HEALTH INFRASTRUCTURE

Review of Environmental Factors

Westmead Hospital Early Works Project



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 Early Works Project at Westmead Hospital.

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), Department of Planning & Environment's (DPE) Guidelines for Division 5.1 Assessments (the Guidelines) 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)*.

The proposed activity will not be carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species, populations or ecological communities, or their habitats or impact biodiversity values, meaning a SIS and/or BDAR is not required.

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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Date:	18 April 2023

Document Management, Tracking and Revision History

Version	Date	Author	Description	Reviewed by	Approved by
Draft	01/12/2022	Lara Reynolds	Review of Environmental Factors	Chris McGillick	Chris McGillick
Final draft V1	24/01/2023	Lara Reynolds	Review of Environmental Factors	Chris McGillick	Chris McGillick
Final Draft V2	13/02/2023	Lara Reynolds	Review of Environmental Factors	Chris McGillick	Chris McGillick
Final Draft V3 – sewer	21 February 2023	Chris McGillick	Review of Environmental Factors	Chris McGillick	Chris McGillick
Final V4 – Arborist	3 March 2023	Chris McGillick	Review of Environmental Factors	Chris McGillick	Chris McGillick
Final V5 – HI comments/ Boom gate	31 March 2023`	Chris McGillick	Review of Environmental Factors	Chris McGillick	Chris McGillick
Final V5	14 April 2023	Chris McGillick	Review of Environmental Factors	Chris McGillick	Chris McGillick
Final V6	18 April 2023	Chris McGillick	Review of Environmental Factors	Chris McGillick	Chris McGillick

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Α	Demolition Plans	Jacobs	IA250300 (Rev 7) 27/03/2023
В	Section 10.7 Certificate	City of Parramatta Council	20 October 2022
С	Civil Design Report	Arup	IMHC-ARP-CV-RP-005_Arup Civil REF Report (Rev F) 29 March 2023
	Civil Plans	Arup	28/03/2023 (Rev 3)
D	Transport Assessment	Stantec	31 March 2023
E	Arboricultural Impact Assessment	Tree Management Strategies	3 March 2023
F	Electrical Services Report	Stantec	28 March 2023
G	Hydraulics and Fire Services Report	Arup	17 February 2023
н	Remedial Action Plan	JBS&G	20 September 2022
1	Contamination Assessment	JBS&G	20 September 2022
J	Preliminary Construction Management Plan	CBRE	1 December 2022
K	Consultation Package	-	-
L	Geotechnical Investigation	JKGeotechnics	16 September 2022
М	Hazardous Building Materials Survey	JBS&G	20 September 2022
N	Construction Noise and Vibration Management Plan	Acoustic Logic	15 September 2022
0	Statement of Heritage Impact	Comber Consultants	15 November 2022
Р	Mitigation Measures	Ethos Urban	1 December 2022
Q	BDAR Waiver	Cumberland Ecology	30 August 2022
R	Sewer Diversion Plan	Sydney Water Corporation	Case No. 202644
S	Landscape Plans	Site Image	27 March 2023 (Rev 5)
Т	Engagement Report	Health Infrastructure	13 April 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
сwс	Connecting with Country
CRA	Conservation Risk Assessment
DPC	Department of Premier and Cabinet
DPE	Department of Planning and Environment
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
На	Hectares
HHIMS	Historic Heritage Information Management System
Н	Health Infrastructure
LEP	Local Environmental Plan
LGA	Local Government Area
MPS	Multipurpose Service
MNES	Matters of National Environmental Significance

Abbreviation	Description
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
ОЕН	(Former) Office of Environment and Heritage
PCMP	Preliminary Construction Management Plan
Planning Systems SEPP	State Environmental Planning Policy (Planning Systems) 2021
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
SB SEPP	State Environmental Planning Policy (Sustainable Buildings) 2022
SEPP	State Environmental Planning Policy
SIS	Species Impact Statement
TISEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021
WM Act	Water Management Act 2000

Executive Summary

The Proposal

This Review of Environmental Factors (REF) relates to the proposed Early Works Project at Westmead Hospital. The proposed works include the following:

- Demolition of the existing Brain Injury Rehabilitation Unit, Casuarina Lodge and Integrated Project Office.
- Diversion of existing in-ground sewer and water services.
- Construction of a new access way to the P14 staff car park.
- Adjustments to and installation of boom gates at the Healthshare building car park
- Stormwater Management works.
- Associated earthworks and tree removal to accommodate the carrying out of the above works.

Need for the Proposal

In May 2022, the NSW Government announced the investment of \$460 million into the development of a new Integrated Mental Health Complex at Westmead, that will transform the delivery of mental health services across Western Sydney and deliver improved care for patients in line with state and national mental health reforms. The Integrated Mental Health Complex (IMHC) will replace the existing mental health facilities at Cumberland Hospital. The proposed IMHC is proposed separately as part of State Significant Development Application SSD-44034342.

To facilitate the construction of the IMHC in a timely manner, a range of separate but related infrastructure improvement works are required for the efficient sequencing of works and to ensure the ongoing operation of the hospital. These works will be carried out as part of this REF.

Proposal Objectives

The primary objective of the proposal is to carry out a series of early works to future proof the site and to accommodate the future IMHC on the site. The proposal will ensure that the ongoing operation of the hospital is not impacted through the efficient sequencing of works.

Options Considered

A 'do nothing' scenario was considered for redevelopment on the site. However, this option does not mitigate the urgent need for works to be carried out on site to support the future development of the IMHC and to reduce the overall impact of construction on the existing hospital operations. Accordingly, it was determined that the most appropriate way forward is to undertake a number of early works.

Site Details

Westmead Hospital is located at the corner of Hawkesbury Road and Darcy Rd, Westmead within the City of Parramatta Local Government Area (LGA). It is approximately 1.5km north-west of the Parramatta CBD and approximately 25km north-west of the Sydney CBD. The hospital site is owned by the Health Administration Corporation and is legally described as Lot 1 in DP1194390 and Lot 4 in DP 1077852.

Planning Approval Pathway

Westmead Hospital is zoned SP2 Infrastructure (Health Services Facility) under the Parramatta Local Environmental Plan 2023 (PLEP 2023). Permissible uses in the SP2 zone include "the purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose". As the works are to support the ongoing operation of Westmead Hospital, the proposed works are therefore permissible.

Additionally, the works are proposed within Westmead Hospital, defined as a 'health service facility', the provisions of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (TISEPP) apply to the proposal. The proposed works can be undertaken by Health Infrastructure (HI) as a public authority, as 'Development Permitted Without Consent' in accordance with the following provisions of the TI SEPP:

- Section 2.61(1)(c) 'demolition of buildings carried out for a health service facility';
- Section 2.109(3)(c) 'alterations or additions to an existing road (such as widening, narrowing, duplication or reconstruction of lanes, changing the alignment or strengthening of the road)';
- Section 2.126(6) 'development for the purpose of sewage reticulation systems may be carried out without consent on any land in the prescribed circumstances';
- Section 2.137(1) 'development for the purpose of stormwater management systems may be carried out by or on behalf of a public authority without consent on any land'; and
- Section 2.159(1) 'development for the purpose of water reticulation systems may be carried out by or on behalf of a public authority without consent on any land'.

Under Part 5 of the EP&A Act, the proposal is defined as an 'activity' and is therefore subject to an environmental assessment (Review of Environmental Factors) as presented in this report.

Statutory Consultation

As per Section 2.12 of the TI SEPP, the REF was notified to City of Parramatta Council for 21 days, commencing on 24 October 2022. An email response was received from Council on 8 November 2022, confirming they had no further comments regarding the proposal.

