

KANE

WASTE MANAGEMENT PLAN

CHILDRENS HOSPITAL WESTMEAD STAGE 2 – MULTI STOREY CAR PARK
PROJECT CONTRACT NUMBER: HI 21359

27/04/2022



CHANGE HISTORY

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1.0 INTRODUCTION

This Waste Management Plan is relevant to the development of the MSCP located on the junction of Redbank Rd and Labyrinth Way, Westmead. The works include the following;

- The design and construction of all elements as per the principal's documentation that includes but not limited to relevant standards, BCA, HI Engineering Services Guidelines and HI MSCP Guidance Notes (DGN's)
- Transition from the Combined Civils works handover site conditions to the MSCP Contractor
- Construction of a minimum of 996 spaces on the site
- Stormwater connection to adjacent existing stormwater line
- The extension of the water main from Labyrinth way into the site
- All in-ground infrastructure
- Future proofing the MSCP structure for a link bridge to connect the MSCP to the CHW existing Level 2
- Construction of a landscaped area including security, lighting, grassed area, mounds, battering and planting in and around the site, ensuring the new and existing areas tie in together
- Construction of the playground areas
- Provision of improved pedestrian access, signage and lighting around the site during and after construction. Ensure all temporary and permanent pedestrian pathways are DDA / BCA compliant
- Opportunity for an ancillary retail kiosk
- Associated building services including but not limited to electrical, mechanical, hydraulic, security, IT / Communications, fire protection, solar PV, carpark management and the like
- Landscaping and signage to the items and make good landscaping where applicable
- Establishing a safe surrounding environment at the interfaces, and continuity of healthcare services, air quality, vibration management, acoustic controls, overland flow, fire egress and maintenance routes. (high risk workshops will be required prior to new work types to ascertain tooling and methodology appropriateness)

The Key Participants in the design and delivery of the MSCP project includes:

Principal	Health Infrastructure
User Group	Sydney Children's Hospital Network (SCHN)
Project Manager (Client)	Price Waterhouse Cooper (PwC)

The objective of this Waste Management Plan (WMP) is to outline measures to classify and dispose of all waste generated from the project during the Construction Phase and to ensure that resources are used efficiently in an attempt to minimise waste volumes. The processes detailed within this plan will ensure that waste will be correctly managed in line with the relevant Legislative requirements as well as the guidelines and priorities set out by the NSW Environment Protection Authority (EPA). Effective Waste Management is considered a communal responsibility, although specific responsibilities have been defined to ensure active implementation of Waste Management Procedures.

The management of Waste associated with the Operations of the completed facility are considered to be at the discretion of the End User Group and will therefore not be addressed within this Waste Management Plan.

2.0 LEGISLATION / STANDARDS / GUIDELINES

NSW Protection of the Environment Operations Act, 1997 (POEO Act);

NSW Protection of the Environment Operations (Waste) Regulation 1996;

NSW Waste Avoidance and Resource Recovery Act 2001;

NSW Waste Minimisation and Management Act 1995;

Office Environment & Heritage (OEH) Waste Classification Guidelines: Part 1 Classifying Wastes (DECC 2009a)

The strategies employed to minimise waste on-site will parallel the approach to Waste depicted in the EPA Waste Management Hierarchy:

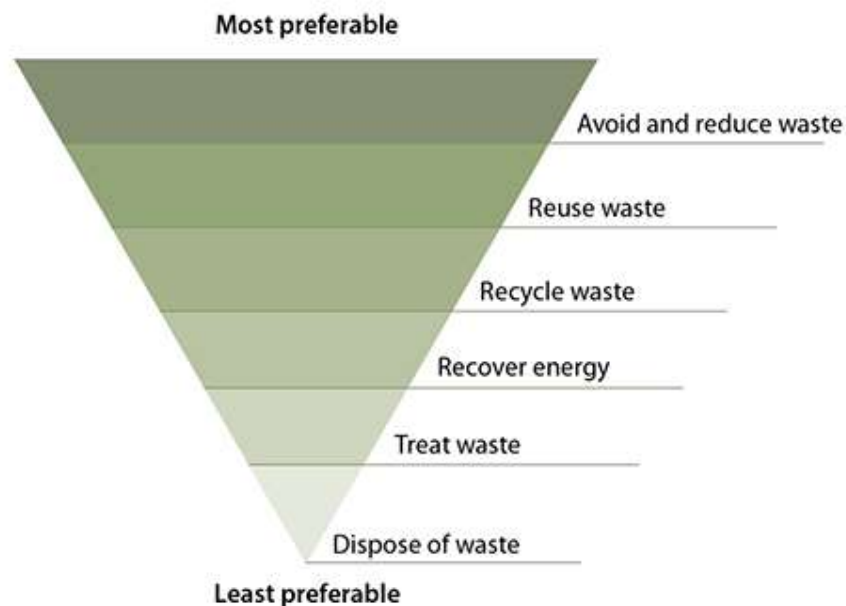


Figure 1: Waste Management Hierarchy. Sourced from EPA

3.0 PROCESS

Waste creation during the completion of construction works shall consist of a) Building material waste b) general waste from staff engaged during the creation of the facility.

