NSW Health Infrastructure

Blacktown Mt Druitt Hospital Redevelopment Stage 2 - Early Works Package 2

Partner:

Construction Waste Management Plan

25 September 2015

When you think with a global mind problems get smaller

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Blacktown Mt Druitt Hospital Redevelopment Stage 2 - Early Works Package 2

Prepared for
NSW Health Infrastructure

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25 September 2015

ENAURHOD03129AA_WMP_EIS_v2

Quality information

Revision history

Revision	Description	Date	Originator	Reviewer	Approver
v1 draft	Waste management plan	24/09/2015	Sarah Ross	Aryel Pyliotis	Carolyn Balint
v2 final	Waste management plan	25/09/2015	Sarah Ross	Aryel Pyliotis	Carolyn Balint

Distribution

Report Status	No. of copies	Format	Distributed to	Date
v1 draft	1	PDF	PwC	24/09/2015
v2 final	1	PDF	PwC	25/09/2015

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1. Introduction

The Blacktown Mount Druitt Hospital (BMDH) comprises health services located on two separate campuses: Blacktown campus and Mount Druitt campus, both of which work in clinical partnership. In 2012, the Stage 1 redevelopment at the Blacktown campus was approved by the Minister for Planning.

The Secretary's Environmental Assessment Requirements (SEARs) have been received for Stage 2 of the BMDH redevelopment. With regards to waste management the SEARs require the following:

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

Stage 2 of the BMDH redevelopment will be delivered in several packages, therefore the SEARs are for a Staged State Significant Development in accordance with Section 83B of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The early works for Stage 2 of the BMDH redevelopment will be delivered in two packages. The Early Works Package 2 will comprise construction works consisting of shoring and bulk excavation from ground level.

The construction waste management plan (this plan) describes how wastes associated with the Early Works Package 2 will be managed and has been prepared to inform the environmental impact statement (EIS).

1.1. Objectives

The objectives of this plan are to:

- Identify, quantify and classify the likely waste streams to be generated and the potential impacts of these waste streams during the Early Works Package 2.
- Describe the measures to be implemented to manage, reuse, recycle and safely dispose of the waste streams from the Early Works Package 2.
- Identify appropriate servicing arrangements for construction waste created on site.

The objectives are consistent with the SEARs requirements where they are relevant to construction works.

1.2. Scope

This plan provides a strategic assessment of the potential waste impacts of the Early Works Package 2 to inform the EIS for the Stage 2 BMDH redevelopment.

This plan will also be used to inform the development of a more detailed waste management plan which will be prepared by the contractor prior to the Early Works Package 2 commencing.

2. Project description

This section discusses elements of the project in order to identify the waste streams from the project.

2.1. Project background

The Blacktown Hospital campus was first developed in the 1960s and then redeveloped and expanded in the 1990s. The recent Stage 1 redevelopment, approved by the Minister for Planning in 2012, comprised:

- A new clinical services building and entry forecourts.
- Alternations to the existing main hospital building.
- Construction of internal hospital street.
- Site landscaping.
- Permanent access from Blacktown Road.
- Additional parking.

Other works have also been approved under Part 5 of the EP&A Act, including the addition of a 20-bed mental health facility and various civil works.

Stage 2 of the hospital redevelopment will be undertaken in several packages, including:

- **Early Works Package 1 and Regional Renal Dialysis Centre (RRDC).** These works will include service diversions, internal road reconfiguration, and demolition works (demolition of the RRDC and Oncology building). A separate waste management plan has been prepared for this package.
- **Early Works Package 2.** The subject of this plan. These works will include bulk excavation and shoring works required for the Main Stage 2 Acute Services Building construction.
- **Main Building Package.** These works will include the construction of the Main Stage 2 Acute Services Building, localised refurbishment of the existing main building, and internal connection to the existing Main Building and Stage 1 redevelopment.

2.2. Project location

The Blacktown Hospital campus is located at 18 Blacktown Road, Blacktown within the Blacktown City Council Local Government Area (LGA).

