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Campbelltown Hospital Redevelopment

Waste Management Plan

Version 03A2

July 2018

ABSTRACT

Campbelltown Hospital Redevelopment will provide enhanced services, facilities and care to patients and is currently in the planning phases. This Waste Management Plan covers the operational and construction waste elements relevant to the Environmental Impact Statement (EIS) required for the State Significant Development application.

The Development Application (DA) seeks approval for the following development:

- Demolition of existing structures;
- Partial excavation of the site (due to the sloping topography);
- The construction of a new 13 storey (two of these levels are partially below ground) Clinical Services Building containing:
- An Emergency Department;
- Operating Theatres;
- Intensive Care Unit;
- Mental Health;
- Birthing and Speciality Care Nursery;
- Surgical and Medical Beds;
- Helipad facilities; and
- An Ambulance Bay.
- Construction of a new Hospital Spine and connections to existing hospital buildings;
- Construction of augmented and new internal hospital access roads and links, including a connection to Appin Road and Therry Road;
- Construction of an at-grade car park;
- Tree removal; and
- Associated building services.

Version	Comments	Date
01A1	DRAFT Issued for Content Review	08/05/2017
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02A2	DRAFT Issued for Review	05/06/2017
02A3	Issued as Final	12/06/2017
03A1	Issued as Final - Loading Dock Part of Seperate Planning Approval	22/06/2017
03A2	Issued as Final - Loading Dock Part of Seperate Planning Approval	25/07/2017

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1. Executive Summary

This Waste Management Plan (WMP) has been prepared on behalf of Health Infrastructure New South Wales to accompany a Development Application for the Campbelltown Hospital Redevelopment (CHR).

This WMP details the management of waste generated during the construction and operational phases of the CHR. This WMP concludes that

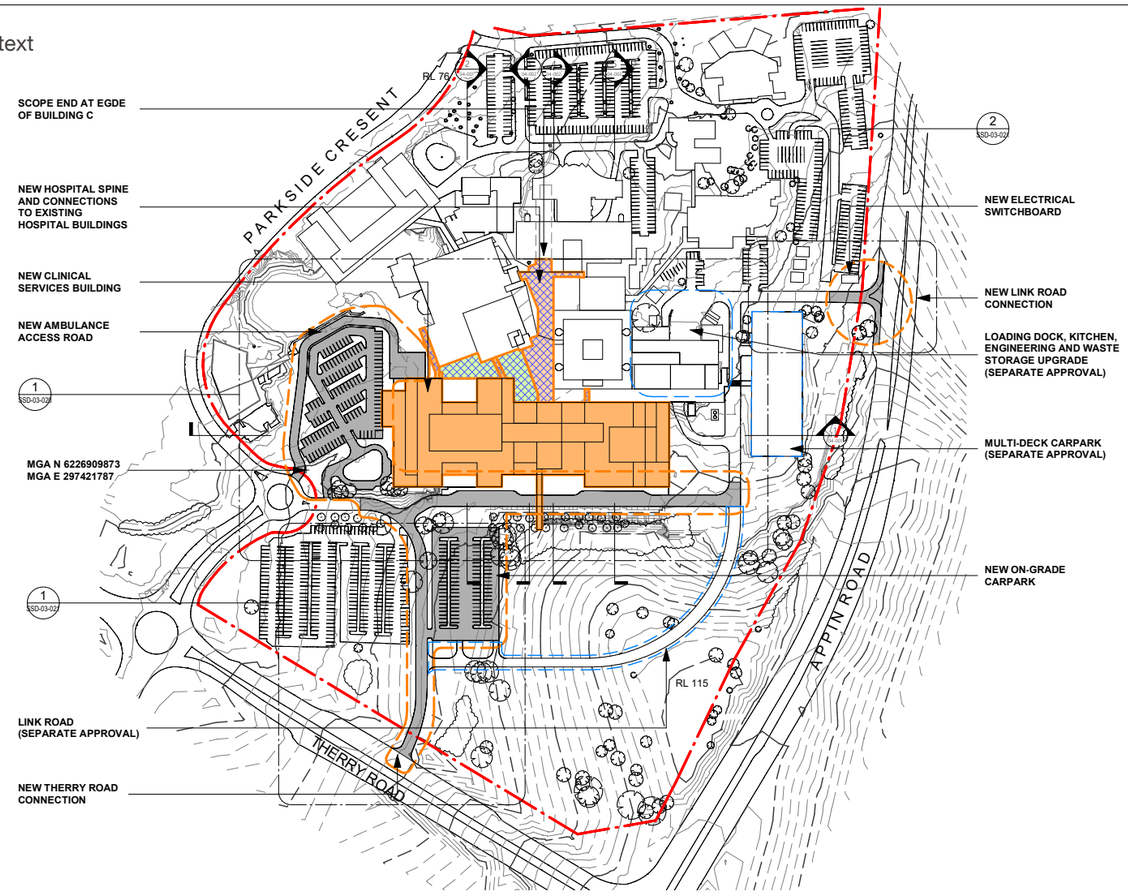
- Applying SEPP33 the general screening threshold for clinical waste 0.5 tonne. The total mass of the new development will be less than 200kg per day
- The current practices of the hospital have included a preliminary hazardous analysis and exceeded it's requirements by putting in place a complete operational regime for clinical and all waste streams.
- Based on the information provided and the assumptions of the hazard and exposure identification process, the Preliminary Hazard Assessment indicates there is a low to medium risk associated with the new clinical acute services building and the Campbelltown Hospital Redevelopment

1.1. Project & Site Context

The works for the Campbelltown Hospital Redevelopment include the following areas within the highlighted areas of Diagram 1: Site Context. The Development Application (DA) seeks approval for the following development:

- Demolition of existing structures;
- Partial excavation of the site (due to the sloping topography);
- The construction of a new 13 storey (two of these levels are partially below ground) Clinical Services Building containing:
- An Emergency Department;
- Operating Theatres;
- Intensive Care Unit;
- Mental Health;
- Birthing and Speciality Care Nursery;
- Surgical and Medical Beds;
- Helipad facilities; and
- An Ambulance Bay.
- Construction of a new Hospital Spine and connections to existing hospital buildings;

Diagram 1: Site Context



- Construction of augmented and new internal hospital access roads and links, including a connection to Appin Road and Therry Road;
- Construction of an at-grade car park;
- Tree removal; and
- Associated building services.

1.2. Purpose of Waste Management Report

The key purposes of the WMP are to:

- Address the statutory provisions contained in all relevant environmental planning instruments, including:
  - Statutory and Strategic Context of the development and the waste components of the State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;
- 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.
- Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development.
- Support the requirements of Green Star credits relating to waste
- Provide an ongoing framework of sustainability initiatives.
- Provide guidance to assist with the completion of a Construction Waste Management Plan (CWMP), which will be developed by a contractor prior to the construction of the development.

2. Operational Waste Management Plan

2.1. Operational Waste Management Requirements

Based on the development profile, the following are the main waste streams that would be expected:

- General waste;
- Clinical waste;
- Recyclable waste Paper and Cardboard; and
- Recyclable waste Commingled (plastics/aluminium/glass).

Other wastes may be generated, but these would be in small volumes and irregular in terms of when generated. The management of the site will conduct a waste assessment once the site is operational to determine the additional types and quantities of wastes that may be generated. Following this, appropriate management systems will be implemented and where necessary generators advised of these management requirements.

It is not expected that significant quantities of garden waste will be generated. The appointed gardener will be required to manage this waste by disposal at a composting facility.

2.2. New South Wales State Legislation & Policy

The legislative framework for waste management in New South Wales is provided by the:

- The Environmental Protection Act 1970 forms a regulatory framework around the activities of individuals and corporate bodies.
- The Planning and Environment Act 1987 provides the legislative framework for Planning Provisions and planning schemes. It is the enabling legislation for new developments, including those relating to waste management planning.

2.3. City Of Campbelltown Legislation And Policy

Energy, Water and Waste Efficiency Policy

This WMP has considered the NSW Government Resource Efficiency Policy (GREP) in the preparation of this Waste Management Plan

Guidelines for Preparing a Waste Management Plan

This WMP has considered the Guideline for the Preparation of Environmental Management Plan and in particular:

- Ensure waste is disposed in compliance with the requirements of Waste Avoidance and Resource Recovery Act, 2001 at a waste facility licensed to accept the type of waste presented.