During the construction phase, key waste sources include:

- green waste from vegetation clearance;
- excess spoil from excavations;
- construction and general waste such as demolition waste from the existing buildings currently onsite;
- asphalt and concrete waste;
- liquid wastes such as oils and used chemicals from equipment maintenance domestic waste from site personnel including food scraps, glass and plastic bottles, paper and plastic containers;
- site sewage and other wastewater run-off including water utilised for dust suppression.

Generally, activities identified to facilitate the reduction of waste creation include:

- Utilise separate re-cycling bins
- Where practical use “prefabrication” rather than “in-situ materials”
- Ensure materials are recycled where practical.
- Monitor waste disposal.
- Ensure adequate site bins are available to control waste.

The management of waste will be conducted in accordance with the process illustrated in Table 1.

ACTIONS	RESPONSIBILITY
Appropriate Training All personnel are to receive the project Environmental induction and ongoing waste management awareness and training via tool box talks on a regular basis.	Environment Manager
Assessment of Onsite Situation <ul style="list-style-type: none">• Identify waste streams and approximate quantities prior to commencement of works.• Identify management measures to reduce, reuse, recover, and recycle in preference to disposing to a licenced landfill.• Advise Environment Manager prior to generating new waste streams.• Refer to Table 1 for waste stream types and disposal locations already identified.	Site Foreman Project Engineer Environment Manager

<p>Waste Management Onsite</p> <ul style="list-style-type: none"> Waste storage facilities/stockpile locations to be established prior to works commencing and identified on the Environmental Control Map. Waste storage facilities/stockpile locations to be appropriately signposted e.g. recyclables, steel, concrete, general waste. The waste hierarchy of avoid, reduce, reuse and recycle to be employed throughout the project. Examples to be employed on site include: <ul style="list-style-type: none"> Alternative products with recycled content and/or lower embodied energy will be investigated, especially paper, landscaping and concrete products; Beneficial reuse will occur on site where feasible to do so; Possible offsite crushing and screening will be explored to create a potential reusable product; Topsoil will be stockpiled for later reuse in site rehabilitation, where possible. Material sent offsite will be classified by an appropriately qualified professional in accordance with the Waste Classification Procedure and OEH's Waste Classification Guidelines: Part 1 Classifying Wastes (DECC 2009a). 	<p>Site Foreman</p> <p>Superintendent</p> <p>Project Engineer</p> <p>Environment Manager</p>
<p>Monitoring and Recording</p> <ul style="list-style-type: none"> A waste tracking form is to be used for all materials that require off-site disposal. Monitoring of waste management practices to be recorded using the Weekly Environmental Inspection Checklist. Monitoring of goals and limits in regards to waste management will be completed by the Environment Manager. Any actions from inspections to be assigned to the foreman for the area and recorded using the Environmental Inspection Actions Form. Any observations will be kept in a site diary and significant issues are to be raised with the Environmental Manager. 	<p>Site Foreman</p> <p>Project Engineer</p> <p>Environment Manager</p>

Table 1: Onsite Waste Management Actions and Responsibilities

4.0 MANAGEMENT

- Waste management and reuse strategies will be considered and implemented where practical and cost-effective. On-site reuse opportunities will be maximised, with efforts made to implement reuse and recycling initiatives. Examples to be employed on site include:
 - Beneficial reuse of spoil as fill where practicable for backfilling, access roads and retaining wall construction at fill locations;
 - Possible offsite crushing and screening will be explored to create a potential reusable product;
 - Topsoil will be stockpiled for later reuse in site rehabilitation, where possible;
 - Where available, and of appropriate chemical and biological quality, stormwater, recycled water or other sources of water shall be used in preference to potable water for construction activities, including concrete mixing and dust control.
- Material sent offsite will be classified by an appropriately qualified professional in accordance with the Waste Classification Procedure and OEH's Waste Classification Guidelines: Part 1 Classifying Wastes (DECC 2009a).
- Table 1 lists the waste generating aspects and identifies the range of solid, hazardous, special and liquid wastes that are likely to be generated by construction. Table 1 also outlines the proposed reuse, recycling or disposal method.
- Staff will be inducted on the principles of waste management and resource use requirements while working on site.
- Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing or disposal on site, except as expressly permitted under the POEO Act, if a licence is required for that waste type.
- Mitigation and management measures for waste impacts during construction are outlined in Table 2.