As per Section 2.13 of the TI SEPP, written notice of the proposed works was provided to the State Emergency Service on 24 October 2022 and a response was received on 24 November 2022. All comments received have been considered in this REF and will be implemented during the detailed design stage, where appropriate.

Environmental Impacts

This REF considers the requirements of Part 5 of the EP&A Act, as well as clause 171 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulations). **Section 6.0** outlines the potential impacts of the works on the environment, including noise, traffic, flooding and contamination.

The environmental impacts from the proposed development are considered to be temporary and minimal. Mitigation measures, included in **Section 6.3**, outline the undertakings to manage and minimise potential impacts arising from the development.

Justification and Conclusion

This REF describes the proposed Early Works Project and has examined to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed activity. Potential impacts can be reasonably mitigated, and where necessary managed through the adoption of suitable site practices and adherence to accepted industry standards.

The proposed activity can be justified as they are consistent with the wider strategic priorities for Westmead Hospital and will facilitate the separate but related construction of the IMHC – which will replace the existing, outdated inpatient facility at Cumberland Hospital to provide facilities and services in line with modern standards of care. The proposal will ensure that the ongoing operation of the hospital is not impacted through the efficient sequencing of works. Any impacts that arise as a result of the proposal can be successfully mitigated and the proposal will not result in any unacceptable environmental impacts.

1. Introduction

NSW Health Infrastructure (HI) propose to undertake a series of infrastructure works, including the demolition of buildings, tree removal, in ground service diversion and civil works (the proposal) at Westmead Hospital (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 Ethos Urban on behalf of HI to determine the environmental impacts of the proposed Early Works Project at Westmead 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 Department of Planning & Environment's (DPE) *Guidelines for Division 5.1 Assessments* (the Guidelines), section 171(2) of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) and the Australian Government's *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 Homes under Part 5.1 of the
 EP&A Act;
- whether the activity is likely to significantly affect threatened species, populations, ecological communities or their habitats, in which case a SIS and/or BDAR is require; 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

In May 2022, the NSW Government announced the investment of \$460 million into the development of a new IMHC at Westmead, that will transform the delivery of mental health services across Western Sydney and deliver improved care for patients in line with state and national mental health reforms. The IMHC will replace the existing mental health facilities at Cumberland Hospital. The proposed IMHC is proposed separately as part of State Significant Development Application SSD-44034342.

To facilitate the construction of the IMHC, a range of separate but related infrastructure improvement works are required for the efficient sequencing of works and to ensure the ongoing operation of the hospital. These works will be carried out as part of this REF.

2. Site Analysis and Description

2.1 The Site and Locality

Westmead Hospital is located within the wider Westmead Health, Research, Education and Innovation Precinct which encompasses:

- · Westmead Hospital
- · Westmead Children's Hospital
- · Westmead Private Hospital
- Cumberland Hospital
- Western Sydney University Westmead Campus
- The University of Sydney Westmead Campus
- Pathology West Institute of Clinical Pathology and Medical Research
- The Westmead Institute for Medical Research
- Children's Medical Research Institute
- Westmead Research Hub
- Ronald McDonald House at Westmead

The Precinct is one of the largest health, education, research and training precincts in Australia. Spanning approximately 75 hectares, the precinct comprises over 400,000 sqm of health-related developments including four major hospitals, four world-leading medical research institutes, two university campuses and the largest research-intensive pathology service in NSW. The Precinct is a cornerstone for investment, economic growth and job creation in Western Sydney, servicing one of the fastest growing populations in Australia.

Westmead Hospital is located at the corner of Hawkesbury Road and Darcy Rd, Westmead within the City of Parramatta Local Government Area (LGA). It is approximately 1.5km north-west of the Parramatta CBD and approximately 25km north-west of the Sydney CBD. The hospital site is owned by the Health Administration Corporation and is legally described as Lot 1 in DP1194390 and Lot 4 in DP 1077852. The site is zoned SP2 Infrastructure (Health Services Facility) under the PLEP 2023.

A context map and aerial photo are provided respectively in Figure 1 and Figure 2 below.

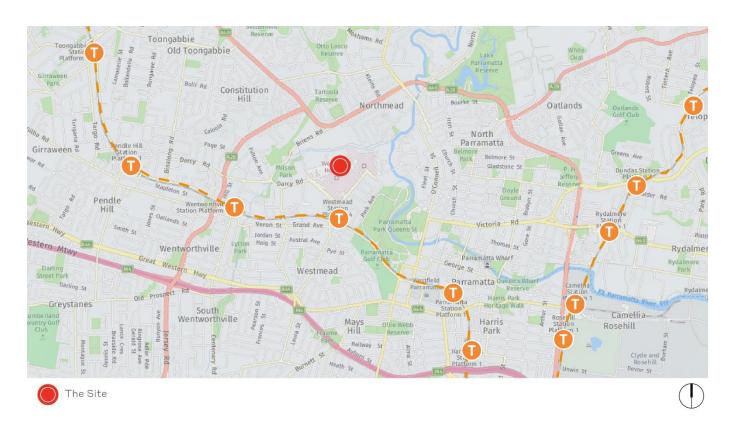


Figure 1: Site Context Map
Source: Ethos Urban/Google Maps

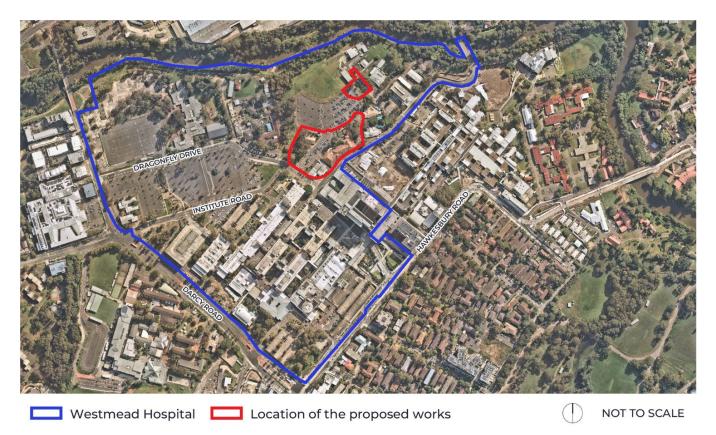


Figure 2: Site Aerial

Source: Ethos Urban/Nearmap

2.1.1 Existing Development

The proposed works will be undertaken in the central portion of the site. The current development on the development site comprises the Brain Injury Rehabilitation Unit (BIRS) building, Casuarina Lodge, office buildings and associated carparking and open space areas.

2.1.2 Site Considerations and Constraints

Section 10.7 Planning Certificate No. 2022/7393 dated 20 October 2022 identifies that the site is located within the SP2 Infrastructure (Health Services Facility) zone under Parramatta Local Environmental Plan 2023, 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 section 38 or 39 of the Coastal Management Act 2016 (CM Act)		✓
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 sulphate or any other risk		✓
Affected by any acquisition of land provision		✓
Biodiversity certified land or subject to any bio-banking agreement or property vegetation plan		✓
Significantly contaminated		✓
Subject to flood related development controls	√	

2.2 Surrounding Development

The location of the proposed works is surrounded predominantly by buildings and infrastructure associated with the Westmead Health Precinct. Specifically:

- North: Directly north of the site is an at-grade car park which provides parking for staff at Westmead Children's
 Hospital. Further north is Toongabbie Creek, which is a tributary of the Parramatta River. Beyond this, the area is
 characterised by industrial development in Northmead.
- East: To the east of the site is Westmead Children's Hospital. The Cumberland Hospital campus is located further
 east of the site.
- South: Buildings associated with Westmead Hospital are located to the south of the site, with the Central Acute Services Building (CASB) located directly adjacent to the location of the proposed works. Beyond this, the local area is characterised by low density residential development and the University of Western Sydney Westmead Campus.
- West: The site is directly adjacent to Redbank School, which caters to students experiencing acute mental illness and ongoing significant mental health related difficulties. Further west is a number of at-grade car parks for staff at Westmead Hospital.

