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FEBRUARY 2024

WARRAWONG COMMUNITY HEALTH CENTRE

CONSTRUCTION WASTE MANAGEMENT PLAN

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Warrawong Community Health Centre
Construction Waste Management Plan

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REV	DATE	DETAILS
A	08/11/2023	Draft Construction Waste Management Plan
B	28/11/2023	Construction Waste Management Plan
C	20/02/2024	Construction Waste Management Plan

	NAME	DATE	SIGNATURE
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Reviewed by:	Laurence Gamble	20/02/2024	
Approved by:	Laurence Gamble	20/02/2024	

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1 EXECUTIVE SUMMARY

NSW Health Infrastructure (HI) is redevelop the north-eastern corner of the Port Kembla Hospital site by demolishing some existing buildings and constructing a Community Health Centre for Warrawong. The project scope for the Warrawong Community Health Centre includes:

- Demolition of existing Building D, Building E, and Building H, along with nearby retaining walls, gazebos and pathways.
- Construction of a new building (part single storey and part two storey) with a gross floor area of around 2,000 m2, providing the following services:
  - Services currently hospital based which are more appropriately, conveniently, and effectively delivered within a community health setting.
  - Child and Family services including Port Kembla Hospital Child Development Service, Illawarra Early Childhood Nurses, Domestic Family Violence and Sexual Assault Services and Binji & Boori Child & Family Illawarra Aboriginal Services.
  - Ambulatory and Primary Health Care services including facilities offering Chronic Disease Prevention and Rehab Services such as the Aunty Jeans Program and Healthy Hearts program.
  - District Wide Sexual Health Service.
  - Drug and Alcohol Services, based in the community including Drug & Alcohol Needle & Syringe Program (First Step), Opioid Treatment Program (Bungora OTP) and Counselling & Withdrawal Management.
  - Community based Mental Health services.
  - Allied Health (including Brain Injury Service).
  - Maternity services.
- Alterations and additions to carparking and access, including expand the south carpark.
- Ancillary infrastructure and works, including service connections, landscaping, and signage.

In preparing this Construction Waste Management Plan, the following SEARs General Requirements and Key Issues have been addressed. The table below sets out the reference or location of these matters within this report.

Table 1 SEARs Requirements

18. Waste Management	
General Requirement or Key Issue	**Reference / Location within this report**
• Identify, quantify and classify the likely waste streams to be generated during construction and operation.	Section 3.1 Section 3.3.2
• Provide the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.	Section 3.1 Section 3.4
• Identify appropriate servicing arrangements for the site.	Section 3.5
• If buildings are proposed to be demolished or altered, provide a hazardous material survey.	Not provided within this report. No demolition of buildings proposed under this SSDA.

2 INTRODUCTION

Client:	*Savills Australia*
Development Type:	*Health Centre*
Proposed Works:	*Demolition and construction*

The following Construction Waste Management Plan has been prepared for the proposed construction works at the New Warrawong Community Health Centre located at Cowper Street and Fairfax Road in Warrawong is currently occupied by the Port Kembla Hospital. The information contained within this Brief is provided as a high-level summary of typical construction and demolition (C&D) waste operations and provides estimates of C&D waste volumes generated from site works. This information shall be incorporated into the site's Construction Management Plan (CMP) as appropriate. Should C&D operations significantly differ in practice, the principal construction contractor will be responsible for documenting any significant departures from this brief.

2.1 GUIDELINES & OBJECTIVES

This C&D Brief has been prepared based on Shellharbour City Council's Wollongong Development Control Plan 2009 Chapter E7: Waste management and current best practice waste management methodology and technologies commonly available in Australia. The following objectives are outlined in Council's Guidelines and are acknowledged and supported by this brief:

- To minimise the volume of waste generated during the demolition and construction phases of development, through reuse and recycling and the efficient selection and use of resources.
- To minimise demolition waste by promoting adaptability in building design and focussing upon end of life deconstruction.
- To encourage development which facilitates waste minimisation and complements waste services offered by Council or private contractors.
- To reduce the demand for waste disposal.
- To maximise reuse and recycling of building materials and household, industrial and commercial waste.
- To provide appropriately located, sized and accessible waste storage facilities.
- To assist applicants in planning for sustainable waste management, through the preparation of a site waste minimisation and management plan at the Development Application stage.
- To provide guidance with regard to the minimum storage requirements, amenity and management facilities
- To ensure waste management systems are compatible with collection services.
- To support the principles of Ecologically Sustainable Development (ESD).
- To avoid illegal dumping of waste.

