HEALTH INFRASTRUCTURE

Review of Environmental Factors

Broken Hill Hospital Redevelopment

New Mental Health Unit Building

Emergency Department reconfiguration and expansion

Prepared by _planning Pty Ltd

October 2023

Version Number 2 – Final

NSW GOVERNMENT

REF Template Version: March 2023.

Declaration

This Review of Environmental Factors (REF) has been prepared for NSW Health Infrastructure (HI) and assesses the potential environmental impacts which could arise from the construction and operation of a new Mental Health Unit building, as well as the reconfiguration and expansion of the existing Emergency Department, at Broken Hill Hospital at 176 Thomas Street, Broken Hill.

This REF has been prepared in accordance with the relevant provisions of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) and *State Environmental Planning Policy (Transport and Infrastructure) 2021* (TISEPP).

This REF provides a true and fair review of the activity in relation to its likely impact on the environment and the information it contains is neither false nor misleading. It addresses to the fullest extent possible all the factors listed in Section 3 of the *Guidelines for Division 5.1 Assessments* (DPE June 2022), the *Environmental Planning and Assessment Regulation 2021* and the *Commonwealth Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)*.

Based upon the information presented in this REF, it is concluded that, subject to adopting the recommended mitigation measures, it is unlikely there would be any significant environmental impacts associated with the activity. Consequently, an *Environmental Impact Statement* (EIS) is not required.

Declaration	
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Final Draft v1	16 October 2023	Oliver Klein	Review of Environmental Factors	Elly Yuan (Project Manager – Acorn Project Advisory)	Gert Halbgebauer (HI)
Final v2	24 October 2023	Oliver Klein	Review of Environmental Factors	Elly Yuan (Project Manager – Acorn Project Advisory)	Gert Halbgebauer (HI)

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AA	Mitigation Measures	_planning / HI	October 2023

Abbreviations

Abbreviation	Description
AEC	Area of Environmental Concern
AHD	Australian Height Datum
AHIP	Aboriginal Heritage Impact Permit
AHIMS	Aboriginal Heritage Information Management System BC Regulation
AMG	Australian Map Grid
BC Act 2016	*Biodiversity Conservation Act 2016*
BC Act 2017	*Biodiversity Conservation Act 2017*
BC Regulation	Biodiversity Conservation Regulation 2017
BAM	Biodiversity Assessment Method
CA	Certifying Authority
CE	Chief Executive
CM Act	*Coastal Management Act 2016*
CMP	Construction Management Plan
CWC	Connecting with Country
CRA	Conservation Risk Assessment
DPC	Department of Premier and Cabinet
DPE	Department of Planning and Environment
ED	Emergency Department
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EES	Environment, Energy and Science
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	Environmental Planning and Assessment Regulation 2021
EPBC Act (Cwth)	*Environment Protection and Biodiversity Conservation Act 1999*
EPI	Environmental Planning Instrument
EPL	Environment Protection License
FM Act	*Fisheries Management Act 1994*
FWLHD	Far West Local Health District
Ha	Hectares
HHIMS	Historic Heritage Information Management System
HI	Health Infrastructure
LEP	Local Environmental Plan
LGA	Local Government Area

Abbreviation	Description
MHU	Mental Health Unit
MPS	Multipurpose Service
MNES	Matters of National Environmental Significance
NorBE	Neutral or Beneficial Effect on Water Quality Assessment Guideline (2022)
NPW Act	*National Parks and Wildlife Act 1974*
NPW Regulation	National Parks and Wildlife Regulation 2009
NPWS	National Parks and Wildlife Service (part of EES)
NT Act (Cth)	*Commonwealth Native Title Act 1993*
OEH	(Former) Office of Environment and Heritage
PCMP	Preliminary Construction Management Plan
Planning Systems SEPP	State Environmental Planning Policy (Planning Systems) 2021
PMF	Probable Maximum Flood
POEO Act	*Protection of the Environment Operations Act 1997*
Proponent	NSW Health Infrastructure
REF	Review of Environmental Factors
RF Act	*Rural Fires Act 1997*
RFS	Rural Fire Service
Resilience and Hazards SEPP	State Environmental Planning Policy (Resilience and Hazards) 2021
SEPP	State Environmental Planning Policy
SIS	Species Impact Statement
TI SEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021
WM Act	*Water Management Act 2000*

Executive Summary

The Proposal

The works subject of this Review of Environmental Factors (REF) involve:

- The development of the new 1-storey 8-bed Acute Mental Health Unit (MHU) building.
- Alterations and additions to the existing Emergency Department (ED) to reconfigure and expand upon its operations and reconfigure its ambulance bay.
- Associated civil engineering works (involving internal roadworks and carpark reconfiguration, and earthworks and stormwater management works). The carpark reconfiguration works have the potential to deliver up to a maximum additional 41 spaces within the lower campus through the Stage 2 car park expansion.
- Associated tree removal in the respective locations of the MHU, ED, car parking and road reconfiguration works within the lower campus.
- Limited services relocation works in the upper and lower campuses.
- New landscaping and replacement tree planting in various locations.

Note: there is no existing Council flood study for the area so 1 in 100 year and Probable Maximum Flood (PMF) levels are not available. Notwithstanding, the project provides a 300mm freeboard to the overland flow route along the internal road and car parking areas in line with the Broken Hill DCP requirements.

Need for the Proposal

The NSW Government is currently leading the progressive renewal of Regional Health assets across the State. The 2023-24 NSW Budget included a $669.8 million funding commitment to develop a State Wide Mental Health Infrastructure Program (SWMHIP) as a targeted investment to support mental health reform and increase capacity in the NSW mental health system. The Broken Hill Hospital Redevelopment project, is one of several projects selected for the inclusion within the SWMHIP and consists of a new purpose-built 8-bed in-patient Mental Health Unit (MHU).

The current Broken Hill Hospital ED is outdated and unfit for the purpose which it is currently required to serve. Generally, existing spaces are undersized when compared to the Australasian Health Facility Guidelines (AusHFG) specifications, including both functional and circulation space. The upgrade of the ED will deliver infrastructure to support new contemporary care models, address statewide service gaps, and enhance community based, specialist and forensic services.

Proposal Objectives

The proposal's combined and general objectives across both the MHU and ED scopes is to:

- Provide services as close to home as possible.
- Provide services that meet the needs of the community and consumers.
- Promote wellness and quality of life for the communities of the Far West Local Health District (FWLHD).
- Reduce the risk to consumers, staff and service.
- Improve integration across the broader health system, including connecting primary and acute services.
- Design and build future focussed infrastructure to meet community needs.
- Provide a solution to the burden of geographical challenges currently experienced by vulnerable communities within Broken Hill.
- Promote the ability to attract, develop and retain a skilled health workforce.

Options Considered

A long list of options for each components was refined and narrowed to a short-list of three (3) options each. These included the following:

MHU - Shortlist

- Option A: West of the facility, adjacent the Sub-Acute IPU Rehabilitation building.
- Option B: Development of the MHU above the existing Emergency Department.
- Option C: MHU located to the north of the existing hospital rear entry.

ED - Shortlist

- Option A: Extension to the existing ED, with the proposed facilities to be constructed to the north of the existing facility.
- Option B: Development of the MHU above the existing ED.
- Option C: Extension, with the new MHU extension branching off the north-west side of the existing Emergency Services building.

Of each of these Option A provided the preferred option.

Site Details

Broken Hill Health Service (or Broken Hill Hospital) is located at 176 Thomas Street, Broken Hill. Broken Hill is located some 950km west of Sydney and about 500km north-east of Adelaide. The relevant local government area (LGA) is Broken Hill City Council.

The hospital is located relatively centrally within the wider urban area comprising the township. It is however located some 1.5km to the north of the main street and town centre of Broken Hill.

The proposed works sit wholly within the boundaries of the existing hospital within Lot 4376 in DP 757298, with the exception of an augmented road connection to Thomas Street between the site boundary and the roadway

Broken Hill Hospital is a 98-bed rural teaching hospital, providing a current 9-bed Emergency Department as well as general medical, surgical, obstetric, paediatric, dialysis, oncology unit and acute mental health beds, operating theatres, specialist palliative care, intensive and coronary care units.

Support services include radiology and pathology departments, as well as a wide range of allied and primary health services. Its in-patient beds comprise:

- 27 medical acute beds including palliative care priority beds
- 21 surgical beds
- 5 ICU/CCU beds
- 6 maternity beds
- 6 paediatric beds
- 6 mental health in-patient beds,
- 10 sub-acute rehabilitation beds
- 6 dialysis chairs.

The hospital also accommodates 3 operating theatres and 3 recovery beds and 2 Special Care Nursery Level 2 cots.

Based on a review of site conditions and a Planning Certificate secured from Council, the site is generally free of any significant planning or environmental constraints, other than being a locally-listed heritage item. The whole of the

hospital is mapped as being a local heritage item (I25) which is described in Schedule 5 of *Broken Hill Local Environmental Plan 2013* (LEP) as 'Old areas of Broken Hill Hospital' and within the address nominated as '170–320 Thomas Street (parts)'. This is taken to be the older buildings located on the upper campus of the site addressing Morgan Street. The subject works are confined to the lower campus within the newer parts of the hospital, remote from areas and buildings subject of the listing.

The site is not within a mapped heritage conservation area.

Note also that the whole of the LGA is mapped by the Commonwealth as a National Heritage Place. The City of Broken Hill was entered in the National Heritage List on 20 January 2015 due to its outstanding significance in Australia's mining and industrial history. While the proposal is within the heritage curtilage of an item protected by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the hospital is not specifically identified as of national heritage significance. It has been determined within this REF that no referral to the Commonwealth Department of Climate Change, Energy, the Environment and Water under the EPBC Act is required as the proposal will not affect the national heritage values of the City of Broken Hill, and is not a Controlled Action under that legislation.

Planning Approval Pathway

Section 4.1 of the EP&A Act states that if an Environmental Planning Instrument (EPI) provides that development may be carried out without the need for development consent, a person may carry the development out, in accordance with the EPI, on land to which the provision applies. However, the environmental assessment of the development is required under Part 5 of the Act.

State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP) aims, amongst other things, to facilitate the effective delivery of infrastructure across the State. Chapter 2 Division 10 of TISEPP outlines the approval requirements for health service facilities. A "hospital" is defined as a health service facility under this division.

The site is zoned 'R1 – General Residential' zone under *Broken Hill Local Environmental Plan 2013*. The R1 zone is a prescribed zone under the TISEPP.

The proposal involves the erection, or the alterations of, or additions to, a building that is a health services facility; demolition of buildings carried out for the purposes of a health services facility; and ancillary and associated works, all of which are classified as development without consent as the proposed activity is consistent with section 2.61(1)(a), (c), and (e), as well as section 2.61(2) of TISEPP. The ancillary works are able to be carried out in the same manner through section 2.3(3) of the TISEPP.

Therefore, the proposal is considered an 'activity' for the purposes of Part 5 of the EP&A Act and is subject to an environmental assessment via the REF process.

Consultation and Engagement

The REF scope of works was notified for 21 calendar days to Broken Hill City Council (by email) and occupiers of adjoining land (via a letterbox drop) as required by section 2.62 of the TISEPP. The notification commenced on 31 August 2023 and concluded on 21 September 2023. In total, 58 letters were placed in letterboxes of adjoining occupiers of land or otherwise hand delivered. One submission in support of the proposal was received from Broken Hill City Council. No public submissions were received.

Extensive non-statutory community and stakeholder engagement has occurred with respect to this project since October 2022 with a range internal and external stakeholders.

Environmental Impacts

The environmental impacts of the works are varied given the nature of the works, including demolition and civil engineering works, selected tree removal, and the construction or erection of a new building and building expansion works on the hospital campus. The most significant impacts identified to arise relate to localised demolition and construction noise and vibration, and other general demolition and construction impacts, particularly in relation to works adjacent to the existing operational hospital, including the ED which remain operational during works.

Construction noise is likely to impact a range of internal hospital uses within the operational hospital, including the ED. Management and mitigation will be applied to limit likely impacts. Construction vibration will be localised to within the

subject hospital buildings and management and mitigation will again need to be applied to reduce adverse impacts upon sensitive machinery, equipment, activities and patients within the hospital.

Impacts upon vegetation, biodiversity, heritage, Aboriginal cultural heritage, natural systems including stormwater and overland flow, and traffic and parking have generally been identified as negligible, low, or neutral. The proposed stormwater management works arising from the activity will improve water quantity and quality outcomes over existing base case scenarios. Tree removal will be offset with an increase in native trees at the site at a rate of better than 1:1.

Justification and Conclusion

The proposed Broken Hill Hospital Redevelopment at 176 Thomas Street, Broken Hill is subject to assessment under Part 5 of the EPA Act. The REF has examined and taken into account to the fullest extent possible all matters affecting, or likely to affect, the environment by reason of the proposed activity.

As discussed in detail in this report, the proposed activity will not result in any significant or long-term impact. The potential impacts identified can be reasonably mitigated and where necessary managed through the adoption of suitable site practices and adherence to accepted industry standards. As outlined in this REF, the proposed activity can be justified on the following grounds:

- It responds to an existing need within the community;
- It generally complies with, or is consistent with all relevant legislation, plans and policies;
- It has minimal environmental impacts; and
- Adequate mitigation measures have been proposed to address these impacts.

The environmental impacts of the proposal are not likely to be significant and therefore it is not necessary for an EIS to be prepared and approval to be sought for the proposal from the Minister for Planning and Public Spaces under Part 5.1 of the EP&A Act. Further, the activity will not significantly affect threatened species, populations, ecological communities or their habitats, and therefore a Species Impact Statement (SIS) and/or Biodiversity Development Assessment Report (BDAR) is not required.

On this basis, it is recommended that HI approve the proposed activity in accordance with Part 5 of the EPA Act and subject to the adoption and implementation of matters outlined in this report.

1. Introduction

NSW Health Infrastructure (HI) proposes the construction and operation of a new Mental Health Unit building, as well as the reconfiguration and expansion of the existing Emergency Department (the proposal), at Broken Hill Hospital at 176 Thomas Street, Broken Hill (the site) as part of their delivery of infrastructure solutions and services to support the healthcare needs of the NSW communities.

This Review of Environmental Factors (REF) has been prepared by _planning Pty Ltd on behalf of HI to determine the environmental impacts of the proposal at Broken Hill Hospital. For the purposes of these works, HI is the proponent and the determining authority under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The purpose of this REF is to describe the proposal, to document the likely impacts of the proposal on the environment, and to detail protective measures to be implemented to mitigate impacts.

The description of the proposed works and associated environmental impacts have been undertaken in the context of the *Guidelines for Division 5.1 Assessments* (DPE June 2022), the *Environmental Planning and Assessment Regulation 2021*, and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The assessment contained within the REF has been prepared having regard to:

- Whether the proposed activity is likely to have a significant impact on the environment and therefore the necessity for an EIS to be prepared and approval to be sought from the Minister for Planning and Public Spaces under Part 5 of the EP&A Act; and
- The potential for the proposal to significantly impact *Matters of National Environmental Significance* (MNES) on Commonwealth land and the need to make a referral to the Australian Government Department of Environment and Energy for a decision by the Commonwealth Minister for the Environment on whether assessment and approval is required under the EPBC Act.

The REF helps to fulfil the requirements of Section 5.5 of the EP&A Act, which requires that HI examine, and take into account to the fullest extent possible, all matters affecting, or likely to affect, the environment by reason of the proposed activity.

1.1 Proposal need and Alternatives

Mental Health Unit

The NSW Government is currently leading the progressive renewal of Regional Health assets across the State. The 2023-24 NSW Budget included a $669.8 million funding commitment to develop a State Wide Mental Health Infrastructure Program (SWMHIP) as a targeted investment to support mental health reform and increase capacity in the NSW mental health system.

The SWMHIP objectives are to:

- Support the implementation of key reforms (Richmond Report, Living Well, Fifth Plan, Review of seclusion, restraint, and observation, and Pathways to Community Living).
- Support the change in delivery of mental health services to focus on person-centred holistic, recovery-oriented practice and trauma informed care.
- Support a contemporary model of care for inpatient mental health services, with more effective use of the State's inpatient beds and community-based care to unlock the system and reduce 'bed block'.
- Address the need to deliver mental health services in appropriate therapeutic environments with the right level of security based on the levels of complexity and needs of mental health consumers.
- Provide the infrastructure and services required to support relocation of selected standalone mental health (psychiatric) hospital units to a mix of community and hospital campuses.

- Provide the infrastructure and investment required to support transition of long stay consumers with complex care issues to high quality, community-based services focussed on a person-centred rehabilitation.
- Support mothers to remain with their infants during psychiatric care and prevent the potential detrimental effects of separation on the development of the parent-infant relationship, parental functioning and family wellbeing.
- Provide the infrastructure and investment needed to meet the growth in forensic patients with clear pathways from high security through medium and low secure units to the community.
- Foster and grow effective partnerships in quality mental health services provision across the State, community care and Community Managed Organisations.
- Enhance carer and consumer participation in the design of mental health infrastructure and services through improved opportunities for co-design, as recognised in the Fifth Plan and Mental Health Safety and Quality in NSW: An implementation plan to prevent seclusion and restraint.

The Broken Hill Hospital Redevelopment project, is one of several projects selected for the inclusion within the SWMHIP and consists of the development of two key components as summarised below:

- A new purpose built 8-bed in-patient Mental Health Unit (MHU); and
- A separately funded upgrade and expansion to the existing Emergency Department (ED)

Options and alternatives – Mental Health Unit

The Broken Hill Hospital Redevelopment's project team considered numerous long-list options and non-infrastructure options for the MHU in conjunction with the ED master planning through the options development process. The process ultimately resulted in the options below:

- Option 01: Expansion north of in-patient wards.
- Option 02: Expansion north of out-patient/Allied Health.
- Option 03: Expansion north of out-patient/Allied Health.
- Option 04: Expansion west of Sub-Acute In-Patient Unit (IPU) Rehabilitation building.
- Option A: West of the facility, adjacent the Sub-Acute IPU Rehabilitation building.
- Option B: Development of the MHU above the existing Emergency Department.
- Option C: MHU located to the north of the existing hospital rear entry.

Option A was identified as the Preferred Option through the master planning and concept evaluation processes with key stakeholders as well as by multi-criteria analysis for the project brief. This option meets the stakeholders' Project Vision and Objectives, Masterplan design principles, and delivers on the Far West Local Health District's (FWLHD) identified benefits.

Emergency Department

The redevelopment of Broken Hill Hospital's Emergency Department (ED) will deliver a reconfiguration and expansion to provide a more modern facility to meet the health needs of the community now, and into the future. Specifically, the reconfiguration and expansion will provide for a more functional facility, enhancing the current department's spaces to comply with the AusHFG. The works will maintain the current location of the ED but will involve a layout reconfiguration and an expansion of the current footprint which will improve the functionality and efficiency of the department.

A significant portion of the benefits expected to be realised from this investment will be qualitative and will manifest primarily in improved staff and patient experience from working and being cared for in an improved physical environment that arises from contemporary design informed by the extensive and current consultation with clinical staff and patients which has taken place thus far.

The current Broken Hill Hospital ED is outdated and unfit for the purpose which it is currently required to serve. Generally, existing spaces are undersized when compared to the AusHFG specifications, including both functional and circulation space.

The upgrade of the ED will deliver infrastructure to support new contemporary care models, address statewide service gaps, and enhance community based, specialist and forensic services.

The Project Objectives for the ED redevelopment are to:

- Offer patients, their families, carers and staff in the remote region access to the best emergency care available.
- Bring the Emergency Department up to contemporary design, safety and security standards particularly in relation to the current AusHFG.
- Create a more functional space that better supports and accommodates staff and patient interactions to provide safe and timely access to emergency care.
- Create an environment that respects and supports dignity, cultural differences, privacy, safety and human rights.
- Provide consistency and efficiency of new models of care.
- Provide better value and improve sustainability of health services.
- Provide a sustainable facility to attract staff, stabilising workforce and provision of services.

Options and alternatives – Emergency Department

In responding to the Clinical Services Plan (CSP), functional and operational needs and FWLHD direction, seven options were identified and considered in conjunction with the MHU master planning relative to the Base Case (Do nothing scenario):

- Option 01: Expansion north of in-patient wards.
- Option 02: Expansion north of out-patient / Allied Health.
- Option 03: Expansion north of out-patient / Allied Health.
- Option 04: Expansion west of Sub-Acute IPU Rehabilitation building.
- Option A: Extension to the existing ED, with the proposed facilities to be constructed to the north of the existing facility.
- Option B: Development of the MHU above the existing ED.
- Option C: Extension, with the new MHU extension branching off the north-west side of the existing Emergency Services building.

This long list was shortened to:

- Option A: Extension to the existing ED, with the proposed facilities to be constructed to the north of the existing facility.
- Option B: Development of the MHU above the existing ED.
- Option C: Extension, with the new MHU extension branching off the north-west side of the existing Emergency Services building.

Option A was identified as the Preferred Option through the master planning and concept evaluation processes with key stakeholders as well as by multi-criteria analysis for the project brief. This option meets the stakeholders' Project Vision and Objectives, Masterplan design principles and delivers on the FWLHD identified benefits. Option A was selected as the preferred development option by the EUG on 03/08/2022. This option was then endorsed by the ESC and FWLHD board in late August 2022.

2. Site Analysis and Description

2.1 The Site and Locality

2.1.1 Existing Development

Broken Hill Health Service (or Broken Hill Hospital) is located at 176 Thomas Street, Broken Hill. Broken Hill is located some 950km west of Sydney and about 500km north-east of Adelaide. The relevant LGA is Broken Hill City Council.

Figure 1 – Broken Hill Hospital – 176 Thomas Street, Broken Hill (SixMaps)

The hospital site is generally rectangular in shape as seen in **Figures 1** and **2**, with the exception of the land occupied by Southern Cross Care / War Vets aged care facility located at the corner of Bromide and Thomas Streets to the hospital's south-west. The hospital site is made up of a number of lots as set out below:

- Lot 4375 in DP 757298 (0.15ha in area) - Elongated narrow lot fronting Morgan Street at the hospital's northern boundary.
- Lot 3751 in DP 757298 (0.12ha in area) - Elongated narrow lot fronting Morgan Street at the hospital's northern boundary, inward of lot 4375.
- Lot 4376 in DP 757298 (8.363ha in area) - Substantive land parcel covering the whole of the hospital to its boundaries, excluding the above lots along the Morgan Street frontage.

The proposed works sit wholly within the boundaries of the existing hospital within Lot 4376 in DP 757298, with the exception of an augmented road connection to Thomas Street between the site boundary and the roadway. **Figure 3** sets out the locations of these lots.

The NSW Government Gazette of 12 July 2019 identifies a significant number of NSW hospital sites acquired by the Health Administration Corporation (HAC) for the purposes of the *Health Administration Act 1982* as at that date. This includes 'the Broken Hill and District Hospital' and the 'Broken Hill Base Hospital'. This acquisition has brought the hospital into single HAC ownership.

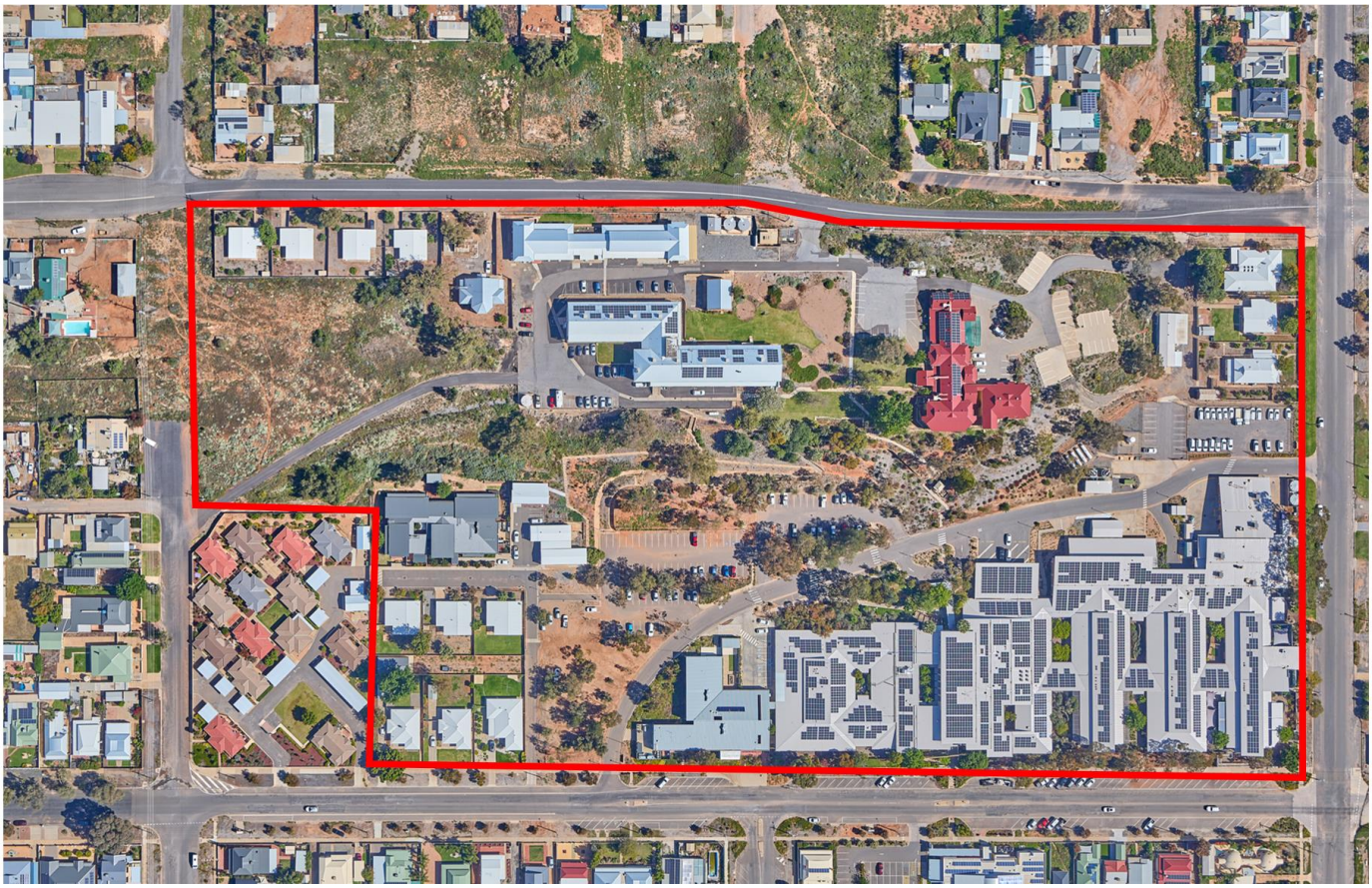

Figure 2 – Aerial photograph of existing Broken Hill Hospital in 2023 (Skyview Aerial)

Figure 3 – Lots and DPs comprising the hospital campus (STH)

The hospital is located relatively centrally within the wider urban area comprising the township. It is however located some 1.5km to the north of the main street and town centre of Broken Hill – see **Figure 4**. The southern edge of the town centre is subject to a range of health services, including the new Broken Hill Community Health Centre.

Figure 4 – Location of the hospital to the Broken Hill town centre looking south (Skyview Aerial)

Based on the hospital's webpage, Broken Hill Hospital is a 98-bed rural teaching hospital, providing a current 9-bed Emergency Department as well as general medical, surgical, obstetric, paediatric, dialysis, oncology unit and acute mental health beds, operating theatres, specialist palliative care, intensive and coronary care units.

Support services include radiology and pathology departments, as well as a wide range of allied and primary health services. Its in-patient beds comprise:

- 27 medical acute beds including palliative care priority beds
- 21 surgical beds
- 5 ICU/CCU beds
- 6 maternity beds
- 6 paediatric beds
- 6 mental health in-patient beds,
- 10 sub-acute rehabilitation beds
- 6 dialysis chairs.

The hospital also accommodates 3 operating theatres and 3 recovery beds and 2 Special Care Nursery Level 2 cots.

The service has a strong relationship with the Sydney University rural teaching hospital that is co-located on the Broken Hill Hospital Campus. Other services on the hospital campus are the Far West Mental Health Recovery Centre which has an out-patient focus, and staff accommodation quarters.

The hospital is generally bounded by Thomas Street to the south, Chloride Street to the east, Morgan Street to its north, and in part Bromide Street to the west. With the exception of the Southern Cross Care / War Vets aged care facility located at the corner of Bromide and Thomas Streets, the hospital would otherwise be accommodated within a whole 'city-block' of Broken Hill.

The hospital is generally divided into two parts: an upper plateau of the campus (upper campus) addressing Morgan Street; and a lower campus area addressing Thomas Street. The upper campus generally sits at 322m AHD with the lower parts of the site at around 306m AHD. The western portion of the site remains largely undeveloped due to a much steeper slope from 329 AHD down to a level of 306 AHD.

