with Wingecarribee Shire Council during the development process, particularly with regard to any proposed road closure or impact on Council infrastructure.
Erosion and Sediment Control	A detailed soil and sedimentation plan is to be prepared in accordance with The Blue Book prior to construction and will be included in the Construction Management Plan. The plan is to be prepared in accordance with the preliminary erosion and sediment control plan prepared by Enstruct and accompanying this EIS.
Geotechnical	The recommendations of the Geotechnical Investigation prepared by Douglas Partners will be satisfied.
Structural	The detailed structural design of the development is to comply with the recommendations of the Civil and Structural Design Report and Drawings prepared by Enstruct.
Contamination	The recommendations of the detailed environmental site assessment and RAP prepared by Environmental Investigation Services will be implemented.
Hazardous Materials	The recommendations of the Hazardous Building Materials Assessment prepared by Douglas Partners will be implemented.
Hazardous Waste	The Proponent commits to the continued implementation of the existing B&DH management processes for hazardous waste.
Operational Waste Management	The Proponent commits to the continued implementation of existing operational waste management policies at B&DH. Operational waste management should continue to be monitored and audited through B&DH Work Health and Safety Meetings.
Services	The Proponent will comply with the requirements of the relevant public authorities in regard to the connection to, relocation and/or adjustment of services affected by the construction of the proposed development.
Accessibility	The design of the facilities will permit effective, appropriate, safe and dignified use by all people, including those with disabilities and will be in accordance with the relevant NSW Health Facility Guidelines for access and mobility and relevant accessibility standards.
Drainage	All of the recommendations of the Civil and Structural Design Report and Drawings prepared by Enstruct accompanying this EIS are to be satisfied and all final civil documentation will be prepared generally in accordance with the plans prepared by Enstruct.
Tree protection	The protective measures contained in the Arborist Report and Method Statement prepared by Naturally Trees will be adopted and implemented.

Transport Management	The recommendations of the Transport Impact Assessment prepared by GTA in relation to transport management will be implemented.
Sustainable Transport Strategies	The Work Travel Plan prepared by GTA will be implemented as part of the proposed development. It includes measures to promote the use of public transport, walking and cycling. This travel plan should include continual review and monitoring to adjust proposed actions.
Construction Traffic Management Plan	Prior to the commencement of construction, a Final Construction Traffic Management Plan will be prepared.
Noise and Vibration	The recommendations of the Acoustic Report prepared by WGE will be implemented to ensure that any potential adverse construction and operational noise and vibration impacts are adequately managed and mitigated.
Ecologically Sustainable Development	The detailed design of the development is to incorporate all of the ESD principles and measures set out in the ESD Statement prepared by WGE. The proposal is to demonstrate compliance/consistency with the targets identified in NSWHI Engineering Services Guidelines, specifically those relating to: ▪ Sustainability and Energy (Principle 2.5.8); ▪ Potable Water (Principle 2.5.9); and ▪ Materials (Principle 2.5.10). The development is to comply with the energy efficiency requirements of Section J of the National Construction Code (NCC 2012, previously known as the Building Code of Australia).
External Lighting	External lighting is to be installed to meet the minimum Australian and New Zealand Lighting Standards that will not only provide wide and even spread of illumination but will also be adequate to meet operational requirements. In addition, appropriate signage is to be installed to reinforce the new building's main entrance and other secondary entrances. External lighting will be installed so as to not result in any light spill or other lighting-related impacts on the surrounding locality.
CPTED	Lighting, way finding (signage) and CCTV, where appropriate, should be provided to ensure safety and security for the patients and visitors to the site once operational.
Construction Management	Prior to commencement of construction, a detailed Construction Management Plan (CMP) will be prepared which addresses (but is not limited to) the following: ▪ Construction noise and vibration ▪ Construction traffic management ▪ Dust management and air pollution monitoring ▪ Odour control ▪ Removal and management of hazardous materials ▪ Soil and erosion control ▪ Tree protection (where relevant) ▪ Site management in accordance with legislative requirements ▪ House of construction work ▪ Waste management ▪ Implementation of Groundwater Policy Framework and Groundwater Quality Protection Policies; ▪ Community safety plan ▪ Arrangements for temporary pedestrian and vehicular access ▪ Contact and complaints handling procedures The detailed CMP is to be generally in accordance with the preliminary CMP prepared by Capital Insight and accompanying this EIS.

12. Conclusion

This Environmental Impact Statement (EIS) is submitted to the Minister for Planning and Environment to accompany a SSDA for the major redevelopment of Bowral & District Hospital (B&DH).

In accordance with the requirements of Schedule 2 of the EP&A Regulation, this EIS considers the relevant statutory instruments and strategic documents, built form and social and environmental impacts.

Further, this EIS provides an assessment of the environmental risks of the proposed development in accordance with the SEARs issued by the Department of Planning and Environment on 30 January 2018 and sets out the undertakings made by HI to manage and minimise potential impacts arising from the development.

Subject to the mitigation measures outlined in Section 11 of this EIS, we recommend approval of this application for the following reasons:

- The redevelopment will be critical in supporting and improving the medical services provision to the Wingecarribee Shire LGA and the surrounding region;
- It will enhance the provision of modern healthcare facilities for the SWS LHD;
- The proposed development will generate additional jobs during construction;
- The site is capable of accommodating the proposed development by virtue of its capacity, size and location;
- The design of the proposal has emerged as a part of the ongoing redevelopment programme at B&DH and appropriately responds to, and complements, the design of previously approved early works (REF);
- The design of the proposal has emerged from a detailed analysis of the sites, having regard for the streetscape, environmental effects, heritage, urban form, preservation of the amenity of the surrounding area and the desired future character of the locality; and
- The potential environmental impacts of the proposal as outlined in this EIS are able to be satisfactorily mitigated subject to implementing the recommendations of the technical supporting documentation accompanying this EIS.

The proposal will result in significant social benefits for the local community as outlined in this EIS and in the absence of any unacceptable environmental (and other) impacts, the proposed development is in the public interest.

The EIS fulfils the requirements of the EP&A Act and EP&A Regulation and addresses all relevant matters for consideration prescribed by the SEARs, demonstrating that the potential impacts of the proposal can be satisfactorily managed or mitigated. In light of the above, and the significant public benefits of the proposal, we recommend that the proposal be approved.