2.2 PROJECT DESCRIPTION

The proposed construction and demolition works are outlined in the following table.

Table 2 Proposed Construction and Demolition Works

Demolition Works Summary	▪ Demolition of current building
	  ○ 3 storeys
	  ○ Total floor area of approximately 3.300 m^2
	▪ Demolition of fire management building
	  ○ 1 storey
	  ○ Total area of approximately 15 m^2
	▪ Preserve car park
	▪ Site preparation

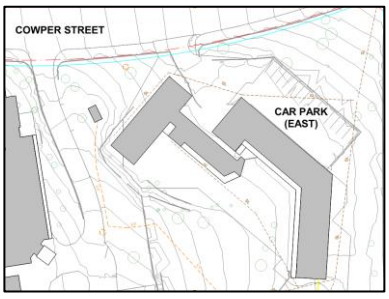
Construction Works Summary	▪ Minor earthworks (cut & fill)
	▪ Erection of new building
	  ○ 2 storeys
	  ○ Total floor area of approximately 1,800 m^2
	▪ Modify access road from Cowper Street.
	▪ Establish access road from Fairfax Avenue

A site plan is provided below for context. Further design drawings are provided in Appendix A.

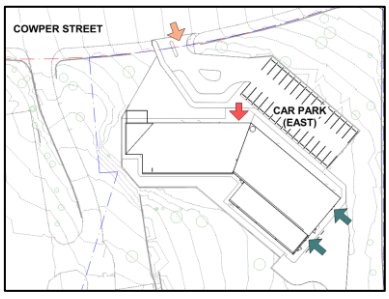
Figure 1 Existing and proposed site plan

Proposed site

Existing site plan



Proposed site plan



3 C&D WASTE MANAGEMENT

3.1 C&D WASTE STREAMS

Construction and demolition (C&D) debris is a separate waste stream from municipal solid waste (MSW), and includes such materials as steel, timber, plasterboard, brick, and concrete.

All wastes generated throughout construction and demolition activities are to be effectively stored, handled, treated, reused, recycled and/or disposed of lawfully and in a manner that minimises environmental harm. As a guiding principle, waste should be managed in accordance with the waste hierarchy, in order to maximise waste diversion from landfill.

In the context of the subject works, the approach of the waste hierarchy can be generally considered as:

- Re-use (Onsite): Direct and immediate re-use of materials onsite as part of subsequent construction activities.
- Re-use (Offsite): Re-use of materials offsite under separate construction activities unrelated to the subject development.
- Recycle: Volumes sent to an off-site facility to be recycled into new products and/or on-sold for further use.
- Dispose: Volumes sent to landfill / clean fill for end disposal. Materials not harnessed for any further use.

The following table outlines typical C&D waste materials and opportunities for recovery.

Table 3 Typical C&D Waste Materials

Waste Stream	Reuse and Recycling Options	
	Reuse	**Recycle**
Bricks	Cleaned and/or rendered for reuse on-site or off-site. May also be crushed for use as fill.	Transported to a C&D waste recycler for crushing / recycling into recovered products.
Concrete / Ceramics / Fines	May be crushed on-site for application as fill / gravel or used off-site for other projects.	Transported to a C&D waste recycler for crushing / recycling into recovered products.
Excavation Material	Reused on site as fill or transported to a C&D waste recycler for recovery as fill under separate use.	N/A
Glass	N/A	Transported to a glass waste recycler for crushing / recycling into recovered products (e.g., aggregate for concrete).
Green Waste	Can be mulched onsite & applied to any existing green areas (e.g., for landscaping).	Transported to a recovery facility for processing into a mulch or compost material.
Metals	N/A	Transported to a metals waste recycler for melting and moulding into secondary products (e.g., piping).
Plasterboard	May be crushed on-site for application as fill / gravel or used off-site for other projects.	Transported to a C&D waste recycler for crushing / recycling into recovered products.
Roof Tiles	Can be cleaned and reused in its original form on site or off site for other projects. Otherwise, may be crushed for reuse in landscaping.	May be transported to a recovery facility for crushing / recycling into recovered products.
Timber (untreated)	Hardwood beams may be reused as floorboards, fencing, furniture, etc. Other timber materials may be mulched and used on site for landscaping.	May be transported to a recovery facility for chipping and processing into a mulch or compost material.