The upper campus of the hospital principally accommodates the heritage-related and older building stock, separated from the newer redeveloped main hospital building. This upper campus is presently used for staff accommodation and some executive and administrative functions, as well as educational purposes in partnership with Sydney University.

The new hospital building was built on the lower portion of the site at the corner of Thomas and Chloride Streets in 2000, replacing the former 1941 hospital building in this location, which itself replaced other former hospital buildings on this lower portion of the site.

The proposed works are focussed towards Thomas Street on the lower campus. The new MHU building will address Thomas Street, whilst the ED-related works face inwards within the hospital.

The existing layout of the hospital's functions and accommodation is provided in **Figure 5** with an aerial photograph at **Figure 6**.

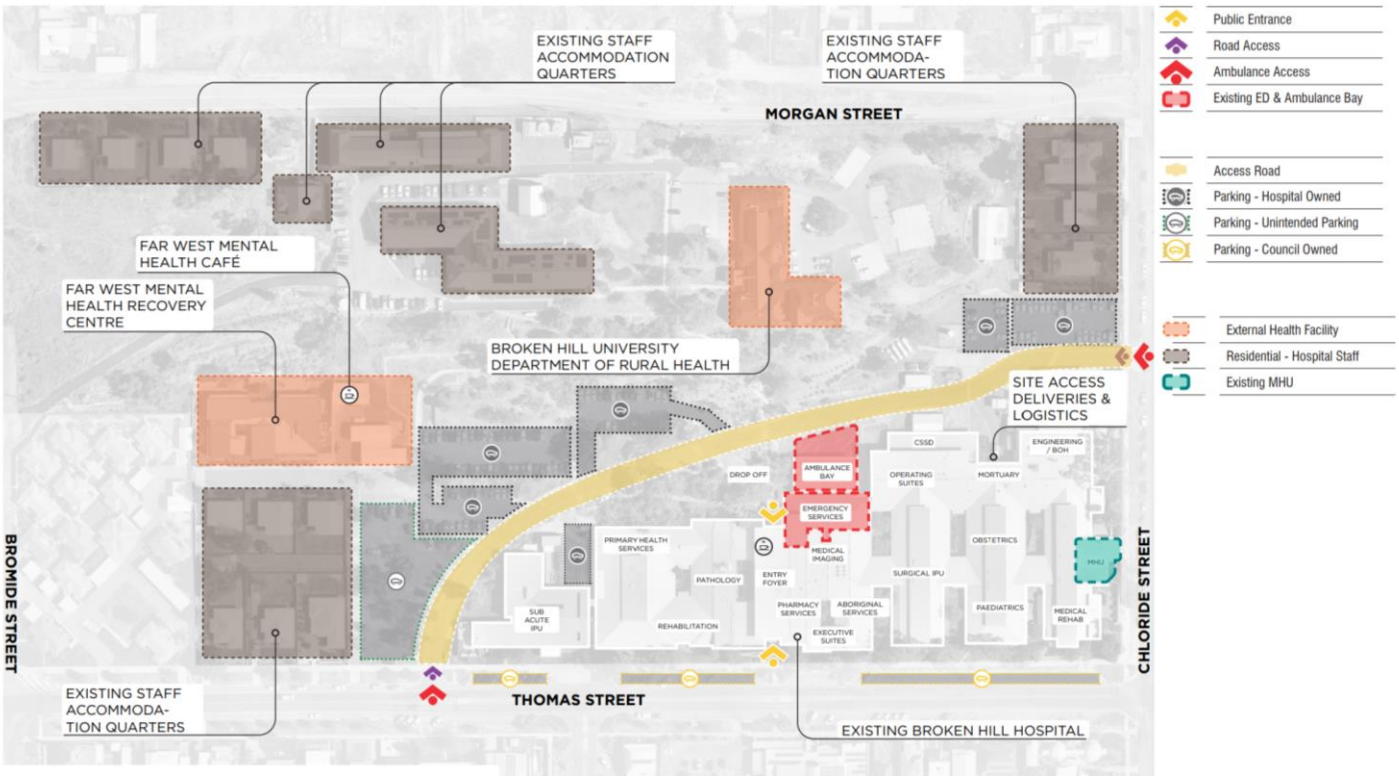

Figure 5 – Existing hospital layout and functionality plan (STH)

Figure 6 – Oblique aerial view of the hospital with the Thomas Street boundary in the foreground (Skyview Aerial)

The hospital, consistent with its zoning, sits within a general residential area with a varying range of health-related and other supporting ancillary land uses located around the hospital's perimeter, particularly along Thomas Street.

A series of photographs follow showing the existing development of the site on both the lower and upper areas of the campus.

Figure 7 – The hospital's main entrance from Thomas Street

Figure 8 – The existing ED and ambulance bay as viewed from within the hospital

Figure 9 – The existing at-grade car parking and sub-acute IPU viewed from within the hospital looking south-east

Figure 10 – Existing at-grade car park and location of proposed Stage 2 car parking

Figure 11 – Existing vegetation and general location of MHU and refined car parking layout

Figure 12 – Existing Far West Mental Health Recovery Centre and 'Safe Haven' cafe

Figure 13 – Existing staff accommodation addressing War Vets Drive within the hospital

Figure 14 – Existing staff accommodation addressing Thomas Street

Figure 15 – Existing hospital vehicular access points off Thomas Street

Figure 16 – Existing staff accommodation building on the upper campus

Figure 17 – Elleoura Lodge building on the upper campus

Figure 18 – Original Men's Surgical Ward building (1890) on the upper campus

Figure 19 – University of Sydney's Broken Hill University Department of Rural Health building (originally built 1890)

Figure 20 – Original laundry building (1890) and original mortuary building (1885) – left and right, respectively.

Figure 21 – Broken Hill Hospital building (1941) since demolished in the late 1990s (Broken Hill Hospital)

2.1.2 Other Site Elements

The following sets out other relevant site elements.

Topography

As noted, the hospital is generally divided into two parts: an upper campus addressing Morgan Street; and a lower campus addressing Thomas Street. The upper campus generally sits at 322m AHD with the lower campus at around 308m AHD. The western portion of the site remains largely undeveloped due to a much steeper slope from 329 AHD down to a level of 306 AHD – see **Figure 22**.

The topography of the site presents a significant constraint in connecting the upper campus and the lower campus where the primary hospital functions presently occur. It is understood that staff generally see the hill as an obstacle thus creating a divide between executive and clinical functions. The hospital has low-grade pedestrian links between the two areas. Two pathways traverse the topography and remnant roadways and retaining wall structures exist between the upper and lower campuses. The ground level changes are shown in a range of photographs within this section of the REF, including **Figure 23**. A survey is also included at **Appendix A**.

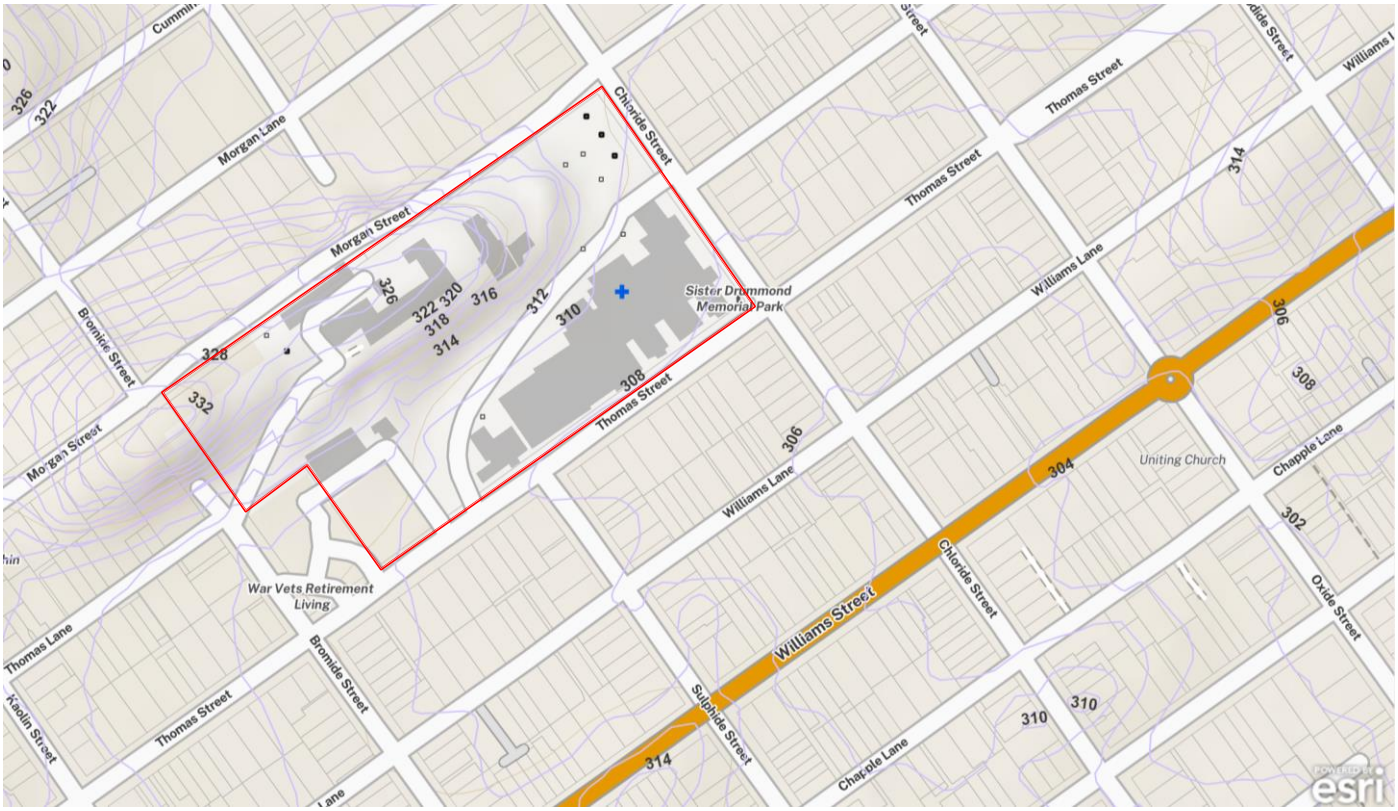

Figure 22 – Topographic layer on street map (https://portal.spatial.nsw.gov.au/)

Vegetation

As can be seen in the aerial photographs, the hospital is sparsely vegetated, however where vegetation is located it is generally subject to denser clustering of mature gum trees providing a green canopy in an otherwise urbanised site. Amongst the greater areas of clustering of trees is at and around the location of the proposed works for the new MHU.

The site of the ED, MHU and car park reconfiguration works accommodates some 215 trees, of which six (6) have been identified by the project arborist as dead.

From an ecological and biodiversity assessment standpoint, the area subject of the works consists of native and non-native planted vegetation. This planted vegetation incorporates a mixture of ornamental species, some exotic and some native to Australia (although not the Broken Hill area). Although this vegetation would provide potential foraging / nesting opportunities for native fauna, it cannot be assigned to any Plant Community Type (PCT). However, all locally occurring native vegetation was found to belong to a single PCT being 'PCT 155 – Bluebush shrubland on stony rises and downs in the arid and semi-arid zones'.

There are no watercourses on the site and so no Protected Riparian Land and Key Fish Habitat occurs within the area subject to the works within the hospital site.

Figure 23 – View of the location of the proposed MHU and revised car parking layout from the upper campus

Access / Transport

In terms of car parking, the lower campus of the hospital presently accommodates some 155 formal long-stay parking spaces (including fleet parking) and a number of other short-stay and drop-off pick-up parking spaces. The on-site spaces are supported by about a further 129 on-street spaces around the hospital's perimeter on Thomas and Chloride Streets in this lower campus location. The upper plateau accommodates about a further 91 line-marked formal spaces. The overall parking supply on the whole of the hospital campus is at least 246 formal spaces. Informal parking on available land is also common, particularly in the lower campus areas.

Within the lower campus, an internal road runs between Thomas Street and Chloride Street, forming a diagonal connection through the site – bounded by car parking. This internal road is the primary access road to and through the site, facilitating access through the back of the Main Hospital Building for general, emergency, and servicing vehicles and traffic.

Bus routes 592 and 592A service Broken Hill Hospital on Thomas Street adjacent to the hospital site. The routes are a loop service connecting Broken Hill CBD to Thomas, with nine buses a day. In addition to these services, a Menindee and Wilcannia Intertown service also stops by the hospital.

All buses stop on Thomas Street, although during the COVID-19 pandemic, the Intertown services began routing through the internal roadway inside the hospital. Discussion with the service provider, CDC Broken Hill, has agreed that these services will revert to stopping on Thomas Street.

Due to the low frequency of services and limited catchment, the large majority of staff, patients and visitors are assumed to drive to and from the hospital instead of making use of the bus service.

Infrastructure and Services

The site is presently serviced by electricity, including photovoltaic cells on numerous rooftops on the campus including the main hospital building; water and sewer infrastructure and fire services; telecommunications; and gas through Liquid Petroleum Gas (LPG) tanks.

Two electrical grid supplies exist for the hospital site:

- Supply 1 – Elleoura Lodge, fed from a pole-top Essential Energy 500 kVA transformer on Morgan Street, with a modern Main Switchboard MSB-1 and a backup diesel generator. This supplies the north-western elevated section of the campus.
- Supply 2 – Main Hospital, fed from an Essential Energy kiosk padmount 1500 kVA transformer, with an older Main Switchboard MSB-2 and backup diesel generator. This feeds the main hospital and the Rehabilitation Unit built circa. 2013, and the Mental Health building located on the west side of the campus.

The main hospital building is served by four communications cabinets / rooms, with Comms Room 2 acting as the Building Distributor, with Comms Rooms 1 and 3 as Floor Distributors, and Comms 4 as a Servers room. Comms Room 2 is where the ED data services and outlets are currently connected to. A newer Campus Distributor was built in 2018 in the Elleoura Lodge building.

Various site communication lead-in services have been identified:

- Campus Distributor lead-in from Morgan Street – Telstra Voice Fibre.
- University building lead-in from Morgan Street.
- Main Hospital lead-in from Thomas Street into Comms 4 – HWAN Fibre.
- Copper lead-ins from Thomas Street into residential houses below the existing Far West Mental Health Building.

Water connections to the site exist in six locations around the perimeter of the hospital at Thomas Street (three); Chloride Street (one); and Morgan Street (two).

Similarly, sewer connections for the site are again focussed (due to gravity fed systems) to Thomas Street with three connections and to Chloride Street with one connection.

The existing LPG facilities are dispersed across the hospital site.

2.1.3 Site Considerations and Constraints

Section 10.7 (2) and (5) Planning Certificate No. 18859 dated 10 October 2023 identifies that the site is located within the 'R1 – General Residential zone' under *Broken Hill Local Environmental Plan 2013*, and is provided at **Appendix B**.

Table 1: Section 10.7 Planning Certificate

Affectation	Yes	No
Critical habitat		✓
Conservation area		✓
Item of environmental heritage	✓	
Affected by coastal hazards		✓
Proclaimed to be in a mine subsidence district		✓
Affected by a road widening or road realignment		✓
Affected by a planning agreement		✓
Affected by a policy that restricts development of land due to the likelihood of landslip		✓
Affected by bushfire, tidal inundation, subsidence, acid sulfate or any other risk		✓
Affected by any acquisition of land provision		✓
Biodiversity certified land or subject to any biobanking agreement or property vegetation plan		✓
Significantly contaminated		✓
Subject to flood related development controls		✓

2.2 Surrounding Development

Development and land use surrounding the hospital, and in particular the lower campus addressing Thomas Street, is generally dominated by low-rise low density residential development, predominantly of single-storey in nature. A mix of complementary businesses, including a café, pharmacy, medical centre, and other medical specialists are co-located with the hospital on Thomas Street and other nearby streets, including Sulphide Street near the Thomas Street junction. A selection of photographs that follow highlight the nature and scale of these uses. The hospital adjoins the Southern Cross Care / War Vets aged care facility, which is located at the corner of Bromide and Thomas Streets to the hospital's south-west.

Figure 24 – Typical residential development opposite the hospital on Thomas Street

Figure 25 - Southern Cross Care / War Vets aged care facility located at the corner of Bromide and Thomas Streets

Figure 26 – Typical residential development opposite the hospital on Chloride Street

Figure 27 – Medical Centre, pharmacy, medical consultation rooms, and café opposite the hospital on Thomas Street

3. Proposed Activity

3.1 Proposal Overview

The works subject of this REF involve:

- The development of the new 1-storey 8-bed Acute Mental Health Unit (MHU) building.
- Alterations and additions to the existing Emergency Department (ED) to reconfigure and expand upon its operations and reconfigure its ambulance bay.
- Associated civil engineering works (involving internal roadworks and carpark reconfiguration, and earthworks and stormwater management works). The carpark reconfiguration works have the potential to deliver up to a maximum additional 41 spaces within the lower campus through the proposed Stage 2 car park expansion.
- Associated tree removal in the respective locations of the MHU, ED, car parking and road reconfiguration works within the lower campus.
- Limited services relocation works in the upper and lower campuses.
- New landscaping and replacement tree planting in various locations.

A detailed description of the scope of works, including its proposed staging, is set out further below in this section of the REF. The architectural drawing set and supporting design statement and Connecting with Country report is provided at **Appendix C**. The landscape drawing set and supporting design statement is provided at **Appendix D**.

The location of the MHU and ED works is shown in **Figure 28**.

Figure 28 – Location of the proposed MHU and ED works on aerial photograph (STH)

Indicative renders of the proposed new single-storey MHU and the reconfigured ED entry are shown at **Figures 29** and **30**, respectively.

Figure 29 – Indicative render of the new MHU building (STH)

Figure 30 – Indicative render of the reconfigured ED entry (STH)

Need for the Proposal

The NSW Government is currently leading the progressive renewal of Regional Health assets across the State. The 2023-24 NSW Budget included a $669.8 million funding commitment to develop a State Wide Mental Health Infrastructure Program (SWMHIP) as a targeted investment to support mental health reform and increase capacity in the NSW mental health system.

The SWMHIP objectives are to:

- Support the implementation of key reforms (Richmond Report, Living Well, Fifth Plan, Review of seclusion, restraint, and observation, and Pathways to Community Living).
- Support the change in delivery of mental health services to focus on person-centred holistic, recovery-oriented practice and trauma informed care.
- Support a contemporary model of care for inpatient mental health services, with more effective use of the State's inpatient beds and community-based care to unlock the system and reduce 'bed block'.
- Address the need to deliver mental health services in appropriate therapeutic environments with the right level of security based on the levels of complexity and needs of mental health consumers.
- Provide the infrastructure and services required to support relocation of selected standalone mental health (psychiatric) hospital units to a mix of community and hospital campuses.
- Provide the infrastructure and investment required to support transition of long stay consumers with complex care issues to high quality, community-based services focussed on a person-centred rehabilitation.
- Support mothers to remain with their infants during psychiatric care and prevent the potential detrimental effects of separation on the development of the parent-infant relationship, parental functioning and family wellbeing.
- Provide the infrastructure and investment needed to meet the growth in forensic patients with clear pathways from high security through medium and low secure units to the community.
- Foster and grow effective partnerships in quality mental health services provision across the State, community care and Community Managed Organisations.
- Enhance carer and consumer participation in the design of mental health infrastructure and services through improved opportunities for co-design, as recognised in the Fifth Plan and Mental Health Safety and Quality in NSW: An implementation plan to prevent seclusion and restraint.

The new MHU building will support the achievement of these objectives.

The ED-related works will provide for a more functional facility, enhancing the current department's spaces to comply with the AusHFG. The upgrade will maintain the current location of the ED but will involve a layout reconfiguration and an expansion of the current footprint which will improve the functionality and efficiency of the department.

Proposal Objectives

To that end, the MHU-related objectives are to provide for a range of mental health care options whilst increasing the number of beds from 6 to 8 and thereby expending the provision and capacity of services to meet the SWMHIP.

The Project Objectives for the ED redevelopment are to:

- Offer patients, their families, carers and staff in the remote region access to the best emergency care available.
- Bring the Emergency Department up to contemporary design, safety and security standards particularly in relation to the current Australasian Health facility Guidelines.
- Create a more functional space that better supports and accommodates staff and patient interactions to provide safe and timely access to emergency care.
- Create an environment that respects and supports dignity, cultural differences, privacy, safety and human rights.

- Provide consistency and efficiency of new models of care.
- Provide better value and improve sustainability of health services.
- Provide a sustainable facility to attract staff, stabilising workforce and provision of services.

3.1.1 Design Approach

Placemaking and Design

The following demonstrates how the development will achieve good design in accordance with the seven design principles of *Better Placed – Design Guide for Health* (GANSW / HI, June 2023) and how principles of placemaking have been considered in the design of the works. The following is derived from the STH Design Statement as found as part of **Appendix C**.

Design for Dignity

Maintaining, supporting and enhancing dignity is fundamental to design for healthcare.

The MHU and ED redevelopments have been designed with consumer dignity in mind. Approach, environment and clinical areas have been progressed through the co-design process with an focus on maintaining privacy and dignity of the consumer. In particular, the MHU bedrooms are separated from the roadway and footpath by a fence and landscape buffer. The louvre-style fencing will provide a hard landscaping element to provide the required visual separation between the road, parking and bedrooms. Angled blade fencing, in conjunction with the façade fin elements will control views into and out from the bedroom windows. The angled blades will allow for a degree of visual permeability that doesn't compromise on the privacy of consumers, restricting clear views into consumer rooms.

Design for Wellbeing

Well-designed health facilities and places contribute to the wellbeing of patients, visitors and staff. Connections to the natural environment are particularly important.

Design for the MHU has focused on maintaining connections to the natural environment. Within the limitations of the secure consumer zone, an emphasis has been placed on connection to the environment while ensuring privacy and security considerations are satisfied. The ED waiting area connects directly to the adjacent landscaped forecourt, improving the current enclosed waiting space by providing linkages to external environments.

Design for efficient and flexible delivery of care

Health facilities are places of highly skilled, demanding and complex work. The design of physical infrastructure of these places must support busy people undertaking difficult, demanding and stressful tasks and providing complex clinical care.

Both the ED and MHU have been designed to provide efficient delivery of healthcare services. Mindful of the limitations of staff availability in regional areas and the budget requirements, the design response is enhancing clinical care and capacity with current staffing levels maintained.

Design with Country

Designing with Country means putting the Aboriginal experience, concept and expression Country at the centre of the design processes.

The design team and HI have engaged with the region's Indigenous community regularly through the design process to ensure the clinical and staff areas are appropriate and welcoming for the Aboriginal community. Please refer to the Connecting with Country Report and the separate HI Communications Report for details of this engagement process.

Through the concept design stage of the Broken Hill Hospital Redevelopment we have attended two Aboriginal Focus Group sessions hosted by the local Indigenous community at Maari Ma Health Aboriginal Corporation in addition to a presentation to the Broken Hill Aboriginal Working Party. Further feedback from Aboriginal representatives was provided during the Arts Working Group on the cultural background of the community with knowledge sharing around cultural elements, totems and the interaction between Indigenous groups and more recent cultural arrivals.

The focus group were provided with an overview of the design progress to date, with plans, 3D representations and architectural visualisations provided to communicate the design intent.

Key concepts of the design were discussed, with perspectives provided by the cultural representatives around the function of the space, shared experiences and important design considerations. The design discussion covered not only the architectural form, but models of care, Aboriginal employment opportunities, landscape response and integration of the community based mental health team.

As the design progresses, it is important that the engagement with the Broken Hill Aboriginal community is maintained to ensure design integrity and cultural appropriateness is realised in the built outcome. Further, information sessions and workshops will continue as the design process progresses, enabling community engagement and integrating design feedback.

Design for the neighbourhood and surrounding environment

Health facilities contribute to the public spaces of our cities, towns, suburbs and regions.

Although largely contained within the existing hospital grounds, significant upgrades to the internal circulation roadway are included in the redevelopment, improving pedestrian and vehicular approaches to the hospital and connection with the community.

Design for connection

Health facilities are important nodes within urban, transport, community and health networks. The design of facilities should enhance connection and catalyse the development of these networks.

The upgraded circulation roadway will improve connections of the hospital to the surrounding community and adjacent health services both within and adjacent the hospital site.

Design for sustainability

Green building, places and precincts improve individual health outcomes for patients, staff and visitors by providing optimised interior environments, improved air quality and a reduction in the toxins associated with construction. Well-designed green building also have a well-documented positive effect on physical and mental health and wellbeing. This, in turn, reduces the societal cost of health care.

The new MHU build is designed with environmental principals at the forefront. Natural light and ventilation has been considered through the design process, with solar orientation, thermal performance and other passive design principals being included within the envelope. The ED refurbishment is more limited in scope due to the refit being substantially within the existing envelope, but new mechanical and electrical systems being installed will provide improved efficiency within the current hospital.

See also the separate discussion below in relation to Sustainability and Climate Resilience and how sustainability principles have been incorporated into the activity and compliance with the requirements of DGN 58/HI Sustainability Framework, including Section 2.5.6 of the Health Infrastructure Engineering Services Guidelines has been satisfied.

In terms of the **Crime Prevention Through Environmental Design (CPTED) Principles**, STH has advised as follows with respect to its design decisions.

Surveillance and Visibility

The proposed MHU and ED extension is set back from the street. This creates clear sidelines from the entrances to the street.

Additionally, each of the sets of works / activity forms parts of a highly accessible part of the hospital campus with direct through flows of traffic and pedestrians. High levels of passive surveillance occurs in these locations.

Access Control

Shared spaces will be secured from public via key/electronic access control. Residents of the accommodation units will have access to these areas. The sight-lines from the street to the complex are relatively clear, further discouraging intruders.

Further, it will be clear and obvious which areas of each component of the works is accessible for the general public and those areas which are not and area segregated specialist treatment areas.

Territorial Reinforcement

Landscape treatments will further define the boundary between public and private space, discouraging accidental thoroughfare through this area.

Space Management

The use of aluminium profiled cladding reduces the effective surface area for graffiti. The material choices require minimal upkeep. This will allow the units to look newer for longer, reducing the chance of vandalism.

Lighting

The pedestrian pathways to the units will be lit. The entrance gates to the units and shared space will be illuminated to deter intruders. The lighting will be provided by energy efficient fittings with switches to save energy.

Connecting with Country 2023 / Engagement

A detailed Connecting with Country report has been prepared by STH, addressing the original Connecting with Framework by the NSW Government Architect (May 2017) as in place at the commencement of the engagement process, as well as the recently released Connecting with Country Framework (June 2023). This forms part of the STH Architectural Design Statement. The following is derived from that statement at **Appendix C**.

The Wilyakali people traditionally occupied the lands around Broken Hill and visited the Paakantji people on the Menindee Lakes in the Darling Riverine Plains Bioregion each year. The three major language groups for the Broken Hill Region are the Paakantji, Mayyankapa, and Nyiimpaa. Today the Wilyakali people of Broken Hill are still the main Aboriginal group in Broken Hill, although there are a number of Aboriginal people that come from other language groups.

The Aboriginal community of Broken Hill continue to look after their traditional lands and are joint managers of the Mutawintji National Park which is the first national park handed back to the traditional owners in NSW. The Aboriginal population of Broken Hill changes reflecting the seasons and climatic conditions. During extended dry periods, the surrounding communities move to Broken Hill, increasing the population of the township. The Broken Hill project is situated on Wilyakali country. The Wilyakali ‘tribal’ and linguistic boundary extends from Broken Hill west into South Australia and covers an approximate area of 21,000 square kilometres.

At the outset of the project, the importance of Indigenous integration into the design process and outcomes was identified. Indigenous guidance and local knowledge is critical to the success of providing an appropriate design response, emphasising design longevity and future use.

Assisting the design team to provide best practice engagement, principles and protocols from the Connecting with Country framework (GANSW June 2023) and the Australian Indigenous Design Charter (2017) have been adopted. Guiding the engagement are the principles outlined in the Australian Indigenous Design Charter. The following points have been adopted to ensure cultural safety for participants and the design team for the life of the engagement.

- **Indigenous Led**: Ensure Aboriginal and Torres Strait Islander representation in the creation of the design.
- **Community Specific**: Ensure respect for the diversity of Aboriginal and Torres Strait Islander culture by following community specific cultural protocols.
- **Impact of Design**: Always consider the reception and implications of all designs so that they are respectful to Indigenous culture.
- **Shared Knowledge (collaboration, co-creation, procurement)**: Develop and implement respectful methods for all levels of engagement and sharing of Indigenous knowledge.
- **Legal and moral**: Demonstrate respect and honour cultural ownership and intellectual property rights, including moral rights, and obtain appropriate permissions where required.

The Design Team have learned from the design and engagement process to date resulting in the development of broader connections with representatives of the local Aboriginal community.