3. Proposed Activity

3.1 Proposal Overview

The proposed works include the following:

- Demolition of the existing Brain Injury Rehabilitation Unit, Casuarina Lodge and Integrated Project Office.
- Diversion of existing in-ground sewer and water services.
- Construction of a new access way to the P14 staff car park.
- · Adjustments to and installation of boom gates at the Healthshare building car park
- Stormwater management works.
- Associated earthworks and tree removal to accommodate the carrying out of the above works.

3.1.1 Proposed Activity

Demolition and relocation of uses

The proposal includes demolition of existing structures to facilitate the future development of the IMHC. This includes the following:

- Brain Injury Rehabilitation Unit a two storey structure located in the eastern portion of the site.
- Casuarina Lodge a two storey structure located in the western portion of the site.
- Integrated Project Office a single storey structure located in the northwest portion of the site.

The uses within the buildings are being relocated elsewhere. BIRS will be relocating to A4b/c of Westmead Hospital, Casuarina Lodge to off site premises, and the staff within the old IPO to other LHD facilities.

A Demolition Plan is provided at **Appendix A**.



Figure 3: Demolition Plan

Source: Jacobs

Earthworks

Earthworks are required to accommodate the carrying out of works proposed under this REF. The earthworks will result in a total cut volume of 5,300m³ and a total fill volume of 100m³.

Further detail is provided in the Civil Design Report at Appendix C.

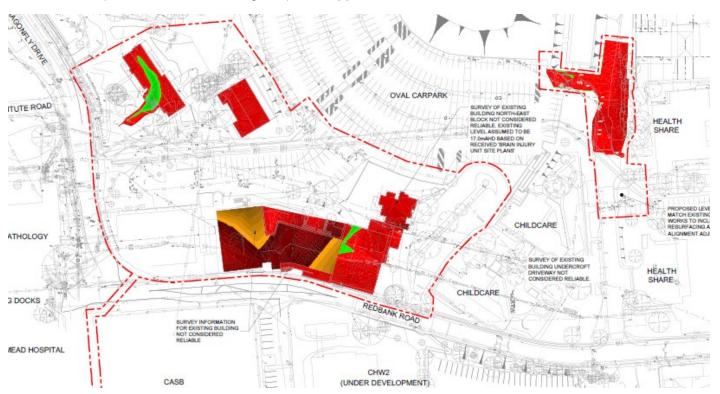


Figure 4: Cut and Fill Plan Source: Arup

Roadworks and Parking

The proposed works will result in the removal of approximately 90 car parking spaces in Car Park 14 and 22 on the Health Share/Care Flight Access Road. Further, the existing access arrangement to Car Park 14 from Dragonfly Drive is proposed to be closed. Modified access arrangement will be provided from the Health Share/Care Flight Access Road and will be controlled through the provision of a boom gate. A new pedestrian path will be provided along the edge of this access road and will connect to the existing pedestrian footpaths in Car Park 14.

Detail is provided at Appendix C and D.

Tree Removal and Landscaping

Where possible, the trees located within the proposed works area will be retained and protection measures will be implemented to enable ongoing protection during construction works. Notwithstanding this, this REF seeks to remove 37 trees that are impacted by the proposed demolition and services infrastructure works.

To mitigate tree loss this REF includes amitigation measures that requires planting of 37 trees (a replacement rate of 1:1) on the Westmead campus.

Further detail is provided in the Arboricultural Impact Assessment at Appendix E.

Utilities

Diversion of in-ground sewer and water services will occur as part of the proposed early works. The services to be diverted include:

- Private sewer (Ø375) and private trade waste (Ø225) to be diverted around south of the site via directional boring/micro tunnelling.
- Sydney Water sewer (Ø300) to be diverted around north of the site.
- Private water main (Ø150) to be diverted around north of the site.
- Private gas main (Ø150) to be diverted around north of the site.
- · Relocation of existing fire hydrant services.

No electrical utility services are required to be diverted. Further detail is included in Appendix F and Appendix G.

Stormwater Management

To mitigate the flood risk on site, all downpipe connections to the stormwater network will be capped and removed. Additional stormwater drainage inlet pits which connect to the existing stormwater network will be provided for the new vehicle access ramp.

Remediation

Based on a review of the available contamination assessments and previous works undertaken at the site, JBS&G have identified a number of contaminants including fill material from unknown sources containing heavy metals, PAHs, TRHs, BTEX, OCPs, PCBs and asbestos, and potential hazardous materials, including lead and asbestos, associated with existing structures at the site.

Accordingly, remediation is required to be undertaken on site in accordance with the methodology detailed in the Remedial Action Plan provided at **Appendix H**. Remediation will generally comprise the following:

- On-site treatment so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level.
- Off-site treatment of excavated soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level, after which the soil is returned to the site.
- Where the above strategies are not practical:
 - Consolidation and isolation of the soil on-site by containment within a properly designed barrier.
 - Removal of contaminated soil to an approved site or facility, followed where necessary, by replacement with appropriate material.
 - Where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.

3.2 Construction Activities

The proposed construction activities are detailed in Table 2.

Table 2: Project Timeframes and Construction Activities

Construction activity	Description
Commencement Date	The proposed works are expected to commence in Q3 2023. The works are short term and are expected to be completed by Q1 2024.

Construction activity	Description	
Work Duration/Methodology	The project will be staged to minimise the impact of works on hospital staff, patients, visitors, and nearby sensitive receivers. The proposed staging is generally as follows:	
	Stage 1: Construction of new access ramp to P14 carpark;	
	Stage 2: Diversion of Sydney Water potable water mains;	
	Stage 3: Demolition of all existing buildings; and	
	Stage 4: Tree removal, flood mitigation and sewer diversions.	
	Works associated with the IMHC approval will be carried out separately to this REF in accordance with the separate approval.	
Work Hours and Duration/Construction	The hours of construction, including the delivery of materials to and from the site, will be undertaken between the following hours:	
	Monday to Friday: 7:00am to 6:00pm;	
	Saturdays: 8:00am to 1:00pm; and	
	Sunday and Public Holidays: No work.	
Workforce/Employment	It is anticipated that there will be approximately 50 workers on site at any given time.	
Ancillary Facilities	Construction worker parking will be provided within Westmead Hospital, to the northwest of the construction site. Further detail is provided at Appendix D .	
Plant Equipment	Excavator Pump Plant	
	Concrete Saw Concrete Vibrators	
	Bobcat Power Hand Tools	
	Heavy Trailers Compactor	
	Piling Plant Forklift	
Earthworks	Earthworks are detailed in the Civil Report at Appendix C.	
Source and Quantity of Materials	The exact quantity and source of materials will be refined prior to the commencement of any construction works. Notwithstanding, the following measures are adopted to encourage the management and reduction of waste to minimise the loss of natural resources and landfill space:	
	Emphasise the importance of recycling and waste reduction;	
	Encourage the use of recycled materials where it is reasonably practical;	
	Minimise the use of packaging materials and recycle packaging materials where possible;	
	Waste concrete to be sent to a concrete recycling plant where possible;	
	Separate removed native vegetation from general construction waste, mulched and stockpiled for re-use; and	
	Non-recyclable general waste will be disposed at an approved waste disposal facility.	
Traffic Management and Access	Traffic management and access during construction is detailed in Section 6.2.1 .	

3.3 Proposal Need, Options and Alternatives

3.3.1 Strategic Justification

The proposed works are consistent with the wider strategic priorities for Westmead Hospital and will facilitate the construction of the IMHC – of which will replace the existing, outdated inpatient facility at Cumberland Hospital to provide facilities and services in line with modern standards of care.