3.2 C&D WASTE DIVERSION TARGETS

As per standard industry practice, a minimum 80% diversion rate from landfill for waste generated from construction and demolition activities should be targeted across the subject site. This is further outlined and supported in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021 (superseded), and NSW Waste and Sustainable Materials Strategy 2041.

The following sections provides high-level estimates for the volumes of construction and demolition waste anticipated to be produced by this project. Note that more accurate estimates may be provided by the quantity surveyor or head contractor.

3.3 C&D WASTE VOLUME ESTIMATES

Estimated volumes of construction and demolition waste materials have been calculated based on information provided in the following reference documents:

- Wollongong Development Control Plan (2009)
- Camden Council Waste Management Guidelines (2019)
- WALGA Construction Waste Management Plan Guidelines (2014).
- The Hills Development Control Plan (2012)

It is acknowledged that the estimated C&D waste volumes in the following tables have been reviewed by our client and may be updated when more accurate estimates are received by the relevant personnel (e.g., head contractor or quantity surveyor).

3.3.1 DEMOLITION PHASE

Demolition and associated activities across the site will generate a range of waste streams. Materials will be reused and recycled where possible, minimising the disposal (landfilling) of materials other than those that are contaminated or unsuitable for reuse or recycling processes.

Waste storage throughout works will generally involve the stockpiling of excavated and reusable material and the placement of skip bins throughout the site. Skip bins should be positioned in readily accessible points for collection, should facilitate the safe and efficient storage of materials, and should be retained within property boundaries to avoid illegal dumping. Waste storage area shall be designated by the demolition contractor and shall be sufficient to store the various waste streams expected during operations.

Waste storage areas will be kept clear to maintain vehicular access and shall also be kept tidy to encourage separation of waste materials and for work & health safety (WHS) reasons. Waste management principles, management measures and facilities in use on the site shall be included as part of the site induction for all personnel working on the site.

A high-level estimate of waste volumes generated throughout proposed demolition works is provided in the table below.

Note that the estimates below address the building materials associated with demolishing existing onsite buildings from Port Kembla Hospital **only**. Any waste generated from additional activities (i.e. excavation, paving, landscaping, access roads etc.) are not included in the above, nor are domestic general waste / recyclables volumes.

Table 4 Estimated Demolition Waste Materials

Waste Stream	Estimated Tonnage	% Typically Recovered	Estimated Diversion from Landfill (t)	Nearby Resource Recovery Facility
Brick	5,890	80%	4712	BINGO Recycling Centre, Benedict
Concrete	366,700	90%	330,030	BINGO Recycling Centre, Benedict
Timber (untreated)	80	33%	26	BINGO Recycling Centre, Benedict
Metals	50	100%	50	Wards Metals, InfraBuild Recycling, Benedict
Other Waste	150	0%	0	NA - landfilled
Total Generated	**372,870**	**Total Diverted**	**334,818**	
		% Diverted from Landfill	**89.8%**	**Target minimum 80%**

3.3.2 CONSTRUCTION PHASE

Construction works will usually generate waste through the erection and finishing of the development (i.e., construction waste). A CMP (to be prepared by others) should include a detailed C&D waste strategy in line with the head contractor's program and trades scheduling.

Most waste products generated throughout construction works can be readily recycled or reused, and include steel framing, damaged glazing, cladding and roof sheeting, plasterboard linings, timber features and framing, metals, concrete and rubble. Metal and plastic piping and conduits, cabling and floor finishes such as carpet and tiling should also be recovered.