This engagement process has been collaborative and well supported by these representatives. Further connections with Wilyakali Elders will be established as the project progresses through to its conclusion.

In the context of the Connecting with Country Framework and its Design Principles, STH has advised as follows within its Connecting with Country report.

STH engaged with the local Indigenous community. The design program endeavoured to incorporate the dynamic relationships of culture, community and identity that characterise the Aboriginal concept of country.

Country includes both living and non-living elements, holding everything within the landscape including Earth, Water and Sky Country, as well as people, animals, plants and the stories that connect them.

The engagement process proceeded with an emphasis on Cultural safety, seeking to create an environment where Cultural awareness, respect and sensitivity was fostered. STH sought guidance from the Aboriginal community at key points along the design process to integrate cultural connections and considerations in the design response.

The team commits to the following outcomes of a Country-centred approach:

Healthy Country

The design response will encourage a healthy, interconnected natural ecosystem supported by regenerative practices based on Aboriginal knowledge.

Healthy Community

As a design collective, the project considers the Aboriginal experience for both staff and community, supporting connection to cultural identity, creating positive health and wellbeing.

Protecting Aboriginal Cultural Heritage

Through the engagement process, Aboriginal cultural guidance was sought and will continue to be provided as the project progresses.

Cultural Competency

The design team approach the Connection with Country framework with a commitment to developing deeper cultural awareness.

Better Places

Within our approach, we work with a Country-centred focus to create better places, inform sustainable designs and integrate with the broader landscape to form place-based design responses, creating welcoming and accessible places.

Sustainability and Climate Resilience

The proposed works / development has incorporated sustainability principles in compliance with the requirements of DGN 58/HI Sustainability Framework, including Section 2.5.6 of the *Health Infrastructure Engineering Services Guidelines.* This covers such matters as management, indoor environment quality, energy, water, waste, transport, emissions, ecology, and innovation.

The project is targeting a self-certified approach to achieve ‘Australian Best Practice’ level, which is equivalent to 50 points out of 110 available, being 45 points + 5 buffer points (4-star Green Star equivalency rating). The project achieves 52 low/mid risk points in relation to the MHU, whilst the ED component is able to achieve 54 low/mid risk points. A minimum 10% improvement in energy efficiency compared to a baseline of NCC Section J compliance is also applicable to the development.

3.1.2 Proposed Activity

The works subject of this REF involve:

- The development of the new 1-storey 8-bed Acute MHU building.
- Alterations and additions to the existing ED to reconfigure and expand upon its operations and reconfigure its ambulance bay.
- Associated civil engineering works (involving internal roadworks and carpark reconfiguration, and earthworks and stormwater management works). The carpark reconfiguration works have the potential to deliver up to a maximum additional 41 spaces within the lower campus under a later Stage 2 scope of works as covered by this REF assessment.
- Associated tree removal in the respective locations of the MHU, ED, car parking and road reconfiguration works within the lower campus.
- Limited services relocation works in the upper and lower campuses.
- New landscaping and replacement tree planting in various locations.

Figure 31 provides an overview of the scope of works with **Figure 32** showing this in indicative terms on a recent aerial photograph.

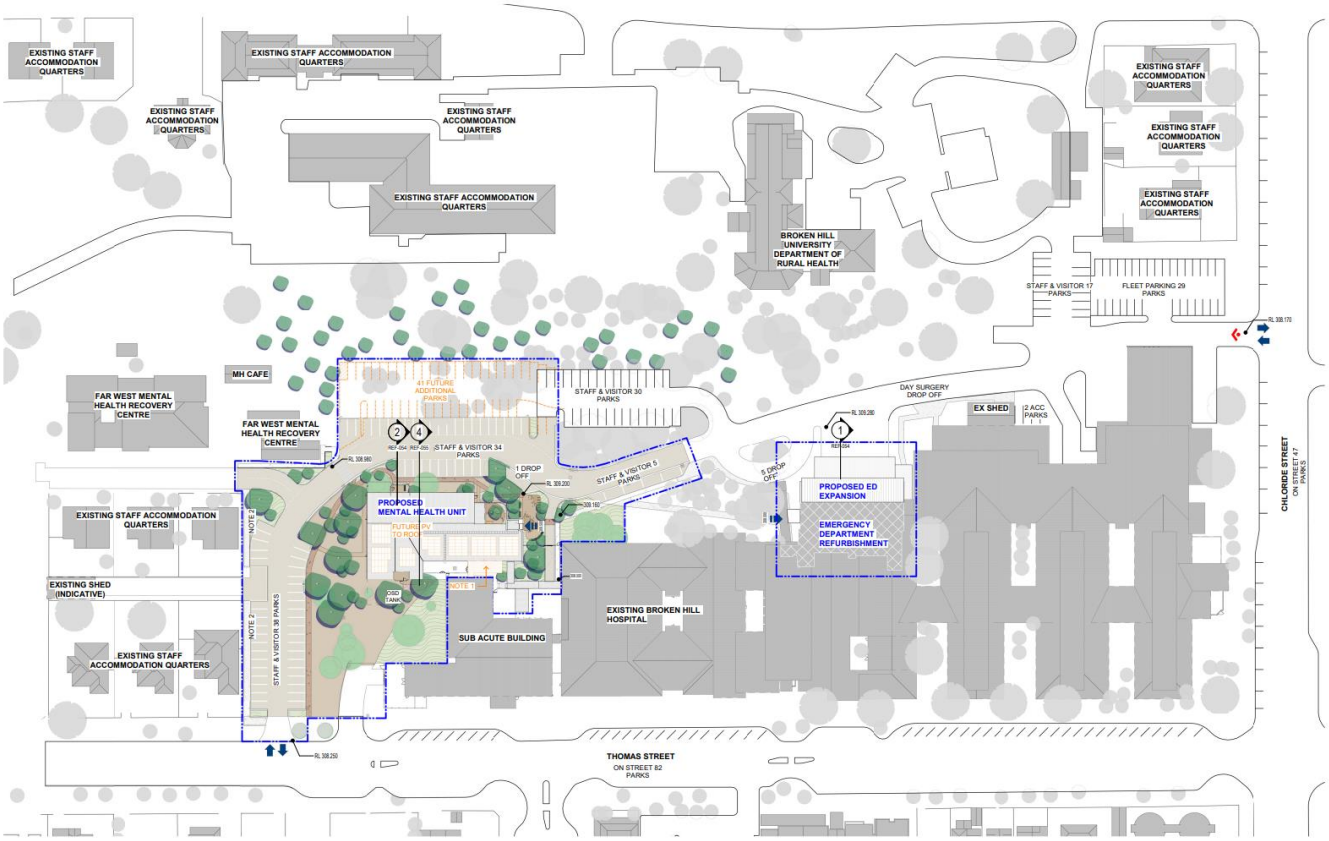

Figure 31 – Overview of the proposed scope of works as completed (STH)

Figure 32 – Indicative locations of the ED and MHU scopes with the MHU footprint generally shown in blue

Built Form

The following sets out the built form of the respective components of the works.

MHU

The proposed MHU is a single-storey building with a maximum building height of 7.75m above existing ground level. The predominant building height is lower at about 5m to 6m. This is well within the required 15m threshold for the Development without consent approval pathway.

The total GFA of the building is some 700m^2 based on the project brief's schedule of accommodation.

The building addresses Thomas Street to the hospital's southern boundary, but is substantially setback from that boundary by some 40-45m. Again, this is well within the required setback threshold of 5m in this instance (given the R1 zoning of the site and surrounding land) for the Development without consent approval pathway. The building will be partly concealed from view from Thomas Street as it is nestled behind the existing Sub-Acute IPU building and its landscaped curtilage. The predominant view from Thomas Street will be an oblique view of the south-western corner of the building.

Components of the building comprise:

- Entry, reception and waiting area off the internal hospital road.
- In-patient unit, including 8-beds and treatment spaces.
- Staff and clinical supports areas.
- External Courtyards and internal activity and recreation areas.
- Photovoltaic cells (some 130 units in total) set onto the building's rooftop (as part of Stage 2).

A future enclosed link from the Sub-Acute IPU building to the new MHU is also proposed as part of Stage 2 works.

The building includes new landscaping and courtyards which are addressed in the landscaping scope below.

The MHU's materials and finishes are proposed to be durable and with an appearance in keeping with the general setting and landscape of Broken Hill. The façade addressing public areas of the hospital and Thomas Street will incorporate metal and vegetated screening, rammed earth and metal clad walls, red and blonde bricks, Colourbond metal fascia and roofing, and artwork panels and features.

Figures 33 to 39 show the location of the proposed MHU and the proposed plans, sections, and elevations of the building, along with the proposed materials and finishes.

Figure 33 – Location of the proposed MHU looking from east to west within the lower campus

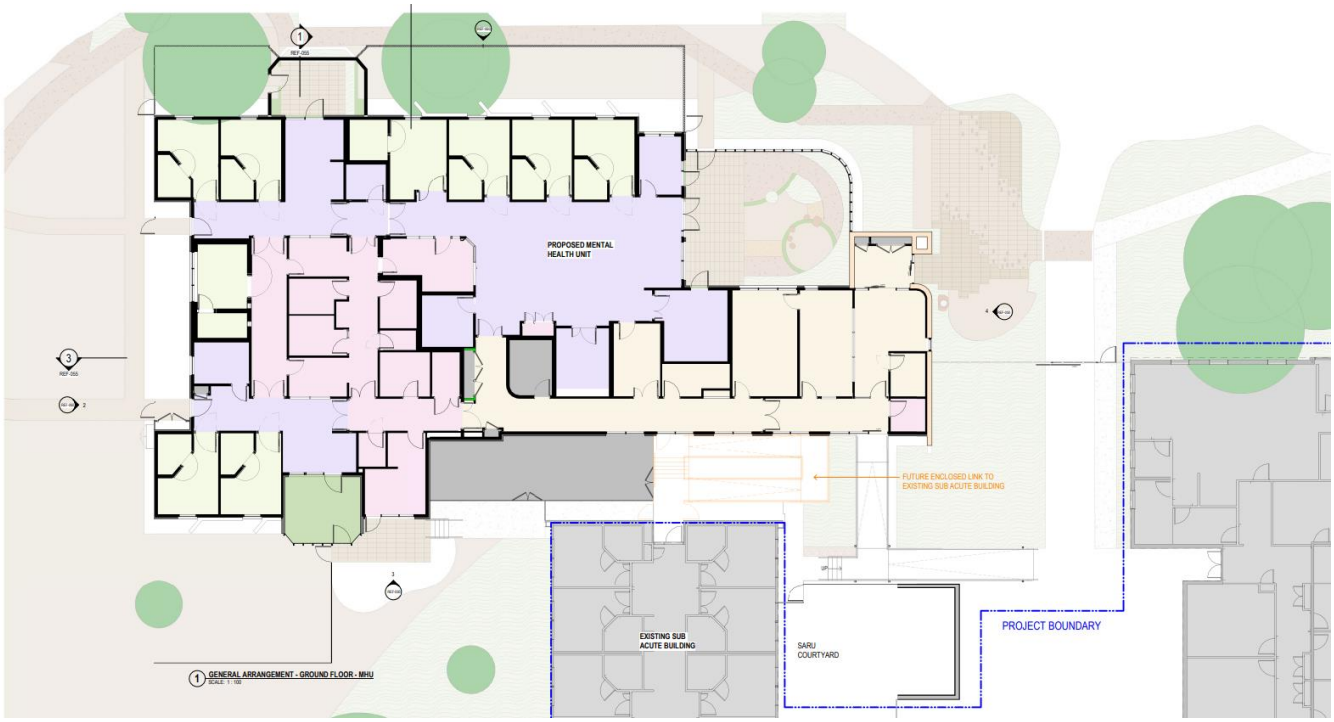

Figure 34 – Proposed floor plan of the MHU (STH)

Figure 35 – Proposed North and South elevations (STH)

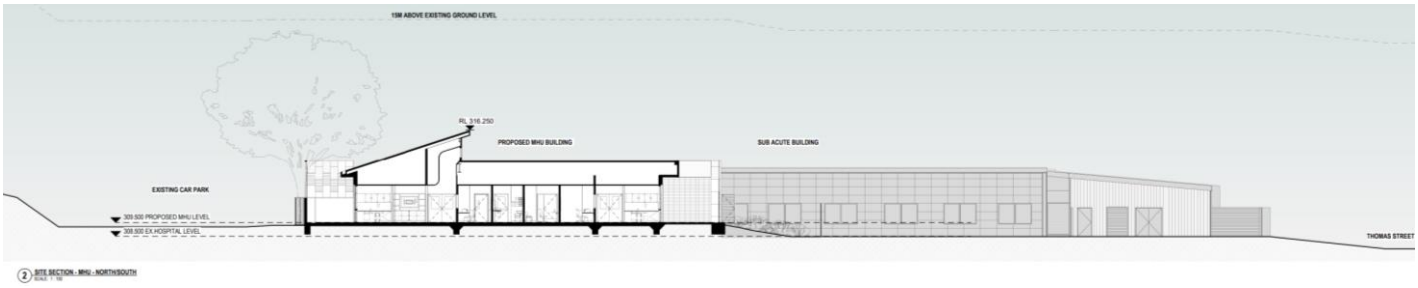

Figure 36 – Proposed Section (STH)

Figure 37 – Materials and Finishes – Entry Pavilion (STH)

Figure 38 – Materials and Finishes – Car Park / Bedroom Interface (STH)

Figure 39 – Materials and Finishes – Main Courtyard (STH)

ED

The proposed ED extension maintains the single-storey form of the existing main hospital building and has a maximum building height of 4.95m above existing ground level to the top of the extended / new ambulance bay canopy. The predominant building height of the extension of the ED itself is lower. This is well within the required 15m threshold for the Development without consent approval pathway.

The existing GFA of the ED itself is some 400m^2 with the extension adding 220m^2 of new floor space.

The building itself extends inwards into the hospital and is not visible from any of the road frontage boundaries of the hospital. At its closest point the extension would be some 110m from Chloride Street (with other buildings set in between) or 85m from Thomas Street with the entirety of the main hospital building between the ED and Thomas Street. Again, this is well within the required setback threshold of 5m in this instance (given the R1 zoning of the site and surrounding land) for the Development without consent approval pathway.

Components of the ED works comprise:

- New public entry, reception and waiting area off the existing accessway to the main hospital building's rear from within the hospital.
- Modified ambulance bay, including additional and relocated ambulance entry points into ED.
- New or extended ambulance bay canopy over the ambulance bay.
- Reconfiguration of internal ED staff, treatment and circulation areas.
- A provision of new and enlarged areas for procedures, isolation bed, safe access, resuscitation bays circulation and storage within the ED expansion itself.
- Photovoltaic cells relocated from the existing ED rooftop onto set onto the extension's rooftop.

Materials and finishes of the ED-related works would maintain the existing metal-framed finish for the canopy and terracotta-coloured bricks or cladding for the new ED expansion façade.

Figures 40 to 45 show the existing location (internal and external to the ED) as well as the proposed plans, sections, and elevations of the ED expansion and the reconfigured ambulance bay canopy.

Figure 40 – Location of proposed works within the existing ED

Figure 41 – Location of proposed extended ED and relocated ambulance bay

Figure 42 – Existing ambulance bay and canopy

Figure 43 – Proposed ED expansion and reconfiguration floor plan (STH)

Figure 44 – Proposed ED West and North Elevation (STH)

Figure 45 – Proposed ED West and North Section (STH)

Demolition

The demolition scope (see **Figure 46**) involves the following:

- Removal of non-structural and partition walls within ED and removal of existing fixtures.
- Demolition of part (or all) of the existing canopy over the ambulance to enable the new ED expansion roof and new canopy over the ambulance bay.
- Demolition of part of the ambulance bay / driveway to adjust grades to meet required ambulance clearance heights.
- Removal of part of existing internal roadway from the rear of the main hospital building to Thomas Street, noting a short section of the existing Thomas Street connection is to remain to allow ongoing servicing of the Sub-Acute IPU building's back-of-house from Thomas Street, e.g. bulk medical gases deliveries.
- Removal of 38 at-grade formal parking spaces and a number of informal parking spaces, as well as tree removal as described separately below.

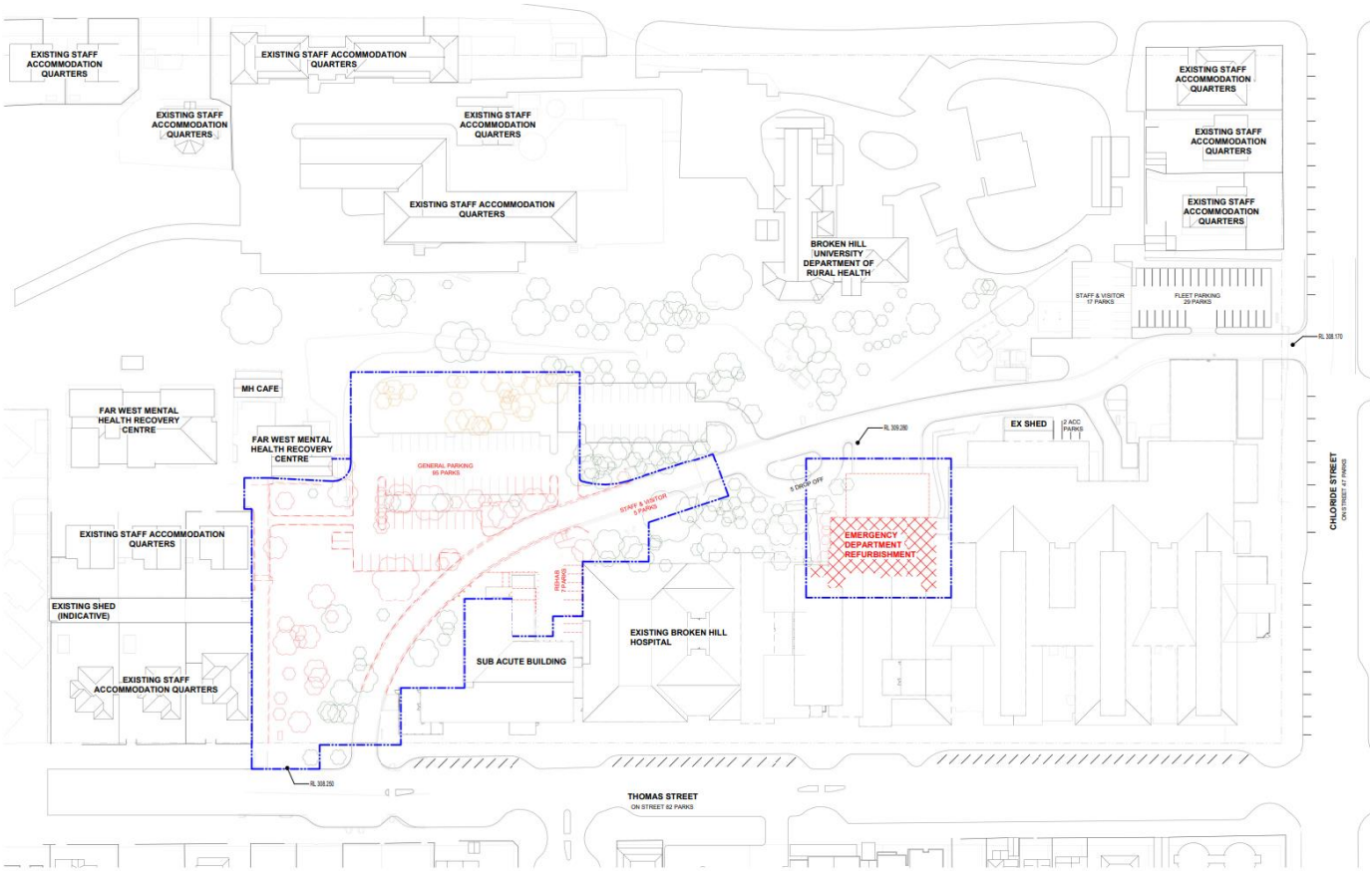

Figure 46 – Demolition Plan (STH)

Earthworks / Civil Engineering

Bulk earthworks are required to provide for the Stage 1 and Stage 2 works as shown in **Figures 47** and **48** and as otherwise included in TTW's civil engineering package at **Appendix E**.

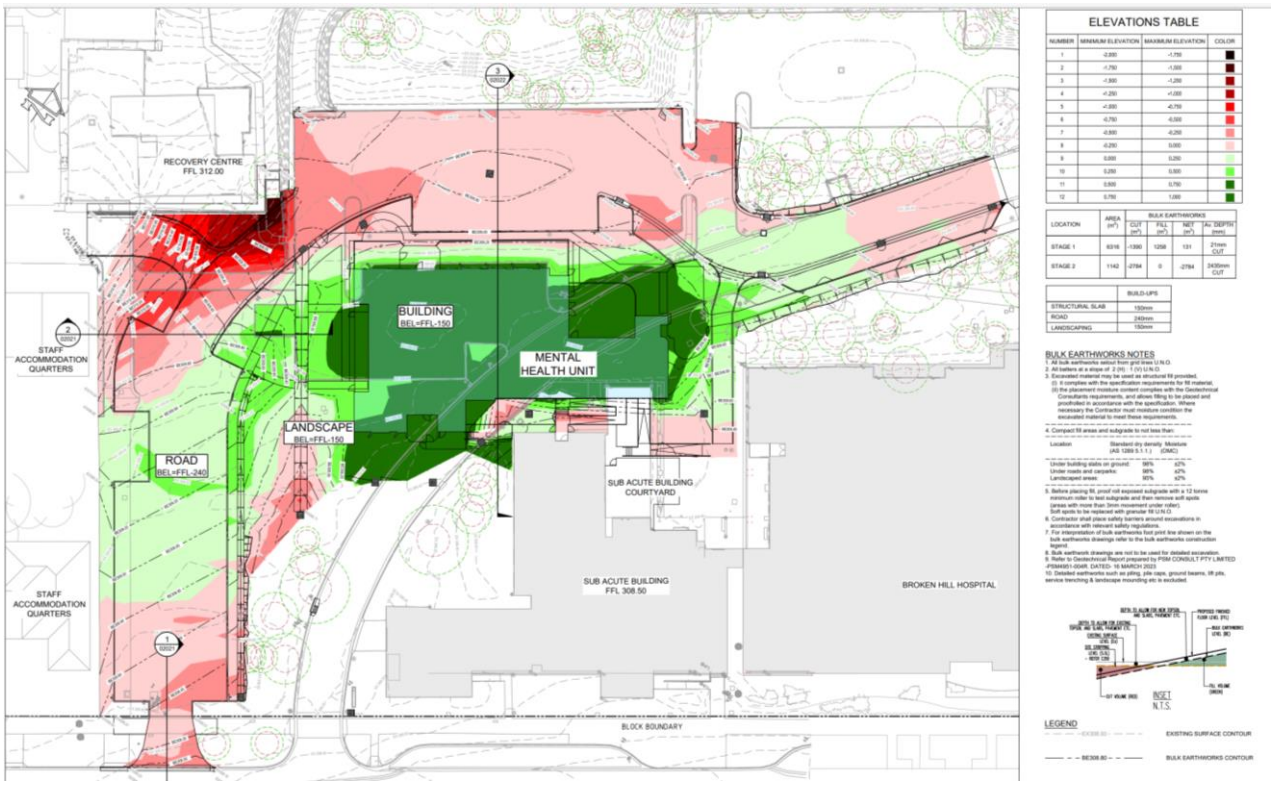

Figure 47 – Cut and fill / Bulk earthworks plan (TTW)

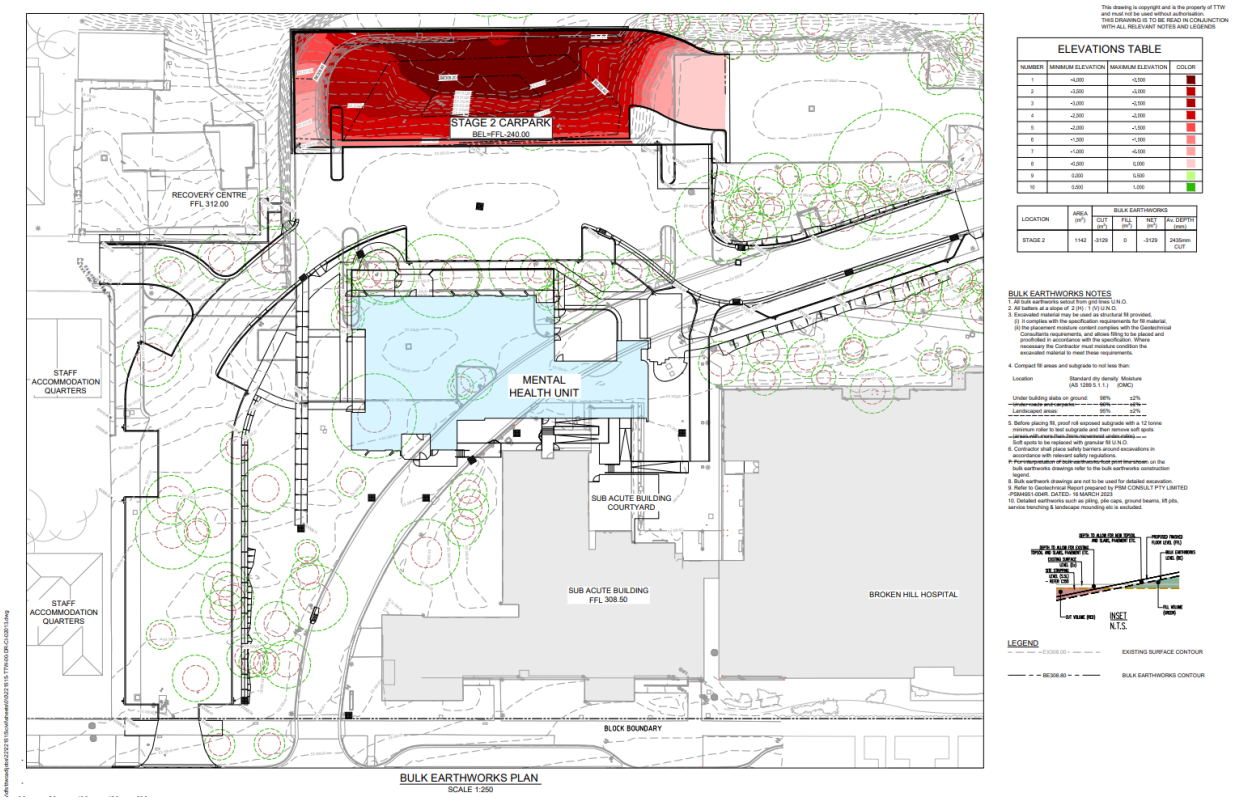

Figure 48 – Cut and fill / Bulk earthworks plan – Stage 2 (TTW)

The required cut for the Stage 1 works is 1,390m^3 with 1,258m^3 of fill required. The result is a cut/fill balance of some 131m^3. The average depth of cut here is a modest 21mm.

The Stage 2 car park works requires a more significant amount of cutting to level the site for the at-grade car park. The average depth of excavation in this location (as shown in **Figures 48** and **49**) is 2,435mm or 2.4m. In this location the volume of excavated material is estimated by TTW to be 3,129m^3.

Some minor cut and fill is proposed adjacent to the ED to cater for the regraded ambulance bay and new canopy clearance, which is in effect the equivalent of minor resurfacing works in this limited location.

The TTW civil engineering scope also includes:

- New stormwater collection, detention, and diversion.
- New pavements.
- Civil engineering aspects of site access and roadways.

New stormwater management works are proposed to redirect stormwater and overland flow around the MHU via the new accessway towards existing drainage within the Thomas Street road reserve. Due to additional impervious area being created, the Stage 1 works will involve a new on-site detention (OSD) tank of 60m^3 to the south of the MHU to cater for up to 1 in 100 year storm events. The Stage 2 works will require an additional OSD with a capacity of 35m^3 to limit post-development water flows.

Water quality works treatment is proposed through the use of rainwater tanks and swales.

Figure 49 – Location of the proposed Stage 2 works – new at-grade car park

Remediation Works

Remediation works are triggered in relation to found bonded asbestos containing material (ACM) in surface soils in one location only within the area of works of the MHU. A Remediation Action Plan (RAP) and Asbestos Management Plan (AMP) have each been prepared to address ACMs, as well as for data gaps in the investigation for areas outside of the MHU and ED footprints (including the Stage 2 car park area). Any remediation required once those data gaps have

been resolved is at this point likely to be Category 2 Remediation Works and therefore able to avoid the need for a DA. This is subject to further confirmation at the relevant time, if required.

At this stage it is assumed the remediation scope would be limited to an 'emu-pick' to remove any visible bonded ACM on the ground surface. This will be confirmed in the supplementary investigations to close the data gap.

Roadworks and Parking

The development of the MHU and the resultant proposed roadworks to realign and redirect the internal accessway will directly result in the loss of 38 formal car parking spaces. The 38 removed spaces will however be able to be relocated and replaced further to the west of the proposed MHU, resulting in a net neutral balance of parking.