The campus has an area of approximately 13 ha with access via Blacktown Road and Marcel Crescent/Panorama Parade. There is a height variation across the site of between 22 to 28 m with high points located in the south of the site and a low point located near Marcel Crescent. Project scope

The scope of works for Early Works Package 2 (Figure 1) includes by is not limited to:

- The removal of all redundant services.
- Demolition of potion of car park P7, roads, kerbs, walkways on the site of the proposed Stage 2 facility.
- Demolition of portions of existing main entry, and reconfiguration of entry to maintain public, staff and emergency service access at all times.
- Establishment of a new patient drop off zone in the eastern portion of car park P7.
- Removal of the temporary road way to the North of Bungarribee House in use during the reconfiguration of the loop road.

- Bulk earthworks and shoring in preparation for the construction of the Stage 2 building. Subterranean tunnel connections to the existing main building, and the new Stage 1 building (structure and excavation only).
- Installation of new sewer drainage as a replacement of the sewer drainage serving the new Stage 1 building which currently traverse the proposed Stage 2 site. The replacement pipes will be installed in the correct locations under the new Stage 2 facility.
- Installation of stormwater drainage as a replacement of the drainage serving the new Stage 1 building and car park P7, which currently traverse the proposed Stage 2 site. The replacement pipes will be installed in the correct locations under the new Stage 2 facility.
- Any other works that are required to ensure the works are undertaken in a safe manner and staged to ensure minimal disruption to the Hospital / LHD.

The Principal will employ an Environmental Consultant to supervise all site works to ensure that the Principal's statutory responsibilities relating to waste categorisation and disposal and remediation (if applicable) are complied with.

The bulk excavation zone, shown on Figure 1, covers an area of approximately 0.9 hectares.

2.3. Summary of contamination assessment findings

A preliminary environmental site assessment was undertaken by Environmental Investigation Services (EIS) in July 2014 (EIS, 2014) in the eastern half of the BMDH (the Stage 2 redevelopment area).

Soil samples were collected at 13 locations, covering an area of approximately 1.2 ha including the car park directly east of the RRDC and Oncology buildings, locations around the RRDC and Oncology buildings and the proposed site compound area (see Figure 1).

Selected samples were tested for heavy metals, total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCPs), organophosphorus pesticides (OPPs), polychlorinated biphenyls (PCBs) and asbestos.