Accurate materials estimation and ordering, offsite prefabrication of framing modules and fitout components, and monitoring and review of specifications and onsite construction and fitout operations will minimise the potential volume of construction waste to be generated in the first instance.

Wherever possible, construction waste will be stored and sorted on-site, including on-site collection zones for each waste stream. Any waste skips be stored in public places will be done so in accordance with Council policy.

Subcontractors and other site personnel should be educated regarding requirements for recovery of waste. This will assist in maximising recovery of resources from C&D waste on-site and minimise the cost and environmental impacts of waste being disposed to landfill.

A high-level estimate of waste volumes generated throughout proposed construction works is provided in the table below.

Note that the below estimates address the building materials associated with the construction of the new Warrawong Community Health Centre **only**. Any waste generated from additional activities (i.e. excavation, paving, landscaping, access roads etc.) are not included in the above, nor are domestic general waste / recyclables volumes.

Note: The percentage of construction materials typically recovered from site is previously advised by BINGO and based on their average quantities of materials received and recovered at their facilities.

Table 5 Estimated Construction Waste Materials

Waste Stream	Estimated Tonnage	% Typically Recovered	Estimated Diversion from Landfill (t)	Nearby Resource Recovery Facility
Brick	25	90%	22.5	BINGO Recycling Centre, Benedict
Concrete	60	95%	57	BINGO Recycling Centre, Benedict
Sandstone	20	100%	20	BINGO Recycling Centre, Benedict
Timber (untreated)	5	33%	1.7	BINGO Recycling Centre, Benedict
Metals	5	100%	5	Wards Metals, InfraBuild Recycling, Benedict
Tiles	20	95%	19	Benedict
Other Waste	3	0%	0	NA - landfilled
Total Generated	**138.0**	**Total Diverted**	**125.2**	
		% Diverted from Landfill	**90.7%**	**Target minimum 80%**

3.4 WASTE STORAGE

Waste must be segregated on site into different skips / receptacles based on material type, in order to maximise recovery and increase diversion from landfill. Bins or storage areas should be clearly signed and conveniently located to enable accessibility on site for transportation.

Skip bins or other designed waste receptacles should be adequately sized to receive anticipated construction waste. Quantity of bins/receptacles must also be sufficient to effectively store the materials. It will be the responsibility of the head contractor or designated site personnel to arrange a private contractor to service the bins on a regular basis.

3.5 WASTE COLLECTION

Waste collection will be undertaken by private collection contractors on an as-needed basis. Vehicle sizes and on-site access will be in accordance with the Construction Traffic Management Plan.

The principal contractor will be responsible for positioning waste stockpiles / bins / skips throughout the site such that collections can be readily undertaken. WSP anticipate that collection vehicles will generally be undertaken by Heavy Rigid Vehicles (12.5m length, 4.5m operating height) or smaller.

3.6 CONSIDERATION FOR ADDITIONAL WASTE STREAMS

3.6.1 PACKAGING STREAMS

Packaging waste streams will be generated through material procurement and consumption. These streams will be collected under a separate system to the construction streams by suitably licensed private contractors.

3.6.2 DOMESTIC STREAMS

Domestic waste streams will be generated through activities of trades staff on site. These streams will be collected under a separate system to the C&D streams, either through a Council service (subject to negotiations with Council) or suitably licensed private contractors.

3.6.3 HAZARDOUS STREAMS

Chemical and hazardous waste will be managed, stored, and collected in accordance with appropriate standards. Storage areas will only be accessible by authorised personnel.

The management of any hazardous / chemical waste is not addressed in this report. Refer to the Hazardous Buildings Materials Survey report for details relating to hazardous materials management.

4 SUPPLIER CONTACT INFORMATION

A complimentary listing of contractors and equipment suppliers is provided below for your reference. You are not obligated to procure goods/services from these companies. This is not, nor is it intended to be, a complete list of available suppliers. WSP does not warrant (or make representations for) the goods/services provided by these suppliers.