The existing accessway to Thomas Street running along edge of the staff accommodation (see **Figure 50**) will be formalised as a two-way route with perpendicular parking. The connection to Thomas Street (across the road reserve outside of the hospital boundary) will be augmented in this location.

The existing accessway and connection to Thomas Street adjacent to the Sub-Acute IPU building is to be punctuated and terminated just beyond where existing access to that building's back-of-house is required for servicing. To that end, existing services access is maintained.

Stage 2 at-grade car park

The Stage 2 at-grade car park is able to cater for an additional 41 formal car parking spaces and the necessary circulation space. TTW advises that battering will be required in this location due to the resultant height of the residual land following the excavation works.

Figure 50 – Existing accessway alongside staff accommodation to be formalised and augmented with parking

Tree Removal and Landscaping

Tree Removal

The site of the works contains some 215 trees – six (6) of which have been identified by the project arborist as 'dead'. The works related to the ED, MHU and the roadworks and car parks will require the removal of 38 trees. The Stage 2 at-grade car park works will require removal of a further 31 trees. In total, across all stages of works, 69 trees are

proposed for removal. Accordingly, including the removal of the dead trees, the resultant retention of trees totals 140 within the areas subject of these works.

Based on the HI Canopy Tree Replacement policy for new plantings at a ratio of 'better than 1:1', it is proposed to plant 48 trees as part of Stage 1 (a ratio of 1.26:1) and plant 36 trees under Stage 2 (a ratio of 1.16:1). Overall, some 84 new trees are proposed to address the loss of 69 trees. This equates to the replacement ratio of 1.22:1, satisfying the HI policy.

The proposed tree removal / tree retention plan based on the Arboricultural Report at **Appendix F** is set out below in **Figure 51**.

Landscaping

With respect to the new landscaping at the site, the key design consideration and objective is to provide an ecologically robust and naturalistic setting for staff and patients to work and recover in. The design intent is informed by the GANSW Greener Places Design Guide (2020), the Design Guide for Health (2023), Crime Prevention Through Environmental Design (CPTED) principles, and the HI Canopy Tree Replacement policy. The architectural and landscape design process has collectively applied the Connecting with Country framework as set out earlier in this REF.

GANSW Greener Places provides guidance for the design of sustainable and resilient public spaces. The guideline aims to support the creation of high-quality public spaces that enhance the health and wellbeing of local communities, support biodiversity, and mitigate the impacts of climate change. The three key tenets for achieving this accommodating a range of opportunities for Open Space and Recreation; preserving and enhancing Tree Canopy to cool places, shade and shelter and support wildlife; and green infrastructure to contribute to biodiversity conservation by providing habitats or establishing connections between habitats and populations in Bushland and Waterways.

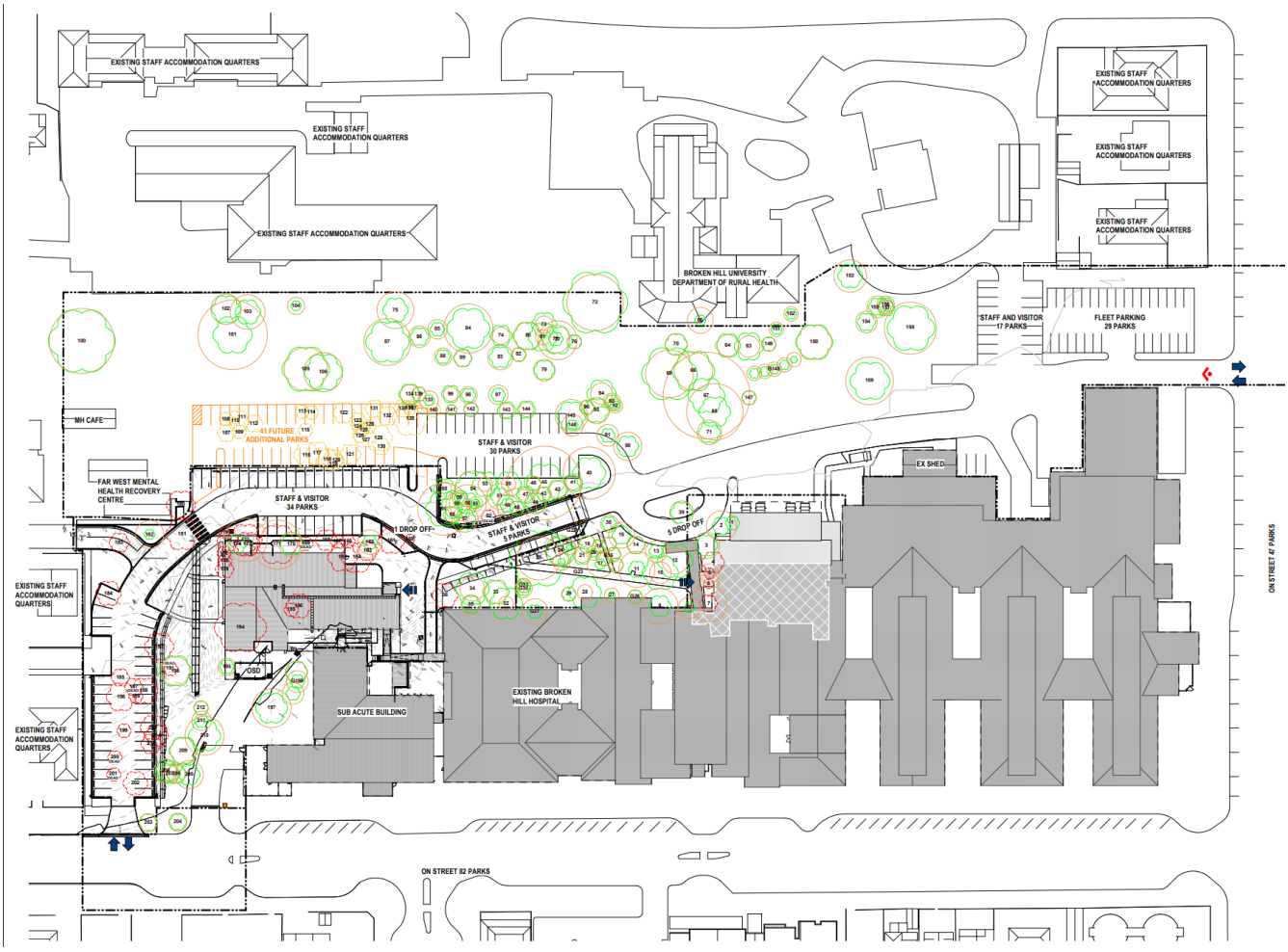

Figure 51 – Tree removal / tree retention plan (Taylor Brammer)

Taylor Brammer has addressed these three principles and advised how the proposed activity meets the guideline's requirements, noting a focus on tree canopy and green infrastructure as the most relevant in the circumstances tied to the type and nature of the MHU use and the scope of landscaping:

1. Integration - The integration of green infrastructure with urban development is considered through focusing on creating a contemporary healing and public domain outcome that directly responds to the natural typologies and landscape character of Broken Hill through considered selection of plant species and materiality.

2. Connectivity - The creation of an interconnected network of open space within the existing Broken Hill Hospital site is achieved through maintaining pedestrian access to the existing Far West Mental Health Recovery Unit, Emergency Department and the main hospital adjacent.

3. Multifunctionality - The landscape design delivers multiple ecosystem services simultaneously through the integration of local cultural values that aid in creating a positive healing environment. The proposed landscape spaces maximise amenity for consumers with flexible active and passive opportunities for healing, contemplation and restoration.

4. Participation - The landscape design encourages stakeholders in the site's development and implementation. Plant species will continue to be developed up alongside future feedback from community. The allowance for planting by consumers and the local community further integrates the community in the development of Broken Hill Mental Health Unit, strengthening ownership of the space through the integration of culturally significant species.

Overall, the design proposal consolidates the existing dispersed low rise buildings to provide a community health precinct with quality open passive and cultural outdoor spaces that deliver quality of life to consumers, staff and the overall community. These landscape environments create a focus for community activity and engagement whilst offering ecological, socio-cultural, and economic benefits.

The Design Principles are centred on:

- **Natural Patterns** - Integrate the natural patterns of the place.
  - Create outcomes that are site specific.
  - Consider the climatic changes of the place and provide shelter in summer and sun in winter.
  - Provide shelter from prevailing winds.
  - Utilise the natural topography of the site to focus and store water in ground.
- **Vegetation Mass** - Retain existing trees and increase shade cover.
  - Retain existing trees wherever possible.
  - Add to the existing tree canopy through new planting strategies.
  - Utilise the naturally occurring planting to embellish the place.
- **Calm and Restorative** - Create calm and restorative places for people.
  - Prioritise aspect of open space and comfort levels in the landscape.
  - Provide functional access.
  - Create a range of activities externally for consumers to engage with.

The proposed landscaping is primarily focussed on the new works at and around the MHU. There is limited opportunity for new landscaping adjacent to the ED. The expansion of the ED will require removal of four (4) of the initial 38 trees to be removed. These will be offset within the lower campus. Supplementary shrub and ground cover planting endemic to the region is proposed adjacent ED, enhancing local floristic diversity and visual amenity to this area. This is able to be delivered separately as Exempt Development is desired or required.

The proposed landscape plan is shown in **Figure 52**.

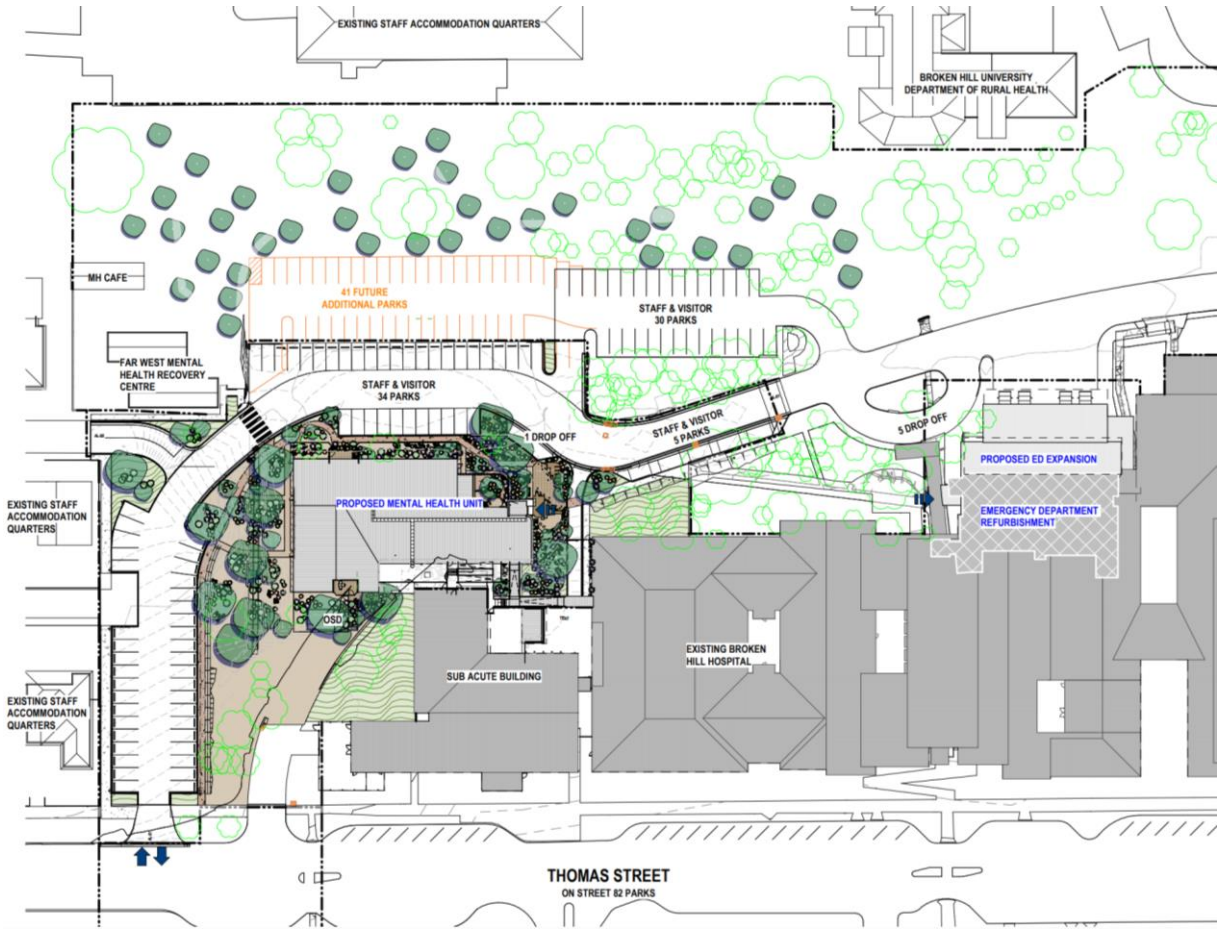

Figure 52 – Landscape Plan - inset (Taylor Brammer)

The proposed landscape design provides for the retention of existing gardens and plantings and augmentation of these within the MHU and its curtilage of a new entry plaza with seating; a main internal courtyard; landscape buffer planting to screen the interface with the car park; secure breakout spaces; and informal tree plantings with understorey as a shaded buffer to the west of the building.

Utilities

Given the modest increases in bed / treatment space numbers across the two components of the works, Warren Smith Consulting Engineers advises that existing water supply and sewer discharge connections will be retained for the proposed works. Essential Water has advised both utility water and sewer mains have available capacity for the minor increase in flow – see the Warren Smith Consulting Engineers report and drawing at **Appendix G**.

Further, as part of MHU works the existing fire hydrant booster assembly in Thomas Street will be relocated to coordinate with the new site layout. The booster assembly will be reconfigured to include the demand for the new sprinkler system. Similarly, as part of ED works the existing fire hydrant pipework in the footprint of the new ED expansion will be relocated to avoid reticulation under the building. The existing fire hydrant in front of ED will require minor coordination with the new ED footprint.

No additional gas load is required for the ED extension or the new MHU building. This will be co-ordinated further with the design team in a later stage in case the cooking and laundry load increases.

Steensen Varming's Electrical and ICT Infrastructure Plan / Report is found at **Appendix H**. It indicates that a range of works will be required to service the project from a power and communications perspective.

These include:

- A new electrical transformer / substation (to be provided by Essential Energy outside of the scope of this REF and via a separate REF by Essential Energy).

- Works to Main Switchboards 1 and 2.
- Additional photovoltaic cells to both ED and MHU (with MHU delivered as part of Stage 2).
- Diversion of submains power within the campus to feed the new MHU.
- Coordination with Telstra to relocate pits and services as needed due to works in or near Thomas Street.
- New Comms rooms and new fibre-optic links for each of the project components.

Staging

It is intended the above works will be delivered in three (3) stages.

The anticipated construction stages are generally described as follows:

- Stage 1a – Mental Health Unit
- Stage 1b – Emergency Department Upgrade
- Stage 2 – Construction of Northern Car Parking spaces, SARU link, PV cell and additional landscaping

Stages 1a and 1b are proposed to be undertaken in parallel with the construction duration approximately 18 months commencing from Q2 2024 with the ED works likely to take longer due to the need to keep the existing facility operational throughout the upgrade works.

Stage 2 will also be undertaken within the above timeframe.

3.2 Proposal Need, Options and Alternatives

3.2.1 Strategic Justification

The MHU project is justified from a strategic case standpoint as it is part of a broader, whole-of-system reform to strengthen the delivery of mental health care in NSW. The proposed objectives and identified benefits of the SWMHIP align with the strategic objectives of various Australian and NSW Government priorities and frameworks. Projects of the SWMHIP are aligned to the following plans informing the service and Program planning activities:

- Roadmap for National Mental Health Reform 2012 – 2022 (2012)
- Fifth National Mental Health and Suicide Prevention Plan (2017)
- NSW Premier's Priorities (2018)
- NSW State Health Plan: Towards 2021 (2014)
- NSW Strategic Framework for Mental Health 2018-2022 (2018)
- NSW Mental Health Workforce Plan 2018-2022 (2018)
- Draft NSW Forensic Mental Health Strategic Plan 2016-2026 (2016)
- The eHealth Strategy NSW 2016-2026
- Strategic Plan for SWMHIP (2018)

The Broken Hill Hospital Redevelopment Project is aligned with the strategic directions of the NSW Government, NSW Ministry of Health (MoH) and FWLHD. A summary of the key policy and planning frameworks in each of these stakeholders is provided in the following table (as derived from the project's business case):

NSW Government	• Keep people healthy and out of hospital • Provide world class clinical services with timely access and effective infrastructure • Delivering truly integrated care • Access to high quality care for rural populations
NSW Ministry of Health	• Keep people healthy, provide world class clinical care, and deliver truly integrated care • Support and develop the workforce, support and harness research and innovation, enable e-health, and design and build future-focused infrastructure
Far Western NSW Local Health District	• Improving the health and wellbeing of the Broken Hill Community • Providing reliable and contemporary healthcare • Building partnerships, better value and sustainability for health services

The ED-related works are justified as the new (expanded and reconfigured) facilities will be a catalyst for a more efficient and safer ED. In the same manner as the MHU, the project is aligned with the strategic directions of the NSW Government, NSW Ministry of Health and the FWLHD.

Overall, the ED works promote the following positive outcomes:

- A direct and dedicated arrival point to the Emergency Department.
- Larger footprint (circa 25% increase) required to accommodate required services to meet AUSHFG requirements.
- Open plan, waiting space allowing for better observation.
- Circulation space to be increased to meet AUSHFGs.
- Triage - improve line of sight / size issues.
- Two additional treatment bays.
- Safe assessment room / CAMS - Forensic/Sexual Assault area provided - integrated assessment, interview and response for the local Level 4 Sexual Assault service.
- Improvement of capacity to respond to disaster/mass casualty events by provisioning for temporary care areas external to the Emergency Department.
- Enhanced Disaster response.
- Air Conditioning system improvements including negative pressure to isolation room.

3.2.2 Alternatives and Options

An overview of the alternatives, and an identification of the preferred alternative, for the Proposal are provided within Table 2 over.

Table 2: Alternatives considered for the proposal

Alternative description	Advantages and disadvantages	Preferred alternative
MHU - Shortlist		
• Option A: West of the facility, adjacent the Sub-Acute IPU Rehabilitation building.	**Advantages:** Option A, provided the best on-balance response to planning, environmental, infrastructure and cost considerations. Importantly, it also provides the best opportunity for Connection to Country and has been well supported by the stakeholders and the community. Future proof – Design allows for future vertical & horizontal development without impeding campus Masterplan. Provides privacy and security for patients Availability of courtyard areas, low exposure to traffic and other negative external factors. **Disadvantages:** None as assessed.	Preferred
• Option B: Development of the MHU above the existing Emergency Department.	**Advantages:** Close proximity to Emergency Department, provides functional facility. Provides privacy and security for patients **Disadvantages:** Does not provide for adequate public and operational crossovers.	Not Preferred
• Option C: MHU located to the north of the existing hospital rear entry.	**Advantages:** Close proximity to Emergency Department, provides functional facility. Meets functional brief **Disadvantages:** Has an adverse impact upon existing parking numbers for which an alternative is difficult to secure. Does not offer future proofing opportunities. Is inconsistent with master planning for the campus.	Not Preferred
ED - Shortlist		
• Option A: Extension to the existing ED, with the proposed facilities to be constructed to the north of the existing facility.	**Advantages:** Future proof – Design allows for future vertical & horizontal development without impeding campus Masterplan. Provides privacy and security for patients Availability of courtyard areas, low exposure to traffic and other negative external factors. **Disadvantages:** None – as assessed.	Preferred
• Option B: Development of the MHU above the existing ED.	**Advantages:** Close proximity to Emergency Department, provides functional facility. Provides privacy and security for patients **Disadvantages:** Does not provide for adequate public and operational crossovers.	Not Preferred
• Option C: Extension, with the new MHU extension branching off the north-west side of the existing Emergency Services building.	**Advantages:** Close proximity to Emergency Department, provides functional facility. Meets functional brief **Disadvantages:** Has an adverse impact upon existing parking numbers for which an alternative is difficult to secure. Does not offer future proofing opportunities. Is inconsistent with master planning for the campus.	Not Preferred

HI's Design Advisor has been part of the review process and has provided input and commentary towards the evolution and maturation of the current design as presented in this REF. The design refinements made to address these inputs has focussed on the MHU and its interface with pedestrian and vehicular access (and parking) to its north. The concerns related to the consumer privacy and patient amenity within the MHU bedrooms where they face this area. The design (as outlined in the STH architectural drawings and Design Statement) has mitigated amenity impacts by providing additional screening and planting to both reduce impacts of car parking and passing movements, and enhance internal amenity and privacy from inside to out.

3.3 Construction Activities

The works are long term (some 18 months across both project components in total). Works are to be staged, particularly within the ED to maintain operation of this part of the hospital with concurrent works. Acorn Project Advisory has provided inputs into Table 3 below and over.

Table 3: Project Timeframes and Construction Activities

Construction activity	Description
Commencement Date	MHU - Construction commencement of the Project is estimated in Q2 2024, with completion in Q3 2025. Full operational commissioning 'Go Live' of the new Broken Hill MHIPU is planned for Q4 2025 ED - Construction commencement of the Project is estimated in Q2 2024, with completion in Q4 2025. Full operational commissioning 'Go Live' of the new Broken Hill ED is planned for Q4 2025
Work Duration/Methodology	The overall construction duration is expected to be 18 months from the award of the main construction contract. There are two main stages: • 1a New Mental Health Inpatient Unit including associated services & road diversions, carparking and landscaping – 16 months from contract award • 1b Upgrade to existing Emergency Department, canopy, ambulance bay, driveway and landscaping. – 18 months from contract award With stage 1b there are further interim stages to keep the existing ED safe and operational whilst the works take place. These predominantly relate to internal refurbishment works.
Work Hours and Duration/Construction	Construction, including the delivery of materials to and from the site, may only be carried out between the following hours: (a) between 7am and 6pm, Mondays to Fridays inclusive; and (b) between 8am and 1pm, Saturdays. No work may be carried out on Sundays or public holidays. Notwithstanding the above, activities may be undertaken outside of these hours, if required: • By the police or a public authority for the delivery of vehicles, plant or materials; or • In an emergency to avoid the loss of life, damage to property or to prevent environmental harm. • Where the works are inaudible at the nearest external sensitive receiver, a disruption notice has been issued by the relevant Local Area Health District (LHD) or hospital and a letter of support has been provided from the relevant LHD or hospital for the Out of Hours Works. Consideration will be given to extending these hours to allow for specific work tasks on a case by case basis, subject to approval from HI being sought prior to this occurring and the assessment of any impact of this extension.
Workforce/Employment	The project is estimated to create 50 jobs during construction.
Ancillary Facilities	The main contractor will establish a temporary site compound surrounded by perimeter fencing which will accommodation site sheds including amenities and zones for storage of construction materials. This will be removed prior to completion of the project.

Construction activity	Description
Plant Equipment	It is anticipated that the following plant and equipment may be used for the works: • Excavators, Bobcats and earthmoving equipment • Jack hammer • Removal trucks • Articulated and fixed trucks • Cranes (likely to be mobile) • Watercarts • Fork lifts • 8t static roller • General power tools
Earthworks	There is expected to be a net fill of 157m3 related to the MHU project. Earthworks will include: • Stripping of topsoil form work areas. • Tyne, water, and roll the areas which filling, paving or building slabs are to be placed. Proof roll with a 8-tonne static roller. • Placement of acceptable material from cut areas shall be placed in layers of no more than 200mm to the compaction requirements. • Filled areas and cut areas to be overlain by buildings and pavements are to be protected to maintain constant moisture content in the soil. The protection is to remain in place until construction is complete.
Source and Quantity of Materials	It is anticipated that primary construction materials will be sourced by the Main Contractor utilising suppliers from nearby major towns and cities including Adelaide, Melbourne and Wagga Wagga. Any Pre-fabricated and specialist construction materials are to be delivered from the closest manufacturer including windows and façade components. The selected suppliers will be awarded by the Main Contractor based on a market tender and logistics. Finishes, fixtures and equipment are also anticipated to be bulk delivered to site from the relevant distribution centres in Melbourne and Adelaide. The quantities can only be estimated at this stage – see below:
Traffic Management and Access	It is proposed that construction traffic will enter and exit from Thomas and Chloride Streets for the duration of the works with peak movements occurring during the import of fill material and stockpiling of cut material. Detailed haulage and delivery routes are yet to be determined, however, as a general principle, heavy vehicles will be restricted to arterial and sub-arterial transport routes. Use of suburban streets in the Broken Hill township will be avoided as far as practicable. Appropriate traffic management procedures will be implemented and include consultation with Broken Hill City Council and Broken Hill Hospital staff.

Building Component	Unit	MHU Qty	ED Qty	Total qty
Concrete	m3	300	44	344
Asphaltic pavement	m2	2,402	448	2,850
Steel	t	61	15	76
Brick/ blockwork	m2	671	202	873
Glazing	m2	141	45	186
Metal Roof & Wall sheeting	m2	1,181	770	1,951
Partitions	m2	1,269	1,764	3,033
Ceilings	m2	884	675	1,559
Vinyl Floor & wall lining	m2	1,342	652	1,994
Carpet	m2	68	52	120

The preliminary Construction Management Plan is provided at **Appendix I**.

3.4 Operational Activities

Use

There will be no change to the use of the hospital site. The existing health services facility designation will be maintained and reinforced through the redevelopment and ongoing use of the site as a hospital. Relevantly, however, the new MHU will increase the number of beds from six (6) to eight (8) in servicing mental health provision at the

hospital for its catchment. The ED upgrade, reconfiguration and expansion seeks to provide for a more efficient, effective and AusHFG-compliant workplace and treatment space.

Operation Hours

The hospital's existing hours of operation (24 hours per day / 7 days per week) will be maintained.

Staff/Patients

Overall, the proposed works will increase the number of mental health beds at the hospital by two (2), from six (6) to eight (8).

Within the ED, the existing nine (9) beds / treatments spaces will be augmented through the expansion and reconfiguration works. The existing provision will also be augmented by two (2) additional beds / treatment spaces. Details are set out below.

Treatment Space	2021 (current)	2026	2031	2036
Non-resuscitation (cubicles and recliners)	6 [3 cubicles, 2 recliners, 1 safe assessment]	8 [5 cubicles, 2 recliners, 1 safe assessment]	8	8
Resuscitation	3	2	2	2
Isolation	0	1	1	1
TOTALS	**9**	**11**	**11**	**11**

As a result of the ED's new model of care, it is understood the growth in staff within the ED will be from about 39 FTE staff by about 19 FTE staff to 58 FTE staff. It should be noted that the increase in staff is not generated by the ED project, but rather the change in model of care in the ED. The MHU will increase by three (3) FTE staff. Overall, some additional 22 FTE staff are anticipated as a result of the works.

Traffic and Parking

The proposed works will remove or displace 38 formal car parking spaces.

Largely as a result of the ED's new model of care, the additional staff will generate an additional demand for 22 car parking spaces.

The works however, once completed, will replace all car parking displaced by the construction of the MHU and locate these generally within the same area of the lower campus of the hospital, aligned to the relocated and reconfigured accessway to Thomas Street.

A net gain of 41 car parking spaces will result with the Stage 2 works to the north of the MHU, supplementing existing and improved car parking at the campus, as proposed under this REF. This additional car parking will cater for existing use of on-site parking in informal parking locations, as well as any new demand created for parking. Note also that ample perimeter parking around the hospital's boundary along Thomas Street and Chloride Street also remains available and can continue to cater for staff and visitor parking throughout the day and night, including peak periods, including any additional staff at the hospital, whether through these works or into the future. Note, there is no statutory or Council requirements for additional parking at the campus arising from these works. See also Council's commentary as set out in Section 5 of this REF.

4. Statutory Framework

4.1 Planning Approval Pathway

Section 4.1 of the EP&A Act states that if an EPI provides that development may be carried out without the need for development consent, a person may carry the development out, in accordance with the EPI, on land to which the provision applies. However, the environmental assessment of the development is required under Part 5 of the Act.

State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP) aims to facilitate the effective delivery of infrastructure across the State. Division 10 of the TISEPP outlines the approval requirements for health service facilities. A hospital is defined as a *health service facility* under this division.

The site is zoned 'R1 – General Residential' under the *Broken Hill Local Environmental Plan 2013*. The R1 zone is a prescribed zone under the TI SEPP. See the zoning map from the ePlanning Spatial Viewer below at **Figure 53**.

Figure 53 - Broken Hill LEP 2013 zoning map with the hospital outlined in yellow (ePlanning Spatial Viewer)

The proposal involves the erection, or the alterations of, or additions to, a building that is a health services facility; demolition of buildings carried out for the purposes of a health services facility; and ancillary and associated works, all of which are classified as development without consent as the proposed activity is consistent with section 2.61(1)(a), (c), and (e), as well as section 2.61(2) of TISEPP. The ancillary works are able to be carried out in the same manner through section 2.3(3) of the TISEPP.