The uses within the buildings are being relocated elsewhere. BIRS will be relocating to A4b/c of Westmead Hospital, Casuarina Lodge to off site premises, and the staff within the old IPO to other LHD facilities.

The proposal will ensure that the ongoing operation of the hospital is not impacted through the efficient sequencing of works. Any impacts that arise as a result of the proposal can be successfully mitigated and the proposal will not result in any unacceptable environmental impacts.

3.3.2 Alternatives and Options

A 'do nothing' scenario was considered for redevelopment on the site. However, this option does not mitigate the urgent need for works to be carried out on site to support the future development of the IMHC and to reduce the overall impact of construction on the existing hospital operations. Accordingly, it was determined that the most appropriate way forward is to undertake the proposed early works.

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. Chapter 2, 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 SP2 Infrastructure (Health Services Facility) under the PLEP 2023. The SP2 zone is a prescribed zone under 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 use of land and the carrying out of a work.

TISEPP consultation is discussed within Section 5.0 of this REF.

Table 3:Description of proposed activities

Division and Section within TISEPP	Description of Works
Section 2.137(1) – 'development for the purpose of stormwater management systems may be carried out by or on behalf of a public authority without consent on any land'	The proposed stormwater management works can be carried out by or on behalf of a public authority without consent on any land. The proposed works are being carried out by HI (a public authority) within the boundaries of the existing Westmead Hospital. The works are in connection to other construction works being carried out on the site. The proposal is therefore consistent with Section 2.137(1) of the TISEPP.
Section 2.61(1)(c) – 'demolition of buildings carried out for a health service facility'	The proposed demolition works can be carried out by or on behalf of a public authority without consent on any land, if the development is carried out within the boundaries of an existing health services facility. The proposed works are being carried out by HI (a public authority) within the boundaries of the existing Westmead Hospital. Further, the proposed works do not involve the erection, alteration or addition to any built form and therefore, will not result in a building that exceeds 15m in height. All elements of the proposal are greater than 5m from the nearest site boundary. The proposal is therefore consistent with Section 2.61(1) and (2) of the TISEPP.
Section 2.109(3)(c) – 'alterations or additions to an existing road (such as widening, narrowing, duplication or reconstruction of lanes, changing the alignment or strengthening of the road)'	The proposed construction of the new P14 access ramp can be carried out by or on behalf of a public authority without consent on any land. The proposed works are being carried out by HI (a public authority) within the boundaries of the existing Westmead Hospital. The proposal is therefore consistent with Section 2.109(1) and (3) of the TISEPP.
Section 2.126(6) – 'development for the purpose of sewage reticulation systems may be carried out without consent on any land in the prescribed circumstances'	The proposed sewer main diversions can be carried out by or on behalf of a public authority without consent on any land. The proposed works are being carried out by HI (a public authority) within the boundaries of the existing Westmead Hospital. The proposal is therefore consistent with Section 2.126(6) of the TISEPP.
Section 2.159(1) – 'development for the purpose of water reticulation systems may be carried out by or on behalf of a public authority without consent on any land'	The proposed Sydney Water main diversions can be carried out by or on behalf of a public authority without consent on any land. The proposed works are being carried out by HI (a public authority) within the boundaries of the existing Westmead Hospital. The proposal is therefore consistent with Section 2.159(1) of the TISEPP.
-	The proposed associated bulk excavation and tree removal works can only be carried out where they are a direct consequence of carrying out the above works in accordance with the TI SEPP. E.g., excavation can only be undertaken where it is required to accommodate the service diversion works. The proposal will comply with this requirement.

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, nor does the proposed development affect any matters of national significance. An assessment against the EPBC Act checklist is provided at Table 4.

Table 4: EPBC Checklist

Consideration	Yes/No
The activity will not have any significant impact on a declared World Heritage Property?	No
The activity will not have any significant impact on a National Heritage place?	No
The activity will not have any significant impact on a declared Ramsar wetland?	No
The activity will not have any significant impact on Commonwealth listed threatened species or endangered community?	No
The activity will not have any significant impact on listed migratory species?	No
The activity does not involve nuclear actions?	No
The activity will not have any significant impact on Commonwealth marine areas?	No
The activity will not have any significant impact on Commonwealth land?	No
The activity does not relate to a water resource, 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 sub-section 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 7.1 specifically responds to the factors for consideration under section 171.

5 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 5: Matters for consideration under Sub-Section, Section 5.5 of the EP&A Act

Matter for Consideration	Impacts of Activity
Sub-section 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 the site is not located within or in the vicinity of a wilderness area as defined under the Wilderness Act 1987.

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 170 Guidelines (Guidelines for Division 5.1 Assessments (DPE, June 2022) and 171(2) of the EP&A Regulation provides a list of factors that must be taken into account for an environmental assessment under Part 5 of the EP&A Act. These requirements are considered at **Section 6.1** 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 6: Other Possible Legislative Requirements

Legislation	Comment	Relevant? Yes/No
State Legislation		
Rural Fires Act 1997	The site is not identified as being located on bushfire prone land.	х
Biodiversity Conservation Act 2016	The site does not contain any critical habitat, threatened species or ecological population or community.	х
Water Management Act 2000	The proposed works will not be carried out within 40m of a watercourse.	х
Contaminated Land Management Act 1997	The site is not listed on the register of contaminated sites.	Х
Heritage Act 1977	There are no heritage items located on site or within the vicinity of the site.	х
Roads Act 1993	The proposal does not involve works to a public road, pumping of water onto a public road, or the connection of a road to a classified road.	х
State Legislation Planning Policies		
State Environmental Planning Policy (Resilience and Hazards) 2021	The State Environmental Planning (Resilience and Hazards) 2021 (Resilience and Hazards SEPP) aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. Section 4.6 stipulates that a consent authority must not consent to the carrying out of development unless: It has considered whether the land is contaminated, and if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out. If the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose. The Contamination Assessment (Appendix I) confirms that the site can be made suitable for the proposed development, subject to the successful implementation of the recommendations.	✓
	Section 3.12 outlines mandatory matters for a consent authority to consider when determining an application for potentially hazardous or offensive development. Chapter 3 applies to any proposals which fall under the policy's definition of 'potentially hazardous industry' or 'potentially offensive industry'. The works proposed as part of this REF do not fall within these definitions.	x

Legislation	Comment	Relevant? Yes/No
Parramatta Local Environmental Plan	2023	
Zone	The site is zoned SP2 Infrastructure – Health Services Facility. Development for the purpose of a hospital and ancillary services or works are permissible with development consent.	√
	The proposal is consistent with the SP2 objectives as:	
	It provides health infrastructure that is a specific use supported by the Zone;	
	The proposed development is compatible with Westmead Hospital, being a health services facility; and	
	Does not prevent the use of the land for provision of further infrastructure as required within the site.	
Height of Buildings	There is no mapped maximum building height under the LEP for the site.	✓
Floor Space Ratio	There is no mapped floor space ratio under the LEP for the site.	✓
Heritage	There are no heritage items located on site or within the vicinity of the site. The site is not located within a heritage conservation area.	√
Flood Planning	The site is identified as being within a flood prone area. Further detail is provided at Section 6.2.5 .	✓

4.6 Strategic Planning Context

4.6.1 Greater Sydney Region Plan

The Greater Sydney Region Plan (GSRP), A Metropolis of Three Cities, takes a long-term view of changes in policy, trends, directions, and actions that will inform planning and development for the Greater Sydney area for the next 30 years. The plan's vision is underpinned by the concept of a three-city metropolis that enhances Greater Sydney's liveability, productivity and sustainability. This will also be supported through greater infrastructure provision and collaboration throughout the region.