WASTE	CLASSIFICATION	POTENTIAL RECOVERY/REUSE	DISPOSAL (ALL TRACKED)
Green waste from clearing and grubbing of vegetation	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Green waste would be reused as mulch onsite or provided to local schools for landscaping. 	<ul style="list-style-type: none"> Clear and grub sub-contractor would remove timber and excess mulch to appropriately approved facilities.
Virgin Excavated Natural Material (VENM) – residual soil and shales	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Where possible, all suitable fill materials would be used on site in a cut to fill operation. 	<ul style="list-style-type: none"> Wherever possible, VENM would be used on the project and excess material would be transferred to appropriately approved sites requiring VENM.
Excavated Natural Material (ENM)	General Solid Waste (Non Putrescible) – Resource Recovery Exemption	<ul style="list-style-type: none"> Where possible, all suitable fill materials would be used on site in a cut to fill operation. 	<ul style="list-style-type: none"> Wherever possible, ENM would be used on the project and excess material would be transferred to appropriately approved sites requiring ENM.
Mixed Spoil	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Where possible, all suitable fill materials would be used on site in a cut to fill operation. 	<ul style="list-style-type: none"> Mixed unsuitable spoil would be transferred to appropriately approved waste facilities.
Demolition concrete and bitumen	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Stockpiled and transported to recycling centre and recycled for project construction activities. 	<ul style="list-style-type: none"> Nil. Valuable recourse.
Building rubble and structural element demolition materials	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Collected in designated collection areas and reused as much as practically possible. 	<ul style="list-style-type: none"> Mixed unsuitable materials would be transferred to appropriately approved waste facilities.
Waste metals	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Stockpiled and transported to recycling centre. 	<ul style="list-style-type: none"> Nil. Valuable recourse.
Liquid wastes – potholing slurries, site sewage, potholing, paint.	Liquid Waste	<ul style="list-style-type: none"> Liquid waste would be clearly identified and stored separate from other waste materials for selective disposal. 	<ul style="list-style-type: none"> Liquid waste would be stored so as to prevent or control accidental releases to air, soil, and water resources in the area. A licensed waste collection contractor would collect the liquid wastes generated on site and dispose to appropriately approved liquid waste facilities.
General office waste – paper, cardboard, used printer cartridges.	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Office waste such as paper, cardboard boxes, comingled wastes (Cans, plastic bottles etc) and used printer cartridges would be recycled. 	<ul style="list-style-type: none"> Food wastes and non recyclables will be sent to landfill.
Asbestos or Asbestos Containing Material	Special Waste	<ul style="list-style-type: none"> None currently identified 	<ul style="list-style-type: none"> A licensed waste collection contractor would collect the liquid wastes generated on site and dispose to appropriately approved special waste facilities.