Therefore, the proposal is considered an 'activity' for the purposes of Part 5 of the EP&A Act and is subject to an environmental assessment (REF). The proposal is considered an 'activity' in accordance with Section 5.1 of the EP&A Act because it involves the carrying out of a work, the demolition of a building or a work, and the use of land, that is not Exempt Development or prohibited under an environmental planning instrument.

TI SEPP consultation is discussed within Section 5 of this REF.

Table 4: Description of proposed activities

Division and Section within TI SEPP	Description of Works
Section 2.61(1)(a)	Erection of the new 1-storey hospital building less than 15m in height and more than 5m from any property boundary, being the new Mental Health Unit building.
Section 2.61(1)(a) and (c)	Demolition works within the existing 1-storey main hospital building, and the reconfiguration and expansion of the main hospital building less than 15m in height and more than 5m from any property boundary, being the Emergency Department works.
Section 2.61(1)(e)	Carparking reconfiguration works.
Section 2.3(3)	Civil engineering works, accessway relocation, services relocation and other works, and selected tree removal as ancillary works to the construction works.

4.2 Environmental Protection and Biodiversity Conservation Act 1999

The provisions of the EPBC Act do not affect the proposal as it is not development that takes place on or affects Commonwealth land or waters. Further, it is not development carried out by a Commonwealth agency or development on Commonwealth land, nor does the proposed development affect any matters of national significance. An assessment against the EPBC Act checklist is provided at Table 5.

The Biodiversity Assessment Report prepared for this REF by OzArk (see **Appendix J**) concludes that no significant biodiversity impacts are likely, including to any threatened or migratory species, population or ecological community, or their habitats. As such, the proposal does not require referral under the EPBC Act to the Commonwealth Department of Climate Change, Energy, the Environment and Water in respect of these matters.

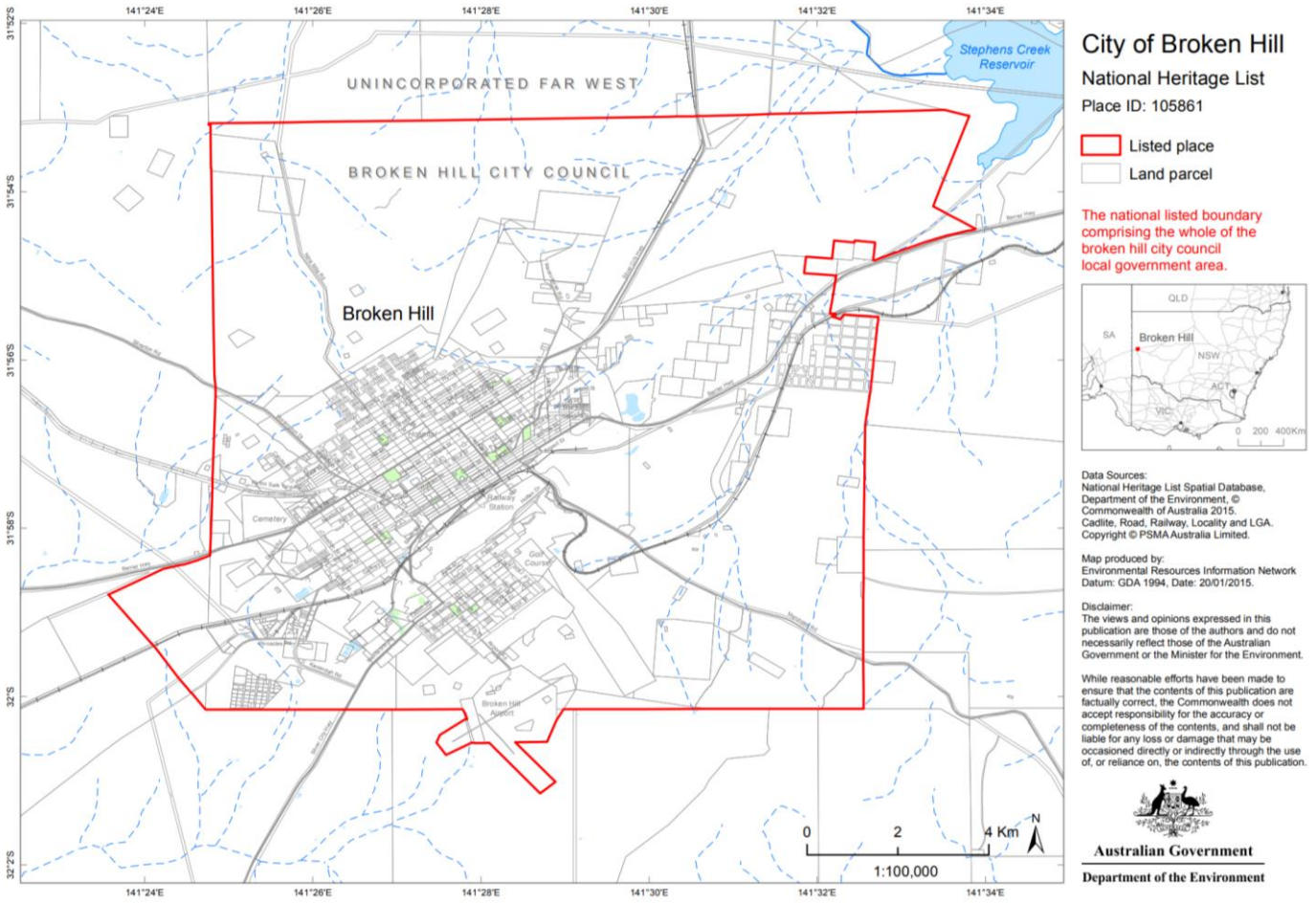

Figure 54 – City of Broken Hill Listed Place map (Australian Government)

With respect to National heritage, the whole of the City of Broken Hill LGA is mapped by the Commonwealth as a National Heritage Place – see **Figure 54**. The City of Broken Hill was entered in the National Heritage List on 20 January 2015 due to its outstanding significance in Australia's mining and industrial history. While the proposal is within the heritage curtilage of an item protected by the EPBC Act, the hospital is not specifically identified as of national heritage significance. Referral to the Commonwealth under the EPBC Act would only be required if values of potential national heritage significance were identified at the study area.

Those specific values are:

- Continued identification of new geological rare and uncommon species.
- World leader in innovation of new mining practices, social characteristics, and mining practices.
- Played a decisive role in national development through creation of wealth.
- Long mining history since 1883 as one of the world's largest deposits of silver, lead, and zinc.
- Demonstrates principal characteristics of mining towns from establishment.
- Aesthetic qualities of mining landscape and rural town in late Victorian and Federation era.
- Strong community spirit that symbolises importance of the mining industry and challenges of living in the outback.
- Association with famous figures of the mining and film industry.

As set out in OzArk's Statement of Heritage Impact (see **Appendix K**), no referral to the Commonwealth Department of Climate Change, Energy, the Environment and Water under the EPBC Act is required as the proposal will not affect the national heritage values of the City of Broken Hill, and is not a Controlled Action under that legislation.

Table 5: EPBC Checklist

Consideration	Yes/No
Will the activity have, or likely to have, a significant impact on a declared World Heritage Property?	No
Will the activity have, or likely to have, a significant impact on a National Heritage place?	No, see the conclusions of the Statement of Heritage Impact.
Will the activity have, or likely to have, a significant impact on a declared Ramsar wetland?	No
Will the activity have, or likely to have, a significant impact on Commonwealth listed threatened species or endangered community?	Yes (non-significant), however see the conclusions of the Biodiversity Assessment Report
Will the activity have, or likely to have, a significant impact on listed migratory species?	Yes (non-significant), however see the conclusions of the Biodiversity Assessment Report
Will the activity involve any nuclear actions?	No
Will the activity have, or likely to have, a significant impact on Commonwealth marine areas?	No
Will the activity have any significant impact on Commonwealth land?	No
Would the activity affect a water resource, with respect to a coal seam gas development or large coal mining development?	No

4.3 Environmental Planning and Assessment Act 1979

Duty to Consider Environmental Impact

Part 5 of the EP&A Act applies to activities that are permissible without consent and are generally carried out by a public authority. Activities under Part 5 of the EP&A Act are assessed and determined by a public authority, referred to as the determining authority. Health Infrastructure is a public authority and is the proponent and determining authority for the proposed works.

For the purpose of satisfying the objects of the EP&A Act relating to the protection and enhancement of the environment, a determining authority, in its consideration of an activity shall, notwithstanding any other provisions of the Act or the provisions of any other Act or of any instrument made under the EP&A Act or any other Act, examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity (refer to Subsection 1 of Section 5.5 of the EP&A Act).

Section 171 of the EP&A Regulation defines the factors which must be considered when assessing the likely impact of an activity on the environment under Part 5 of the EP&A Act. Section 6 of this REF specifically responds to the factors for consideration for the activity.

Table 6 below demonstrates the effect of the proposed development activity on the matters listed for consideration in Subsection 3 of Section 5.5 of the EP&A Act.

Table 6: Matters for consideration under Subsection 3, Section 5.5 of the EP&A Act

Matter for Consideration	Impacts of Activity
Subsection 3: Without limiting subsection 1, a determining authority shall consider the effect of any activity on any wilderness area (within the meaning of the *Wilderness Act 1987*) in the locality in which the activity is intended to be carried on.	No effect, as there is no wilderness area (within the meaning of the Wilderness Act 1987) in the locality in which the activity is intended to be carried out on.

Note: If a biobanking statement has been issued in respect of a development under Part 7A of the *Threatened Species Conservation Act 1995*, the determining authority is not required to consider the impact of the activity on biodiversity values.

4.4 Environmental Planning and Assessment Regulation 2021

Section 171(1) of the Environmental Planning and Assessment Regulation (2021) notes that when considering the likely impact of an activity on the environment, the determining authority must take into account the environmental factors specified in the guidelines that apply to the activity.

The *Guidelines for Division 5.1 Assessments* (DPE June 2022) provides a list of environmental factors that must be taken into account for an environmental assessment of the activity under Part 5 of the EP&A Act. These factors are considered at Section 6 of this REF.

In addition, Section 171A of the Environmental Planning and Assessment Regulation (2021) requires the consideration of the impact an activity in a defined catchment. This is considered further below under Section 4.5 of this REF.

4.5 Other NSW Legislation

The following table lists any additional legislation that is required to be considered if it is applicable to the proposed activity.

Table 7: Other Possible Legislative Requirements

Legislation	Comment	Relevant? Yes/No
State Legislation		
Rural Fires Act 1997	The site is not on Bush Fire Prone Land.	No
Biodiversity Conservation Act 2016	The subject development site, 2.950 hectares (ha) in size, consisted of native and non-native vegetation, as well as the existing Broken Hill Hospital, road surfaces and planted vegetation. This planted vegetation incorporated a mixture of ornamental species, some exotic and some native to Australia (although not the Broken Hill area). Although this vegetation would provide potential foraging/nesting opportunities for native fauna, it cannot be assigned to any Plant Community Type (PCT). All 0.167 ha of locally occurring native vegetation was found to belong to a single PCT: • PCT 155 – Bluebush shrubland on stony rises and downs in the arid and semi-arid zones. This PCT is not associated with any *Biodiversity Conservation Act 2016* (BC Act) or *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) Threatened Ecological Community (TEC). Therefore, the proposal will not generate impacts to any TEC. Thirty fauna species recognised as threatened, and seven flora species listed as threatened under the BC and/or the EPBC Acts, were considered to have a moderate or greater probability of occurring at the subject site. However, no listed species were encountered during the field survey. Subject to the implementation of mitigation measures proposed, it has been concluded that no significant biodiversity impacts are likely, including to any threatened or migratory species, population or ecological community, or their habitats. As such, the proposal does not require referral to the Commonwealth Department of Climate Change, Energy, the Environment and Water in respect of these matters, or trigger the need for a Species Impact Statement (SIS) or a Biodiversity Development Assessment Report (BDAR).	No
Water Management Act 2000	The works are not located within 40m of any mapped streams or waterways.	No
Contaminated Land Management Act 1997	The land is not significantly contaminated land, subject to a management order, or subject of an approved voluntary management proposal within the meaning of the *Contaminated Land Management Act 1997*.	No
Heritage Act 1977	No impacts on local or state (or national) heritage arise – see further discussion within this REF and at **Appendix K**.	No
Roads Act 1993	The works involve the widening of an existing connection of a relocated internal hospital road to a road (Thomas Street). Note Thomas Street is not a classified road. No other works occur within the road reservation of Thomas Street.	Yes
Local Government Act 1993	No water or sewer supply head works that require contribution payment, per Section 64 of the Act, are required. Existing capacity of the respective systems exists in relation to the works.	No
National Parks and Wildlife Act 1974	An Aboriginal Due Diligence report has been prepared consistent with section 57 of the *National Parks and Wildlife Regulation 2019*. The Aboriginal Due Diligence has followed the steps set out in the Code of Practice and concluded that an Aboriginal Heritage Impact Permit (AHIP) is not required for works at the site and that a range of mitigation measures is suitable and shall be employed in this instance. The undertaking of the due diligence process resulted in the conclusion that the proposed works will have an impact on the ground surface, however, no Aboriginal objects or intact archaeological deposits will be harmed by the proposal. See further discussion within this REF.	No
Section 171A of the Environmental Planning and Assessment Regulation 2021	The site is not located within a regulated catchment as defined in Schedule 6 for Chapter 6 of *State Environmental Planning Policy (Biodiversity and Conservation) 2021* and is also not within a special area under the *Water NSW Act 2014*. None of the residual provisions of section 171A apply to the site or Broken Hill LGA.	No

Legislation	Comment	Relevant? Yes/No
State Legislation Planning Policies		
State Environmental Planning Policy (Biodiversity and Conservation) 2021	The *State Environmental Planning Policy (Biodiversity and Conservation) 2021 (Biodiversity and Conservation SEPP)* consolidates, transfers and repeals provisions of 11 SEPPs, the following of which are the relevant to the current assessment: • State Environmental Planning Policy (Koala Habitat Protection) 2020, and • State Environmental Planning Policy (Koala Habitat Protection) 2021. Chapters 3 and 4 of the Biodiversity and Conservation SEPP aim to encourage the 'proper conservation and management of areas of natural vegetation that provide habitat for Koalas to ensure a permanent free-living population over their present range and reverse the current trend of Koala population decline'. As the proposal is being assessed as a Part 5 development, the Koala SEPP does not apply in this case. Potential impacts to Koalas were assessed under the BC and EPBC Acts.	No
State Environmental Planning Policy (Sustainable Buildings) 2022	Chapter 3 does not apply as the works (whilst being for a new non-residential building and other works to extend and carry out alterations and additions to an existing non-residential building which has a CIV of greater than $10 million) is not subject to a DA and does not require development consent. The works are also not State Significant Development nor for a large commercial development.	No, noting the project otherwise addresses the NSW State target of net zero emissions, with embodied emissions otherwise addressed.
State Environmental Planning Policy (Resilience and Hazards) 2021	Based on the findings of the JBS&G Detailed Site Investigation and through the implementation of the proposed RAP to address data gaps, it has been concluded that the site is suitable for the proposed use as a hospital subject to implementation of the RAP and an Asbestos Management Plan due to the presence of asbestos in fill at one testing location. The RAP also applies to existing data gap locations outside of the footprints of the MHU and ED works, including the Stage 2 car park area. See discussion later in this REF.	Yes
	Advitech has carried out a screening assessment to determine f Chapter 3 of State Environmental Planning Policy (Resilience and Hazards) – Hazardous and Offensive Development (formerly SEPP 33) is applicable with respect to the proposal being either a Potentially Hazardous Industry or a Potentially Offensive Industry because of its activities and the storage, deliveries of, and use of chemicals. Based on the supplied information reviewed, it is Advitech's professional opinion the proposed development is not found to be either a 'potentially hazardous industry', nor a 'potentially offensive industry'. As such, the SEPP Hazardous and Offensive development has not been triggered and further addition of a Preliminary Hazard Analysis (PHA) is not required. See the Screening Assessment at **Appendix L**.	No
State Environmental Planning Policy (Transport and Infrastructure) 2021	Other than the use of relevant provisions to enable the works via this REF, the activity is not traffic-generating development under section 2.122 and Schedule 3 of the TISEPP and referral / notification to Transport for NSW was not triggered in this instance. This is because the increase in beds (4 in total) is modest and below the 200 bed threshold applicable in this instance, and the Stage 2 increase in parking by 41 spaces increases the lower campus parking where access to only Thomas and Chloride Streets is possible, to 196 spaces (under this 200 space threshold).	No
Broken Hill Local Environmental Plan 2013		
Zone	The site is zoned R1 – General Residential. The hospital is permitted with consent in the zone, noting also that the works need only be within the boundaries of the existing health services facility to qualify for the REF pathway. Further, the new road connection / driveway crossing to Thomas Street is able to be carried out without consent as 'roads' under the R1 land use table.	Yes
Height of Buildings	N/A	No
Floor Space Ratio	N/A	No
Heritage	The whole of the hospital is mapped as being a local heritage item (I25) which is described in Schedule 5 of the LEP as 'Old areas of Broken Hill Hospital' and within the address nominated as '170–320 Thomas Street (parts)'.	Yes, noting however the description of heritage affectation at the

Legislation	Comment	Relevant? Yes/No
	The site is not within a mapped heritage conservation area.	hospital is confined to the upper campus, remote from these subject works.
Flood Planning	N/A – noting in liaison with Council's officers _planning was advised in October 2023 that *Council does not have a recent flood study. Council is in the early stages of a process to have consultants undertake a flood and stormwater management study, however this has not yet commenced*.	No
Land Reservation Acquisition	N/A	No

5. Consultation

5.1 Statutory Consultation

The REF scope of works was notified for 21 calendar days to the stakeholders outlined in Table 8.

Table 8: Stakeholders required to be notified

Stakeholder	Relevant Section
Broken Hill City Council	Section 2.62(2)(a)(i) of TISEPP
Occupiers of adjoining land	Section 2.62(2)(a)(ii) of TISEPP

The notification commenced on 31 August 2023 and concluded on 21 September 2023. Copies of the notification letters, as well as responses received, are provided at **Appendix M**. **Figure 55** below indicates the extent of notification to occupiers of adjoining land. In total, 58 letters were placed in letterboxes of adjoining occupiers of land or otherwise hand delivered.

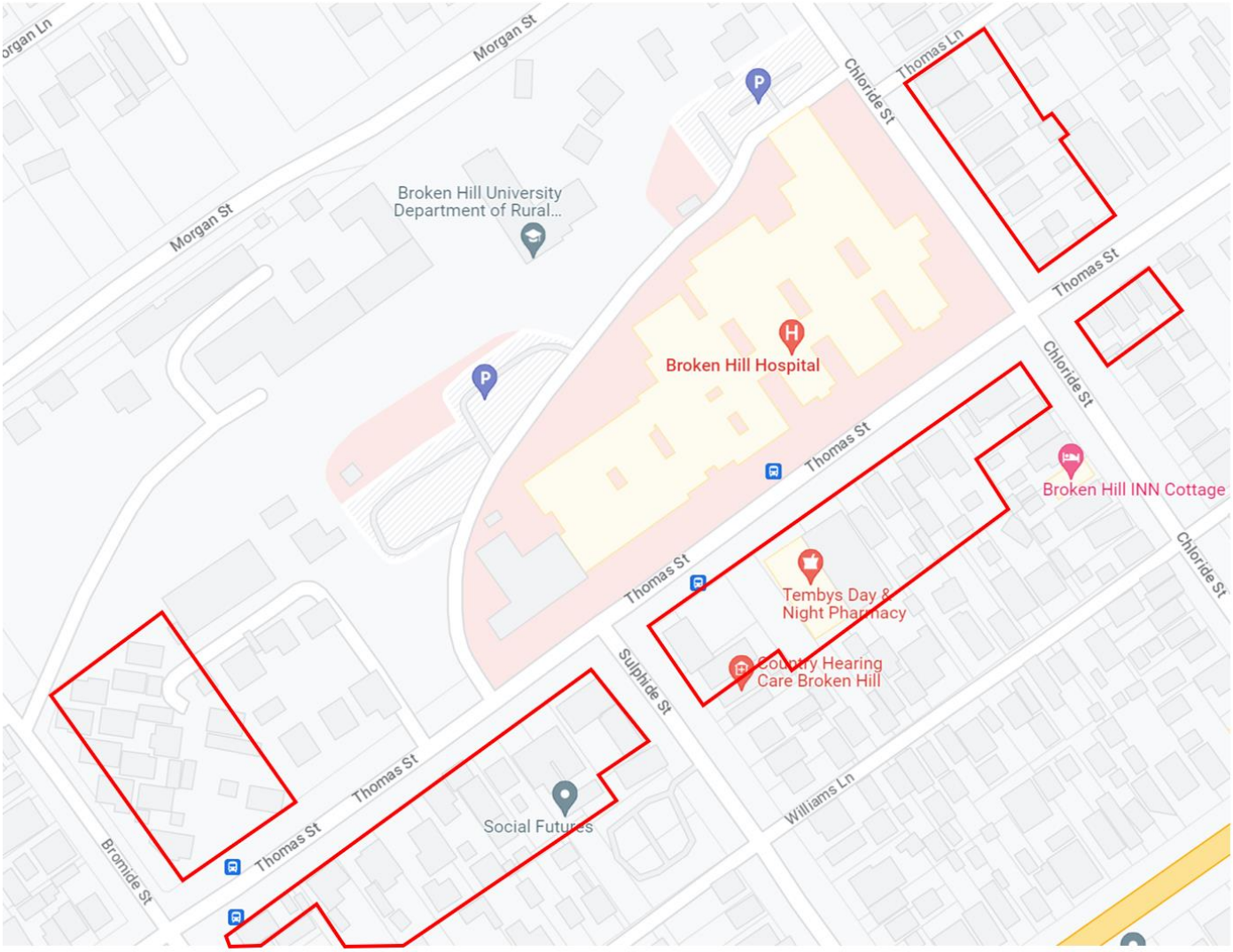

Figure 55 - Extent of notification to occupiers of adjoining land (google)

One submission was received (from Broken Hill City Council). No public submissions were received.

An overview of the comments received are outlined and responded to in the table below.

Table 9: Issues raised and responses

Issue raised	Date received	Response	Reference
Broken Hill City Council			
Council concurs that the proposed development (as outlined in provided plans and also in consultation meetings with Council staff), will not require development consent, and that further to this, Health Infrastructure is undertaking an assessment under Part 5 of the *Environmental Planning and Assessment Act 1979*.	Dated 12 September 2023	Noted.	See Section 4.0 of this REF which sets out the legislative framework.
Council wishes to advise that it has no objection to the proposal.		Noted	-
Council provides the following comments: - Should the proposal involve works to the public roadway or footpath (which would fall under the provisions of the Roads Act), then consultation should occur directly to Council's Infrastructure Department, prior to those works commencing. - It is noted that consideration is being given to providing possible future parking spaces to the north-west of the existing carpark (approximately 41 spaces). Council would support that proposal, as it is felt that it will alleviate some of the existing parking pressures around the Hospital site.		Noted. - This will be included as a Mitigation Measures to the REF.	- See **Appendix AA** – Mitigation Measures - No further direct action required. Note also that no referral to Transport for NSW arises as the net gain in two mental health beds and the net gain in ED treatment spaces combined do not trigger any traffic-generating development thresholds for notification / referral. Similarly, the Stage 2 increase in parking by 41 spaces increases the lower campus parking where access to only Thomas and Chloride Streets is possible, to 196 spaces (under this 200 space threshold).

5.2 Community and Stakeholder Engagement

The communications and engagement approach for the Broken Hill Health Service Redevelopment has focused on early, proactive, transparent and regular communications and engagement throughout all stages of the project. This has helped to develop community and stakeholder understanding for the project, ensure opportunities for stakeholder and community input and feedback, identify and manage issues early and help achieve better outcomes for the projects and community. The two projects which form the Broken Hill Health Service Redevelopment are being delivered simultaneously, with the communications and engagement activities planned and delivered accordingly under one Communications and Engagement Plan.

Extensive non-statutory community and stakeholder engagement has occurred with respect to this project since October 2022 with a range internal and external stakeholders. This has included the following stakeholders:

Internal Stakeholders

- Staff and Staff Representatives

External Stakeholders

- Broken Hill City Council
- Broken Hill Health Council
- Wider and general community
- Arts community representatives
- Aboriginal community
- Arts Working Group
- Mental Health Carers' Advisory Group

Modes of communication and engagement

The various modes of communication and engagement have included:

- Project User Groups
- Information and feedback sessions, including Drop-ins and Pop-ups
- Meetings and Presentations
- Site tours and Pop-up information session at the hospital
- Aboriginal Focus Groups
- Consultation

An overview of the comments received are outlined and responded to within the Communications and Engagement Report as prepared by HI – see **Appendix N**.

6. Environmental Impact Assessment

6.1 Environmental Planning and Assessment Regulation 2021 – Assessment Considerations

Section 171(1) of the *Environmental Planning and Assessment Regulation 2021* notes that when considering the likely impact of an activity on the environment, the determining authority must take into account the environmental factors specified in the environmental factors guidelines that apply to the activity.