Table 6 Supplier Contact List

Service Type	Contractor / Supplier Name	Phone	Website
Private Waste Collectors (C&D Waste)	Bingo Bins	1300 424 646	www.bingoindustries.com.au
	Load N-Go	0413 444 334	www.loadngorubbishremoval.com.au/
	JJ's Waste & Recycling - Wollongong	(02) 4229 7762	www.jjrichards.com.au/
	Bin City	0424 076 202	www.bincity.com.au/
Off-Site Recycling Facilities	Bingo Recycling Centre, Kembla Grange	1300 424 646	www.bingoindustries.com.au
	Benedict Recycling Centre – Unanderra	(02) 4274 1322	www.benedict.com.au/
	Wards Metals	0419 494 644	www.wardsmetalrecycling.com.au/
	InfraBuild Recycling – Wollongong	(02) 4271 8300	www.infrabuild.com/

APPENDIX A

SITE PLANS

SS 163478

EXISTING MEDIAN (INDICATIVE) TO REMAIN

EXISTING DRIVEWAY TO BE RELOCATED

EXISTING RETAINING WALLS TO BE DEMOLISHED

EXISTING CARPARK TO BE RETAINED, TO BE RIPPED AND RESURFACED. BALUSTRADES TO BE DEMOLISHED

EXISTING PUMP HOUSE

EXISTING CHILDCARE COURTYARD FACILITIES TO BE DEMOLISHED

EXISTING TREES TO BE DEMOLISHED

EXISTING FOOTPATH TO BE DEMOLISHED

RETAIN EXISTING STAIR AND MAKE GOOD

EXISTING STAIR AND FOOTPATH TO EXISTING CARPARK TO BE RETAINED.

EXISTING CARPARK TO BE MADE GOOD AND EXISTING SURFACES TO BE MODIFIED IN ORDER TO INCORPORATE ADDITIONAL CARPARK TO TRAFFIC ENG. DETAILS