To support the vision of boosting Greater Sydney's liveability, productivity and sustainability, the GSC have established 10 directions which establish the aspirations for Greater Sydney over the next 40 years. The directions of importance to the proposed activity are outlined below:

- Direction 1: A city supported by infrastructure infrastructure supporting new developments, including infrastructure that adapts to meet future needs;
- Direction 5: A city of great places designing places for people and providing increased access to social infrastructure: and
- Direction 7: Jobs and skills for the city creating the conditions for a stronger economy through the provision of an internationally competitive health, education, research and innovation precinct.

The proposal is consistent with the broader strategic visions as detailed in the GSRP, namely by undertaking a series of infrastructure improvement works that will facilitate the development of the IMHC.

4.6.2 Central City District Plan

Supporting the objectives of the GSRP are actions and priorities in a suite of region-specific plans known as the District Plans, released by the GSC in March 2018. The subject site is located within the Central City District. The key priorities that have been included within the District Plan and that relate to the proposed activity are outlined below:

Planning Priority C1: Planning for a city supported by infrastructure;

- Planning Priority C1: Providing services and social infrastructure to meet people's changing needs;
- Planning Priority C7: Growing a stronger and more competitive Greater Parramatta;
- Planning Priority C10: Growing investment, business and job opportunities in strategic centres; and
- Planning Priority C12: Supporting growth of targeted industry sectors.

The proposal seeks to undertake early works at the site to ensure that the ongoing operation of the hospital is not impacted through the efficient sequencing of works and that the site can accommodate a future hospital building to cater to the needs of the growing population.

4.6.3 Parramatta Local Strategic Planning Statement

The Parramatta Local Strategic Planning Statement (LSPS) was prepared to guide Council's land use planning for the next 20 years, implements priorities from Council adopted strategies and gives effect to State Government strategic directions for the LGA.

The LSPS does not identify any specific strategic vision for the site. Notwithstanding, the proposal aligns with the planning priorities of the LSPS in that it will:

- Provide necessary infrastructure to support the needs of the current and future population;
- Promote connectivity and accessibility by facilitating the future development of critical health infrastructure that is close to residential development and public transport services; and
- Provide an attractive, sustainable, well-designed and efficient hospital campus.

5. Consultation

5.1 Statutory Consultation

The REF scope of works was notified for 21 calendar days to the stakeholders outlined in Table 7.

Table 7: Stakeholders required to be notified

Stakeholder	Relevant Section
City of Parramatta Council	Section 2.12(2) – Development with impacts on flood liable land
State Emergency Services	Section 2.13(1) – Development with impacts on flood liable land

The notification commenced on 21 October 2022 and concluded on 10 November 2022. A copy of the notification letter, as well as responses received, is provided at **Appendix K**.

In responding to the SES, ARUP has provided a response, which is provided at **Appendix K**. An overview of the comments received are outlined and responded to in **Table 8** below.

Table 8: Issues raised and responses

Issue raised	Date received	Response	Reference
State Emergency Services			
Consider the impact of flooding on the infrastructure.	24 November 2022	The impact of flooding on infrastructure has been considered and is designed accordingly. Flood modelling demonstrates that the upgrade will not have a material impact on flood levels in the surrounding area.	Refer to Appendix C and Appendix K .
Pursue, if relevant, site design and stormwater management that minimises any risk to the community.	24 November 2022	The P14 car park ramp design includes local improvements to stormwater drainage. Flood modelling demonstrates that the upgrade will not have a material impact on flood levels in the surrounding area.	Refer to Appendix C and Appendix K.
Ensure workers and people using the facility during and after the upgrades are aware of the flood risk, for example by using signage.	24 November 2022	Workers on the site will be made aware of the flood risk as part of the site Emergency Response Sub-Plan that will be prepared and incorporated into the CEMP.	Refer to Appendix C and Appendix K.
Develop an appropriate business emergency plan to assist in being prepared for, responding to and recovering from flooding. The NSW SES has a template which can assist in this process: http://www.sesemergencyplan.com.au/.	24 November 2022	Flood levels are not materially changed due to the proposed REF works. It would be inappropriate to prepare a Business Emergency Plan for the REF works in isolation.	Refer to Appendix C and Appendix K.

City of Parramatta Council

Council provided a response on 8 November 2022 to confirm they had no further comments on the proposed REF works.

5.2 Community & Stakeholder Engagement

As part of the Integrated Mental Health Complex consultation, the project team engaged broadly with stakeholders, consumers, staff, residents and community members, including Aboriginal and Torres Strait Islander Elders and community members. Comprehensive engagement for master planning and design (SSDA) included high level consultation about the proposed early works, and this has informed the approach for this REF.

For the Early Works REF, the project team conducted additional targeted engagement with more than 20 representatives from 8 facilities and services to ensure their issues and concerns were identified.

Consultation included session with Western Sydney Local Health District, Sydney Children's Hospitals Network (for The Children's Hospital, Westmead), HealthShare, CareFlight, the two child care centres in the Westmead Health Precinct and other key stakeholders.

Key issues including parking, timeliness of information, impact on services and amenity, and maintaining safe access; these were noted and considered in the early works planning.

This consultation is in addition to statutory consultation with agencies including Transport for NSW and City of Parramatta Council.

Ongoing communications and engagement activities for early works are included in the Project Communications and Engagement Plan to ensure that stakeholders are kept informed at every stage of the process.

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 9: Summary of Environmental Factors Reviewed in Relation to the Activity

Relevant Consideration	Response/Assessment		
a) Any environmental impact on a community	Any environmental impact on a community The works will be undertaken in a safe and coordinated manner. Environmental impact of the proposed development has been carefully considered under the REF and impacts, if any, are proposed to be appropriately ameliorated or managed by way of clear mitigation measures outlined under this REF.		
			✓
(b) Any transformation of a locality	As an outcome of the proposed REF works, the IMHC will be developed on	+ve	
(b) Any transformation of a locality	site and transform the nature of the locality. It will provide a state-of-the-art hospital building that is commensurate with the design standard and density	Nil	
	of surrounding hospital buildings.		✓
		+ve	
(c) Any environmental impact on the ecosystem of the locality	The activity is minor and proposed within an urban context (operational campus) and is not of a scale or nature that can adversely impact the	-ve	
,	campus environment or ecosystem.	Nil	✓
		+ve	
d) Any reduction of the aesthetic, recreational,	The proposal involves a series of infrastructure improvement works which	-ve	
scientific or other environmental quality or value of a locality.	will enable the efficient sequencing of works and to ensure the ongoing operation of the hospital. In this regard, the activity is considered to	Nil	
	positively contribute to the orderliness and function of the locality.		✓
e) Any effect on locality, place or building having aesthetic, anthropological,	The activity will not significantly impact the significance of the site, in the sense that the site is already developed and accommodates an existing		
archaeological, architectural, cultural, historical, scientific, or social significance or other special value for present or future	hospital campus. The proposed works aim to facilitate the construction and operation of the IMHC development.	Nil	
generations.		+ve	✓
(f) Any impact on the habitat of protected	The activity will not impact on the habitat of protected animals.		
fauna (within the meaning of the <i>National</i> Parks and Wildlife Act 1974)			✓
		+ve	
(g) Any endangering of any species of animal,	The activity will not affect any endangered species of animal, plant or other living thing.	-ve	_
plant or other form of life, whether living on land, in water or in the air		Nil	✓
		+ve	
(h) Any long term impacts on the environment	The activity will not have any long-term effects on the biophysical	-ve	
	environment.	Nil	✓
		+ve	
	•		