2.4. Green Star

A Green Star assessment is being sought for this development. At this stage it is anticipated that the assessment will be conducted under the Green Building Council of Australia (GBCA) Green Star Design and As Built v1.1 rating tool.

The Green Star Design and As Built v1.1 credit applicable to this WMP is MAT-1 (Recycling Waste Storage). Under MAT-1, points are awarded for providing a waste storage area which is:

- Adequately sized
- Meets access requirements
- Is located in the same level as the loading dock

However, MAT-1 requires that waste storage areas are sized based on a certain percentage of gross floor area (GFA). For buildings with a significantly large GFA, MAT-1 tends to result in an oversized waste storage area.

This issue has been addressed by the equivalent credit in the new Green Star Design & As Built v1 rating tool (i.e., Credit 8 – Operational Waste), which requires waste storage areas be sized based on:

- Waste generated by the project
- Collection frequency for each waste stream

In cases where the legacy Green Star Office v3 rating tool is adopted, the GBCA generally permit the substitution of legacy credits with equivalent credits from the new Green Star Design & As Built v1 rating tool.

Given that the CHR development has a significant GFA, and that adopting MAT-1 would result in an oversized waste storage area, it would be prudent to adopt Credit 8 – Operational Waste in lieu of MAT-1. This would result in a more efficient approach to waste storage.

In anticipation of this substitution, the waste management facilities and procedures in this WMP have been set out to align with the requirements of Credit 8 – Operational waste (specifically the prescriptive pathway, credit 8B). Table 1 highlights how CHR satisfies the requirements of each component of credit 8B.

Table 1: Credit 8 - Operational waste requirements (credit 8B)

Credit component	Requirement	Provision in CHR
8B.1 Separation of Waste Streams	The following waste streams must be provided with separate bins or containers: • general waste • paper and cardboard • glass • plastic • at least one other waste stream. Advice form the GBCA indicates that where the waste collection service collects recyclables as a co-mingled stream, the requirement to provide separated waste streams for these recyclables is removed. This is permissible to the extent of co-mingling accepted by the waste collection service. For example, if glass and plastic are collected as co-mingled, then paper and cardboard is still required to have a separated waste stream.	This WMP outlines provision for the management and collection of the following waste streams in the CHR development: • general waste • paper and cardboard • co-mingled recycling • food organics • hard / bulky waste • e-waste • batteries • printer cartridges • polystyren Note that plastic and glass will be stored and disposed of as a co-mingled stream as per the collection service. Separate bins will be provided for each waste stream stored in the central waste storage area and bins will be clearly marked.
8B.2 Dedicated Waste Storage Area	A dedicated sufficiently sized area for the storage and collection of the applicable waste streams shall be provided.	Calculations for the waste storage area required in the CHR development have been carried out based on: • waste generated by project • collection method and materials handling needs of each stream • collection frequency for each waste stream • projected tenancy structure impact on the waste collection services supply chain • hygiene, cleanliness and aesthetic aspects to the benefit of the development and the CoM It is noted, the waste generation rates are consistent with and based on the CoM Waste Guidelines. The calculations in this report specify space requirements for the central and dedicated storage area. They take into account the particular spatial configuration of the loading dock and back of house space and vehicle access needs. The building design easily accommodates the required areas.
8B.3 Access to Waste Storage Area	Access requirements for waste collection areas must adhere to best practices in order for this credit to be met. These access arrangements must be as outlined within third-party best practice guidelines. Best Practice guidelines outline the following requirements: • the access pathway for wheeling bins between a central waste storage point and the collection point must be level and free of steps or kerbs. • the maximum manual handling distance between the storage point and the collection point for mobile garbage bins is 20 metres.	The transfer pathway in the CHR development meets the requirements of the CoM guidelines. The proximity of the waste collection vehicle parking location and the central waste management room is 15 metres. The pathway is designed such that its is clear and safe and a tug can be used as required.

3. Waste Management Model

3.1. Waste Generation Metrics

Waste volumes for the proposed CHR development have been estimated in order to determine waste storage and collection requirements.

Waste generation is calculated from the current Campbelltown Hospital waste audit data, benchmarked waste generation rates from initiatives and projects in other hospital developments. These take into account:

- Patient numbers based on beds
- Types of medical functional units
- Floor area according to the intended occupancy type
- Number of tenancies and facility management strategies (independent waste contracts lead to more bins - but same volume - emphasis on sharing facilities).
- Within a hospital the volumes can fluctuate slightly on a weekly basis.
- The hazardous (clinical/cytotoxic/sharps) waste streams are often changed over at a functional unit level on a cycle rather than when bins a full for hygiene purposes. As such areas for the hazardous waste design are bin quantity related rather than volume.
- Using the following information for the Existing Hospital:
- South Western Sydney Local Health District Table A: 2016/2017 Waste Extract shown below

Table A: 2016/2017 Waste Extract - (Gross Totals)

tonnes	Clinical & pharmacy	General waste	Paper/ cardboard
Bankstown Hospital	285.99	649.5	70.34
Bowral Hospital	11.49	89.89	0
Camden Hospital	12.06	82.14	19.75
Campbelltown Hospital	185.04	528.28	48.15
Fairfield Hospital	147.75	398.05	58.14
Liverpool Hospital	321.14	1308.48	216.4

The current hospital rates in the SWLHD report are for 417 beds. The CHR will have a redeveloped population of 801 beds, an increase of 384 beds. The waste the redevelopment will generate is given in Table 2: Waste Generation Estimate:

Table 2: Nominal Landfill Waste and Recyclable Waste Volume Generation Rates-Per Day (not compacted) Litres for the Redevelopment (801 Beds)

Building space use	Landfill	Recyclable Streams	Clinical
Clinical Functional Units	3,000	600	4,000
Administration / Educational/Offices	685	390	0
Support Services (BoH)	1,600	660	0
Retail	1,300	480	0
TOTAL Litres Per Day	**6,585**	**2,130**	**4,000**
Estimated Mass Per Day (kg)	**1,976**	**320**	**200**

3.2. Waste Internal Collection & Storage

The waste storage area requirements are calculated based on:

- Identifying all the waste streams and how they are stored and collected
- The estimate of waste volume generated for the main waste streams (General and Recyclable)
- Collection frequency versus bin sizes, and accessibility to those bins
- Areas needed for washing bins and staging other waste less frequently collected waste streams
- Types of materials handling systems such as:
    - Compactors (General and Cardboard Waste)
    - Bin Tipping (potentially Commingled Waste)
    - Bin Exchange (hazardous waste streams)

Table 3: Waste Stream Identification is a summary of the waste streams expected for CHR.

Table 3: Waste Stream Identification

Waste Stream	Collection Method	Storage Location	Collection Frequency
General (Landfill)	Bin (660L/1100L)	Waste Room	Tri Weekly
Bottles, Plastics & Cans	Dedicated Bins (240L/660L)	Loading Dock Dedicated Waste Zone	Bi Weekly
Cardboard/ Paper	Dedicated Bins (240L/660L)	Loading Dock Dedicated Waste Zone And In A Compactor	Bi Weekly
Clinical Waste Bins	Dedicated And Containers Bins (120L/240L/660L/ 1100L)	Dedicated Waste Store Room In Logistics Management Centre With Access To Loading Dock	Daily
Clinical Waste Sharps	Sharps Containers And Transporters		
Construction Materials	Hard Skip	Skip As Required	As Required
Electronics	Office/Premises	Tenant Initiative	As Required
Fluorescent Lamps/Light Bulbs	Collection After Installation	Tenant Initiative	As Required
Food Waste	Food Bin	Waste Compound - Potentially Food Waste Will Be Processed	To Be Confirmed
Pallets/MILK/ BREAD CRATES	Retail Supplier(S)	Loading Dock	As Required
Non Recyclable Plastics (Polystyrene etc)	Garbage Base Case	Waste Room	As Required
Charity	Supplied Receptacle	Waste Room	As Required
Hard Bulky Rubbish	Skip	Waste Room	As Required
Confidential/ Secure Waste (if Any)	In Situ Exchange And/Or Shred	In Situ	Weekly
Sanitary Waste	In Situ Receptacle Exchange	In Situ	Weekly

3.3. Assumptions & Limitations

The waste data which have been used in this report are best practice estimates and are in line with waste audit data and current benchmarks.

Specific functions and their behaviours may impact these volumes

All figures and calculations in this document are based on design drawings including plans, sections and elevations provided by Billard Leece Partnership together with consultant workshops and meetings, correspondence and design meeting minutes.