The *Guidelines for Division 5.1 Assessments (June 2022)* apply to the activity. The relevant assessment considerations under Section 3 of these Guidelines are provided below:

Table 10: Summary of Environmental Factors Reviewed in Relation to the Activity

Relevant Consideration		Response/Assessment		
(a)	Any environmental impact on a community	The proposal will have a generally positive and ongoing impact on the health services provided by the hospital for the community of Broken Hill, its wider catchment, and for the broader FWLHD. From an environmental standpoint the built form of the new building and extension will be similar to the existing hospital and surrounding residential, medical, and commercial developments. The works allow for some limited identified hazardous materials and limited contamination and further clean-up of these parts of the hospital campus to be carried out to contemporary standards. The works enhance and formalise parking and access and provide for an efficient use of available land within the campus' lower areas. Overall the project makes renewed best use of the hospital campus' capacity to provide enhanced services without significant and long-term impact upon neighbours. During construction, a minor increase in trucks and construction operations may have a noise impact, however this will be managed and mitigated through appropriate measures during works. Dust control and sediment and erosion will also be an environmental management consideration.	-ve Nil +ve	Short term noise impacts within the immediate environs during construction Long term operational
(b)	Any transformation of a locality	The proposal (chiefly the MHU) is not of a scale to transform the locality. It is set within the campus and, where visible, is set back and of an appropriate scale relative to the existing development and general residential zoning of this locality. Overall the changes to the site, built form, their visibility and the like are not of a scale or dimension to be reasonably considered to transform the locality in any adverse sense.	-ve Nil +ve	 X
(c)	Any environmental impact on the ecosystems of the locality	No flora species or populations listed as threatened under the Biodiversity Conservation Act or EPBC Act were observed during the field survey. Given the short duration of the field survey, and the lack of targeted surveys, the non-detection of threatened flora species cannot be considered as confirmation of their absence. However, following a desktop review of nearby records and habitat requirements for predicted threatened flora, no species were considered to have a moderate-high probability of occurrence within the subject site. PCT 155 was identified at the site. This PCT is not associated with any *Biodiversity Conservation Act 2016* (BC Act) or *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) Threatened Ecological Community (TEC). Therefore, the proposal will not generate impacts to any TEC. Thirty fauna species recognised as threatened, and seven flora species listed as threatened under the BC and/or the EPBC Acts, were considered to have a moderate or greater probability of occurring at the subject site. However, no listed species were encountered during the field survey. Subject to the implementation of mitigation measures proposed, it has been concluded that no significant biodiversity impacts are likely, including to any threatened or migratory species, population or ecological community, or their habitats. As such, the proposal does not require referral to the Commonwealth Department of Climate Change, Energy, the Environment and Water in respect of these matters, or trigger the need for a Species Impact Statement (SIS) or a Biodiversity Development Assessment Report (BDAR). Four habitat trees, containing eight stick-nests, were recorded within the subject site. Additionally, there was an old shed that may provide roosting opportunities for various	-ve Nil +ve	 X

Relevant Consideration		Response/Assessment		
		microbat species. It is recommended that, where possible, these habitat features be avoided rather than removed. Given the absence of watercourses from the subject site, the lack of Protected Riparian Land and Key Fish Habitat within the study area, and the distance of the development area to the nearest waterway, it is unnecessary for the proponent to obtain a permit from the Department of Primary Industries - Fisheries to conduct works. Based on the HI Canopy Tree Replacement policy for new plantings at a ratio of 'better than 1:1', it is proposed to plant 48 trees as part of Stage 1 (a ratio of 1.26:1) and plant 36 trees under Stage 2 (a ratio of 1.16:1). Overall, some 84 new trees are proposed to address the loss of 69 trees. This equates to the replacement ratio of 1.22:1, satisfying the HI policy.		
(d)	Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality	There will be no reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality. The works are broadly confined to existing developed and disturbed areas of the hospital campus in its urbanised setting.	-ve Nil +ve	 X
(e)	Any effect on locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations	The proposal will not have any adverse effect on locality, place or buildings having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific, or social significance or other special value for present or future generations. The Heritage Impact Statement further states that the proposal will not impact significant fabric or result in changes to the listed buildings on the Broken Hill LEP (confined to the upper campus away from this subject site of works). In addition, no known archaeological deposits will be impacted by the proposal. It is considered that the modification of the ED and construction of a new MHU will ensure future use and maintenance of the listed heritage items. The proposal will have negligible impacts to the heritage values of the Broken Hill Conservation Area and to the nationally listed City of Broken Hill.	-ve Nil +ve	 X
(f)	Any impact on the habitat of protected animals (within the meaning of the *Biodiversity Conservation Act 2016)*	No protected fauna (within the meaning of the *Biodiversity Conservation Act 2016*) will be impacted by the proposal given the urbanised and disturbed context of the hospital campus and the nature of the works.	-ve Nil +ve	 X
(g)	Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air	The proposal will not endanger any species or animal or plant – as set out in the Flora and Fauna Assessment accompanying this REF as described above. See further commentary below.	-ve Nil +ve	 X
(h)	Any long-term effects on the environment	There will be no long-term or permanent adverse or negative impact on the natural or man-made environment as a result of the operation of the development. The construction works will improve the environmental aspects of the site with respect to hazardous building materials presently at the site. New native and endemic canopy trees at the site will improve the environment within the hospital campus.	-ve Nil +ve	 X
(i)	Any degradation of the quality of the environment	The proposal will not reduce the quality of the natural environment, noting vegetation and the trees lost to the proposal will be replaced at better than a rate of 1:1 with native and endemic species at a rate of 1.26:1 to Stage 1 and 1.22:1 across both stages of works, once completed. Generally, water quality is improved as a result of the proposed civil engineering works.	-ve Nil +ve	 X
(j)	Any risk to the safety of the environment	There will be no risk to the safety of the environment as a result of the proposal.	-ve Nil +ve	 X
			-ve	

Relevant Consideration		Response/Assessment		
(k)	Any reduction in the range of beneficial uses of the environment	There will be no reduction in the range of beneficial uses of the environment as a result of the proposal.	Nil +ve	X
(l)	Any pollution of the environment	Any potential for noise, vibration, and dust or sedimentation will be managed on-site through the implementation of mitigation and management measures within a Construction Environment Management Plan. The works will reduce the current levels of stormwater run-off pollutants. Indirectly, the under DGN 058 the new building will improve the campus' existing ESD credentials and result in an at-least 4-star Green Star equivalent development which also improves upon the BCA's Section J ESD requirements by at least 10% and any concomitant pollution-generating activities related to energy production and usage, transportation, and other production of building materials.	-ve Nil +ve	 X
(m)	Any environmental problems associated with the disposal of waste	The works generally result in demolition-related waste (of which only a small portion is standard hazardous materials or ACM) for which routine waste classification and removal and disposal methods will be employed). Ongoing clinical and hospital waste will be addressed through currently employed contemporary waste handling methods. Materials will be recycled where this is appropriate and available.	-ve Nil +ve	 X
(n)	Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply	The proposal will not result in increased demand on resources (natural or otherwise) that are, or are likely to become, in short supply, noting that under DGN 058 the new building will improve the campus' existing ESD credentials and result in an at-least 4-star Green Star equivalent development which also improves upon the BCA's Section J ESD requirements by at least 10%. The MHU will add to the hospital's current array of photovoltaic cells for the capture, use, and redistribution of plentiful solar energy.	-ve Nil +ve	 X
(o)	Any cumulative environmental effects with other existing or likely future activities	See further detailed discussion below. Only modest forms of development have been approved in the vicinity of the hospital with the timing and scale of development unlikely to impact the environment should these works be carried out concurrently.	-ve Nil +ve	 X
(p)	Any impact on coastal processes and coastal hazards, including those under projected climate change conditions	N/A – the site is well removed from coastal areas of NSW.	-ve Nil +ve	 X
(q)	Applicable local strategic planning statement, regional strategic plan or district strategic plan made under Division 3.1 of the Act	**Draft Far West Regional Plan 2041** This Plan seeks to update the Regional Plan to 2036 and was on exhibition from 6 October 2022 to 21 November 2022. The exhibition was a key part of the draft plan's first 5-yearly review to reset priorities and extend the plan's reach to 2041. The draft plan's 20-year vision is that the region's communities will be able to adapt to change, supported by a diverse economy, the right infrastructure and an exceptional natural environment. Key parts of the plan also seek to help local councils to deliver the planning system and local Aboriginal land councils to achieve their aspirations for their land. The draft plan supports the region's natural environment. The draft plan aims to protect and harness it to support ongoing prosperity and to improve communities' ability to adapt to a changing climate and withstand and recover from natural hazards. As the future of energy is renewable, the draft plan supports NSW's transition to net zero emissions by 2050. The draft Plan has 16 objectives across the themes of Environment; People and Communities; and Ongoing Prosperity. The objectives most relevant to this project would include: • Objective 5 – Support Aboriginal aspirations through land use planning (indirectly through the design process and engagement with the Aboriginal community and Designing with Country and Connecting with Country). • Objective 7 - Create a network of centres for the dispersed population (by reinforcing the hospital's location in, and service for, the Broken Hill community).	-ve Nil +ve	

Relevant Consideration		Response/Assessment	
		• Objective 15 – Support the transition to net zero by 2050 (through adoption of, and delivery of a design and infrastructure supporting HI's DGN 058 ESD policy). • Objective 16 - Ensure government and community service provision (through the delivery of the project in itself). Of specific reference to Broken Hill and/or health and hospitals, the only direct relationship arises within the Objective related to planning for connected cross-border communities (Objective 10), noting that the objective is to support and maintain connectivity for the benefit of communities. The subject project will clearly seek to meet the immediate needs of the Broken Hill community and catchment but does not diminish existing relationships and connections with other health services within NSW and in Adelaide. The project supports and supplements a wider and enhanced provision of health services (another fundamental objective of the same Plan). **Broken Hill Local Strategic Planning Statement (LSPS)** LSPS's set out • the 20-year vision for land use in the local area • the special characteristics which contribute to local identity • shared community values to be maintained and enhanced • how growth and change will be managed into the future. LSPSs show how Councils' visions give effect to the regional or district plan, based on local characteristics and opportunities, and the councils' own priorities in the community strategic plans they prepare under local government legislation. Council's 'Local Strategic Planning Statement (LSPS) 2020-2040 (as adopted on 26 August 2020) sets out the strategic planning framework for the LGA through a series of Planning Priorities. Planning Priority 7.5 relates to health. 7.5 – Health states as follows: It is important that Broken Hill maintains/enhances its current healthcare services to local and regional residents, including services administered by the Broken Hill Hospital, Maari Ma Health Corporation, Royal Flying Doctor Service, Broken Hill Community Health Centre, Far West Mental Health Recovery Centre, Broken Hill YMCA and numerous aged care providers and other medical services. The Broken Hill community should aim to be generally self-sufficient in health care facilities and not rely on Adelaide or other larger centres for health services. Four priorities and their actions relate to the above. 1. Advocate for upgrades to health services to limit the burden on Broken Hill residents to travel long distances to access special medical services and treatments. 2. Advocate for aged care facilities in Broken Hill that meet the requirements of an aging population. 3. Investigate opportunities to further establish Broken Hill as a healthcare hub for Far West NSW. 4. Investigate options to allow for 'aging in place', with low maintenance housing close to services. It is also important that the aged care facilities in Broken Hill meet the requirements of an aging population. The project supports this vision, Priorities, and its Actions (particularly 1 and 3) to the extent of the project's role in being able to do so. Given the nature of the works it is otherwise unlikely to affect the community in a way that is contrary to any of the higher level vision, objectives or actions of the plan. The works reinforce and support the provision of health services in the LGA and the health of the LGA.	
(r)	Any other relevant environmental factors	No other specific matters are identified. Note also however, with respect to BCA / DDA Compliance, BM+G has prepared separate BCA and Access Compliance Statements with respect to the components (ED and MHU) of this scope of works (see **Appendix O**). The statements confirm that BM+G has undertaken a review of the architectural documentation that will accompany the REF submission for the development, against the Building Code of Australia 2022 (BCA 2022), and Access provisions of the Disability (Access to Premises – Buildings) Standards 2010. BM+G concludes that any amendments required to the design documentation in order to comply with the BCA can be addressed in the preparation of the detailed documentation for	-ve Nil +ve

Relevant Consideration	Response/Assessment
	Crown Certificate without giving rise to significant changes to the proposal as submitted for REF approval. Arising from BM+G's review, the proposed development can readily achieve compliance with the relevant provisions of the BCA.

6.2 Identification of Issues

6.2.1 Traffic, Access and Parking

Questions to consider	Yes	No
Will the works affect traffic or access on any local or regional roads?	X Only during minor roadworks on the Thomas Street interface	
Will the works disrupt access to private properties?		X
Are there likely to be any difficulties associated with site access?		X
Are the works located in an area that may be highly sensitive to movement of vehicles or machinery to and from the work site (i.e. schools, quiet streets)?		X
Will full or partial road closures be required?	X As above, only partially on Thomas Street, noting it is a wide street and two-way traffic would likely still be possible.	
Will the proposal result in a change to onsite car parking?	X Net increase by 41 spaces (with Stage 2)	
Is there onsite parking for construction workers?		X

SCT has prepared a Traffic and Parking Report in respect of the proposed works. This is found at **Appendix P**.

Access

The lower campus of Broken Hill Hospital is accessed either from the east via Chloride Street or from two separate but near-adjacent entries off Thomas Street. Between these points an internal access road runs between Thomas Street and Chloride Street, forming a diagonal connection through the site – bounded by car parking. This internal road is the primary access road to the site, facilitating access through the back of the Main Hospital Building for visitors, staff, servicing vehicles, and ambulances.

The new MHU necessitates a realignment of the existing internal roadway along the west of the proposed MHU, and through the northern parking module, connecting to the existing circulation roadway once past the MHU. This roadway will be sized to accommodate movement of the required service vehicles, as well as fire brigade access.

The new dedicated public ED entry has a positive impact on access as it will encourage public users to drop off patients at the drop-off loop rather than using the ambulance bay. This will reduce the chance of private cars parking in the ambulance bay and impeding emergency vehicle movement.

The proposed ambulance bay configuration will increase the capacity of the bay area to four spaces. This is an increase from the one space currently provided by the port-cochere configuration. Regrading will allow ambulances to be level when parked in this configuration, with a reduced 4.5m clearance behind the parked ambulances. The Broken Hill NSW Ambulance team have tested and confirmed that this reduced clearance is suitable for loading/unloading of patients in this context.

Parking

Existing parking facilities on lower campus consist of fleet parking, general parking, dedicated afternoon / night shift staff parking as well as on-street parking adjacent to the hospital around its Thomas Street and Chloride Street perimeter. There is a total of 155 formal parking spaces (including fleet parking) within the site and approximately 129 on-street spaces on Thomas and Chloride Street. Of these spaces, there are 22 spaces marked for accessible users, just under eight per cent of supply. Aside from some spaces on Thomas Street that have '5-minute' parking limits, the available parking is largely unrestricted.

SCT has advised that peak parking demand occurs during the overlap between the morning and afternoon shift, where the maximum number of staff are expected on site. This overlap is a relatively short period of time, usually around two hours. Due to a lack of available data on staff rosters, the current peak parking demand at the hospital has been estimated from spot checks conducted by SCT during a site visit on Wednesday and Thursday from 1-2 February 2023, with a peak parking demand of approximately 270 cars (excluding fleet). The spot checks are summarised in Table 2.1 from the SCT report as replicated below.

Table 2.1 Observed parking demand – 1 and 2 February 2023

Observed	On-site	Off-site (on-street)	Total	Time observed
Maximum demand[1]	113	155	268	11am
Minimum demand	39	1	40	9pm

Observed parking demand also includes on-street parking on Sulphide Street as well as cars parked on the dirt patch on the west side of the site. As the available on-site parking reaches capacity during the day, drivers are assumed to park their cars at the closest available alternative.

Parking occupancy rates decrease quickly away from the hospital which suggests that parking demand is mostly contained by the on-street parking immediately adjacent to the site. As a conservative estimate, parking along Thomas and Chloride Street is assumed to be used for hospital purposes rather than the nearby GP super clinic, which has its own on-site at-grade car park.

Total supply of long-term on-site parking remains unchanged as a result of the proposal (38 spaces removed and 38 new spaces provided). Largely due to the new model of care provided within the ED component of this REF, around 22 additional staff cars are expected during the peak parking demand due to the increase in beds and treatment spaces and concomitant staffing increases (i.e. the overlap of the morning and afternoon shift) along with a small increase in patient and visitor demand. The additional parking demand would not significantly impact the overall operation of car parking utilisation on site or within the surrounding street network. Street parking may be occupied slightly further from the hospital, amounting to an additional 15-25m walk, which is considered acceptable.

Notwithstanding, there is a provision for the future expansion of the existing car park to the north under Stage 2, which will add 41 on-site parking spaces to the hospital. This new parking module will be an extension of the existing staff and visitor car park that is separated from the circulation roadway. This will take the lower campus' parking supply from 155 to 196 spaces.

When delivered in the future, the spaces will have the effect of reducing the spread of car parking demand on the adjacent streets. While it will not generate any additional traffic for the hospital, there may be a small increase in vehicles using the internal road network as more drivers park on-site rather than on-street.

Traffic

Growth in traffic accessing the site will comprise of increase in staffing during peak hospital hours, which as set out above, is expected to result in 22 additional staff cars, as well as a small growth in patient and visitor volume. This increase is expected to have a negligible impact on the network performance of Thomas Street, Chloride Street, and the surrounding intersections, especially considering that current traffic volumes are low.

Public Transport

The redevelopment has no impact on existing public transport operations.

Construction Traffic

A Construction Traffic Management Plan (CTMP) would be developed prior to the start of construction. The CTMP would be prepared in consultation with Transport for NSW and Broken Hill City Council and would seek to minimise traffic,

transport and parking impacts during the construction stages of the project, especially while the health service remains operational. The CTMP would address aspects such as type of construction vehicles, construction transport routes, dilapidation surveys, traffic control plans, including detours and signage, and details of measures to minimise conflicts with other road users or users of the site. Note, temporary access arrangements will need to be ensured for continued ambulance servicing of the ED.

A mitigation measure is included to ensure the preparation of the CTMP – see **Appendix AA**. No other mitigation measures are considered relevant or necessary with respect to access, parking , and traffic.

6.2.2 Noise and Vibration

Questions to consider	Yes	No
Are there residential properties or other sensitive land uses or areas that may be affected by noise from the proposal during construction (i.e. schools, nursing homes, residential areas or native fauna populations)?	X (including the hospital itself)	
Will any receivers be affected by noise for greater than three weeks?	X	
Are there sensitive land uses or areas that may be affected by noise from the proposal during operation?		X No change
Will the works be undertaken outside of standard working hours? That is: • Monday - Friday: 7am to 6pm; • Saturday: 8am to 1pm; • Sunday and public holidays: no work.		X See discussion below and Mitigation Measures
Will the works result in vibration being experienced by any surrounding properties or infrastructure?		X
Are there any impacts to the operation of helipads on the activity site?		X

Acoustic Studio has prepared a Noise and Vibration Impact Assessment – see **Appendix Q**. The objectives of this assessment were to:

- Identify noise sensitive receivers that will potentially be affected by the construction activities associated with the project.
- Determine existing ambient and background noise levels at the nearest noise sensitive receivers in the vicinity of the project.
- Establish the appropriate noise assessment criteria in accordance with the relevant standards and guidelines.
- Carry out an assessment to determine whether the relevant criteria can be achieved based on the proposed construction activities.
- Where applicable, provide recommendations are made for reasonable and feasible measures to be incorporated into the project in order to ensure compliance with the assessment criteria.

Acoustic Studio determined that the nearest noise sensitive receivers to the activity (both construction works and operation) would be both the hospital itself and residential and commercial receivers primarily to the south, north-east, and south-west of the hospital. Areas to the north would generally be shielded by the topography and by distance, whilst areas to the south-east would be in part shielded by the existing main hospital building.

Acoustic Studio undertook surveys of the existing noise environment at and around the hospital through attended monitoring and unattended long-term noise monitoring. These results informed the project's Rating Background Noise Levels and the consequential Noise Management Levels (NML) in relation to construction works. A summary of Acoustic Studio's findings and assessment is set out below.

Construction Noise and Vibration

Proposed base construction hours are as follows, which are consistent with the ICNG Standard Construction Hours:

- Monday to Friday - 6:00am to 7:00pm.
- Saturday - 8:00am to 1:00pm.
- Sunday and Public Holidays – No works.

Based on the likely types of plant and equipment to be used during construction and its associated activities, Acoustic Studio has predicted that:

- Construction noise impacts will have the highest noise level impact at existing Broken Hill Hospital buildings on the site, with noise levels predicted up to 26 dB above NMLs but generally within the “Highly Noise Affected” noise levels (i.e. < 75dBA).
- Residential construction noise impacts are highest at the residential receivers to the south of the site, on Thomas Street, with noise levels predicted up to 31 dB above NMLs when works are nearest to the receiver during standard hours but generally within the “Highly Noise Affected” noise levels (i.e. < 75dBA).
- Considering the above typical worst case, it is noted that:
  - the predictions for noise levels above NMLs is not unusual given the plant and equipment that must be used, such as excavators and piling, and the proximity to sensitive receivers (some of which are within 30m).
  - Noise levels from operations of various plant and equipment are predicted to be up to 5-10 dB lower when location of activities within the site boundary are further away from a particular receiver, and in some cases, within the NMLs depending on the distance to the receiver.
  - Many of the high-noise works in close proximity to noise sensitive receivers will be of relatively short duration, which will lessen the impacts.
  - Noise mitigation measures such as hoarding for certain activities can provide up to 10 dB reduction.

Further in relation to the ED works, adjacent to and within the ongoing operational hospital:

- Airborne noise is expected to affect directly adjacent spaces to the works which will typically be horded off.
- Structure-borne noise will have the greatest impact from sources such as hammer drills, jackhammers and saws where there is contact with the structure. It is not possible to confirm the extent of impact without detailed assessment understanding of the structure (construction joints etc) and / or pilot testing.
- It will be critical to consult with users and stakeholders to practically schedule noisy and vibration intensive works around nearby areas (including concrete saws and jackhammers).
- Vibration is likely to have the greatest impact on adjacent medical imaging areas. Consultation should be carried out with the medical imaging department to confirm vibration sensitivity requirements and operational hours and avoid vibration-intensive activities during those hours if practicable.
- As the building will be in continuous operation during the works (including patient / sleeping areas) the works should implement all reasonable and feasible measures as described in Section 9 (of the assessment) to limit noise and vibration impacts.

To address the range of construction noise matters arising, Acoustic Studio has recommended a range of general control elements as noise mitigation measures or strategies, which include:

- Plant and equipment
  - Use quieter methods.
  - Use quieter equipment.

  - Operate plant in a quiet and effective manner.
  - Where appropriate, limit the operating noise of equipment.
  - Maintain equipment regularly.
  - Where appropriate, obtain acoustic test certificates for equipment.
- On-site noise management
  - Strategically locate equipment and plant.
  - Avoid the use of reversing alarms or provide for alternative systems.
  - Maximise shielding in the form of existing structures or temporary barriers.
  - Schedule the construction of barriers and structures so they can be used as early as possible.
  - Brief Project staff and workers on the noise sensitivity of the neighbours to the site, particularly the residents nearby. The staff and workers need to be mindful of the noise from their discussions and colour of the language, particularly in sensitive periods, for example, during the pre-start times or “toolbox talk” as they gather to commence for work in the morning.
- Consultation, notification and complaints handling
  - Provide information to neighbours before and during construction.
  - Maintain good communication between the community and Project staff.
  - Have a documented complaints process and keep register of any complaints.
  - Give complaints a fair hearing and provide for a quick response.
  - Implement all feasible and reasonable measures to address the source of complaint.
- Work scheduling
  - Schedule activities to minimise noise impacts.
  - Ensure periods of respite are provided in the case of unavoidable maximum noise levels events.
  - Keep truck drivers informed of designated routes, parking locations and delivery hours.

Acoustic Studio has recommended that a Construction Noise and Vibration Management Plan (CNVMP) shall be prepared by the contractor. Implementation of all reasonable and feasible mitigation measures for all works will ensure that any adverse noise impacts to surrounding residential, commercial, and recreational receivers are minimised. Project specific mitigation measures shall include:

- Scheduling, Duration and Respite Periods
- Noise Barriers or Screening
- Alternative construction methodology or equipment
- Communication
- Complaints management
- Construction Vibration

Vibration

Based on the likely types of plant and equipment to be used during construction and its associated activities, it is not expected that these will generate vibration levels exceeding relevant criteria at any external receiver. Ground borne noise from the likely construction activities is not anticipated to be audible above airborne noise inside residential receivers, and will not require specific controls.

In areas adjacent to the existing hospital, structure-borne noise will have the greatest impact from sources such as hammer drills, jackhammers and saws where there is contact with the structure. It is not possible to confirm the extent of impact without detailed assessment understanding of the structure (construction joints etc) and / or pilot testing.

It will be critical to consult with users and stakeholders to practically schedule noisy and vibration intensive works around nearby areas (including concrete saws and jackhammers). Vibration is likely to have the greatest impact on adjacent medical imaging areas and consultation should be carried out with the medical imaging department to confirm vibration sensitivity requirements and operational hours and avoid vibration-intensive activities during those hours if practicable.

As the hospital buildings (particularly ED) will be in continuous operation during the works (including patient / sleeping areas) the works should implement all reasonable and feasible measures as described in Section 7 (of the Acoustic Studio assessment) to limit noise and vibration impacts. Additional vibration measures are included at Sections 7.6.2, 7.6.3, 7.6.4, and 7.7.2 of the Acoustic Studio assessment.

Operational Noise

Noise from the external MHU courtyards, the car parks, and from traffic generated by the development are all predicted to comply with the relevant project noise emission criteria and therefore is not expected to have adverse noise impacts on noise sensitive receivers surrounding the site.

Mechanical plant and equipment associated with the operation of the development is not yet known, notwithstanding, to achieve appropriate acoustic outcomes, mechanical plant and equipment is to be controlled to ensure external noise emissions are not intrusive and do not impact on the amenity of neighbouring receivers in accordance with the relevant criteria established in Section 6 of the Acoustic Studio assessment.

Recommendations are provided for noise controls to key plant. During the detailed design stage, the acoustic consultant shall provide detailed design advice to the architect and mechanical engineer to ensure that noise emissions from mechanical plant are effectively controlled to meet the relevant criteria at the nearest receiver boundaries.

The project's Mitigation Measures at **Appendix AA** have incorporated the Acoustic Studio recommendations to ensure appropriate treatment of the noise and vibration environment at and around the hospital results during both construction and operation. The proposed Mitigation Measures have also incorporated standard HI measures in relation to possible extended hours of works where they arise or a required.

6.2.3 Air Quality and Energy

Questions to consider	Yes	No
Could the works result in dust generation?	X	
Could the works generate odours (during construction or operation)?	X	
Will the works involve the use of fuel-driven heavy machinery or equipment?	X	
Are the works located in an area or adjacent to land uses (e.g. schools, nursing homes) that may be highly sensitive to dust, odours or emissions?	X Hospital itself	

An Air Quality Assessment (AQA) has been prepared by JBS&G in relation to the project in line with the HI 'Design Guidance Note (DGN) 017 – Construction Works under SEPP', which states that "certain development for the purpose of a Health Service Facility can be undertaken as development without consent – i.e. that approval is not required from a consent authority. In these circumstances, a Review of Environmental Factors (REF) is prepared to assess whether there will be a significant environmental impact". As such, the AQA must include the assessment of construction and operational air quality impacts for the onsite and on nearby sensitive receivers during both the redevelopment program.

The AQA (see **Appendix R**) includes a detailed review of previous investigations, site setting, environmental condition, surrounding land uses, known contamination status of the site, proposed development scenario and was undertaken in accordance with the regulatory requirements, and to meet the HI REF requirements for the redevelopment.

Potential sources of air and odour emissions were identified, as detailed in Section 5.1 of the AQA, principally associated with movement of plant/vehicles and construction materials (gravel/sands/concrete) and the use of fuels (for equipment/plant etc.). A qualitative assessment of potential health and nuisance impacts associated with emissions to air, specifically dust, and odours was performed in accordance with relevant NSW Environment Protection Authority (EPA) guidelines and also industry best practice guidance.

JBS&G considers potential sources of air emissions can be adequately managed via implementation of appropriate controls and monitoring of air quality impacts (if any) as detailed in Section 6 of the AQA for the duration of the Early and Main Works program.

JBS&G concludes:

- The proposed redevelopment program for the MHU and ED upgrades are considered to be small with respect to the scale of construction and earthworks required. Nonetheless in the event that dust mitigation measures are not implemented the proposed construction and trackout activities are conservatively assessed as presenting a low risk for both dust soiling and human health impacts.
- Odours from fill and soils currently present on the site were not reported during recent JBS&G site investigation works. As such the proposed works are considered not to represent a significant potential source of odour emissions. While JBS&G is unable to comment on the odour generating potential of materials to be used for the new building construction, it is considered that odours from new building materials, if any, would be managed effectively under the CEMP for the project.
- Under the proposed redevelopment plans, it is anticipated that plant/equipment utilised at the site will meet the minimum emissions standards outlined by the NSW EPA (required for registration), and standard construction requirements (i.e., documentation of plant maintenance and service history checklists etc.).
- The site is located within the operational Broken Hill Base Hospital, which borders with low-density residential/commercial properties. Numerous potentially sensitive receptors exist in proximity of the site and primarily comprise staff and patients within the Broken Hill Hospital, staff and patrons of adjacent commercial properties; and residents of nearby low density houses.
- As discussed above, given that the proposed construction and earthworks are temporary and small in scale, JBS&G consider potential sources of air emissions that are likely to occur will be limited to dust emissions. Based on JBS&G's previous experience these potential dust emissions that may occur during the redevelopment program can be adequately managed via implementation of appropriate controls and monitoring of air quality impacts.

Accordingly, the Air Quality Management Strategy (as set out in Section 6 of the JBS&G AQA) includes the following matters:

- General controls required for the work area
- Diesel particulate matter exposure monitoring
- Real-time respirable particulate (dust) monitoring
- Visual monitoring
- Dust management
- Odour management.

These have been included in the proposed Mitigation Measures as found at **Appendix AA** to this REF.

6.2.4 Soils and Geology

Questions to consider	Yes	No
Will the works require land disturbance?	X	
Are the works within a landslip area?		X
Are the works within an area of high erosion potential?		X
Could the works disturb any natural cliff features, rock outcrops or rock shelves?	X	
Will the works result in permanent changes to surface slope or topography?	X	
Are there acid sulfate soils within or immediately adjacent to the boundaries of the work area? And could the works result in the disturbance of acid sulfate soils?		X
Are the works within an area affected by salinity?	X Slightly saline to very saline	
Is there potential for the works to encounter any contaminated material?	X Asbestos fill in only one testing location	

Salinity

PSM has prepared a Salinity Management Plan in relation to the site and the proposed works – see **Appendix S**. The aims of the Salinity Management Plan is to effectively manage site salinity, minimise the effect of the proposed development on salinity processes, and to protect the proposed development from salinity damage.

As noted in the report and above, based on testing carried out the site, sands at the site are slightly to moderately saline, with clays being very saline.

To address these level of salinity, PSM has recommended management and mitigation measures in relation to the following, which are also included in the proposed Mitigation Measures at **Appendix AA**.

- Earthworks
- Importation of Soil
- Gardens and Landscaped Areas
- Roads, footpaths and hardstand areas
- Surface water, stormwater, and drainage
- Durability of concrete structures in contact with the ground

Acid Sulphate Soils and other geotechnical conditions

PSM has also carried geotechnical fieldwork and prepared an geotechnical assessment – see **Appendix T**.

The sub-surface conditions encountered at the site generally comprised a shallow fill overlying natural soil overlying bedrock.

In terms of groundwater conditions tested, PSM advises groundwater was encountered to the top of bedrock, with measured groundwater possibly representing an aquifer perched a lower permeability unit at the site. Such an aquifer would be expected to be sensitive to rainfall with the resulting water table likely to vary during rainfall events and extended periods of dry or wet weather.

The site is not subject to mine subsidence with the site not indicating to be in a mine subsidence district.