Table 2: Construction Waste and Management

NO	MITIGATION MEASURE	TIMING	RESPONSIBILITY	TOOL
General				
1.	The 'waste hierarchy' will be maximised during construction and incorporated into work programs, purchase strategies and site inductions, and will be assessed quarterly to identify opportunities for improvement.	Pre-construction and construction	Environmental Manager	Site Inductions / Toolbox Talks
2.	Excavated material would be reused on-site, as far as practically possible.	Construction	Project Engineer	Site Inductions / Toolbox Talks
3.	Cleared vegetation will be reused on-site, as far as practically possible.	Construction	Project Engineer	Site Inductions / Toolbox Talks
4.	All liquid and/or non-liquid waste generated on the site from will be assessed and classified in accordance with Waste Classification Guidelines (DECC, 2008), as described in the Waste Classification Procedure .	Construction	Project Engineer	Site Inductions / Toolbox Talks / Waste Classification Procedure
5.	Waste disposal will be in accordance with the POEO Act. Wastes that are unable to be reused or recycled will be disposed of off-site at an appropriately licensed waste management facility, following classification.	Construction	Project Engineer	Site Inductions / Toolbox Talks / Waste Classification Procedure / Waste Tracking Form / Waste Register
6.	A section 143 notice under the POEO Act will be completed by both the project and the relevant property owner, should off-site disposal of construction waste material or VENM onto private property be deemed necessary.	Construction	Project Engineer / Environmental Manager	Section 143 Notice
7.	Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by the project's EPL.	Construction	Project Engineer	Site Inductions / Toolbox Talks
8.	Waste segregation and separation will be promoted to facilitate reuse and recycling as a priority of the waste management program as follows: <ul style="list-style-type: none"> waste segregation at the worksites - all waste materials will be separated onsite into dedicated bins/areas where practicable for either reuse onsite or collection by a waste contractor; and waste separation off-site - all wastes will be deposited into one bin where space is not available on the worksite(s) and the waste will be sorted by a waste contractor. 	Construction	Environmental Manager	Site Inductions / Toolbox Talks
9.	Recycled material will be considered for use in rail construction where feasible and reasonable in accordance with the NSW Government's WRAPP.	Construction	Construction Manager	Site Inductions / Toolbox Talks
10.	Where available, and of appropriate chemical and biological quality, stormwater, recycled water or other water sources will be used in preference to potable water for construction activities, including concrete mixing and dust control.	Construction	Construction Manager	Site Inductions / Toolbox Talks / Permit to Pump
11.	A procurement approach will be adopted to reduce waste at the higher end of the waste hierarchy. During the procurement process, alternative products with recycled content and/or lower embodied energy will be investigated,	Pre-Construction	Environmental Manager	Site Inductions / Toolbox Talks

NO	MITIGATION MEASURE	TIMING	RESPONSIBILITY	TOOL
	especially paper, landscaping and concrete products. These products will be preferred where they meet all required specifications, are fit-for-purpose, can meet supply requirements and are cost neutral.			
Tracking				
12.	Tracking of waste generation trends by type and amount of waste generated to be recorded on the Waste Register .	Construction	Environmental Manager	Toolbox Talks
13.	All waste collected for disposal and/or recycling, including amounts, date and time and details, and location of disposal to be recorded on the Waste Register .	Construction	Environmental Manager	Toolbox Talks / Waste Register
Transportation				
14.	On-site and off-site transportation of waste would be conducted so as to prevent or minimise spills, releases and exposures to employees and the public.	Construction	Project Engineer	Site Inductions / Toolbox Talks
15.	All trucks transporting wastes off-site will be appropriately licensed to carry the waste and will have load covers installed.	Construction	Project Engineer	Site Inductions / Toolbox Talks
Monitoring				
16.	Monitoring and reporting requirements to be undertaken including regular visual inspections of waste storage collection and storage areas for evidence of accidental releases and to verify that wastes are properly labelled and stored.	Construction	Environmental Co-ordinator	Site Inductions / Toolbox Talks / Weekly Environmental Inspection Checklist
Hazardous Waste				
17.	Any hazardous waste generated on-site, as classified in accordance with Waste Classification Procedure , will be disposed of in accordance with the DECCW Guidelines.	Construction	Project Engineer	Waste Classification Procedure
18.	Special management actions for any hazardous waste discovered, generated or procured on-site shall be implemented, including as appropriate: <ul style="list-style-type: none"> – storage in closed, bunded containers; – secondary containment systems available and to be at least 110 percent of the largest storage container, or 25 percent of the total storage capacity (whichever is greater), in that specific location; – information to be made readily available on chemical compatibility to employees, including labelling each container to identify its contents; – hazardous waste storage areas to be clearly identified (label) and demarcated, including documentation of the location on a facility map or site plan; and – spill response and emergency plans to be prepared to address accidental release of hazardous materials. 	Construction	Construction Manager	Site Inductions / Toolbox Talks / Weekly Environmental Inspection Checklist