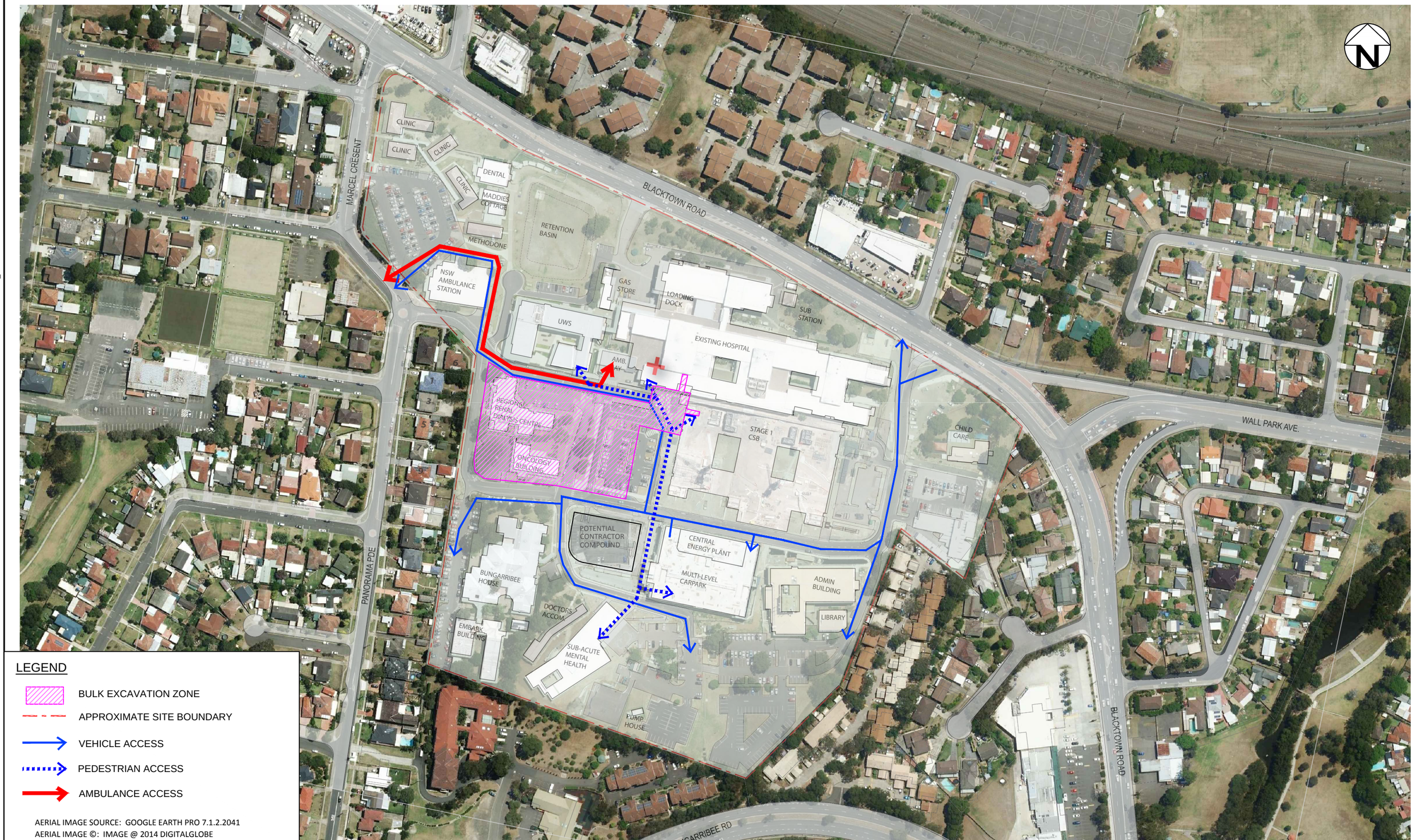
The investigation found the site surface consisted of a combination of concrete of between 90 mm and 160 mm thickness and asphalt of between 20 to 70 mm. Grass was present in some landscaped areas surrounding the RRDC and Oncology buildings. The site surface was underlain by fill material, comprising of a combination of gravel, sandy gravels and clayey gravels. The fill material was present beneath the surface of the site at depths ranging from 0.3 to 2.5 m. This material was underlain by natural silty clays extending from depths of approximately 1.5 to 4.5 m. Shale bedrock was encountered beneath the natural soils to a maximum auger depth of 10.5 m. No groundwater was intercepted in boreholes during drilling. Standing water level (SWL) was observed in many of the boreholes on completion of rock coring, however, as potable water was introduced during coring the SWLs are not considered to be a true representation of actual groundwater levels.

Waste classification of the samples collected during the investigation found that fill material at the site is likely to be classified as general solid waste (non-putrescible) in accordance with the NSW EPA Waste Classification Guidelines. Fill material would be suitable for disposal at an appropriately licensed facility or could be reused on-site provided it meets geotechnical requirements.

According to the investigation undertaken by EIS, bedrock and natural soils met the classification of virgin excavated natural material (VENM) and could be disposed of as VENM to an appropriately licenced facility, or reused onsite. The information provided in the report by EIS could also be used to assess whether the material is suitable for beneficial reuse at another site as fill material.

VENM is defined in the *Protection of Environment Operations Act 1997* (POEO Act) as:

- Excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities.



LEGEND

- BULK EXCAVATION ZONE
- APPROXIMATE SITE BOUNDARY
- VEHICLE ACCESS
- PEDESTRIAN ACCESS
- AMBULANCE ACCESS

AERIAL IMAGE SOURCE: GOOGLE EARTH PRO 7.1.2.2041
AERIAL IMAGE ©: IMAGE @ 2014 DIGITALGLOBE

revision	no.	description	drawn	approved	date
	A	ORIGINAL ISSUE			

NOTE:
ALL LOCATIONS ARE APPROXIMATE
DIMENSIONS IN METRES.

0 25 50 75 100 125
SCALE 1:2500 (A3) METRES

drawn	MV
approved	AP
date	15/09/2015
scale	AS SHOWN
original size	A3

coffey

client: NSW HEALTH INFRASTRUCTURE

project: BLACKTOWN MT DRUITT HOSPITAL REDEVELOPMENT STAGE 2
EARLY WORKS PACKAGE 2
BLACKTOWN ROAD, BLACKTOWN, NSW

title: EARLY WORKS PACKAGE 2 - WORKS ZONE

project no: ENAURHOD03129AA | figure no: FIGURE 1 | rev: A

PLOT DATE: 24/09/2015 10:30:12 AM DWG FILE: F:\ENVIPROJECTS\ENAURHOD\ENAURHOD03 ESIA\ENAURHOD03100-03199\ENAURHOD03129AA WASTE MANAGEMENT STRATEGY\4_GIS\AND\GRAPHICS\CAD\ENAURHOD03129AA-EIS.DWG

- Does not contain any sulfidic ores or soils or any other waste.