BUILDING TO BE DEMOLISHED

A
B
C
D
E
F
G
H
I
J

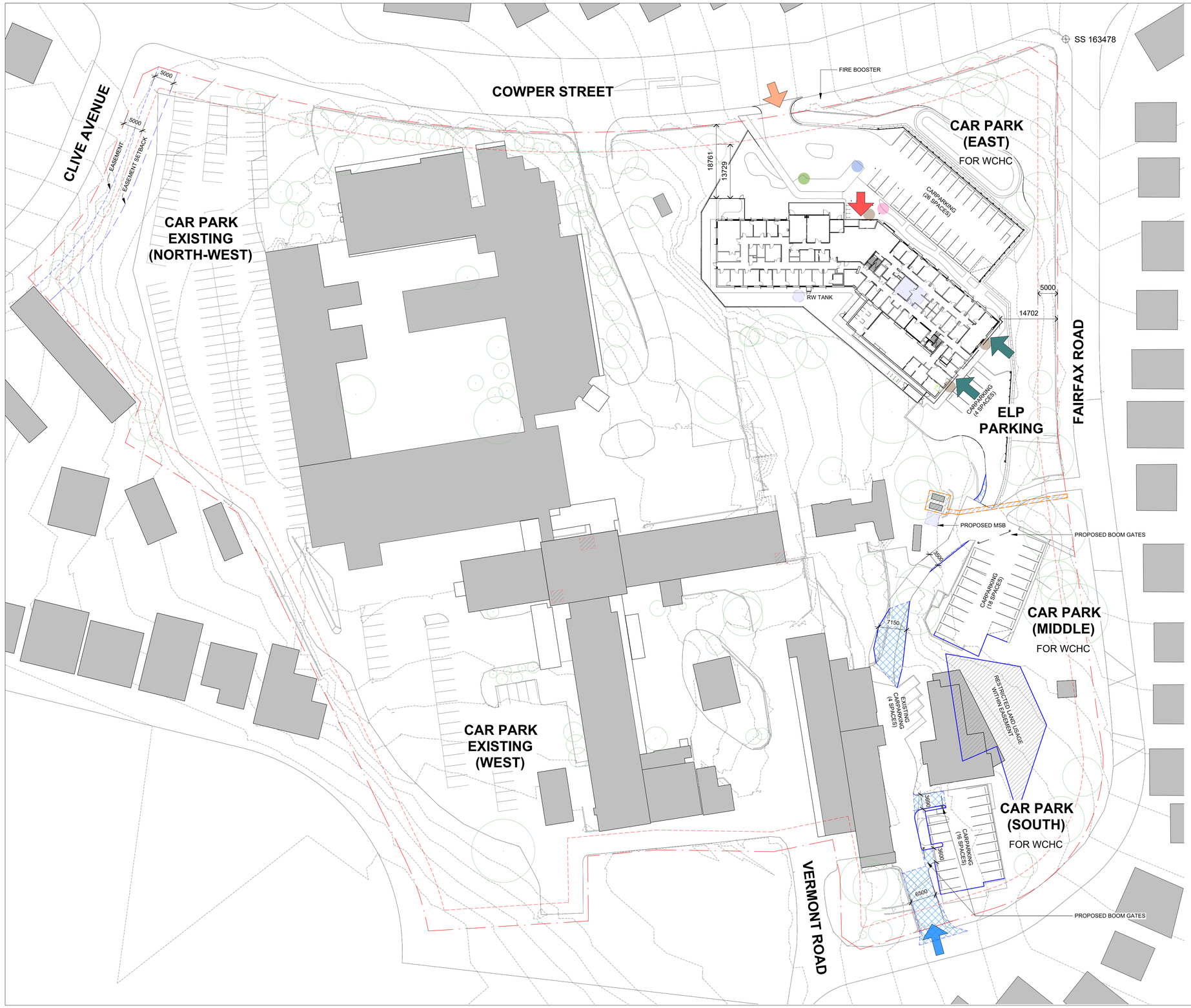
DEMOLITION PLAN LEGEND

- EXISTING BOUNDARY LINE
- PROPOSED BOUNDARY LINE
- TREES ON SITE
- EXISTING SITE & BUILDINGS TO BE RETAINED
- EXISTING HEALTH FACILITIES TO BE DEMOLISHED

A. MAIN EXISTING HOSPITAL
B. EXISTING HOSPITAL - AUDIOLOGY, PHARMACY, SEXUAL HEALTH ETC.
C. EXISTING HOSPITAL - SPEECH PATHOLOGY, OCCUPATIONAL THERAPY ETC.
D. EXISTING HOSPITAL; CHILDCARE CENTRE, D&A ADMINISTRATION ETC.
E. EXISTING HOSPITAL - FIRST STEP, DENTAL ETC.
F. COMMUNITY MENTAL HEALTH
G. ILLAWARRA BRAIN INJURY SERVICE (IBIS)
H. GROUNDS & GARDEN WORKSHOP
I. MAINTENANCE WORKSHOPS
J. MAIN STORE

Scale 1:500 @A1

0 5m 10m 25m 50m



SITE PLAN LEGEND

- EXISTING BOUNDARY LINE
- 5M STREET SETBACK
- TREES ON SITE
- EXISTING BUILDINGS
- EASEMENT
- LOCALISED ROAD WIDENING
  REFER TRAFFIC ENGINEER'S DRAWINGS FOR DETAIL

SIGNAGE LEGEND

REFER TO SIGNAGE AND WAYFINDING STRATEGY REPORT FOR ALL SIGNAGE LOCATIONS.

- DROP OFF/PICK UP ZONE POST AND PANEL SIGNAGE
- VEHICULAR FREESTANDING SIGNAGE
- PEDESTRIAN DIRECTIONAL FREESTANDING SIGNAGE
- BUILDING ENTRY SIGNAGE - MAIN ENTRY, ELP, FIRST STEP

SITE ACCESS LEGEND

- MAIN PUBLIC ENTRY
- MAIN PUBLIC VEHICLE ENTRY
- SECONDARY PUBLIC ENTRY (ELP/FIRST STEPS)
- LOGISTICS VEHICLE ENTRY

Scale 1:500 @A1

0 5m 10m 25m 50m