Relevant Consideration	Response/Assessment		
(i) Any degradation of the quality of the environment	environment measures will be put in place to reduce any temporary impacts on noise and		
	air impacts.	Nil	√
		+ve	
j) Any risk of safety of the environment	There will be minimal risk to the safety of the environment. Risk measures will be put in place to manage potential impacts.	-ve	
	will be put in place to manage potential impacts.	Nil	✓
		+ve	
(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.	-ve	
ases of the chynonnicht	CHAIRMING IL.	Nil	✓
		+ve	
(I) Any pollution of the environment	Appropriate construction mitigation measures will be implemented to ensure that the environment will not be polluted.	-ve	
	that the children will not be polluted.	Nil	✓
		+ve	
(m) Any environmental problems associated with the disposal of waste	Only minor works are proposed, and so no issues will arise from the disposal of waste. Further discussion is provided in Section 6.2.12 .	-ve	
with the disposal of waste	disposal of waste. Further discussion is provided in Section 6.2.12.	Nil	✓
		+ve	
	The activity will maintain access to essential services and will not significantly impact demand for scarce resources.	-ve	
		Nil	✓
	+1		
(o) Any cumulative environmental effects with			
other existing or likely future activities.	(through facilitating the construction and operation of the IMHC) and are not expected to give rise to any unacceptable environmental impacts that	Nil	
	cannot be appropriately managed. Notwithstanding this, mitigation measures will be incorporated into the construction phase to ensure the works do not result in any unacceptable impact with regards to traffic, noise, dust, waste etc.		✓
(p) Any impact on coastal processes and	The activity will not impact on any coastal process or hazards.	-ve	
coastal hazards, including those under projected climate change conditions.			✓
			-
q) Anypplicable local strategic planning	The proposed activity directly aligns with the strategic planning context as outlined in the Greater Sydney Region Plan, Central City District Plan and the Parramatta Local Strategic Planning Statement. Further detail is	-ve	
statements, regional strategic plans or district strategic plans made under the Act, Division		Nil	
3.1	provided in Section 4.6 .		✓
r) Any other relevant environmental factors			
	that will result in any unacceptable impact to the environment.	Nil	✓
		+ve	-

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?		✓
Will the works disrupt access to private properties?		✓
Are there likely to be any difficulties associated with site access?		✓
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)?	✓	
Will full or partial road closures be required?	✓	
Will the proposal result in a loss of onsite car parking?	✓	
Is there onsite parking for construction workers?	✓	

The proposed works will result in the removal of car parking spaces in Car Park 14 and 22 on the Health Share/Care Flight Access Road. Stantec have outlined the removal and relocation of car park strategy as follows:

CareFlight

This includes the removal of 22 informal parking spaces along the HealthShare / CareFlight access road, currently used by CareFlight employees. Following consultation with the Car Park Working Group, it is understood CareFlight currently benefit from unregulated/ free parking at Westmead Health Precinct, noting they do not have any formal agreement to use this land for parking. As such, the Car Park Working Group agreed for the CareFlight parking supply to be rationalised to four formal parking spaces northwest of the new access ramp to Car Park 14 as part of this project.

HealthShare Car Parking

... HealthShare currently have access to two parking areas, including a car park to their north that has capacity for 35 formal parking spaces and two informal parking spaces at its eastern edge, as well as 18 formal indented parking bays to their west along the access road, resulting in a total supply of around 55 spaces. The HealthShare tenancy is proposed to be vacated prior to the commencement of Early Works, with their parking supply to be transferred back to WSLHD/ SCHN.

Following discussions with the Car Parking Working Group, SCHN expressed desire to implement access control to the northern car park, noting this is critical to prevent the misuse of parking facilities across campus by staff. As such, the installation of boom gates at the western edge of this car park has been incorporated into the Early Works Project. The works will result in the loss of two formal parking spaces and hence the existing HealthShare parking areas will have a revised supply of 53 parking spaces, including 35 spaces in the northern car park (33 formal spaces, two informal spaces on eastern edge) and 18 formal indented parking bays to the west along the access road.

Car Park 14

During the Early Works Project, around 87 spaces will be temporarily removed from Car Park 14 as shown in Figure 14 and Figure 15, with 22 spaces reinstated upon completion and hence the Car Park will have a total loss of 65 parking spaces. The HealthShare tenancy is proposed to be vacated prior to the commencement of Early Works, with their parking supply to be transferred back to WSLHD/SCHN.

As such, around 53 parking spaces will be available for use by CHW staff displaced from Car Park 14. Based on this, the Early Works Project would result in the loss of 12 CHW staff parking spaces. Following opening of the CHW MSCP, this parking demand will be transferred to the MSCP in-line with the broader IMHC car parking strategy and hence there will be no net loss of parking on site. As such, the temporary loss of 12 CHW staff parking spaces is expected to occur for up to a period of around three months.

During this time, the demand for 12 spaces could be accommodated within spare capacity for existing parking facilities, noting this is within a reasonable tolerance of day to day fluctuations of parking demand on site.

Prior to the commencement of works, the Principal Contractor will prepare a Traffic and Pedestrian Management Plan which will detail how traffic, pedestrian and cyclist access will be managed during the construction works. Traffic control personnel will be appointed by the Principal Contractor during the operating hours to minimise impact on the surrounding street network. Contractors and sub-contractors will be encouraged to use public transport or car share options. However, a designated construction parking area is provided on site and will be used as required.

It is anticipated that there will be up to a maximum of approximately 50 workers on-site at any given time during the main works construction activities. The existing contractor parking area (north of P23) will be utilised for construction worker parking. Workers would not be permitted to park outside of designated areas within the Westmead Health Campus.

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)?	✓	
Will any receivers be affected by noise for greater than three weeks?	✓	
Are there sensitive land uses or areas that may be affected by noise from the proposal during operation?	✓	
Will the works be undertaken outside of standard working hours?		✓
Monday – Friday: 7am to 6pm		
Saturday: 8am to 1pm		
Sunday and public holidays: no work		
Will the works result in vibration being experienced by any surrounding properties or infrastructure?	✓	

A Construction Noise and Vibration Management Plan has been prepared by Acoustic Logic and is included at **Appendix N**.

The Plan notes that the construction work noise impacts will be the greatest for on campus receivers, particularly those that directly surround the site, including the education and child care centre receivers. Noise from various plant and equipment operating individually are generally predicted to be above the recommended noise management level (NML) due to the proximity to the nearest affected receivers. In a worse-case scenario, the noise impacts associated with excavators will exceed the NMLs Highly Affected Noise Levels criteria (75dB(A).

- The exceedance of the NMLs is not unusual given the heavy plant and equipment that must be used, such as excavators and hammers, and the proximity to sensitive receivers on campus. Notwithstanding this, Acoustic Logic confirms that the implementation of all reasonable and feasible mitigation measures will ensure that any adverse noise impacts to surrounding health, residential, commercial and educational receivers are minimised when NMLs cannot be met due to safety or space constraints. Internal noise levels from construction are to be assessed on a case by case basis and managed internally by hospital procedures. Recommended noise mitigation includes:
- Using smaller, quieter plant cloer to buildings
- The use of sawing and ripping techniques (instead of hydraulic hammer plant)
- Time scheduling works close to other buildings in the early morning or late afternoon when they are not occupied, and children are not sleeping in the nearby childcare facilities
- Preparation of a detailed noise management plan prior to the commencement of works

With respect to receivers external to the hospital site, noise management levels will typically not be exceeded given the distance to the site and screening provided by other hospital buildings. It is considered that measures taken to reduce noise impact to internal receivers will effectively control noise to surrounding receivers.

In addition, the proposed activities that have the potential to produce significant ground vibration include piling, rock breaking and excavation works. A series of mitigation measures have been included as part of the Noise and Vibration Management Plan which will minimise structural damage risk for existing structures close to the project site and to protect human comfort.

Overall, it is considered that the noise and vibration impacts associated with the proposed works can be successfully mitigated through the implementation of Acoustic Logic's recommendations.