The report by EIS identified the potential for contaminating activities on the site. These are a 5,000 L underground storage tank (UST) on Level 1 of the bulk diesel storage area of the main building (Existing Hospital on Figure 1) and the potential presence of an on-site incineration facility. Given this, it is recommended that confirmation is obtained during excavation that the bulk excavation zone is not contaminated, which could take the form of sampling prior to off-site removal.

2.4. Waste streams

The waste streams likely to be generated during the Early Works Package 2 are detailed in Table 2.1. The waste volumes for the duration of the project have been estimated and will be updated upon engagement of a contractor. This list is not exhaustive and the types and quantities of waste may be revised as the project proceeds.

Table 2.1 Predicted waste streams for Early Works Package 2

Activity	Waste stream	Approximate volumes	Source
Removal of surface materials	Asphalt	180 m^3 (4000 m^2 x 0.045 m)	Excavation of road and footpath surface.
	Concrete	800 m^3 (4000 m^2*0.125 m)	Excavation of footpath surface and building foundation.
	Bricks/pavers	2 m^3	Excavation of footpath surface.
	Green waste	50 m^3	Excavation of grass surface.
Removal of services during bulk excavation	Scrap metal (steel/iron), plastics (PVC), concrete and wiring	20 m^3	Services including water mains, sewer mains, stormwater pipes, electrical and communications conduits, fire water mains.
	Plastics (e.g., PVC, polyethylene, nylon)	2 m^3	Pneumatic tube.
	Potentially asbestos containing materials	Unknown	Water mains.
Bulk excavation	Soil/ fill material	37,300 m^3 cut/in-situ (48,500 m^3 ex-situ based on 1.3 bulking factor)	Excavation of soil.
Site office and worksites	General office waste (e.g., paper, printer cartridges, cardboard)	<2 m^3	Site compound/ office.
	Domestic wastes (e.g., food scraps, glass bottles, cans, packaging)	<2 m^3	Site compound/ office.
	Septic and sanitary systems waste	Unknown	Site amenities.
Plant maintenance and chemicals management	Drums and containers	<2 m^3	Maintenance (oil and lubricants) of plant and equipment, drums and containers from works.
	Chemical wastes	<2 m^3	Wastes from plant and equipment, maintenance, spill clean-up, herbicides, pesticides.
	Waste oil, grease, lubricants, oily rags and filters	<2 m^3	Maintenance of plant and equipment.

3. Legislative context

Legislation relevant to the management of waste in New South Wales is discussed in the sections below.

3.1. Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) is the key environmental protection legislation for NSW. The Act defines 'waste' for regulatory purposes and establishes licencing and management requirements for waste.

The POEO Act covers environment protection offences and penalties relating to waste. Under the POEO Act, hazardous materials and waste cannot be permitted to leak to land or water, or be dumped on land or in water in a manner that harms or has the potential to harm the environment.

3.2. Protection of the Environment Operations (Waste) Regulation 2014

The Protection of the Environment Operations (Waste) Regulation 2014 (2014 Waste Regulation) sets out the provisions for waste management including tracking of certain types of waste, transportation of waste including asbestos waste, recycling of consumer packaging and classification of waste containing immobilised contaminants, as well as reporting and record keeping requirements for waste facilities.

Under the regulations, the Environment Protection Authority (EPA) has the power to grant exemption from some of these requirements where it can be demonstrated that the waste can be safely used for another purpose. A number of resource recovery orders and exemptions under the regulations are currently in force in NSW. Of relevance to this project are current the exemptions in place for excavated natural material (ENM), excavated public road material, raw mulch, reclaimed asphalt pavement and recovered aggregate.

3.3. Waste Avoidance and Resource Recovery Act 2001

The *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) establishes the waste hierarchy and requires that resource management options are considered against the following priorities:

1. **Avoidance** – actions to reduce the amount of waste generated and undertaking activities.
2. **Resource Recovery** – including reuse, reprocessing, recycling and energy recovery, consistent with the most efficient use of the recovered resources.
3. **Disposal** – an "end-of-pipe" option that must be undertaken carefully to minimise any negative environmental outcomes.