All waste facilities and equipment are required to be designed and constructed in accordance with the Building Code of Australia (BCA) and other relevant Australian standards.

Key waste management assumptions include:

- The designed spaces for storage (waste room size and fit-out) and collection (loading dock access) work
- Waste generated by the retail spaces will be managed by CHR using a single source facility manager for waste collection and a single sourced waste disposal collection contractor - this will optimise internal movements and external collections
- The retail spaces have been assumed to be 57% food and beverage retail, with an assumed mix
- A central waste storage facility is provided for all waste - this area is for waste generated from all areas including medical, clinical, consulting, office and retail spaces and is to be combined - with the exception of Confidential and Sanitary Waste which are collected in situ
- Hard / bulky waste storage for both office and retail spaces is to be combined and stored in the Waste Compound
- The building is primarily operational during business hours (7 days per week Monday to Sunday), with varying throughput
- A key to minimising waste will be to reduce the supplied forms of waste from packaging to retailers and tenants - ongoing strategies inline with the Australian Packaging Covenant are recommended

4. Waste System Design

The Waste System to be implemented is one that integrates with the current waste management system and procedures currently used within the Hospital. Reference has been made to the *Campbelltown Waste Management Plan (APPENDIX/DATE)I*

Guidance for determining "best practice" waste management for this Development has been obtained from the Waste Management Association of Australia, Biohazardous Waste Industry Group, Manual for the Management of Biohazardous Waste, 7th edition, 20142, NSW Health Department publication Clinical and Related Waste Management for Health Services 2017 and NSW EPA. In addition, should this waste be generated, a contractor will be appointed to specifically manage the collection and treatment/disposal of it.

Waste and recycling bins will be located in dirty utility rooms, office spaces, cleaner's rooms and patient areas as required for the activities conducted in each specific department/area. As part of the hospital's continual improvement program, reviews of the location, type and size of waste/recycling containers will be undertaken on a regular basis.

Also Policy No: MC_PD2017_732 is a waste management model for the South Western Sydney Local Health District Camden and Campbelltown Hospitals is a guiding document for the structure of the management system (contained in Appendix A: Waste Management System MC_PD2017_732)

4.1. Waste Streams & Workflow

Transfer of waste to the central waste storage room will occur via the following pathways:

- Regular transfer of waste
- Regular transfer of waste
- Regular collection of waste from bin suites in public spaces by cleaner/waste operatives using cleaner/waste trolleys (to be located at the central waste storage room when not in use) will run circuits to combine cleaning and waste collection activities minimising impact to public and retailer activities.

4.1.1. General Waste

All general waste will be deposited into dedicated 660 litre MGB that have been located in the various disposal rooms and dirty utility rooms within functional area (wards and departments) of the Redevelopment.

MGB will be transported by Hospital staff and emptied into the 30m3 general waste compactor for collection.

This compactor is serviced on a "needs" basis and that additional waste from this Redevelopment will not impact on the current system except for potentially increasing the servicing schedule.

4.1.2. Recycling System

660 litre mobile garbage bins will be located on each level of the development for recyclables (paper and cardboard). These will be transported on a "needs" basis by site cleaners, taken to the central storage area (on the loading dock), and replaced with an empty bin.

Once a commingled recycling system is implemented, then appropriate coloured MGB will be provided and transported by hospital staff as required.

4.1.3. Clinical Waste

120 litre mobile garbage bins will be positioned in each disposal room on each floor. In addition, in accord with the NSW Health publication "PD2012_061: Environmental Cleaning Policy", sharps containers will be located throughout the development as required.

Due to the risks involved with the generation and handling of clinical and related wastes, extreme care must be maintained when handling, packaging, transporting and disposing of these materials. Consequently, there are strict requirements for all generators, transporters and disposal site operators to ensure that there is protection to the community and the environment.

All clinical and related wastes must be:

- Handled by staff with knowledge and access to appropriate Personal Protective Equipment
- Packaged so that there is no risk of wastes escaping
- Transported and disposed of in accordance with State EPA legislation and guidelines and
- relevant Codes of Practice
- If clinical waste is generated, the volumes will be minimal. However, the following principles will apply for management of this waste stream. Sharps containers should be placed within "arms reach" of where the sharp is generated – then the full containers are located in utility rooms awaiting collection by healthcare facility staff and/or contractors.
- These containers will range from 1.0 litre sharps containers through to 40 litre clinical waste drums – all meeting the required standard in terms of construction and colour coding , etc. The actual number and sizes to be utilised will depend on the patient's conditions and discussions with the appointed clinical waste contractor.
- It would be unexpected to have cytotoxic waste generated at this facility, but if this was to occur, then dedicated cytotoxic waste containers would be obtained from the contract and placed in appropriate position in the facility.
- According to the Industry "best practice" waste management manual (Waste Management Association of Australia, Biohazardous Waste Industry Group, Manual for the Management of Biohazardous Waste, 7th edition, 2014), storage can be a dedicated and purpose built room or mobile garbage bins – what is appropriate depends on the type of waste, volumes and servicing processes. For similar types of facilities, the provision of sharps containers is adequate to manage what clinical waste is generated. Should there be a need for additional containers, these can be obtained from the appointed contractor.
- It is intended that as per normal practice for these types of facilities, that the appointed contractor will service the sharps containers/bins from their place of use within the facility and replace them at the same time with empty containers/bins.
- Clinical waste must be stored in uniquely identified receptacles located in separate rooms from all other wastes and recyclables, and disposed of according to designated Clinical and Hazardous Waste Procedures.

4.2. Hazardous Waste (Operational Phase Only)

The risk assessments conducted as part of Policy No: MC_PD2017_732 is a waste management model for the South Western Sydney Local Health District Camden is consistent with the Hazardous Industry Planning Advisory Paper No. 6 — Hazard Analysis published by the Department of Planning.

Hazards associated with the handling, storage and disposal of dangerous goods or other materials at hospitals are generally related to clinical, cytotoxic, pharmaceutical, radioactive and chemical waste streams.

For this Development, it is expected that cytotoxic, radioactive or chemical wastes will be generated.

Pharmaceutical wastes will essentially be residues and will mainly be in syringes and IV flasks – these are managed in the clinical waste stream. Larger volumes of pharmaceutical wastes will be managed by the Pharmacy as per "normal" practice. The following summarises the expected waste streams from each department in the Stage 3 development (note that all will generate general waste and paper/ cardboard recyclables)

TABLE

In addition to the above, bulk oxygen, nitrous oxide and tool air (medical air) tanks are to be located in accessible and complaint locations and reticulated throughout the clinical acute services building and associated functional units. In addition Carbon Dioxide cylinders are located externally adjacent to the Emergency Department for Operating Theatre procedure use.

All tanks and cylinders are, as required are exchanged (empty for full). All are supplied and maintained under service agreements/contract.

Both full and empty tanks/cylinders will be located appropriate rooms on the loading dock and Emergency Department and are stored in accordance with all Safety and Dangerous Goods requirements.

The provision of medical services by hospitals is known to generate hazardous wastes that may harm individuals and the wider community.

A qualitative approach has been adopted in this assessments of a Preliminary Hazard Analysis (PHA), equivalent to a level 1 risk analysis contained in HAZARDOUS AND OFFENSIVE DEVELOPMENT APPLICATION GUIDELINES APPLYING SEPP 33 2011 01, on the basis that hazards associated with handling, storage and disposal of hospital wastes are generally well understood and safety management systems (including staff training and dedicated waste collection staff) are currently implemented in the South Western Sydney Local Health District Hospital network and in the subject of this WMP, the Campbelltown Hospital.

Based on the information provided and the assumptions of the hazard and exposure identification process, the Preliminary Hazard Assessment indicates there is a low to medium risk associated with the new clinical acute services building and the Campbelltown Hospital Redevelopment.

This rating is given on the basis that current practices, systems and appropriate management is in place the risk. This rating is only attainable when identified hazards are managed appropriately. NSW Health and the South Western Sydney Local Health District is responsible for undertaking internal and/or external audits to ensure all hazards associated with the collection, storage and transport of clinical wastes have been identified and are controlled or managed in line with their current complaint procedures and international best practice.

The current systems are in accord with NSW Health, NSW EPA, WorkSafe NSW, relevant Australian Standards and industry best-practice guidelines.

4.3. Waste Management & Education

All waste management strategies (particularly resource management programs), rely on all staff to participate and co-operate in order to ensure that objectives are at least met. Staff therefore must receive appropriate training/education or else they are not going to know what to do.