6.2.3 Air Quality and Energy

Questions to consider	Yes	No
Could the works result in dust generation?	✓	
Could the works generate odours (during construction or operation)		✓
Will the works involve the use of fuel-driven heavy machinery or equipment?	✓	
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?	✓	

Prior to the commencement of works, the Principal Contractor will prepare and implement a dust prevention strategy, which may include precautions such as water spraying, the covering of all haulage truck loads with tarpaulins and monitoring of weather conditions (including wind). Management and contingency plans will be developed to prevent any foreseeable impacts from dust. Further, odour problems will be minimal on site. Appropriate mitigation measures are included at **Section 6.3**.

6.2.4 Soils and Geology

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

Contamination

A Contamination Assessment has been prepared by JBS&G and is included at **Appendix I**. As discussed in **Section 6.2.13** below, JBS&G are of the opinion that the proposed development can be made suitable for the proposed development, subject to implementation of a site-specific RAP. Mitigation measures are included at **Appendix P**.

Geotechnical Conditions

A Geotechnical Investigation has been prepared by JKGeotechnics and is included at **Appendix L**. The investigation identifies that the ground conditions on the majority of the site comprise fill overlaying residual silty clay. The fill comprises weathered siltstone, laminate and interbedded siltstone and sandstone within the upper rock profile, and sandstone bedrock up to high strength encountered at a depth. Bedrock levels vary throughout the site from 4.3m to 7.8m.

Groundwater was encountered during borehole investigations, with observations made between 4.1m and 4.5m below surface level.

Based on the results of the previous site investigations, the report provides advice on the proposed civil and structural design. Specific geotechnical input will be sought during the construction phase of the project. Further discussion is provided at **Appendix L** and the mitigation measures are provided in **Appendix P**.

Acid Sulfate Soils

JBS&G confirm that there are no known occurrences of acid sulfate soils on site or within the vicinity of the site. As a result, the works are not expected to result in any disturbance to acid sulfate soils.

Erosion and Sediment

An Erosion and Sediment Control Plan will be prepared by the Principal Contractor prior to the commencement of any works. The plan will detail appropriate measures for the management of erosion and sediment during construction. Preliminary erosion and sediment control measures have been prepared by Arup at **Appendix C**.

6.2.5 Hydrology, Flooding and Water Quality

Questions to consider	Yes	No
Are the works located near a natural watercourse?	✓	
Are the works located within a floodplain?	✓	
Will the works intercept groundwater?		✓
Will a licence under the Water Act 1912 or the Water Management Act 2000 be required?		✓

An assessment of the flood impacts on site has been undertaken by Arup at **Appendix C**. In general, the site flooding conditions are predominantly overland flows contained within Redbank Road and in the overland flow path to the north of the site. The exception is the Probable Maximum Flood (PMF) river flood event where the extent of flooding reaches the northern and eastern portions of the site.

Specifically, only minor localised affluxes will occur for the overland flow flood events up to the 1% AEP, including a small increase in flood levels at the Redbank House building to the west of the site. However, this small increase in flood level is not expected to change the flood immunity of the Redbank House building. For the PMF extreme flood event adverse affluxes were also found downstream of the site within the extents of the Westmead Health Precinct which are already subject to extensive flooding for this event. In conclusion, ARUP confirm that there will be minimal change to the existing flood conditions as a result of the proposed development and no mitigation measures are required.

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?	✓	
Will the works be visible from the public domain?	✓	
Are the works located in areas of high scenic value?		✓
Will the works involve night work requiring lighting?		✓

The proposed works will be carried out within the boundaries of an existing hospital campus and will generally be screened by existing hospital buildings and landscaping. However, there is the potential for the works to be visible from nearby residential properties and the public domain.

Notwithstanding this, the visual impact of the proposed works will be short-lived and generally minor. The proposed works are required to accommodate the future IMHC which will revitalise the site through the provision of a high quality

hospital building that is consistent with the character of the hospital campus, and ample landscaping and open space areas.

6.2.7 Aboriginal Heritage

Questions to consider	Yes	No	
Will the activity disturb the ground surface or any culturally modified trees?	✓		
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)?		✓	
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)?		✓	
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			
If Aboriginal objects or landscape features are present, can impacts be avoided?	N/A		
If the above steps indicate that there remains a risk of harm or disturbance, has a desktop assessment and		N/A	
visual inspection been undertaken? However, a deskt been unde		' '	
Is the activity likely to affect wild resources or access to these resources, which are used or valued by the Aboriginal community?		✓	
Is the activity likely to affect the cultural value or significance of the site?		✓	

A Statement of Heritage Impact (**Appendix O**) has been prepared by Comber Consultants to determine the archaeological potential of the site and to ensure that the Aboriginal archaeological significance of the site is not adversely impacted upon by the proposed works.

A search of the Aboriginal Heritage Information Management System (AHIMS) identified that there are no Aboriginal sites located within the study area but found 63 Aboriginal sites located within a 2km radius of the site. This means that the site is in an area of high archaeological potential. Notwithstanding this, the site is in a highly disturbed location comprising hospital buildings with basements, roads that have been cut into the landscape and carparks. Meaning that despite being in an area of high archaeological potential, the disturbance from the hospital construction would most likely have removed any evidence of occupation.

A sile inspection was undertaken by Comber Consultants and relevant stakeholders on 27 July 2022. During the inspection the site was identified as a significant area for Aboriginal occupancy, given the proximity to Toongabbie Creek. However, it was determined that the presence of any Aboriginal objects is unlikely due to the high disturbance (including basements and deep building foundations) of the site.

Overall, Comber Consultants determined that the proposed development is not expected to have any impact on Aboriginal objects. Comber Cobsultants conclude that an Aboriginal Cultural Heritage Assessment Report is not required to be prepared as part of the proposed early works. A series of mitigation measures have been provided at **Appendix P** to ensure that no impact to Aboriginal heritage occurs, should a site be identified during construction.

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)		✓

Questions to consider	Yes	No
Commonwealth EPBC heritage list?		
Will works occur in areas that may have archaeological remains?		✓
Is the demolition of any heritage occurring?		✓

There are no heritage items located on site or within the vicinity of the study area. The proposed development will have no impact upon heritage items in the wider area, including State Heritage Items *I00–20 - Cumberland District Hospital Group* and *I00596 Parramatta Park and Old Government House* which are located more than 500m to the east of the site. Accordingly, the proposal will not result in any impact to European heritage.

In addition, the site is located within Parramatta Archaeological Management Unit 3070 (AMU) which is listed on the State Heritage Inventory as ID number 2243070. The AMU is of local significance and has moderate archaeological research potential. It is also noted that a tramline constructed in 1902 once ran along the western edge of the development site. Notwithstanding this, the site is in a highly disturbed location containing hospital buildings with basements, roads that have been cut into the landscape and carparks. There is low potential for evidence of the tramline to remain and it is highly unlikely that any archaeological features listed in the AMU are located on site. As such, the site has been assessed as having low historical archaeological potential. An unexpected finds procedure has been included at part of the mitigation measures (**Appendix P**) in the unlikely event that an Aboriginal site is identified during the construction works.

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?		✓
Is it likely that the activity will have a significant impact in accordance with the Biodiversity <i>Conservation Act</i> (2016)? 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. 		
Could the works affect a National Park or reserve administered by EES?		✓
Is there any important vegetation or habitat (i.e. Biodiversity and Conservation SEPP) within or adjacent to the work area?		✓
Could the works impact on any aquatic flora or habitat (i.e. seagrasses, mangroves)?		✓
Are there any noxious or environmental weeds present within the work area?		✓
Will clearing of native vegetation be required?	✓	

Westmead Hospital has historically been devoid of native vegetation, with the majority of the site comprising existing buildings, roadways and carparking areas. Within the site area vegetation comprises garden beds, planted vegetation and grassland including a mix of native, exotic and ornamental species.