Table 3: Mitigation Measures

5.0 MONITORING AND REPORTING

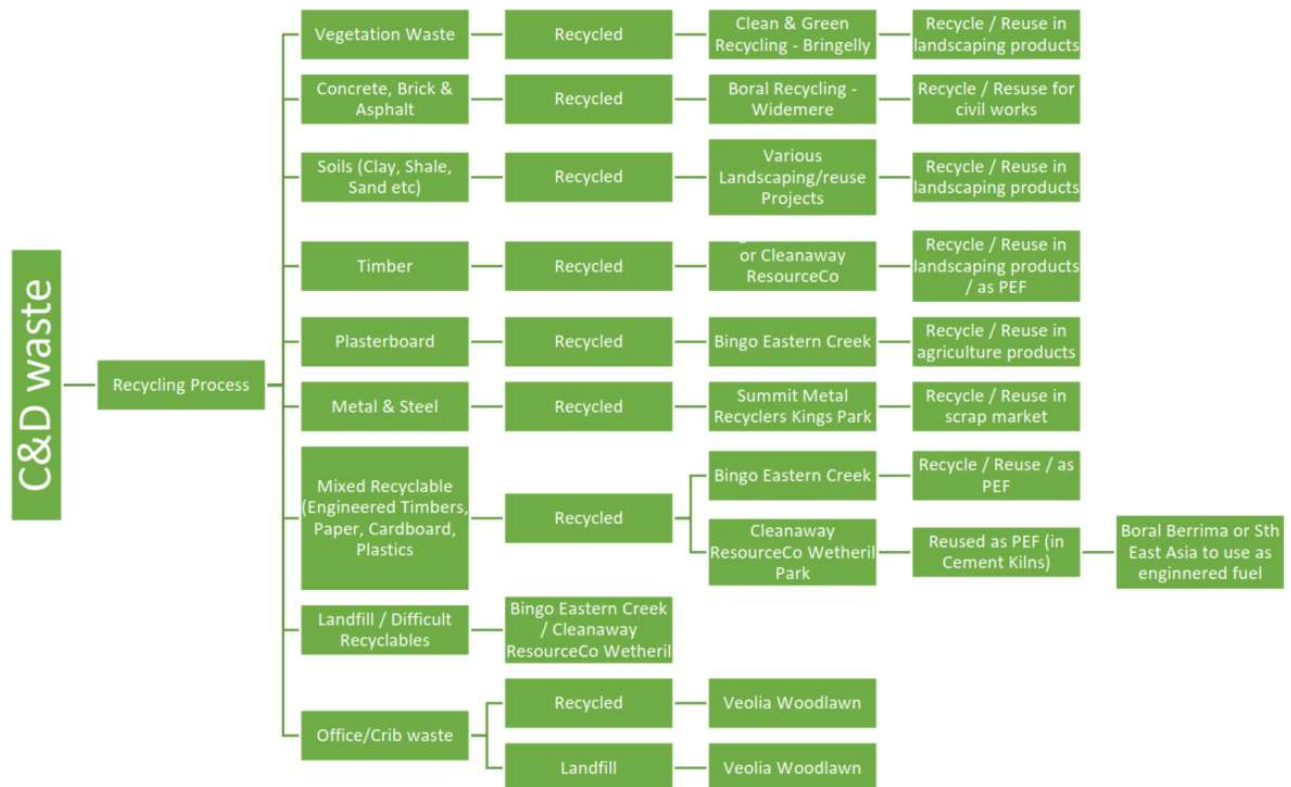
- A waste tracking form is to be used for all materials that require off-site disposal. A copy of the waste tracking form (including dockets and receipts) will be retained to record the date of waste removal, and identify the waste transport contractor and destination of the wastes from the worksite.
- Monitoring, inspection and reporting shall be undertaken including monitoring tools, monitoring frequencies, inspection records, tracking of actions, communication of outcomes and accountabilities.
- The following wastes are subject to special monitoring and reporting requirements by OEH under the waste tracking system:
 - hazardous non-liquid waste (e.g. batteries);
 - industrial non-liquid waste; and
 - liquid wastes including non-recyclable oils, fuels, chemicals and paint.
- The Weekly Environmental Inspection Checklist will be used to ensure that all environmental aspects are reviewed during inspection of the project.
- Regular inspections will also be undertaken to assess environmental compliance against regulatory requirements.
- Biannual reporting (within the first two weeks in January and July) will be provided to Health Infrastructure ("HI") on the amount of material generated and amount recycled.
- Actions arising from the inspections will be recorded on the Environmental Inspection Actions Form and each action will be allocated to the foreman for the work area.

6.0 RECYCLING AND DISPOSAL LOCATIONS

The primary recycling facility proposed is:

BM Recycling, Banksmeadow
38 McPherson St, Banksmeadow NSW 2019

The proposed recycling process and respective disposal locations are indicated below:



7.0 ASBESTOS MANAGEMENT

Refer to Construction Environmental Management Plan (CEMP) and the Asbestos Management Plan (AMP) for information regarding the management of Asbestos.

7.0 SUSTAINABILITY

Kane is committed to achieving Green Star credit 22 (construction & demolition waste), which requires demolition and construction waste contractors to provide a Compliance Verification Summary (CVS) and provide monthly reporting confirming >90% waste has been diverted from landfill.