The NSW Government's priority areas and actions for waste avoidance and resource recovery are outlined in the NSW Waste Avoidance and Resource Recovery Strategy 2014 to 2021. The six identified "key target areas" in the strategy are:

1. Avoid and reduce waste generation.
2. Increase recycling.
3. Divert more waste from landfill.
4. Manage problem wastes better.
5. Reduce litter.
6. Reduce illegal dumping.

The strategy also includes the following recycling targets (as relevant to the proposed works at the site):

- Increased recycling of municipal solid waste from 52% (2010 to 2011) to 70%.
- Increased recycling of commercial and industrial waste from 57% (2010 to 2011) to 70%.
- Increased recycling of construction and demolition waste from 75% (2010 to 2011) to 80%.

In summary, the waste management hierarchy (Figure 2) is a nationally and internationally accepted guide for prioritising waste management practices with the objective of achieving optimal environmental outcomes. The hierarchy sets out the preferred order of waste management practices, from most to least preferred and is a key element for guiding waste management practices in Australia. At the same time, the need for flexibility in the approach is recognised, taking into account local and regional economic, social and environmental conditions.

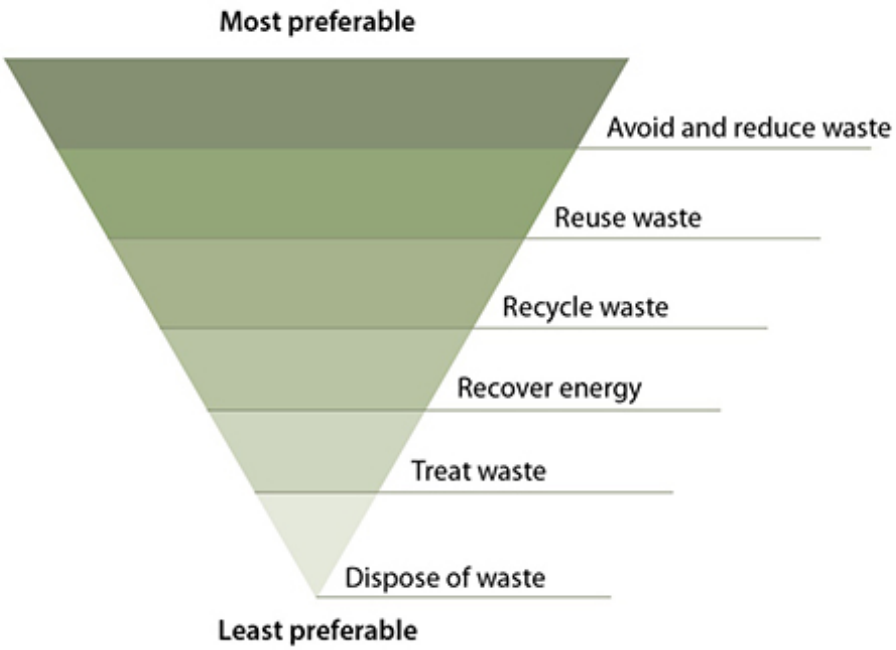


Figure 2 Waste hierarchy (NSW EPA, 2015)

3.4. Contaminated Land Management Act 1997

The *Contaminated Land Management Act 1997* (CLM Act) sets out a process for identifying, remediating and managing contaminated land. This legislation also defines the role of the NSW EPA in the assessment of contamination and the supervision of the investigation and management of contaminated land and sets out accountabilities if the contamination is significant.

The CLM Act seeks to apply the principle of "polluter-pays" by imposing the obligation and cost of remediating contaminated land on the polluter rather than the community.

3.5. Other guidelines and policies

The following guidelines and policies are also relevant to waste management at the site:

- **NSW EPA, 2014 - Waste Classification Guidelines**. The guidelines aim to aid compliance with waste legislation including providing a step-by-step process for waste classification. Waste must be classified by the generators of the waste into one of six different waste classes.