The site is also unaffected by Acid Sulphate Soils.

Earthworks and sediment and erosion control

The earthworks proposed are split between those required in relation to the initial stage of works to deliver the ED and MHU and its ancillary parking and road access changes, and the later Stage 2 earthworks to deliver the additional at-grade parking.

Throughout the works, TTW proposes sediment and erosion control measures and devices such as siltation fences, geotextile filter pit surrounds, sandbag sediment inlet traps, and temporary construction vehicle exits operating as shakers and/or wash water as trucks leave the site.

See the TTW Civil Engineering package at **Appendix E**. Measures are adopted via the approved documentation.

6.2.4 Coastal risks

Questions to consider	Yes	No
Are the works affected by any coastal risk/hazard provisions?		X
Is any coastal engineering advice required, proportionate to the proposed activity?		X

6.2.5 Hydrology, Flooding and Water Quality

Questions to consider	Yes	No
Are the works located near a natural watercourse?		X
Are the works within a Sydney Drinking Water Catchment?		X
Are the works located within a floodplain?		X
Is the development activity located above Probable Maximum Flood Levels?	X See commentary	
Will the works intercept groundwater?		X
Will a licence under the *Water Act 1912* or the *Water Management Act 2000* be required?		X
Has stormwater management been adequately addressed?	X	

TTW (as part of its Civil Engineering package) has provided a Civil Report addressing, amongst other things, Water Quality, Water Quantity, and Flooding.

Water Quality

TTW advises that whilst the Broken Hill DCP requires Water Sensitive Urban Design (WSUD) to be included for new developments, specific pollution reduction targets are not specified.

Accordingly, a typical MUSIC model has not been developed by TTW as it is not required to meet any set water quality targets. Notwithstanding, the development includes rainwater harvesting and swales which meets the Broken Hill DCP requirements and provides betterment to existing water quality and urban run-off scenarios.

Water Quantity

The lower campus generally drains to the south-west towards the MHU site and onwards to Thomas Street. Due to the increase in impervious area within this part of the lower campus arising from the road and car park works and the MHU itself, and because the proposed MHU development will block the existing overland flow path falling towards Thomas Street, a stormwater diversion along the proposed road has been adopted by TTW.

From the overall existing catchment area of 2.77ha, the impervious area is about 48%. There are three areas of new development, being the ED, MHU, and the changes to the access road and car parking. There will be increase in impervious area due to the development. To address changes in stormwater flow and to manage this, On site detention (OSD) has been designed for the proposed development to limit the post-development discharge.

The ED area will be provided with an oversize pit to capture the roof water and act as OSD. The MHU area will discharge to a 60m^3 OSD tank to its immediate south, whilst the road and new carpark spaces are conveyed to a

swale to manage stormwater runoff. The Stage 2 car park will be similarly catered for with a 35m^3 OSD tank. Based on a DRAINS model run by TTW to establish the post-development peak discharge flow rates in a range of rainfall events (1% AEP, 20 AEP and 5% AEP) will all be equal to, or better than, the pre-development flows based on these OSD tanks and the pits and swales.

Flooding

In light of the NSW Flood Inquiry (2022) and associated NSW Government guides and policies, including Recommendation 28 of the NSW Flood Inquiry (2022), hospitals are required to be situated above the Probable Maximum Flood (PMF) level.

_planning has liaised with Council to determine if the hospital site has any history of flooding. This appears unlikely given the lack of a waterway near the hospital, it not being within an identifiable floodplain, and due to the variable topography in the site's immediate environs. Clarification of the existence of a flood study was further requested, given the absence of any such information on Council's webpage.

In response Council confirmed that it does not have a recent flood study. Council advised that it is in the early stages of a process to have consultants undertake a Broken Hill-wide flood and stormwater management study, however this has not yet commenced.

TTW has further considered flooding advising that *there is no existing Council flood study for the area so 1 in 100 year and Probable Maximum Flood (PMF) levels are not available. Publicly available LiDAR data has been reviewed and the upstream catchment is limited by the ridgeline of Morgan Street to the north west. There are overland flow routes along Chloride Street and Thomas Street away from the site. The floor level for the MHU (309.5m) is 1m above that of the existing hospital (308.5m). This provides 300mm freeboard to the overland flow route along the internal road and car parking areas in line with the Broken Hill DCP requirements.*

In summary, there is no known flood risk and therefore no established PMF level for Broken Hill (or this part of Broken Hill). Overland flows have been allowed for and are addressed through the civil design. Based on this, it can only be concluded that the hospital is not subject to flooding to a PMF level and the development is appropriately placed and set in relation to known overland flow scenarios.

6.2.6 Visual Amenity

Questions to consider	Yes	No
Are the works visible from residential properties or other land uses that may be sensitive to visual impacts?	X MHU only and only from Thomas Street	
Will the works be visible from the public domain?	X As above	
Are the works located in areas of high scenic value?		X
Will the works involve night work requiring lighting?		X Not externally

Given the modest scale and scope of the works, STH has not prepared a Visual Impact Assessment as part of its Design Statement.

As noted in this REF, the ED-related works are located reasonably centrally within the hospital and face inwards. The closest public edge external to the hospital is some 115m to the east on Chloride Street, where only distant and oblique views to this part of the hospital are available.

The MHU will be more readily visible from public places on and opposite Thomas Street. However, given its low-rise single-storey profile, part of which will be nestled behind the Sub-Acute IPU building, and which is otherwise some 40-45m setback off Thomas Street, the likely visual impacts will be negligible. Whilst some tree removal will open this part of the campus up to greater and wider vistas, replacement planting and landscaping over time will have beneficial impacts of further screening and softening these limited views into the hospital.

The Southern Cross Care / War Vets aged care facility located at the corner of Bromide and Thomas Streets is located some 100m to the west of the MHU and views and vistas to the hospital from these sensitive land uses are presently punctuated by the staff accommodation which sits in between.

It can be concluded that the MHU and the ED will not have any significant or transformative visual impacts upon the immediate neighbourhood where views may be enjoyed into the hospital campus.

No further mitigation measures are considered relevant or necessary in this instance.

6.2.7 Aboriginal Heritage

Questions to consider	Yes	No
Will the activity disturb the ground surface or any culturally modified trees?	X Ground only	
Are there any known items of Aboriginal heritage located in the works area or in the vicinity of the works area (e.g. previous studies or reports from related projects)?		X
Are there any other sources of information that indicate Aboriginal objects are likely to be present in the area (e.g. previous studies or reports from related projects)?		X
Will the works occur in the location of one or more of these landscape features and is on land not previously disturbed? • Within 200m of waters; • Located within a sand dune system; • Located on a ridge top, ridge line or headland; • Located within 200m below or above a cliff face; • Within 20m of, or in a cave, rock shelter or a cave mouth.		X
If Aboriginal objects or landscape features are present, can impacts be avoided?	X	
If the above steps indicate that there remains a risk of harm or disturbance, has a desktop assessment and visual inspection been undertaken?	X	
Is the activity likely to affect wild resources or access to these resources, which are used or valued by the Aboriginal community?		X
Is the activity likely to affect the cultural value or significance of the site?		X

OzArk has prepared an Aboriginal Due Diligence Assessment to address the potential for Aboriginal cultural heritage at the site and the potential for any impact upon such heritage – see **Appendix U**.

The due diligence assessment has been prepared in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (OEH 2010)*. It has concluded that an Aboriginal Heritage Impact Permit (AHIP) is not required in relation to the works. Further, based on these findings of the assessment, it can be concluded that an Aboriginal Cultural Heritage Assessment Report (ACHAR) is also not required.

The Aboriginal Due Diligence Assessment Report is provided in both an assessment version for the purposes of the REF and as a public (redacted) version for later publication. The OzArk assessment is accompanied by a separate recent AHIMS search.

OzArk has concluded, following its site inspection that no Aboriginal sites or areas with potential subsurface deposits were recorded during the visual inspection.

The undertaking of the due diligence process resulted in the conclusion that if proposed works proceed, they will have an impact on the ground surface, however, no Aboriginal objects or intact archaeological deposits will be harmed by the proposal. This moves the proposal to the following outcome:

- AHIP (Aboriginal Heritage Impact Permit) application not necessary.
- Proceed with caution.

- If any Aboriginal objects are found, stop work, and notify Heritage NSW (02) 9873 8500 (heritagemailbox@environment.nsw.gov.au).
- If human remains are found, stop work, secure the site, and notify NSW Police and Heritage NSW.

To ensure the greatest possible protection to the area's Aboriginal cultural heritage values, the following recommendations are made by OzArk:

1) The proposed work may proceed within the study areas without further archaeological investigation under the following conditions:

a) All land and ground disturbance activities must be confined to within the study area, as this will eliminate the risk of harm to Aboriginal objects in adjacent landforms. Should the parameters of the proposal extend beyond the assessed areas, then further archaeological assessment may be required.

b) All staff and contractors involved in the proposed work should be made aware of the legislative protection requirements for all Aboriginal sites and objects.

2) This assessment has concluded that there is a low likelihood that the proposed work will adversely harm Aboriginal cultural heritage items or sites. If during works, however, Aboriginal artefacts or skeletal material are noted, all work should cease and the procedures in the Unanticipated Finds Protocol (Appendix 2 of the OzArk assessment) should be followed.

3) Inductions for work crews should include a cultural heritage awareness procedure to ensure they recognise Aboriginal artefacts (see Appendix 3 of the OzArk assessment) and are aware of the legislative protection of Aboriginal objects under the *National Parks and Wildlife Act 1974* (NPW Act) and the contents of the Unanticipated Finds Protocol.

4) The information presented here meets the requirements of the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales. It should be retained as shelf documentation for five years as it may be used to support a defence against prosecution in the event of unanticipated harm to Aboriginal objects.

The above have been included in the REF's overall Mitigation Measures as found at **Appendix AA**.

Additionally, a Basic AHIMS Search carried out by _planning in October 2023 reveals that the hospital site and its immediate environs does not contain any recorded Aboriginal sites or any declared Aboriginal places. See the AHIMS Search result at **Appendix U** along with the OzArk Aboriginal Due Diligence Assessment.

6.2.8 Non-Aboriginal Heritage

Questions to consider	Yes	No
Are there any heritage items listed on the following registers within or in the vicinity of the work area? • NSW heritage database (includes Section 170 and local items); • Commonwealth EPBC heritage list.	X See below Both 'indirect' local and national heritage affectation	
Will works occur in areas that may have archaeological remains?		X
Is the demolition of any heritage occurring?		X

To address the possible impacts of the works upon non-Aboriginal heritage (namely Local, State, National, and s170 listings) OzArk has prepared a Statement of Heritage Impact – see **Appendix K**.

As noted in this REF, the hospital is:

- Wholly mapped as being a local heritage item (I25) which is described in Schedule 5 of the LEP as 'Old areas of Broken Hill Hospital' and within the address nominated as '170–320 Thomas Street (parts)'.

- Not within a mapped heritage conservation area under the LEP, noting it directly abuts the hospital and covers Chloride Street at the hospital's frontage.
- Not on the State Heritage Register.
- Forms part of the National Heritage listing for the City of Broken Hill.

Additionally, the State Heritage Inventory indicates that 79 Cornish Street, Broken Hill is identified as the location of Broken Hill Hospital under the NSW Heritage Database s170 listing, however this is some kilometres to the west of the actual hospital site. Based on this inaccurate information it I assumed that the site is not subject to a current or maintained s170 listing.

Further, two local heritage items are located in proximity to the hospital, these being Local Heritage item I78 - House and shop, 320 Chloride Street, and Local Heritage item I80 – House, 303 Sulphide Street.

The LEP heritage map is shown in **Figure 56** below. **Figures 57** and **58** show a number of the buildings sitting within the 'Old areas of Broken Hill Hospital' on the upper campus. The two nearby local heritage items are shown in **Figures 59** and **60**.

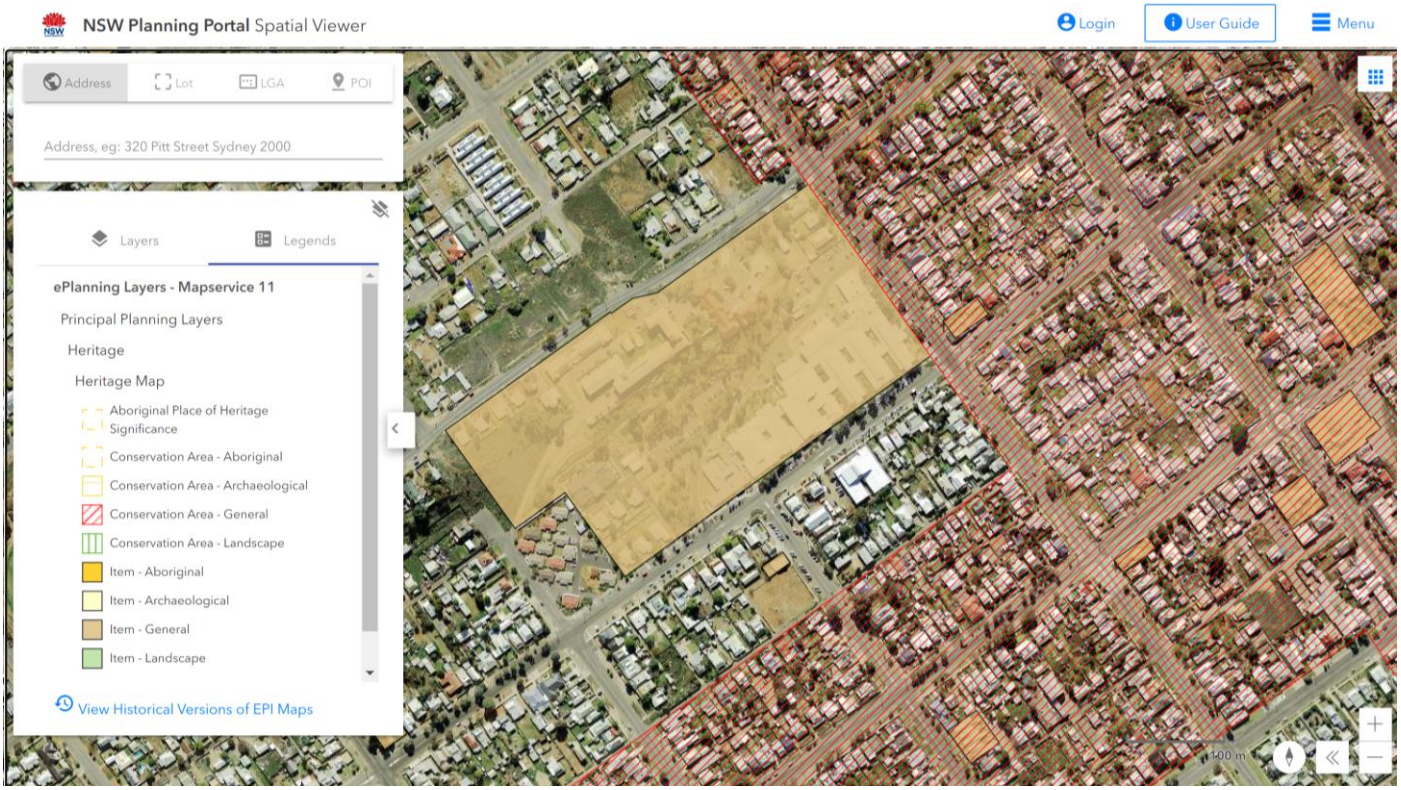

Figure 56 - Broken Hill LEP 2013 heritage map (ePlanning Spatial Viewer)

OzArk's assessment has concluded that:

- The local heritage significance of the old hospital precinct is derived from its contribution to the health history of the Broken Hill region and its aesthetic contribution to the heritage environment of the city.
- The proposal will not impact significant fabric or result in changes to the buildings and items with heritage significance that are within the curtilage of the 'old areas of Broken Hill Hospital' on the Broken Hill LEP (item I25). The modification of the ED and construction of a new MHU will ensure future use and maintenance of the heritage items within the heritage curtilage.
- No known significant archaeological deposits will be impacted by the proposal.
- It is therefore concluded that the proposal will have a minor or inconsequential impact on the heritage values contained within the I25 listing.

- The proposal will have negligible impacts to the heritage values of the Broken Hill Conservation Area and to the nationally listed City of Broken Hill. The National Heritage listing of the City of Broken Hill relates largely to the city's mining history. The old hospital precinct does not relate directly or contribute to the values identified in the National Heritage listing of the City of Broken Hill. As such, national heritage values will not be harmed. However, while the 'old areas of Broken Hill Hospital' are not of national significance, modification to the design of the Hospital must take care not to diminish the aesthetic values of the City of Broken Hill.
- The alterations and additions to the modern Hospital building will not have a physical or visual impact on the heritage values of the buildings of the old hospital precinct.
- As a result, the proposal will not introduce elements to the landscape that will detract or diminish the public's appreciation of the mining history of Broken Hill, the aesthetics of the mining landscape of Broken Hill, or impact places with a known association to well-known individuals.
- It is therefore concluded that the proposal will not have a significant impact on the heritage values of the 'old areas of Broken Hill Hospital'.

To ensure the greatest possible protection to the Hospitals' historical and aesthetic heritage values, OzArk has made the following recommendations:

1. The proposal can proceed unless there are changes in plan design resulting in impacts outside the proposal footprint, in which case further investigation may be required.

2. The works are occurring within the heritage curtilage of a locally listed item but will have a 'minor or inconsequential' impact on the historic items within this curtilage. Under the Transport and Infrastructure SEPP (Section 2.61), the development can therefore proceed without consent from council. However, it is recommended that a copy of this SOHI be forwarded to the Broken Hill City Council for their records.

3. No referral to the Commonwealth under the EPBC act is required as the proposal will not affect the national heritage values of the City of Broken Hill. However, the design of the modification and new construction should be consistent with the Development Control Plan to not impact the aesthetics of the nationally listed City of Broken Hill or the 'old areas of Broken Hill Hospital'.

4. The risk of impact to significant archaeological deposits has been assessed as low. If potential historic artefacts with heritage significance are identified during works, the unanticipated finds protocol (Appendix 1 of the OzArk assessment) should be followed.

Relevant recommendations are included in the Mitigations Measures as found at **Appendix AA**.

Figure 57 – Original Men's Surgical Ward building (1890) on the upper campus – part of the hospital's heritage listing

Figure 58 – Original laundry building (1890) and original mortuary building (1885) – part of the hospital's heritage listing

Figure 59 – Local Heritage item I78 - House and shop, 320 Chloride Street

Figure 60 – Local Heritage item I80 – House, 303 Sulphide Street

6.2.9 Ecology

Questions to consider	Yes	No
Could the works affect any *Environmental Protection and Biodiversity Conservation Act 1999 (Cth)* listed threatened species, ecological community or migratory species?		X
Is it likely that the activity will have a significant impact in accordance with the *Biodiversity Conservation Act 2016* (BC Act)? In order to determine if there is a significant impact, the REF report must address the relevant requirements of Section 7.2 of the BC Act: • Section 7.2(a) – Test for significant impact in accordance with Section 7.3 of the BC Act; • Section 7.2(c) – It is carried out in a declared area of outstanding biodiversity value.		X
Could the works affect a National Park or reserve administered by EES?		X
Is there any important vegetation or habitat (i.e. Biodiversity and Conservation SEPP) within or adjacent to the work area?		X
Could the works impact on any aquatic flora or habitat (i.e. seagrasses, mangroves)?		X
Are there any noxious or environmental weeds present within the work area?		X
Will clearing of native vegetation be required?	X Selected tree removal – some of which is native vegetation	

Ecology

OzArk has prepared a Biodiversity Assessment Report in relation to the site and the impact of the proposed works – see **Appendix J**.

An onsite field survey was conducted by Biodiversity Assessment Method (BAM)-accredited OzArk Senior Ecologist Dr Crystal Graham on the 13th of February 2023.

The subject site, 2.950 hectares (ha) in size, consisted of native and non-native vegetation, as well as the existing Broken Hill Hospital, road surfaces and planted vegetation. This planted vegetation incorporated a mixture of ornamental species, some exotic and some native to Australia (although not the Broken Hill area). Although this vegetation would provide potential foraging/nesting opportunities for native fauna, it could not be assigned to any Plant Community Type (PCT). All 0.167 ha of locally occurring native vegetation was found to belong to a single PCT:

- PCT 155 – Bluebush shrubland on stony rises and downs in the arid and semi-arid zones.

This PCT is not associated with any Biodiversity Conservation Act 2016 (BC Act) or Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) Threatened Ecological Community (TEC). Therefore, the proposal will not generate impacts to any TEC.

Four habitat trees, containing eight stick-nests, were recorded within the subject site. Additionally, there is an old shed that may provide roosting opportunities for various microbat species. It is recommended that, where possible, these habitat features be avoided rather than removed. If they must be removed, mitigation measures proposed in this report must be followed to avoid impacts on threatened species.

Given the absence of watercourses from the subject site, the lack of Protected Riparian Land and Key Fish Habitat within the study area, and the distance of the development area to the nearest waterway, it is unnecessary for the proponent to obtain a permit from the Department of Primary Industries - Fisheries to conduct works.

Thirty fauna species recognised as threatened, and seven flora species listed as threatened under the BC and/or the EPBC Acts, were considered to have a moderate or greater probability of occurring at the subject site. However, no listed species were encountered during the field survey. Subject to the implementation of mitigation measures proposed, it has been concluded that no significant biodiversity impacts are likely, including to any threatened or migratory species, population or ecological community, or their habitats. As such, the proposal does not require referral to the Commonwealth Department of Climate Change, Energy, the Environment and Water in respect of these matters, or trigger the need for a Species Impact Statement (SIS) or a Biodiversity Development Assessment Report (BDAR).

This assessment covers the current form of the proposal. Any change to the scope of work may require re-assessment. If entry into the NSW Biodiversity Offsets Scheme is triggered by a changed footprint impacting additional native vegetation, then additional field work and reporting completed according to the BAM may be required.

In drawing these conclusions however, OzArk has provided mitigation measures at Section 7.2 of the Biodiversity Assessment Report which should apply during the construction and operational phases, including managing the vegetation clearing process, weed management, and installation of erosion and sediment controls.

In summary these mitigation measures include:

- General (pre-construction) safeguards.
- Clearing of native vegetation (including habitat trees) safeguards.
- Impacts to habitat features.
- Light.
- Soil Management.
- Introduction and spread of priority weeds and pathogens.
- Disturbance to fallen timber, dead wood, and bush rock.
- Rehabilitating cleared areas.
- Exacerbating invasive fauna.
- Increased risk of fire.

These safeguards / mitigation measures are included in the project's Mitigation Measures at **Appendix AA**.

Arboricultural matters

TreeIQ has prepared an Arboricultural Assessment to support the proposed works – see **Appendix F**.

As noted earlier, of the 215 trees within the development area related to the ED, MHU and car park-related works, 140 are proposed to be retained and protected during works. Of the 215 trees, six (6) are dead and are proposed for removal.

During Stage 1 works 38 trees are to be removed. This includes four (4) trees adjacent to the ED canopy to its west, as well as 34 other trees which are directly affected by the location and positioning of the new MHU and the relocated accessway and its car parking.

The Stage 2 works related to the additional 41 car parking spaces would remove a further 31 trees.

The table below summarises the proposed tree removal relative to the Tree Retention Values established by TreeIQ.

3.1.2 Table 1: Tree Removal

	Priority for Retention	Consider for Retention	Consider for Removal	Priority for Removal
Stage 1 = 38	172 & 194	164, 171, 188, 202, 213, 214 & 215	4, 5, 6, 36, 160, 163, 165, 166, 168, 173, 177, 178, 179, 180, 181, 183, 184, 185, 186, 189, 192, 195 & 200	7, 161, 167, 175, 176 & 196
Stage 2 = 31		110, 111 & 137	107, 108, 109, 112, 113, 114, 115, 116, 117, 118, 119, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 135, 136, 138 & 140	120
TOTAL = 69	**2**	**10**	**50**	**7**

As can be seen, 57 of the 69 trees proposed to be removed have low retention values, with two (2) of the remaining 12 trees a Priority for Retention.

TreeIQ has also considered and assessed the likely level of encroachment of works within the Tree Protection Zone (TPZ) or other encroachments to the remaining 140 trees. Again, a major encroachment occurs only to the minority of trees, and only in relation to four (4) trees considered to be a Priority for Retention – see below.

3.2.2 Table 2: Tree Retention

	Priority for Retention	Consider for Retention	Consider for Removal	Priority for Removal
No works within TPZ = 112	40, 72, 100, 101, 105, 106, 158, 159 & 197	51, 54, 56, 58, 68, 69, 78, 80 & 209	8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 23, 26, 27, 28, 29, 30, 31, 32, 33, 35, 37, 38, 39, 41, 42, 46, 47, 50, 53, 63, 64, 65, 66, 67, 70, 71, 74, 75, 76, 77, 79, 81, 82, 83, 84, 85, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 102, 103, 104, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 152, 153, 154, 155, 156, 157, 190, 198, 203, 204, 206, 207, 211 & 212	9, 55, 59, 73, 86 & 151
Minor Encroachment = 10		49 & 210	19, 22, 34, 43, 62, 133, 134 & 139	
Major Encroachment = 18	25, 45, 48 & 61	24 & 57	1, 2, 3, 44, 60, 162, 170, 174, 182, 193, 205 & 208	
TOTAL = 140	13	13	108	6

As a mitigation to the trees removed, based on the HI Canopy Tree Replacement policy, new plantings at a ratio of 'better than 1:1' will be required. It is proposed to plant 48 trees as part of Stage 1 (a ratio of 1.26:1) and plant 36 trees under Stage 2 (a ratio of 1.16:1). Overall, some 84 new trees are proposed to address the loss of 69 trees. This equates to the replacement ratio of 1.22:1, satisfying the HI policy.

Tree IQ concludes and recommends as follows with respect to the tree removal and tree retention at the site:

- Two-hundred and fifteen (215) trees and tree groups were addressed within this report and comprise a mix of locally indigenous, Australian native and exotic species. Trees 52, 169, 187, 191, 199 and 201 are dead. As a population, the trees provide significant amenity and canopy cover to the hospital site. However, many of the individual trees are semi-mature and early mature specimens and/or below 10m in height. In this regard, one hundred and fifty-nine (159) trees are of low Landscape Significance.

- The supplied plan shows that sixty-nine (69) trees (Trees 4-7, 36, 107-132, 135-138, 140, 160, 161, 163-168, 171-173, 175-181, 183-186, 188, 189, 192, 194-196, 200, 202, 213, 214 & 215) will need to be removed to accommodate the proposed Stage 1 and 2 development works. Of these, fifty-seven (57) trees have been allocated either a Retention Value of Priority for Removal or Consider for Removal.

- The supplied plans show that one hundred and forty (140) trees are to be retained as part of the proposed development works. Tree sensitive methods will be required for Trees 1-3, 24, 25, 44, 45, 48, 57, 60, 61, 162, 170, 174, 182, 193, 205 and 208 to minimise adverse impacts. The trees should be protected in accordance with Section 3.0 Arboricultural Impact Assessment, Tree Protection Specification (Appendix 5) and Typical Tree Protection Details (Appendix 6).

- Replacement trees should be installed within the hospital site to help off-set the loss of canopy cover from the tree removal. New trees should be grown in accordance with Australian Standard 2303 Tree Stock for Landscape Use (2015).

These recommendations form part of the project's Mitigation Measures at **Appendix AA**.

6.2.10 Bushfire

Questions to consider	Yes	No
Are the works located on bushfire prone land?		X
Do the works include bushfire hazard reduction work?		X
Is the work consistent with a bush fire risk management plan within the meaning of the *Rural Fires Act 1997* (RF Act) that applies to the area or locality in which the activity is proposed to be carried out?		N/A

6.2.11 Land Uses and Services

Questions to consider	Yes	No
Will the works result in a loss of or permanent disruption of an existing land use?		X
Will the works involve the installation of structures or services that may be perceived as objectionable or nuisance?		X
Will the works impact on or be in the vicinity of other services?		X

6.2.12 Waste Generation

Questions to consider	Yes	No
Will the works result in the generation of non-hazardous waste?	X	
Will the works result in the generation of hazardous waste?	X	
Will the works result in the generation of wastewater requiring off-site disposal?		X
Will the works require augmentation to existing operational waste management measures?	X	

Tandem Solutions has prepared an Operational, Demolition & Construction Waste Management Plan in relation to the project – see **Appendix V**. The plan has been prepared consistent with a range of National, State and Local standards and requirements in relation to waste handling and management.

The waste management plan has three key objectives:

- To minimise the environmental impacts of the operations of the development –
  - this will be achieved by ensuring maximum diversion of waste from landfill; and
  - correct containerisation and transport of materials; correct segregation of materials into appropriate management streams; awareness among tenants of waste avoidance practices.
- To minimise the impact of the management of waste within the development on the community –
  - this will be achieved by ensuring waste is managed so as to avoid odour and litter and collected during suitable times.
- To ensure waste is managed so as to reduce the amount landfilled and to minimise the overall quantity generated –
  - this will be achieved by implementing systems that assist tenants to segregate appropriate materials that can be recycled; and
  - displaying signage in all tenant areas to remind and encourage avoidance and recycling.