All staff and contractors shall attend a waste management training session. This is to be conducted during all induction programs in the first instance.

For those staff and contractors currently employed on-site, they will be required to attend a dedicated training session so that they are fully aware of their roles and responsibilities in respect to waste management.

Records shall be maintained of all staff and contractors attendance at a training session to ensure that all personnel attend.

The Waste Management Committee (apart from ensuring staff education programs are developed and implemented), should also address other methodologies in order to ensure that staff receive information on waste reduction programs (eg., signage, information sheets and flow charts).

All Staff Will Receive Information Regarding The Waste Collection Systems Including How To Use The System, Which Items Are Appropriate For Each Stream And Collection Times.

4.4. Ongoing Management

Having suitable systems in place is only one element of an effective waste management system. Compliance by all stakeholders is essential.

Cleaners: Cleaners should be required to provide feedback to management about any non-compliance issues they observe during their cleaning activities, such as contamination, non-participation, or missing or damaged bins. This allows issues to be dealt with promptly by management.

Waste Contractors: The waste/recycling contractor will be required to report actual quantities collected by stream so that management can monitor performance and feed this back to staff. Specific Key Performance Indicators for performance should be included in waste and recycling contracts.

The waste contractor should also be required to participate in ongoing reviews and provide updates on new opportunities that may allow the Hospital to further increase their diversion from landfill.

4.5. Amenity

The management systems and constructed elements of this development will be designed and installed so as to enhance outcomes for building amenity. Any potential for noise and odour to arise will be minimised. Specifically:

- Visual aspects: Any facet of the waste management system that is visible from outside the building must be in keeping with the dominant design of the remainder of the development.

- Noise: The potential for noise must be minimised. Significant noise-generating waste management equipment will not be utilised in this development. However, Council may require waste storage to be refrigerated if sufficiently large quantities of food waste are generated on site and waste removal from this site is difficult due to location or long trading hours. Production of offensive noise will be avoided.

- Odour: The potential for odour must be minimised. Any putrescible waste awaiting collection will be stored in a Council approved container with permanently tight fitting lids and smooth, washable internal surfaces. All waste storage areas will be fitted with adequate and complaint ventilation systems.

5. Waste Area Design

5.1. Location & Access

Collection vehicles will access the waste streams from the loading dock Figure 2: Dock Activity, shows typical activity types in the dock. Collections will be encouraged to be booked via a “Goods and Waste” vehicle reservation system. This is to ensure that a vehicle can park for:

- A bin tip collection (General and recyclables in Compactor and 660L bins)
- A dwell waste collection (e.g.clinical/confidential waste/sanitary/ nappy? waste)
- Hard rubbish, electronic and other initiatives and food waste

It is expected that at least 3 waste vehicle will arrive daily for a waste collection.

The vehicles that can access the dock are:

CHR Loading Dock Vehicle Accessibility

Standards Australia Vehicles	STANDARD	LENGTH (mm)	WIDTH (mm)	CAN ACCESS CHR LOADING DOCK
B85 Vehicle	AS 2890.1-2004	4910	1870	YES
B99 Vehicle	AS 2890.1-2004	5200	1940	YES
SRV – Small Rigid Vehicle	AS 2890.2-2002	6400	2330	YES
MRV – Medium Rigid Vehicle	AS 2890.2-2002	8800	2500	YES
HRV – Heavy Rigid Vehicle	AS 2890.2-2002	12500	2500	YES
AV – Articulated Vehicle	AS 2890.2-2002	19000	2500	YES - Will not be a regular delivery

5.2. Loading Dock & Enviro Island (Waste Hub)

The existing loading dock will be refurbished to accommodate the waste storage and collection. The waste area has been nominally called Enviro Island and will be a central waste hub for the redevelopment.

Appendix B Waste Disposal & Storage Area & Loading Dock Design shows this area. Further detail is available in the Architectural Report be supplied by Billard Leece Partnership.

All waste streams will follow back of house pathways to the storage areas in the waste zone of the loading dock. The clinical and hazardous waste bins and receptacles will all be contained in compliant formats.

5.3. Waste Storage & Collection Area Design

All the waste streams mentioned currently have a process for internal collection, transport to storage areas on the dock and collection that is detailed in Appendix A Waste Management System MC_PD2017_732.

Currently there are dedicated refrigerated storage rooms for clinical waste located on the loading dock. These could be used for the clinical waste generated from the Redevelopment if servicing frequencies are increased to cater for the additional clinical waste generated from he development.

General waste will be stored in the on-site compactor and recyclables stored on the loading dock in bins while awaiting collection.

5.3.1. Waste Storage & Activity

A central waste storage area for CHR has been designed to accommodate the development’s waste functions in a single and efficient location. It is located oil the same area of the loading dock.

Noted also is the recommendation that all bins are now 660L/1100L in size where possible.

The travel pathways for all waste activities remains the same as the current operational flow that lead to the waste rooms in the loading dock.

For collection The loading zone will have unimpeded access via the new connection link off Appin Road.

5.3.2. Waste Room Design

Refurbished (or new) waste rooms will be designed according to the best practice provisions. Provisions for this development are outlined in Table 7: Waste Room Design Guidelines.

Table 7: Waste Room Design Guidelines

Design aspect	Design provision
General	All waste management facilities will be compliant with the Building Code of Australia (BCA) and all relevant Australian Standards. Any facet of the waste management system that is visible from outside the building must be in keeping with the dominant design of the remainder of the development.
Surfaces	The floors, walls and ceilings of waste and recycling storage areas (room or bin bays) and chute room(s) must be finished with a rigid, smooth-faced impermeable material capable of being easily cleaned. The floors of waste and recycling storage areas (room or bin bays) must be graded and drained to drainage fitting approved by the relevant authority located in the room(s). The floor must be provided with a ramp to the doorway where necessary.
Structure	The walls, ceilings and floors of the storage rooms will be finished with a light colour. The walls of the waste storage rooms will be constructed of approved solid impervious material and will be cement rendered internally to a smooth even surface coved at all intersections. The storage area will be constructed and finished to prevent absorption of liquids and odours, and will be easily cleanable.
Doors	A close-fitting and self-closing door or gate operable from within the room must be fitted to all waste and recycling storage areas (rooms or bin bays). Doors/gates to the waste storage rooms must provide a minimum clearance of 1,200mm. At least one door or gate to the waste and recycling storage area must have sufficient dimensions to allow the entry and exit of waste containers of a capacity nominated for the development. Lightweight roller shutter-type doors or grilles should be considered for access to waste and recycling storage areas, as these do not impact on the available storage space. If these types of doors or grilles are used, the requirement for a close-fitting and self-closing door remains, so that waste collectors can access the waste storage area other than through the roller door or grille. The design shall restrict the entry of trespassers, vermin or other animals into the area.
Wash down area	Typical design includes provision for: • a water supply • recessed with ramp access and graded floor, with a 1:10 gradient towards drain • flush grate drain • water proof epoxy applied to floor and walls to 20cm height • water-proof bund/barrier along entry point.
Water	The waste and recycling storage area (room or bin bay) must be provided with an adequate supply of water for cleaning purposes with a hose cock. This does not include within chute rooms (if present).
Lighting	Waste and recycling rooms must be provided with artificial light controlled by switches located both outside and inside the room.
Pest control	The waste storage rooms, areas and containers will be constructed in a manner as to prevent the entry of vermin.
Ventilation	The waste storage rooms will be supplied with an approved system of mechanical exhaust ventilation.

Design aspect	Design provision
Safety	Any compactors or mechanical devices, if permitted for the mechanical handling and storage of waste, must be fitted with safety operating and cut-off systems. Smoke detectors will be fitted in accordance with AS1670 Automatic Fire Detection and Alarm Systems and connected to the fire prevention system of the building. The waste compactors will be fully fire proofed and child proofed. Only trained building management and waste contracting staff will have access to compactor equipment. All equipment will be protected from theft and vandalism.
Signage	Signs will be provided to demonstrate how to use the waste management system (including segregation of wastes for recycling, use of waste compactor), as well as appropriate safety signage. The different recycling and waste bins will be clearly identified and signed appropriately.
General	Compliance with the National Construction Code NCC 2016. The NCC is given legal effect by relevant legislation in each State and Territory. This legislation prescribes or "calls up" the NCC to fulfil any technical requirements that are required to be satisfied when undertaking building work or plumbing and drainage installations.