- **NSW WorkCover, 2011 – How to Safely Remove Asbestos Code of Practice**. This code of practice outlines the basic principles which should be followed in the safe removal of asbestos-based materials from all workplaces including structures, plant and equipment.
- **NSW Health – Waste Reduction and Purchasing Policy 2011-2014.** The purpose of this policy is to assist the NSW Health to reach targets for reducing greenhouse gas emissions by reducing waste, and to promote environmentally sustainable purchasing practices.
- **Australian Code for the Transport of Dangerous Goods by Road and Rail** (Australian Dangerous Goods), Edition 7.3 2014. Dangerous good are classified under this Code.

4. Waste management principles

The waste management hierarchy defines the principles of waste management which will be utilised for the Early Works Package 2, and are discussed in more detail below. These principles will be incorporated into a detailed construction waste management plan to be prepared prior to construction.

4.1. Waste avoidance and reduction

The preferred option in the waste hierarchy is to avoid the generation of waste, or reduce the amount or volume of waste that is produced.

Waste avoidance and reduction will be facilitated during the Early Works Package 2 through:

- Careful project planning to minimise the amount of material brought to site for the Early Works Package 2. Waste will be avoided by specifying exact project requirements to be reflected in the purchasing policy. This policy will also consider packaging, and where possible, suppliers will take back packaging and unused materials.
- Good housekeeping practices, including material acquisition and inventory control to avoid waste resulting from materials that are out-of date, off specification, contaminated or excess to project needs.
- Appropriate storage and management of materials on-site to limit the potential for damage from weather or plant and equipment, which in turn will eliminate the need for purchase of replacement products and waste generation.

4.2. Waste reuse/recycling

Reuse and recycling of waste will be encouraged where the generation of waste cannot be avoided. Recycling of wastes will be achieved through implementation of the following measures:

- Evaluating waste production processes and identifying potentially recyclable materials.
- Identifying and recycling of products that can be reintroduced into the construction process, or related activities at the site.
- Investigating and auditing external markets for recycling by other operations located in the neighbourhood or region of the site (e.g., application to land).

Recycling/reuse will involve separation and segregation of waste to facilitate the waste management program as follows:

- Waste segregation on-site. Where practicable, waste (including fill and natural material) will be separated on site into dedicated bins or areas for either reuse on site or collection by a licensed waste contractor and transport to approved off-site facilities.
- Waste separation off-site. Where space is a limiting factor, wastes will be placed into one bin to be collected by a waste contractor and sorted off site.

The examples illustrate how materials identified as construction wastes will be reused or recycled (where possible):

- Natural material will be classified as VENM to allow potential beneficial reuse off-site.
- Asphalt and road base materials from excavation works will be reused either on-site or off-site.
- Concrete from excavation works will be sent to a recycling facility.
- General waste will be separated and segregated from the following wastes which can be recycled:
  - Glass.

- Paper and cardboard.
- Aluminium cans.

4.3. Waste handling and storage

Storage and segregation of waste and waste servicing arrangements will be carefully planned as the public will still be accessing the hospital during the works. Planning for waste storage areas will need to consider the changing location of construction areas during the various project phases.

The following measures apply where on-site waste handling and storage is required prior to reuse or recycling and disposal:

- Provision of clear signage to mark the location and storage of different types of waste.
- Consider the following measures in relation to stockpile management:
  - Locate stockpiles within designated areas within the site compound, only and away from drainage lines.
  - Locate on hardstand surfaces or, where this is not possible, on plastic sheeting.
  - Position stockpiles up-slope of sediment control barriers.
  - Limit stockpile height to 2 m.
  - Cover the stockpiles or stabilise the surface with a suitable material to prevent erosion and sediment loss.
  - Stockpile different geological units separately to allow for easier classification and removal off-site.
- Stockpiling/storage of concrete, bricks, scrap metal and miscellaneous materials separately.
- Storing wastes in containers that are in good condition and compatible with the waste.
- Keeping waste containers closed unless waste is being added to or removed from the container.
- Storing liquid wastes in appropriate containers in bunded areas until transported off site. Bunded areas will have the capacity to hold 110% of the volume of the liquid waste for bulk storage or 120% of the volume of the largest container for smaller packaged storage.
- Protecting containers holding waste from the weather (e.g., rain and wind) to help maintain the integrity of the container and reduce the potential for a spill. Such protection could include storage buildings, roofed areas, tarps, and plastic drum covers to keep water off the tops of the drums.
- Labeling containers storing wastes that provides information to facilitate the safe and proper management of the waste, including:
  - Name of the waste stream.
  - Composition and physical state (e.g., solid, liquid, sludge) of the waste.
  - Restricted properties of the waste (e.g., "corrosive", “ignitable”).
  - Name of the activity, process, and/or location that generated the waste.
  - Date the first waste entered the container.
- All servicing arrangements (including mobile plant and equipment) for the transport of waste from the site will consider the safety of site users.