The proposed REF works require the removal of 37 trees. The Arboricultural Impact Assessment (**Appendix E**) confirms that all trees to be removed have a low-medium retention value. In addition, a combined approach to biodiversity has been undertaken for the REF works and SSDA and is detailed in the BDAR Waiver at **Appendix Q**. The report acknowledges the REF scope of works at Section A1.1.

It is noted that a total of 1.12 hectares of planted vegetation will be removed as part of the REF and SSDA works overall. This maximum impact assessment has been undertaken to provide a conervitive assessment, where the REF

works will actually have less impact, and so where the results of the overall assessment are acceptable, the REF works will have an acceptable impact.

The assessment concluded that none of the vegetation to be removed is considered to conform to any Threatened Ecological Community (TEC) listed under the BC Act or EPBC Act. While the vegetation has the potential to be a marginal foraging habitat for many highly mobile native fauna species, the assessment confirms that the proposed vegetation removal will not have a significant impact on any threatened fauna species listed under the BC Act.

Overall, the proposed works will not result in any impact to threatened species or communities.

The REF requires removal of 37 trees as a result of direct impacts from the REF activities. To mitigate tree loss this REF includes amitigation measures that requires planting of 37 trees (a replacement rate of 1:1) on the Westmead campus.

The Ecologist makes the following recommendations to reduce potential impacts:

- Undertake appropriate management measures during demolition to reduce risk of harm to any potentially roosting bats, if present. Dismantling the buildings gradually, including removal of roof tiles to expose the roof cavity to render them undesirable as roosting habitat for microbats, thereby encouraging them to re-locate.
- it is recommended that appropriate tree protection measures are installed for all trees to be retained when works are being conducted.

A series of tree protection measures have also been developed to ensure the ongoing health and vitality of all trees to be retained. The provision of new tree canopy and retainment of existing tree canopy will assist with mitigating the urban heat island effect and will improve comfort levels on site through the provision of shading.

6.2.10 Bushfire

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

The site is not identified as being bushfire prone land.

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?	✓	
Will the works involve the installation of structures or services that may be perceived as objectionable or nuisance?		✓
Will the works impact on, or be in the vicinity of other services?		✓

The proposed works will result in the demolition of the Brain Injury Rehabilitation Unit, Casuarina Lodge and Integrated Project Office. Notwithstanding this, the services provided for within these buildings will be decanted and relocated elsewhere within the hospital campus to minimise any disruption. The service diversion works will not be perceived as objectionable or nuisance and will not impact on, or be in the vicinity of, other services.

6.2.12 Waste Generation

Questions to consider	Yes	No
Will the works result in the generation of non-hazardous waste?	✓	
Will the works result in the generation of hazardous waste?	✓	
Will the works result in the generation of wastewater requiring off-site disposal?		✓

The Preliminary Construction Management Plan (**Appendix J**) details procedures for the handling and classification of waste during construction. A Principal Contractor will be required to ensure that EPA guidelines are achieved throughout construction and will implement measures for encouraging the management and reduction of waste.

The proposed works will result in the generation of non-hazardous and hazardous waste during construction. Where possible materials will be recycled and reused. Additionally, it is possible that small quantities of hazardous wastes may be generated during construction. Notwithstanding, hazardous waste will be safely stored in the waste storage area prior to removal offsite by an appropriately licensed contractor for recycling or disposal at a licensed facility. Further detail is provided in the Hazardous Building Materials Survey at **Appendix M**.

6.2.13 Hazardous Materials and Contamination

Questions to consider	Yes	No
Is there potential for the works to encounter any contaminated material?	✓	
Will the works involve the disturbance or removal of asbestos?	✓	
Is the work site located on land that is known to be or is potentially contaminated?	✓	
Will the works require a Hazardous Materials Assessment?	✓	
Is a Remediation Action Plan required?	✓	
Is the work category 2 works under Resilience and Hazards SEPP?		✓

Contamination

A Contamination Assessment has been prepared by JBS&G and is included at **Appendix I**. The site has historically been used for agricultural purposes prior to the operation of a hospital on site commencing in the 1970's.

Based on a review of the available contamination assessments and works undertaken at the site, the fill material from unknown sources was identified and is likely to contain the following contaminants of potential concern:

- Heavy metals
- Asbestos
- Polychlorinated biphenyls (PCBs)
- Total recoverable hydrocarbons (TRHs)
- Polycyclic aromatic hydrocarbons (PAHs)
- Benzene, toluene, ethylbenzene and xylene (BTEX)
- Organochlorine pesticides (OCPs)

Potential hazardous materials, including lead and asbestos, have also been identified on site and are associated with existing buildings.

Given the known presence of asbestos impacted fill across parts of the site, and assumed presence of asbestos impacted fill in areas that have not been assessed, remediation and/or management of the impacted fill will be required.

It is noted that remediation has already been carried out on a portion of the site as part of previous development within the Westmead Hospital campus, and is managed under a Long Term Asbestos Management Plan (JBS&G, 2020). Therefore, the proposed strategies only apply to non-remediated areas and will be undertaken in accordance with the Remedial Action Plan (RAP) at **Appendix H** and as detailed in **Section 3.1.1**.

Based on the findings of the Contamination Assessment, JBS&G are of the opinion that the proposed development can be make suitable for the proposed development, subject to implementation of a site-specific RAP. Mitigation measures are included at **Appendix P**.

Hazardous Materials

A Hazardous Building Materials Survey has been prepared by JBS&G (**Appendix M**) to identify and assess the risks associated with the suspected hazardous materials located on site. The Survey identified traces of asbestos, lead paint and synthetic mineral fibre within structures on the site, which will be disturbed as a result of the proposed demolition works. Accordingly, JBS&G have developed a protocol which must be implemented (as far as is reasonably practical) prior to the commencement of construction works to ensure that the hazardous materials do not result in an exposure risk to current and future occupants.

6.2.14 Community Impact / Social Impact

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

Overall, the proposed works will have a positive impact on the hospital and the wider community. They will enable the construction of the IMHC which will transform the delivery of mental health services across Western Sydney and deliver improved care for patients in line with state and national mental health reforms. The REF works will ensure the ongoing operation of the hospital is not disrupted through efficient sequencing.

The works will have a positive impact on the economy through the provision of additional jobs during construction, and also during the operation of the IMHC. Any impacts associated with the proposed works can be successfully mitigated to minimise the impact to surrounding landowners. Mitigation Measures are included at **Appendix P**.

6.2.15 Cumulative Impact

Questions to consider	Yes	No
Has there been any other development approved within 500m of the site?	✓	
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?		✓

The proposal is located in the vicinity of the Paediatric Services Building (PSB) which was recently approved as per SSD-10349252 and is anticipated to undergo construction at the same time as the IMHC. Notwithstanding this, mitigation measures (as discussed in **Appendix P**) will be incorporated into the construction phase to ensure the works do not result in any unacceptable impact with regards to traffic, noise, dust, waste etc.

Overall, the proposed works will deliver significant, long-term benefit to the community through enabling the IMHC. The works are not expected to give rise to any unacceptable environmental impacts that cannot be appropriately managed.

The impacts to the existing hospital campus and the surrounding regio short-lived.	n are expected to be relatively minimal and
SHOIL IIVOU.	

7. Summary of Mitigation Measure

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

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 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 Early Works Project at Westmead 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 proposed activity will not be carried out in a declared area of outstanding biodiversity value and is/is not likely to significantly affect threatened species, populations or ecological communities, or their habitats or impact biodiversity values, meaning a SIS and/or BDAR is not required. 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 under Part 5.1 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.