5.3.3. Loading Dock Systems

A dock and delivery reservation system is recommend as there is an accessibility requirement that needs to be integrated with goods and courier deliveries for retail and office tenants

5.3.4. Signage

In keeping with best practice sustainability programs, all waste areas; reuse areas and waste and recycling bins will be clearly differentiated with appropriate signage and colour coding to Australia Standards to reflect the materials contained.

The waste storage areas will be accessed by Hospital staff and the assigned collection contractor only.

The waste and recycling bins will be colour coded and clearly signed. Each stream will be located in a designated area. This will assist in easy identification of correct bins by cleaners.

Signage will be a crucial element of the waste management system. The waste contractor should provide all signage for bins and walls in waste storage rooms. Below are examples of the types of signage that can be used at the Redevelopment.

We note this system is already in place at the Campbelltown Hospital and the Back of House Support services will be extended to manage the new health assets.

Table 6: Standard bin colours

Bin	Colour
Landfill waste	Dark green lid and dark green body
Recycling (co-mingled)	Yellow lid and dark green body
Paper and card recycling	Blue lid and blue body
Food organics	Lime green lid and dark green body
Mixed Recycling Fully CoMingled	Red lid and red body
Clinical Waste	Clinical Medical in Yellow Bins/ Sharps Receptacles Clinical Cytotoxic in Purple Bins/ Sharps Receptacles Clinical Anatomical in Orange Bins/ Sharps Receptacles

Samples are in illustrated in the diagrams below;

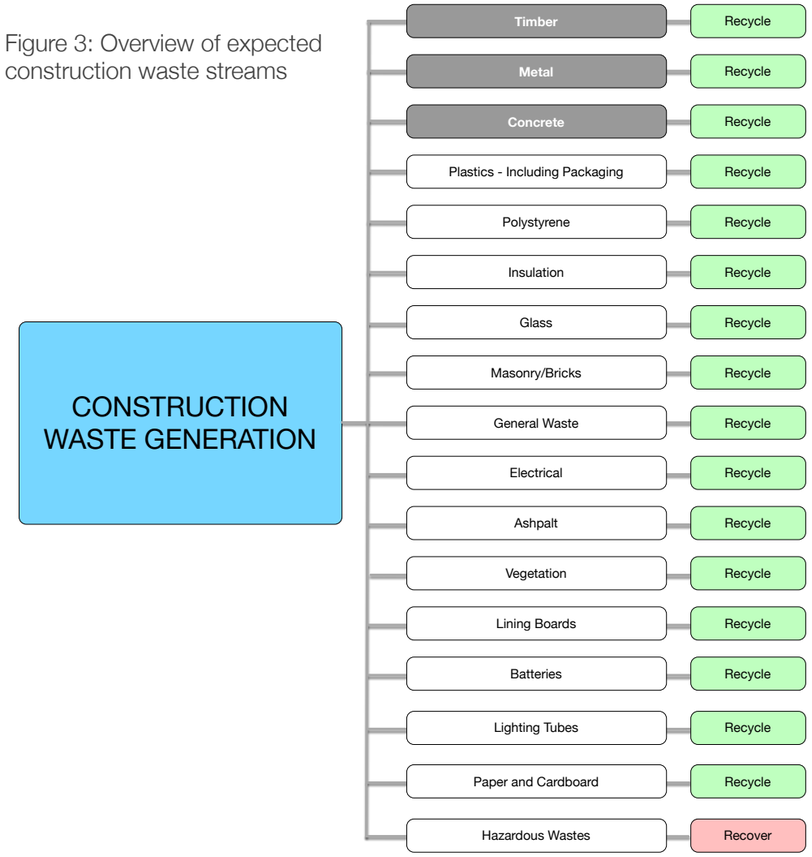
6. Construction Waste Management

6.1. Construction Waste Streams

Construction works for this development are to take place with consideration of the project's Green Star pathway objectives, particularly in regard to use of recycled building materials and recycling of construction waste streams. The primary goal for waste management in the demolition and construction phase is to ensure at least 80% of waste is recycled or reused, in order to claim up to two points under Green Star Credit MAN-7.

An overview of the major waste streams resulting from construction is provided below in Figure 3. Waste streams which are predicted to generate the greatest volume are highlighted in grey.

Figure 3: Overview of expected construction waste streams



6.2. Construction Waste Management

Waste generation and management during construction is the responsibility of all on site, as it relates to materials procurement, handling, storage and use. Waste generated during construction will be reused and recycled as a priority, or disposed to landfill otherwise.

During construction, suitable areas on site (or off site, if necessary), will be provisioned which provide adequate space and access for:

- Storage of building materials
- Storage of construction waste
- Sorting of construction waste
- Removal of construction waste for recycling, re-use or landfill.

Construction waste management will be performed to meet the specific goals of the project Green Star requirements including targets for construction waste recycling.

As a requirement of Green Star, the construction contractor will develop a Construction Waste Management Plan (CWMP) in order to ensure that construction waste is minimised and diverted from landfill where ever possible.

6.2. Demolition

The proposed new building works will be on land that has existing buildings, roadways, services and landscaping

6.3. Construction

Construction processes that will be involved in the CHR will include:

- Excavation works for a building of gross floor area
- Landscaping works
- Provision of site car parking spaces and loading/unloading docks area
- Stormwater infrastructure works
- Civil works and medical services works
- Energy centre with transformer yard

Table 9 provides the management plan for construction waste. The current construction waste are not available at the moment.

6.3.1. Excavation Material

Excavation material amount (Table 9) has been estimated by the developer. It must be noted that these figures are estimates as the cut and fill plans have not yet been finalised.

Table 9: Excavation Estimate

Bulk Earthworks
Cut: 30,000m^3
Fill: 15,000m^3

Table 9: Construction Waste Management Plan (BLANK)

MATERIALS ON-SITE	DESTINATION			
		REUSE AND RECYCLING		DISPOSAL
TYPE OF MATERIAL	EXPECTED VOLUME (m^3)/Wt. (t)	ON-SITE *Specification of proposed reuse or on-site recycling methods	OFF-SITE *Specification of contractor and recycling outlet	*Specification of contractor and landfill site
Excavation Material	195,000	29,000 **Reuse** all clean cut material **on-site** as fill if deemed suitable by contaminated soil report	**Recycle** cut fill by sending excavation material to A&C Recycling Centre	166,000 **Dispose** (if material cannot be reused/ recycled)
Green Waste	200	NA	190	10
Bricks	2,500	NA	2,250	250
Tiles	100	NA	90	10
Concrete	18,500	NA	16,650	1,850
Timber	800	NA	Recycle waste timber where possible	800 Dispose (if material cannot be reused/ recycled)-
Plasterboard	900	NA	Recycle waste plasterboard where possible	900 Dispose (if material cannot be reused/ recycled)
Metals	6,000	NA	5,400 Recycle metals where possible	600
Putrescible	20	NA	Dispose safely and according to all statutory law	20 Dispose (if material cannot be reused/ recycled)
Other- non recyclable plastic and general waste	5,000	NA	Dispose safely and according to all statutory law	5,000 Dispose (if material cannot be reused/ recycled)

The bulk earthworks are mainly covered by the early works development application. All suitable clean fill will be reused at the site. If the cut fill is unsuitable then it will be sent for recycling at A&C Recycling Centre. Where feasible, earth will remain on-site for reuse. Any excavation material unsuitable for reuse or recycling will be disposed of at an appropriate landfill.

6.3.2. Green Waste

All green waste material will remain onsite (shredded and or composted), and be reused in landscape areas around the development if possible. If this is not possible, then the contractor will transport the materials off-site for mulching or composting.

6.3.3. Concrete/Bricks/Tiles

Bricks will be stockpiled and reused wherever possible. Surplus, unused bricks will be reused in pavement construction or for temporary access tracks etc if possible. Unusable bricks will be collected and recycled at an appropriate brick/rubble recycling facility to be used in aggregate gravel products.

6.3.4. Timber

Recyclable timber (untreated) will be collected and recycled at appropriate timber yard. Un recyclable (treated) timber will be disposed at landfill.

Timber that is not of the standard for reuse will be transported to a site for chipping for use as garden mulch if acceptable for this process.

6.3.5. Plasterboard

It is estimated the volume of plasterboard waste that will be generated during the construction phase will be around 10 m3. Uncontaminated plasterboard will be sent for recycling at contracted Environmental Solutions facility (for example SITA/SUEZ at Eastern Creek).