4.4. Waste tracking and disposal

Wastes generated by the project that cannot be either recycled or reused on-site will be disposed of by a licensed waste contractor to an appropriately licenced landfill or recycling facility. All vehicles conveying waste soils will have covered loads when leaving site.

Prior to disposal, waste will be classified in accordance with the requirements of the NSW EPA Waste Classification Guidelines.

A waste inventory will be maintained.

A tracking system will be used to track waste quantities and types disposed. Documentation will track wastes, including the handling steps and servicing arrangements followed to manage the wastes from the point (area) of generation through to collection, storage, treatment, and final disposal.

On- and off-site waste tracking shall record, for each waste generated and managed, the following:

- Waste generator facility name and address.
- Type and identity of transport vehicles associated with the collection and final disposal of waste.
- Date for recycling, treatment, or disposal.
- Type of waste.
- Quantity of waste.
- Method of recycle, treatment, or disposal.
- Description of waste, including restricted characteristics (i.e., what makes it a restricted or non-restricted waste).

Waste tracking forms will be used for all wastes moved off-site. The tracking form will record appropriate information about each waste stream and enable control of the waste disposition by confirming receipt by the designated recipient.

5. Potential impacts and management methods

The types of wastes which are likely to be generated during the Early Works Package 2 are provided in Table 2.1. Potential impacts associated with the management of these wastes are provided in Table 5.1.

Table 5.1 Aspects of waste management during the Early Works Package 2 and potential impacts

Aspect of waste management	Potential impacts
Generation of waste (usage of resources)	• Extraction of resources. • Energy and water consumption associated with processing.
On-site storage of waste in an urban setting	• Increased dust. • Visual impact. • Increased littering. • Sediment laden runoff. • Odours. • Increased pest animals. • Restricted space/site access. • Health and safety of site users and workers.
On-site storage and segregation of waste	• Reduction in reuse of materials. • Cross-contamination of waste. • Contamination of recycling centres.
On-site storage of liquid and/or contaminated waste	• Contamination of surface soils, groundwater, and surface waters. • Odours.
Hazardous materials (asbestos)	• Risk to human health.
Waste transportation	• Noise and dust impacts to surrounding sensitive receptors. • Odours. • Mud tracking on roads.
Non-classified or incorrectly classified waste disposal/transport	• Regulatory non-compliance and associated penalties. • Contamination of landfill/recycling centres.
Unlicensed waste transporters removing construction waste off-site	• Regulatory non-compliance and associated penalties. • Illegal dumping of waste.

The proposed management methods for each waste which address the potential impacts described above are provided in Table 5.2.

Table 5.2 Waste streams and proposed management methods

Activity	Waste stream	Management method
Removal of surface materials	Asphalt	• Stockpile separately on-site. • Reuse on-site/off-site in accordance with the conditions in the Reclaimed Asphalt Pavement Exemption 2014: - As road base and sub base.