Demolition and Construction

The Demolition Waste Management Plan has been developed to ensure that all waste resulting from demolition activities is managed in an effective, safe and environmentally aware manner. Specifically, it seeks to:

- Minimise the generation of waste to landfill.
- Maximise waste material avoidance and reuse on site.

- Ensure that where practicable, an efficient recycling procedure is applied to waste materials.
- Raise awareness among employees and subcontractors of their waste management responsibilities.

It makes assumptions on the likely volumes of waste generated by the demolition and construction works. Management procedures are recommended in Section 7, 8 and 9 of the plan and which are carried forward into the Mitigation Measures (as far as may be relevant) at **Appendix AA**.

Operational

The plan has predicted the estimated generation rates of various types of wastes, including general waste, recyclables, and clinical individually for the ED and MHU components of the project. It has then determined the number, type and sizes of bins required in order to ensure appropriate waste handling space is devoted to each components for the operation waste is it likely to generate relative to the frequency of collection. The plan has also considered the proposed locations and accessibility in management of waste to those locations internally and externally to the ED and MHU.

Management procedures are recommended in Section 3 of the plan and which are carried forward into the Mitigation Measures (as far as may be relevant) at **Appendix AA**.

6.2.13 Hazardous Materials and Contamination

Questions to consider	Yes	No
Is there potential for the works to encounter any contaminated material?	X	
Is there potential for the works to disturb or require removal of asbestos?	X	
Is the work site located on land that is known to be or is potentially contaminated?		X Asbestos fill in only one testing location
Will the works require a Hazardous Materials Assessment?	X	
Is a Remediation Action Plan (RAP) required to establish the proposed activity?	X	
Is the remediation work category 2 works under Resilience and Hazards SEPP?	X At this stage - pending data gap investigation	

Hazardous materials

To address pre-demolition hazardous materials JBS&G has undertaken a Pre-Demolition Hazardous Building Materials Survey, which is found at **Appendix W**. The survey was prepared to identify the presence of hazardous materials within nominated areas of the current hospital infrastructure that will potentially be impacted by the MHU and ED construction.

The nominated interface/redevelopment areas were inspected for the following hazardous materials:

- Asbestos containing materials (ACMs);
- Asbestos containing dust (ACD);
- Lead based paints (LP);
- Lead containing Dust (LCD)
- Synthetic mineral fibres (SMF); and
- Polychlorinated biphenyls (PCB).

The survey accordingly presents the outcomes of the inspection undertaken by JBS&G personnel and provides recommendations on requirements for the removal of identified hazardous materials in accordance with regulations and guidance in force at the time of the inspection.

JBS&G has made the following conclusion with respect to hazardous materials based on its assessment.

Hazardous Materials

Identified and suspected hazardous materials were observed throughout the building as a result of visual identification and laboratory analysis.

The following recommendations are made for the removal of the identified hazardous materials to potentially mitigate harmful effects as a result of the proposed works program. The person with management or control of the site, must ensure so far as is reasonably practicable that the identified hazardous materials are removed prior to the commencement of demolition works.

The identified and suspected hazardous materials are presented in the Hazardous Materials Register included at Appendix A of the JBS&G survey. This is summarised below.

Asbestos Containing Materials

No asbestos containing materials were identified at the time of inspection.

Lead Containing Dust

Slightly elevated lead levels where identified withing both upgrade areas, due to the minor level of elevated lead detected, it is recommended that all ground workers wear P2 respiratory protection during demolition activities of this structure. Plant operators must also keep cabin doors closed and air conditioning set to recycle during the completion of demolition of these structures. Care should also be taken to minimise dust generation during demolition activities.

Lead Based Paints

No lead based paints were identified at the time of inspection.

Synthetic Mineral Fibres

The synthetic mineral fibres encountered during this inspection were generally contained and deemed to be low risk. These SMF materials can be removed with the building and demolition waste with care taken not to generate fibres. Appropriate PPE is recommended including the use of P2 respirator as minimum and appropriate removal methodology as outlined in [NOHSC: 1004(1990)] and [NOHSC: 2006(1990)].

Polychlorinated Biphenyls

No polychlorinated biphenyls were identified at the time of inspection.

Unexpected Finds

Any materials deemed to be consistent with those detailed in the Hazardous Materials Register that have not been previously identified should be assumed to have the same content and be treated accordingly.

Should any additional suspected hazardous materials be observed during or prior to demolition works, works should cease until a suitably qualified occupational hygienist can assess the suspected hazardous material and provide appropriate recommendations for management and/or removal.

These recommendations form part of the project's Mitigation Measures at **Appendix AA**.

Contamination

To facilitate planning for the proposed redevelopment, JBS&G has also undertaken a Detailed Site Investigation (DSI) to characterise potential contamination risks, in accordance with the 'Remediation of land' requirements of *State Environmental Planning Policy (Resilience and Hazards) 2021* (R&H SEPP), and to draw conclusions regarding the suitability of the site for the proposed ongoing health services facility land use or make recommendations to enable such conclusions for the site – see **Appendix X**.

JBS&G previously carried out a Preliminary Site Investigation (PSI), which identified that the site was primarily vacant until being developed for a hospital in the 1880s. The PSI recommended that a DSI is undertaken to characterise potential contamination at the site and confirm the suitability of the site (from a contamination perspective) for the proposed redevelopment for ongoing hospital facility land use.

The objectives of the DSI were to assess the potential for historical contaminating activities at the site and provide a preliminary assessment of the suitability of the site for the proposed use, or to make recommendations to enable such assessments to be made in the future.

The completed scope of work comprised: review of site conditions and readily available site history records to identify areas of environmental concern (AECs) and associated contaminants of potential concern (COPCs); completion of a detailed site inspection; development of a conceptual site model (CSM); a soil investigation comprising soil sampling from 19 locations; sampling of three groundwater monitoring wells; laboratory analysis program for representative samples of each media for COPCs; data evaluation against NSW Environment Protection Authority (EPA) endorsed guideline values; and preparation of this report documenting the methods and results of the investigation.

JBS&G has established the following:

- The site was primarily vacant up until 1889, when it was acquired and developed as a public hospital, and has remained a hospital since.
- A SafeWork Dangerous Goods (DG) Search was completed and did not locate any records pertaining to the site.
- A range of AECs and COPCs based on historical and currents uses/activities at the site have been identified, which require more detailed investigation to assess associated potential contamination risks.
- Concentrations of COPCs in soils were all below health-based assessment criteria, therefore, soils do not pose a potential unacceptable risk to potential future site receptors.
- Asbestos containing material (ACM) was visually identified at one location MH-B10 in near surface soil (0-0.2 m) during intrusive investigations. The presence of asbestos in the top 0.1 m of soil and is considered a potential aesthetic issue. A site management strategy is required to address the presence of bonded ACM in surface soils at MH-BH10.
- Although bonded ACM was identified in site soils at one location, the quantified concentrations were below the adopted assessment criteria, and the identified asbestos does not pose an unacceptable risk to potential site receptors. However, because the site is a workplace and due to Work, Health and Safety regulations, an asbestos management plan (AMP) will need to be prepared and implemented for site works that may encounter asbestos impacted soils. This has already been prepared - see the JBS&G Asbestos Management Plan at **Appendix Y**.
- Elevated heavy metals, volatile organic compounds (VOCs) and per- and polyfluoroalkyl substances (PFAS) were detected in groundwater at all three monitoring well locations. Although dichlorobenzene in one sample and TRH and Sum of PFHxS and PFOS in groundwater sampled from all wells exceeded the drinking water criterion, noting the presence of reticulated drinking water in the area, the site groundwater is not considered to be a drinking water source. Therefore, PFAS in groundwater marginally exceeding the drinking water criteria does not affect site suitability for the proposed use.
- Metals and PFAS concentrations in groundwater in all wells and two dichlorobenzenes and anthracene in GW03 exceed adopted ecological screening criteria and pose a potential risk to ecological receptors in the event that groundwater discharges to a receiving surface water body.
- Groundwater impacted with heavy metals, TRH, PFAS and VOCs were recorded across the site, however, based on concentrations of COPCs in site soils, the impacts to groundwater are inferred not be due to an off-site source of impacted groundwater migrating through the site.
- It is noted that the DSI investigation was limited to the MHU and ED footprints provided at the time of investigation. Given the potential for contamination in specific areas across the broader hospital campus, such as asbestos and/or lead impacted soils in areas of historical building demolition, its recommended that validation data gap sampling should be completed in the additional site areas added post assessment.

Based on the findings of this investigation it is concluded that the site can be made suitable for the proposed land use subject to implementation of a Remediation Action Plan (RAP). See the Remediation Action Plan as part of **Appendix X**.

The objective of the RAP is to document the procedures and standards to be followed in order to address data gaps and the contamination identified at the site, ensuring the protection of human health and the surrounding environment, such that the contamination is remediated / managed in such a manner as to make the site suitable for the proposed future uses.

The proposed remediation works are considered to be classified as 'Category 2' Remediation Works – i.e., not requiring development consent.

Subject to the successful implementation of the measures described in the RAP and the recommendations below, it is concluded by JBS&G that the risks posed by contamination can be managed in such a way as to be adequately protective of human health and the environment, such that the site can be made suitable for the proposed hospital use.

JBS&G recommends that the processes outlined in the RAP be implemented and that the following documentation be developed and implemented to ensure the risks and impacts during remediation works are controlled in an appropriate manner:

- Implementation of the AMP (see **Appendix Y**) for the redevelopment footprint, which details the safe implementation of the RAP in undertaking asbestos removal, as guided by the WH&S regulatory framework (SafeWork NSW);
- A CEMP, to document the monitoring and management measures required to control the environmental impacts of the works and ensure the validation protocols are being addressed; and
- A Work Health and Safety Management Plan (WHSP) to document the procedures to be followed to manage the risks posed to the health of the remediation workforce.

The CEMP and WHSP will require to be cognisant of the potential occurrence and storage / handling of asbestos contaminated soils on the site.

6.2.14 Sustainability and Climate Resilience

Questions to consider	Yes	No
Does the activity ensure the effective and efficient use of resources (natural or other)?	X	
Does the activity use any sustainable design measures?	X	
Are climate resilient design measures to be incorporated in the activity?	X	

Steensen Varming has prepared an ESD Report in relation to the ESD initiatives proposed for the project (see **Appendix Z)** to aim to reduce the environmental impacts typically associated with buildings during their construction and ongoing operation. The project utilises a resource hierarchy approach, with emphasis on avoiding, then reduction of energy, water, waste and materials. Resource conservation is a key focus of the sustainability strategy, including strategies for energy, water, and material resources.

The project has applied, and will meet the targets of HI's ESD Evaluation tool from DGN 058. HI ESD evaluation tool is a list of sustainable initiative categorised in nine (9) sustainability sections which cover issues such as management, indoor environment quality, energy, water, waste, transport, emissions, ecology, and innovation.

The project is targeting a self-certified approach to achieve 'Australian Best Practice' level, which is equivalent to 50 points out of 110 available, being 45 points + 5 buffer points (4-star Green Star equivalency rating). The project achieves 52 low/mid risk points in relation to the MHU, whilst the ED component is able to achieve 54 low/mid risk points.

A minimum 10% improvement in energy efficiency compared to a baseline of NCC Section J compliance is also applicable to the development. Any improvement in energy-efficiency beyond the minimum requirements of Section-J, will also contribute towards the project's HI ESD Evaluation Tool energy score. NSW Government has committed to achieving net zero emissions by 2050. DPIE's 'NSW Net Zero Plan, Stage 1:2020-2030' report outlines key priorities for achieving this target. Recently, the NSW Government has committed to an interim target of 50% emission reduction from

2005 levels by 2030. Steensen Varming has recommended a high performance and low carbon outcome for the project to align with the NSW Government's stated emissions reduction targets.

In terms of climate resilience, a range of design-based and operational measures have been adopted or included. With review of Steensen Varming's Climate Change Risk Register, the following are a selection of key actions:

- **Increased Temperatures / Number of Hot Days**
  - Passive Design Optimisation - Façade and building fabric to a min. NCC Section J requirements
  - Materials with a better thermal mass, appropriate shading devices internal and eternally, operable windows to allow for natural ventilation and adaptive comfort and ceiling fans.
  - Provision of trees and covered walkaways for shading
  - Use of soft landscape to reduce heat island effect and improve outdoor thermal comfort.
  - Additional planting around car parking and other areas adjacent to hardscaped areas to improve shading.
  - Light-coloured hardscape elements to avoid and reduce heat island effect.
  - Use of back-up generators, if and when needed
- **Increased in Extreme Heat Days**
  - Passive Design Optimisation - Façade and building fabric to a min. NCC 2019
  - Section J requirements / Increasing insulation R-values / Glazing ratios and performance / Shading / Air tightness / Heat recovery / etc.
  - PV to reduce peak demand.
- **Increased Rainfall & Storm Events**
  - Eaves gutters have been designed for overflow events at a 1:100 AEP. No box gutters have been designed. Specification to include maintenance plan to keep roofs and gutters clear of debris and blockage.
  - Floor levels cater for predicted overland flow events.
- **Increased Drought Events**
  - Drought tolerant species have been selected for the proposed landscaping, which will be supplemented by an irrigation and watering management regime.
  - Materials which may be or are susceptible to shrinkage and swelling based on lack or abundance of water have been avoided in the design process.
- **Increased Bushfire Conditions**
  - No action required as the site is not subject to existing bushfire prone land or risk, and the potential for change in the locality is considered to be low.
- **Decrease in Humidity**
  - No action required as the potential for changes to humidity in the locality is considered to be low.
- **Increase in Air Pollution**
  - Better than normal air tightness is to be included in the design and best performing mechanical systems.
  - Higher level of outdoor air filtration for key spaces including air quality monitoring and alarms for poor air quality.
- **Increase in Wind Velocity**

- The building is to be designed for a wind event of 1:2000 of annual probability of exceedance in accordance with the building code for an Importance Level 4 building. Further mitigation strategies should not be required as the Wind Action Standard (AS1170.2) considers climate change in Cl 3.4 (Climate Change Multiplication Factor).

As noted earlier, Chapter 3 of the newly commenced *State Environmental Planning Policy (Sustainable Buildings) 2022* does not apply as the works (whilst being for a new non-residential building and other works to extend and carry out alterations and additions to an existing non-residential building which has a CIV of greater than $10 million) is not subject to a DA and does not require development consent. The works are also not State Significant Development nor for a large commercial development. Notwithstanding, the project otherwise addresses the NSW State target of net zero emissions.

6.2.15 Community Impact/Social Impact

Questions to consider	Yes	No
Is the activity likely to affect community services or infrastructure?	X In a positive manner	
Does the activity affect sites of importance to local or the broader community for their recreational or other values or access to these sites?		X
Is the activity likely to affect economic factors, including employment numbers or industry value?	X In a positive manner with a minor increase in staffing	
Is the activity likely to have an impact on the safety of the community?		X
Will the activity affect the visual or scenic landscape?		X
Is the activity likely to cause noise, pollution, visual impact, loss of privacy, glare or overshadowing to members of the community, particularly adjoining landowners?	X Construction noise only	

Whilst a Social Impact Statement has not been prepared in support of this REF, the obvious and palpable social benefits arising from the redevelopment are as expressed in the vision, objectives and scope of the project in supporting the Clinical Services Plan for the hospital.

There are not likely to be any adverse impacts of the works from a social impacts perspective given the general location of the works and its scale. The intensity of the use will largely be the same, albeit in contemporary accommodation as would be expected with Government investment in improved health services. Construction-related impacts are otherwise addressed elsewhere within this section of the REF.

The visual impacts of the redevelopment are as described above and are considered to the suitable in the context of the wider scope of works to provide appropriate accommodation and levels of care.

Notwithstanding, predicted social impacts of the works and operation of the MHU and ED, and relevant mitigation measures are generally considered below.

Social impacts may be classified as follows, based on the Department of Planning and Environment's 'Social Impact Assessment Guideline' (2021):

- **Way of life**: how people live, get around, work, play and interact with one another on a day-to-day basis
- **Community**: its composition, cohesion, character, how it functions, and sense of place
- **Accessibility**: how people access and use infrastructure, services and facilities
- **Culture**: people's shared beliefs, customs, values and stories, and connections to Country, land, water, places and buildings
- **Health and wellbeing**: people's physical, mental, social and spiritual wellbeing

- **Surroundings**: access to and use of natural and built environment, including ecosystem services, public safety and security, as well as aesthetic value and amenity
- **Livelihoods**: including impacts on employment or business, experience of personal breach or disadvantage, and the distributive equity of impacts and benefits
- **Decision-making systems**: the extent to which people are able to participate in decisions that affect their lives, procedural fairness, and the resources provided for this purpose.

Each of these is addressed in turn further below.

The **affected communities** with respect to social impacts are likely to be:

- Hospital communities (staff, volunteers, suppliers etc).
- Patients attending the health facilities within the hospital precinct, their carers and visitors.
- Neighbouring residents, including aged care living residents.
- Neighbouring businesses.
- Neighbouring preschool parents and students.
- Local area workers.
- Visitors to other institutions and businesses within walking distance of the area.

The **magnitude and likelihood of impacts** to arise are fundamental to determining individual and aggregated impacts over time. This includes impacts during construction and those arising from the operational phase of the development.

A Social Impacts significance matrix is applied to assist in determining impacts – see below as derived from the Department's guideline's Technical Supplement (Table 7).

		Magnitude level				
		1	2	3	4	5
Likelihood level		Minimal	Minor	Moderate	Major	Transformational
A	Almost certain	Low	Medium	High	Very High	Very High
B	Likely	Low	Medium	High	High	Very High
C	Possible	Low	Medium	Medium	High	High
D	Unlikely	Low	Low	Medium	Medium	High
E	Very unlikely	Low	Low	Low	Medium	Medium

Way of life: how people live, get around, work, play and interact with one another on a day-to-day basis

Construction

Disruptions to the way of life related to the construction works are likely to be focussed on amenity impacts, whether noise, air quality, accessibility and the like. The works are temporary and so the impacts themselves are not life-changing or transformational.

Impacts are almost certain in the context and are moderate in magnitude due to the short timeframes and the ability to mitigate and manage impacts. The adverse impacts may accordingly be considered **High**.

Operation

The impacts of the operation of the new MHU and ED upon the way of life are likely to be positive and profound based on the project's objectives and need. These impacts are likely to be long-standing commensurate with the future-proofing embedded within the hospital's CSP.

Impacts are almost certain and moderate in nature given the modest scale of the works. These positive impacts may accordingly be considered **High**.

Community: its composition, cohesion, character, how it functions, and sense of place

Construction

The impacts of construction upon 'community' can be considered unlikely and minor, given this a rating of **Low**. Construction works across 18 months of 2024-25 are unlikely to be adversely impactful in this regard. In fact there is the potential for the construction works to contribute localised economic multipliers within Broken Hill within the services industries through additional construction workers in Broken Hill, and their day-to-day accommodation, entertainment, and nutritional needs.

Operation

As above, once operational, the new MHU and expanded ED's impacts are almost certain to be moderate in nature given the modest scale of the works. These positive impacts may accordingly be considered **High** in the context.

Accessibility: how people access and use infrastructure, services and facilities

Construction

During construction, accessibility (including parking) within the hospital is likely to be affected. Similarly, some minor impacts may also occur on the Thomas Street carriageway and northern footpath. Notwithstanding, this will be able to be managed within the site and at its interface with Thomas Street, also noting the generous width of Thomas Street and low levels of existing traffic flows. The impacts in this regard are likely but minor to moderate. The impacts upon accessibility during construction would be **Medium-High**.

Operation

Following construction, accessibility and car parking will be marginally enhanced, through improved formalised links and parking. Following Stage 2, the level of parking will be additionally improved. With increased quality of care and bed numbers access to health services is increased by a modest level.

The likelihood of improved accessibility within and to the hospital and its services is almost certain and of a moderate magnitude, making the project's impact upon accessibility positively **High**.

Culture: people's shared beliefs, customs, values and stories, and connections to Country, land, water, places and buildings

Construction

Generally, the project's construction will have no impact upon culture, other than the overall process of inclusion under the Connecting with Country Framework in the design and execution of the project. An Unexpected Finds Protocol will be in place for any cultural heritage finds (Aboriginal or otherwise).

The impacts of this may be considered possible with a magnitude of moderate, making this impact **Medium** in the context.

Operation

As above, the project's design has sought to employ and embody the Connecting with Country Framework. This will be ongoing into the detailed design and execution of the project. The design measures with respect to Connecting with Country will be available to the community at large. In this respect the operational impacts may be considered to be likely and moderate in nature, presenting as a positive impact rated as **High**.

Health and wellbeing: people's physical, mental, social and spiritual wellbeing

Construction

The construction impacts related to health and wellbeing are likely to mirror those of 'way of life', particularly in how the community may react to impacts from noise, dust, traffic and like during the works. To that end, impacts are almost

certain in the context and are moderate in magnitude due to the short timeframes and ability to mitigate and manage impacts. The adverse impacts may accordingly be considered **High**.

Operation

Again, as per 'way of life', the impacts of the operation of the new MHU and ED upon the health and wellbeing of the community are likely to be positive and profound based on the project's objectives and need. These impacts are likely to be long-standing commensurate with the future-proofing embedded within the hospital's CSP.

Impacts are almost certain and moderate in nature given the modest scale of the works. These positive impacts may accordingly be considered **High**.

Surroundings: access to and use of natural and built environment, including ecosystem services, public safety and security, as well as aesthetic value and amenity

Construction

The construction of the project involves both the removal and replacement of canopy trees, albeit the replacement at a greater rate than the removal. Over time, as the trees grow, the benefits will be enhanced over the existing environment, particularly through the delivery of the improved health services and through the additional biodiversity capability at the site through removal of weeds and introduction of appropriate local tree specimens. Construction will temporarily change the face of the hospital at this interface. The impacts are almost certain but moderate in magnitude, leading to a **High** impact.

Operation

Once operational, improved safety and security and legibility and ownership arises within this part of the campus along with concurrent improvements to aesthetics and amenity. Impacts in relation to the operation of the development and its surroundings is almost certain with a major magnitude over time. Accordingly, a positive impact of **Very High** is likely to arise.

Livelihoods: including impacts on employment or business, experience of personal breach or disadvantage, and the distributive equity of impacts and benefits

Construction

It is unlikely adjacent businesses will be significantly adversely affected by the works. In fact, the nearby café (and other similar businesses within Broken Hill) may temporarily enjoy additional patronage and income for the duration of the works due to additional construction workers from outside of Broken Hill residing within the town.

Accordingly, the positive economic multipliers are possible or likely to arise and have a moderate magnitude, realising a positively **Medium to High** social impact.

Operation

Once construction is complete, the modest growth in beds and staff will likely mean a net neutral social impact from livelihoods perspective. Accordingly, it is unlikely any significant adverse or positive impacts arise and the magnitude is minimal. The social impact arising may be considered to be **Low**.

Decision-making systems: the extent to which people are able to participate in decisions that affect their lives, procedural fairness, and the resources provided for this purpose.

Construction / Operation

Decision-making around the project need, its design, and in part its execution has involved primarily internal and some external stakeholders to the hospital (see the Communications and Engagement Report for the breadth of this including Connecting with Country actions). This engagement has resulted in a development meeting a range of community expectations.

Statutory engagement in the decision-making process of this REF has sought wider neighbour inputs, generally from those perceived to be directly impacted by aspects of the construction and the operation. No submissions were

received from those parties. Council, as a general custodian on behalf of the wider community, made a positive submission.

In this sense the inclusivity of the decision-making process has been 'major' and with an 'almost certain' likelihood, to generate a positive social impact of **Very High**.

Summary

In summary, construction activities are more likely to have adverse social impacts than operational impacts. These impacts range from low to high, dependent upon the type of impact. These are temporary in nature and are generally manageable and can be classed as expected outcomes from the construction process. The greatest likely impacts will be from noise and air quality (dust / odour), however mitigation measures embedded within supporting reports under the REF, and as replicated in **Appendix AA** seek to reduce those impacts to appropriate levels.

Operational impacts conversely (due to the obvious positive nature of the project compared to the 'Do-Nothing' option), are more likely to arise in positive social impacts. These are likely to be longer-term, profound, and to a minor degree transformative to limited sections of the community. To the wider community they are collectively a range of positive impacts of varying degrees, that above all improve the community's health and wellbeing, way of life, and livelihoods. The works also have the positive impact of improvement to the Broken Hill Hospital campus through investment in improved surroundings and general amenity.

To seek to avoid the manageable temporary construction impacts would be to forego the opportunity to provide myriad positive social impacts arising from the operational development.

See **Appendix AA** for the suite of mitigation measures to address, principally, construction-related impacts.

6.2.16 Cumulative Impact

Questions to consider	Yes	No
Has there been any other development approved within 500m of the site?		X
Is there any transformation planned within 500m of the site?		X
Will there be significant impacts (for example, including but not limited to, construction traffic impacts) from other development approved or currently under construction within 500m of the site?		X
Is the activity likely to result in further significant impacts together with other development planned, approved or under construction within 500m of the site?		X
Has a cumulative impact statement, proportionate to the activity, been included in REF documentation? If no – why not?		X See comments below

Cumulative impact relates to any combined impact resulting from multiple individual sources. These sources relate to projects which are planned, however, yet to be constructed or operational.

A review has been carried out of Department of Planning and Environment – major project register; Sydney and Regional Planning Panels Development and Planning Register; and Broken Hill City Council's development application (DA) register. Consideration has also been given to Council's Land Use Planning Framework.

Based on the above review, no developments of any scale or impact are approved or planned in the vicinity of the site to generate cumulative impacts that affect the environment or the amenity of the hospital's environs and its sensitive uses.

The Department of Planning and Environment's major project register includes no recent projects within the Broken Hill township itself. The vast majority of projects within the LGA are outside of, or on the outskirts of, the township and are related to mineral resources or energy resources projects. These are all generally approved and operational.

Similarly, the Sydney and Regional Planning Panels Development and Planning Register shows a handful of projects within the township from a number of years previous. These are variously approved, constructed and operational, or deferred. These are all generally located south of the hospital site near the main business centre of Broken Hill.

Council's webpage does not provide for a DA tracker, but does provide a monthly register of approvals. Short of reviewing the last five years' worth of approvals, review of recent months reveals the vast majority of consents granted within the LGA by Council are of a domestic scale and likely to be short-term works, which when aggregated with the subject proposal would not significantly present major environmental impacts upon the community whether during construction or their operation.

No strategic planning objectives act to thwart or impact upon the development of the hospital. To the contrary, the development of the hospital is seen as a significant positive multiplier for the LGA and wider region from a social and economic perspective, including the clustering of 'like-minded' and ancillary land uses it promotes.

No additional safeguards or mitigation measures are warranted in this instance.

7. Summary of Mitigation Measures

Mitigation measures are to be implemented for the proposal to reduce impacts on the environment. The mitigation measures are provided at **Appendix AA**.

7.1 Summary of Impacts

Based on the identification of potential issues, and an assessment of the nature and extent of the impacts of the proposed development, it is determined that:

- The extent and nature of potential impacts are low to moderate only in nature, and will not have significant adverse effects on the locality, community and the environment;
- Potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality, community; and
- Given the above, it is determined that an EIS is not required for the proposed development activity.

8. Justification and Conclusion

The proposed construction and operation of the new Mental Health Unit building and the reconfiguration and expansion of the existing Emergency Department at Broken Hill Hospital is subject to assessment under Part 5 of the EP&A Act. The REF has examined and taken into account to the fullest extent possible all matters affecting, or likely to affect, the environment by reason of the proposed activity.

As discussed in detail in this report, the proposal will not result in any significant or long-term impact. The potential impacts identified can be reasonably mitigated and where necessary managed through the adoption of suitable site practices and adherence to accepted industry standards.

As outlined in this REF, the proposed activity can be justified on the following grounds:

- It responds to an existing need within the community;
- It generally complies with, or is consistent with all relevant legislation, plans and policies;
- It has minimal environmental impacts; and
- Adequate mitigation measures have been proposed to address these impacts.

The activity is not likely to significantly affect threatened species, populations, ecological communities or their habitats, and therefore it is not necessary for a Species Impact Statement and/or a BDAR to be prepared. The environmental impacts of the proposal are not likely to be significant and therefore it is not necessary for an EIS to be prepared and approval to be sought for the proposal from the Minister for Planning and Public Spaces under Part 5 of the EP&A Act. On this basis, it is recommended that HI determine the proposed activity in accordance with Part 5 of the EP&A Act and subject to the adoption and implementation of mitigation measures identified within this report.