6.3.6. Metal

All metal materials will be reused or recycled as follows:

- Metal drums and packaging to be returned to the supplier
- Any metal suitable for recycling will be separated and stored in a designated scrap metal bin for transport to a metal recycling facility

Scrap metal will be sent for recycling at A&C Recycling Centre.

6.3.7. Putrescible Waste

It is estimated the volume of putrescible waste generated will be around 120m3 over the likely construction phase. Putrescible waste will be removed by a licensed waste contractor which will be appointed once construction begins.

6.3.8. Paper & Cardboard

Cardboard and paper will be produced mainly from packaging materials and office paper waste. These should be disposed of into a designated recycling bin and collected regularly as required.

6.4. Liquid Waste

Liquid waste may be produced on site for environmental control measures such as:

- Site and vehicle cleaning
- Dust control waste

The following measures will be taken to minimise the impact of liquid waste:

- Ensure water is used in moderation and no taps are left continuously running
- Use any grey water produced on site for irrigation or for dust suppression
- Only discharge clean water into storm water

6.4.1. Other Waste

The volume of other waste that will be required to be removed from the site has been estimated at around 600m3. This other waste will consist of general solid waste and will be removed by a licensed waste contractor who will be appointed once construction begins.

6.4.2. Stormwater Pollution Prevention

All actions will be undertaken to avoid pollution entering stormwater drains and for litter generation. The following will be initiated:

- Prior to commencement of any works a Safe Work Method Statement will be completed and reviewed to determine potential for stormwater pollution and/or litter generation
- The proponent (contractor), will need to develop a management strategy to manage the potential for these issues to be realised
- Site inspections will be conducted during the working day to monitor potential for stormwater pollution generation and where identified, works will cease until appropriate controls are implemented
- Wastewater and storm water will be managed and disposed of in accordance with Water Authority requirements.

6.4.3. Litter Management

- Daily site inspections will be conducted to identify litter, remedy the situation and investigate the cause so as to reduce the potential for the issue to occur in the future.
- Sufficient quantities of bins (and/or bin space), will be made available so as to avoid dumping of materials outside bins
- All waste/recycling bins will have covers so as to ensure that wastes cannot be blown out during windy conditions. This will also apply to relevant stocks of materials to be used in construction.
- Personnel will be allocated the role of litter management in that they will periodically inspect the site and surrounds for litter and if identified collect and dispose of it.

6.4.4. Waste/Recyclables Storage (On-Site)

All waste and recycling materials will be stored in bins provided by the appointed contractor(s). These bins will be appropriately coloured and signed to indicate what materials are to be deposited into them and located so as to maximise the recovery of reusable/recyclable materials.

As demolition and construction activities progress, the designated bins may be re-located so as to maximise the collection of materials that will be diverted from landfill. This will also involve relocating signage advising as to correct waste management.

All locations where waste/recycling bins are located will be designed so as to avoid contaminating surface/stormwaters and have active litter control measures.

6.4.5. Waste/Recyclables Treatment (On-Site)

There will be no treatment of wastes or recyclables on-site except for possible removal of contaminants prior to forwarding to off-site recyclers.

6.4.6. Waste/Recyclables Generation

The following summarises the types, quantities and management systems for construction materials that may be generated.

The quantity of waste materials to be generated onsite are estimates and therefore the systems that will be put in place need to incorporate flexibility to allow for variation in the total quantities generated. Active site management during the construction phase will ensure all waste/recyclable materials are disposed of appropriately and that all waste receptacles are of sufficient capacity to manage onsite activities.

Finalisation of the system(s) that will be implemented for the recovery of materials and for disposal of others to landfill will occur following appointment of contractor(s). A component of the appointment will be that contractors will be required to provide data as to the disposal pathway (eg., materials, volumes and final disposal site), as well as a validation process for this information.

The appointed contractor(s) will also be responsible for sourcing speciality recycling facilities for the materials that cannot be reused on site.

6.5. Hazardous Waste Materials - Construction

6.5.1. Management Procedures

A hazardous building materials assessment report has been produced by JBS&G and records hazardous materials including lead-based paints, phenols and polychlorinated biphenyls (PCBs) and provides recommendations for handling the hazardous materials identified.

If needed to be used, contractors employed to manage any identified hazardous wastes will be required (prior to appointment), to demonstrate their compliance with NSW EPA and WorkCover requirements for management of the specific materials they are contracted to manage.

The following are the recommended approaches for managing the wastes and other materials that were identified during the site analysis.

The key principles that need to be adhered to are[3]:

1. All hazardous wastes need to be correctly identified and managed in accord with all relevant legislation and Codes of Practices.

2. Hazardous materials need to be separated into their individual categories and not mixed with any other materials

For any identified hazardous wastes, a Hazardous Materials Management Plan will be prepared in accordance with the requirements of AS2601 prior to the commencement of any works – this includes management principles such as:

- The removal, handling and disposal of asbestos materials are to be undertaken only by an appropriately licensed contractor and in accordance with the requirements of the NSW WorkCover Authority and the NSW Office of Environment and Heritage (NSW OEH);
- All asbestos and other hazardous materials are to be appropriately contained and disposed of at a facility holding the appropriate licence issued by the NSW OEH; and
- A sign displaying the words 'DANGER ASBESTOS REMOVAL IN PROGRESS' is to be displayed on sites where buildings to be demolished contain asbestos materials.
- Any hazardous materials discovered during execution of The Works should be dealt with by the Head
- Contractor in accordance with the requirements set out in the HGC21 Preliminaries document (Section 5.6 – Hazardous Substances)
- Prior to commencing any clean-up activities, a Workplace Health & Safety Plan will be developed, implemented and monitored with all relevant site personnel receiving specific training in management of hazardous waste materials (including suspected hazardous materials).

Any identified hazardous materials will be transported by vehicles permitted to do so and disposed at sites licensed to receive the specific hazardous material(s). Records of all loads leaving the site will be maintained and made available to any relevant personnel/ organisation.

Any identified hazardous wastes will be managed in accord with the *Protection of the Environment Operations Act 1997* and *Protection of the Environment Operations (Waste) Regulation 2014*.

Further information can be accessed from:

https://www.epa.nsw.gov.au/your-environment/waste/industrial-waste/asbestos-waste https://www.epa.nsw.gov.au/your-environment/household-building-and-renovation/lead-safety https://www.epa.nsw.gov.au/search?q=PCB

6.6. Contracts & Purchasing

Each subcontractor working on the site will be required to adhere to this Waste Management Plan.

The Head Contractor will ensure each subcontractor:

- Takes practical measures to prevent waste being generated from their work
- Implements procedures to ensure waste resulting from their work will be actively managed and where possible recycled, as part of the overall site recycling strategy or separately as appropriate
- Ensures that the right quantities of materials are ordered, minimally packaged and where practical pre-fabricated. Any oversupplied materials are returned to the supplier
- Implements source separation of off cuts to facilitate reuse, resale or recycling.

The Site Manager will be responsible for:

- Ensuring there is a secure location for on-site storage of materials to be reused on site, and for separated materials for recycling off site.
- Engaging appropriate waste and recycling contractors to remove waste and recycling materials from the site
- Co-coordinating between subcontractors, to maximise on site reuse of materials
- Monitoring of bins on a regular basis by site supervisors to detect any contamination or leakage
- Ensuring the site has clear signs directing staff to the appropriate location for recycling and stockpiling station/s. And that each bin/ skip/stockpile is clearly sign posted
- Providing training to all site employees and subcontractors in regard to the WMP as detailed in section 8 below.

Should a subcontractor cause a bin to be significantly contaminated, the Site Manager will be advised by a non-conformance report procedure. The offending subcontractor will then be required to take corrective action, at their own cost. The non-conformance process would be managed by the Head Contractors' Quality Management Systems.

6.7. Training And Education

All site employees and sub-contractors will be required to attend a site specific induction that will outline the components of the WMP and explain the site specific practicalities of the waste reduction and recycling strategies outlined in the WMP.

All employees are to have a clear understanding of which products are being reused/recycled on site and where they are stockpiled. They are also to be made aware of waste reduction efforts in regard to packaging.

The site manager will post educational signage in relation to the recycling activities on site in breakout areas, lunch rooms , etc.

7. Next Steps

This WMP forms a framework to implement a real and operational solution that complies with all building codes, OH&S standards and local council guidelines.

The process used has best practice for waste management across all design and planning stages.

The waste management approach supports the Green Star requirements for the project to enhance outcomes for waste avoidance, minimisation, reclaim, reuse and recycling.