Activity	Waste stream	Management method
		- Applied as a surface layer on road shoulders and unsealed roads. - As engineering fill material. • Where reuse is not practical, asphalt has been pre-classified by the EPA as General Solid Waste (non-putrescible) and can be disposed to an appropriately licensed facility by a licensed contractor.
	Concrete Bricks/pavers	• Segregation on-site. • Transport to a recycler or use on-site/off-site in road making activities, building, landscaping and construction works in accordance with the requirements of the Recovered Aggregate Resource Recovery Exemption 2014. • Where reuse is not practical concrete and bricks have been pre-classified by the EPA as General Solid Waste (non-putrescible) and can be disposed to an appropriately licensed facility by a licensed contractor.
	Green waste	• Segregation on-site, where possible. • Reuse on-site/off-site as soil amendment in accordance with the requirements of the Raw Mulch Resource Recovery Exemption 2014. • Where reuse is not practical green waste has been pre-classified by the EPA as General Solid Waste (non-putrescible) and can be disposed to an appropriately licensed facility by a licensed contractor.
Removal of services	Scrap metal (steel/iron), plastics (PVC, polyethylene, nylon), concrete and wiring	• Segregation on-site. • Transport to a recycling facility.
	Hazardous materials (asbestos)	• Stockpile separately on-site (covered and labelled). • Transport and dispose of to an appropriately licensed facility as asbestos waste.
Bulk excavation	Soil/ fill material	• Stockpile fill and natural materials separately on-site. • During/post excavation, an environmental consultant should be on site to assess that all overlying fill soils have been stripped adequately and that the natural soils did not get mixed or impacted during the works prior to removal off-site. • Fill material - transport and dispose of to an appropriately licensed facility as general solid waste if material is consistent with previously classified/sampled material. • Natural material – Confirm material meets the definition of VENM (not excavated from contaminated area), including potentially sampling from stockpiled soils. Transport and dispose of to an appropriately licenced facility as VENM. Where there are visual or other signs of contamination (e.g. staining, odour), undertake classification in accordance with the NSW EPA Waste Classification guidelines. Where there is reason to believe natural soils will not meet the VENM classification requirements sampling of stockpiled soils should be undertaken in accordance with the ENM Resource Recovery Exemption 2014.
Site office and worksites	General office waste (e.g., paper, printer cartridges,	• Segregation of recyclable wastes and storage on-site. • Collection and transport to a recycler.

Activity	Waste stream	Management method
	cardboard)	
	Domestic wastes (e.g., food scraps, glass bottles, cans, packaging	• Segregation of recyclable wastes and storage on-site. • Collection and transport to a recycling facility. • Transport and disposal of non-recyclable wastes to an appropriately licensed facility (pre-classified as general solid waste).
	Septic and sanitary systems waste	• Regular collection and disposal to an appropriately licensed facility by a licensed contractor.
Plant maintenance and chemicals management	Drums and containers	• Minimise waste by only producing/procuring the amount required. • Storage on-site in appropriate storage areas. • Drained on-site (into an appropriate container) and transport off-site for off-site recycling.
	Chemical wastes	• Collected on-site and stored in segregated area. • Transported off-site by an appropriately licensed contractor to a licensed facility for treatment and disposal.
	Waste oil, grease, lubricants, oily rags and filters	• Collected on-site. • Transported off-site by an appropriately licensed contractor to a licensed facility for recycling or treatment and disposal.

6. Roles and responsibilities

The owner of this plan is the Project Manager. The Project Manager will be responsible for ensuring the implementation of this plan during the Early Works Package 2.

The Early Works Package 2 contractor will be responsible for developing a detailed waste management plan prior to commencement of the works. That plan must be consistent with the approach, principles and management methods outlined in this plan.

The Early Works Package 2 contractor will also be responsible for:

- Inducting all contractors and visitors about the relevant aspects of this plan.
- Ensuring all waste management contractors have the necessary qualifications and licenses to remove waste from the site.
- Carrying out periodic audits to check compliance with the waste management plan.

7. Training and inductions

All construction site personnel and subcontractors will be inducted into the requirements of this plan to in accordance to their level of responsibility. As such, the induction is expected to include the following components:

- The waste hierarchy and associated waste management principles (avoid, reuse, recycle).
- NSW EPA Waste Classification Guidelines.
- Procedures for handling and storage of wastes.
- Location of waste disposal and storage facilities.
- Actions to be undertaken in the event of a spill.

8. Evaluation and reporting

Regular audits should be conducted of waste management practices during the Early Works Package 2 and should include review of the following:

- Environmental controls associated with stockpiling.
- Condition of bins and storage arrangements.
- Segregation of wastes.
- Waste tracking processes.

The findings of these audits should be used to identify any required changes to waste management practices and methods.

This plan should be reviewed on a regular basis, particularly when there are any changes to the Early Works activities and/or schedule, following any waste-related incidents, and/or where opportunities for improvement are identified.

9. References

Environmental Investigation Services, 2014. Preliminary Environmental Site Assessment for Proposed Stage 2 Redevelopment of Blacktown Hospital. 18 July 2014.

NSW EPA, 2014. Waste Classification Guidelines: Part 1 Classifying waste.

NSW EPA, 2015. The Waste Hierarchy. http://www.epa.nsw.gov.au/wastestrategy/waste-hierarchy.htm