If planning approval is granted for the proposed development, this WMP will:

1. Ensure that detailed design and fit-out of the building is consistent with this WMP and best practice standards and plans for waste management are followed, including the frequency of collection being weekly for each main stream.

2. Ensure that the CHR facility management structure conforms to the WMP and optimises collection frequency, storage and hygiene such that the spatial requirements are not in overflow.

3. Construct a Waste Services Plan that details all procedures for operational waste management.

4. Inform the development of a detailed Construction Waste Management Plan.

5. Inform the development of associated Green Star credit requirements.

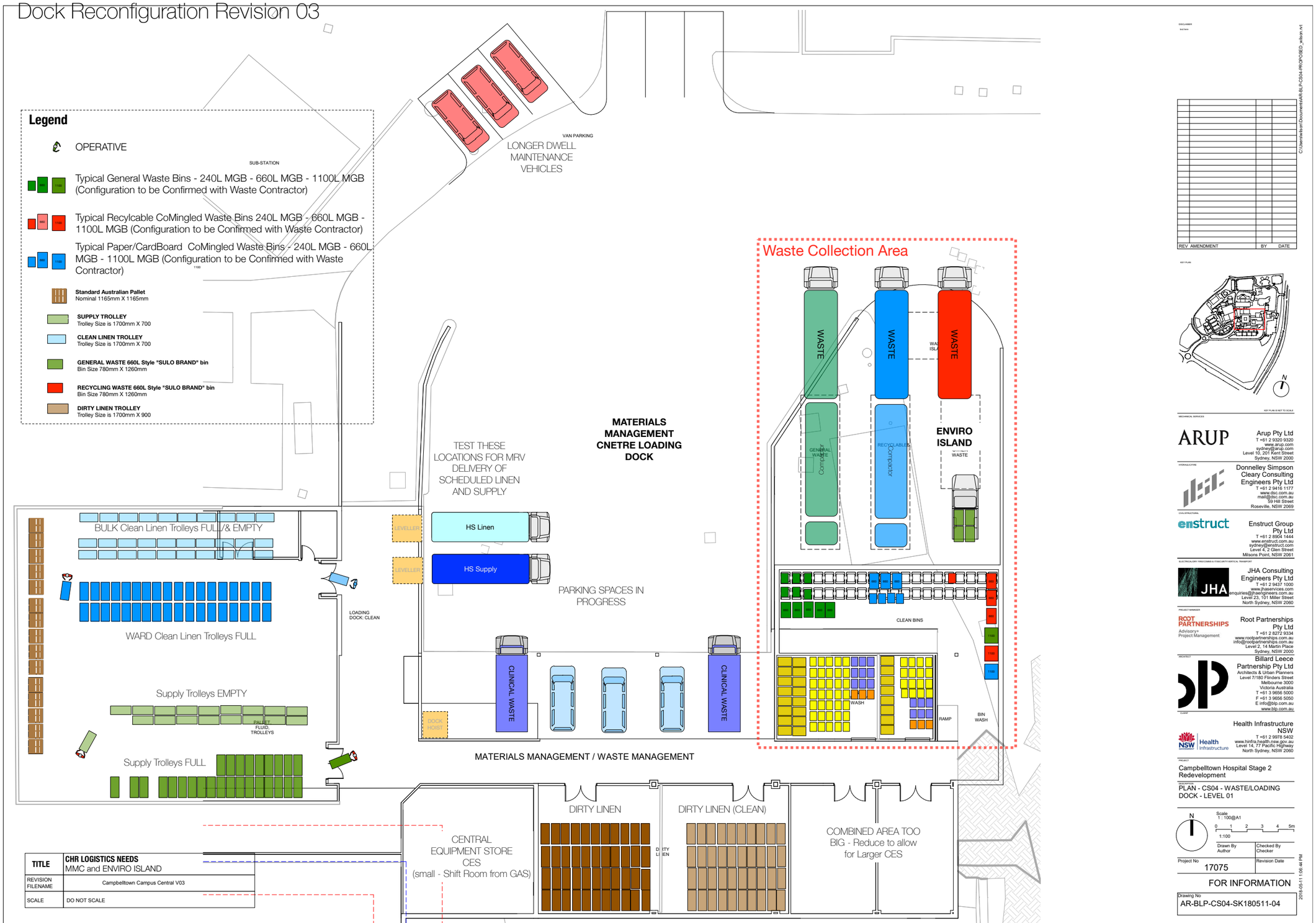
Appendix A Waste Management System MC_PD2017_732

(Contained in Seperate File)

Appendix B
Waste Disposal & Storage Area & Loading Dock Design (Seperate Planning Application Approval)

CHR MATERIALS MANAGEMENT CENTRE (MMC)

Dock Reconfiguration Revision 03



South Western Sydney Local Health District

Camden and Campbelltown Hospitals
Our Values: Patient Centred Care, Communication, Respect, Accountability, Teamwork

Policy Directive

Document Number	MC_PD2017_732
Approved By	Director of Corporate Services
Current Version Issue	June 2017
Next Review Date	June 2020
Replaces Existing Policy	MC_PD2014_567
Previous Review Dates	March 2003 August 2003 January 2008 April 2012 March 2014

Waste Management

Contents

1. Introduction

Both Camden and Campbelltown Hospitals are committed to setting goals and targets to ensure ongoing improvements in all aspects of waste management, including the generation, handling, storage and disposal of all forms of waste whilst also encouraging and educating all staff on recycling, waste reduction and reuse.

The risks addressed by this policy:

Risks associated with waste handling, such as needle stick injuries and cross-infection.

The aims / expected outcome of this policy

The risks associated with waste handling are minimised • There is improved performance in waste avoidance, reduction, reuse and recycling • The impact of waste treatment and disposal is minimised. • Compliance with the NSW Ministry of Health Waste Reduction and Purchase Policy (WRAPP) as required.

2. Principles and Guidelines

Waste handling, management and disposal are to be undertaken in accordance with legislation requirements and relevant NSW Ministry of Health Policy. This includes the Waste Management Guidelines for Health Care Facilities and NSW Ministry of Health Waste Reduction and Purchasing Policy (WRAPP) which outline targets for reducing waste, increasing recycling and efficient use of energy and water. The hospital is required to ensure that the hazardous waste contractors are licensed and submit an annual report to the EPA, these reports demonstrate compliance with the licence requirement.
Waste is categorised by streams which conform to state and national standards. Waste is to be managed in accordance with the definitions described below. Regular internal and external audits will be undertaken to assess waste management performance with respect to these streams.

2.1 Specific Responsibility

Executive Unit

- Ensure implementation of this policy in conjunction & any LHD Policies.

Director of Finance and Corporate Services

- Support the General Manager in the implementation of this policy.
- Ensure that compliance with the NSW Ministry of Health and relevant national standards are monitored and evaluated.
- Ensure their healthcare facilities are well maintained free of waste products and clean.
- Monitor compliance with the Waste Management policy standards.

General Services Manager

- Provide advice to staff of Camden and Campbelltown Hospitals on waste management services through the General Services Manager.
- Ensure department staff has access to task specific training and education.
- Ensure department staff is competent in performing waste orientation tasks.
- Ensure waste management procedures are documented, available and relevant to staff.
- Monitor and audit waste collection performance and ensure required levels of compliance.

Managers, Leading Hands and Department Heads

- Ensure department staff complies with infection prevention and control national standards.
- Ensure there are appropriate resources to meet the national standards.
- Ensure the Waste Management standards are met in their jurisdiction.
- Ensure all department staff complies with the standards.
- Ensure the patient environment is well maintained, clean and free of waste through relevant waste streams.
- Monitor compliance with the Waste Management Policy.

Infection Control Consultant

- Provide advice on infection prevention and control aspects of General cleaning and waste standards.
- Provide advice on cleaning and disinfection requirements for all risk categories, during outbreaks of communicable disease and during refurbishment, renovations and construction.
- Provide advice for minimising risks.

Infection Prevention & Control Committee

- Review the results of the waste audits and recommend action to Waste Management Committee.

Cleaning Staff

- Undertake General and waste management training in accordance with this policy, and / or on the Infection Prevention Consultant.
- Are responsible for ensuring a safe environment including all General hygiene concerns.
- Comply with this policy in undertaking the requirements of waste management, recycling and waste minimisation requirements.
- Escalate risks (i.e. identified General waste management, hygiene or maintenance deficiencies) through management and call upon the relevant experts to develop risk management strategies to manage risks.

2.2 Waste Segregation

- Waste is managed throughout the hospital via waste streams that are classified in accordance with the NSW Ministry of Health Policy Guidelines and also in conjunction with that of the LHD Policy.
- The hospital provides facilities for the following waste streams: general, clinical, cytotoxic, recyclable, chemical, pharmaceutical, radioactive and hazardous liquid waste.
- It is the responsibility of all employees to dispose of waste into the appropriate waste stream at the point of generation.
- Refer to Waste Disposal Procedures for further information

2.3 Camden and Campbelltown Hospitals Waste Management Committee

- It is the purpose of the Camden and Campbelltown Hospitals Waste Management Committee to assist in the implementation and monitoring of waste management activities across the hospitals.
- The committee has a membership which is representative of all key areas and departments of the hospital.

2.4 Education and Training

- Waste Management training (Orientation) is provided to all new employees through online training via the Intranet on My Health Learning and in the facilities at Camden and Campbelltown Hospitals, Intern and RMO Orientation programs.
- Waste management information is available to agency nursing and sessional medical staff.
- Annual waste management training is available to all hospital departments via the Intranet online training.
- Training is also available on request for specific waste management issues and can be arrange through the General Services Department.

2.5 Waste Management Strategies

- KPIs for waste management are monitored by the General Services Department and the Camden and Campbelltown Hospitals Waste Management Committee and are used to target waste management and minimisation activities.
- Regular waste segregation audits are carried out on Clinical & Sharps waste streams and the results of these audits fed back to the appropriate departments for review and action.
- All new equipment should be purchased in accordance with the Waste Reduction and Purchasing Plan.
- Disposal of furniture and equipment is managed by the Director Corporate Services. Disposal of property should first consider the potential for revenue raising within the guidelines provided in the NSW Ministry of Health Purchasing and Supply Manual.

2.6 Waste Handling Containment and Transport

- Waste is separated into the appropriate waste stream at the point of generation by the provision of waste bags and bins appropriate to the types of waste generated.
- Waste is stored in mobile garbage bins which are kept in designated waste rooms located on each floor.
- Waste is collected by General Services Staff and transported on foot to the waste storage area.
- General waste is then emptied into the compactor bin.
- Clinical, Cytotoxic, Sharps and Confidential Paper waste are kept in a secure area in locked bins until collection by the appropriate contractor.

2.7 Waste Disposal

- Contracts with the various waste transporters and waste treatment disposal contractor are documented and are consistent with the relevant regulations.
- Disposal of general waste generated by Camden and Campbelltown Hospitals is tracked via weighbridge docket records. Copies of these records are kept and monitored by the General Services Department.
- Disposal of clinical waste generated by Camden and Campbelltown Hospitals is tracked via a bar-coding system and bar-code records supplied by the clinical waste contractor are kept and monitored by the General Services Department.

2.8 Work Health & Safety

- The Camden and Campbelltown Hospitals waste management system is designed to minimise the potential hazards to employees in managing waste. Employees have an obligation to follow instructions regarding safe work practices.
- All staff involved in the handling of waste, are trained in safe work practices that minimise manual handling and infection control risks and are provided with Personal Protective Equipment appropriate to the waste handling task.
- All staff is instructed in correct sharps injury protocols.
- Staff are advise to follow the Hand Hygiene policy after handling waste of any sort

2.9 Spill Management

- All staff should manage waste spills in accordance with the Camden and Campbelltown Hospitals spill management policy and relevant spill management procedure.

In most cases, concerns about pollution should be referred to the source or person causing the problem. The contact telephone numbers on this page should be used when an approach to the person causing the problem has not been or is unlikely to be successful.

Duty to report incidents that cause or threaten material harm to the environment as per the New South Wales Environment Protection Authority (EPA)

Pollution incidents that cause or threaten material harm to the environment first call

- 333 and ask for the Fire Department

They will advise the appropriate authorities as per below:

- the appropriate regulatory authority (ARA)

- The NSW Environment Protection Authority (EPA) if they are not the ARA the NSW Ministry of Health
- the WorkCover Authority
- the local authority, e.g. the local council, if this is not the ARA

2.10 Cleaning & Maintenance

- All waste management equipment is washed and maintained in accordance with the NSW Health Infection Control Policy.
- Camden and Campbelltown Hospitals maintains an employee vaccination program for all staff involved in the handling of potentially infectious waste.
- Statistics on manual handling and sharps injuries related to waste handling activities are reported and monitored by the Camden and Campbelltown Hospitals Peak WH&S Committee and the Camden and Campbelltown Hospitals Waste Management Committee. Targeted strategies are implemented as necessary to reduce the incidence and severity of these injuries.

2.11 Waste Disposal Guidelines

Clinical Waste Stream (colour code yellow)

- Clinical Waste is waste which has the potential to cause sharps injury, infection or offence. Sharps are defined as any object capable of inflicting a penetrating injury irrespective of whether it is contaminated with blood or bodily fluids.
- The disposal of clinical waste is separated into two categories sharps and non sharps.

Non Sharp Clinical Waste

- Non sharp clinical waste should be placed into yellow bags with the black clinical waste (biohazard) signage printed on them. General services staff will then place these bags into yellow mobile garbage bins. When these bins are full they will be locked prior to transport to the holding area on the ground floor rear loading dock.
- Non sharps clinical waste includes:
- any waste **visibly** stained with blood or visibly stained body fluids (incontinence pads or disposable sheets not completely soaked in urine and without faeces may go into general waste)
- bulk body fluids and blood
- human tissue (excludes hair, teeth and nails)
- Laboratory specimens and cultures.
- Animal tissues and carcasses.

Examples of waste commonly found in non sharps clinical waste that should not be there:

- Waste from VRE or MRSA patients that are not visibly stained with blood or body fluids. This waste is disposed of in general waste.
- sharps of any description
- gowns and gloves not visibly soiled with blood (including those from VRE and MRSA patients)
- polystyrene and paper cups
- Reusable linen and towels contaminated with blood and body fluids.
- paper

NB: If you are uncertain please contact the Infection Control Unit for clarification

Sharps Clinical Waste

- Sharps clinical waste should be placed into the sharps containers provided. Most of these containers are reusable and not disposable (therefore do not write or stick anything onto these containers). Dispose of sharps until the sharp containers full to the line or until the tray tips and displays the full sign at the back of the tray. When the tray has tipped into the full position do not attempt to pull the tray back to place another sharp in, as this may propel a contaminated sharp out and cause injury. Once full the sharp container must be locked and placed in the dirty utility room for collection by General Service's staff. Do not close these

containers off if they are not full as the disposal charge on these bins is per container and so half filled bins incur the same price as full containers.
- Sharps clinical waste includes:
- Needles
- small glass ampoules
- scalpel blades
- stitch cutters
- auto lancets
- trocars
- wires
- 8.metal cannula inserts

Examples of waste commonly found in sharps containers that should not be there:
- polystyrene cups
- gloves
- glass bottles
- Kidney dishes
- Medicine Cups
- paper towels
- plastic ampoules
- IV administration sets
- syringes (without needles attached)

Cytotoxic Waste Stream (colour code purple)
- Cytotoxic waste is material contaminated with residues or preparations containing materials toxic to cells.
- The disposal of cytotoxic waste is separated into two categories sharps and non sharps.

Non Sharp Cytotoxic Waste
- Non sharp cytotoxic waste should be double bagged and placed into clearly labelled purple mobile garbage bins.
- Only staff who have received prior cytotoxic drug/waste handling training should be depositing waste into these bins or transporting these bins.
- These bins should remain locked at all times when not in use Only when these bins are secured/locked and authority given are General services staff to remove them from the area.
- General services staff will then replace these mobile garbage bins on request. They will be transported locked and stored in a holding bay on level 2 building 89 prior to collection by licensed contractor.
- Non sharps cytotoxic waste includes;
- Leftover or unused cytotoxic drugs
- IV infusion sets and containers associated with the preparation or administration of cytotoxic drugs.
- Glass/plastic vials associated with the preparation or administration of cytotoxic
- Drugs.
- Gowns, caps, gloves and swabs associated with the preparation or administration of cytotoxic drugs.
- Material used to clean or contain cytotoxic spills.

Sharps Cytotoxic Waste
- Sharps cytotoxic waste should be placed into the purple cytotoxic sharps containers provided. These are disposable containers. Once full or no longer needed the lid should be screwed on and taped down. The container should be placed in the dirty utility for collection by General Services Staff
- Sharps cytotoxic waste includes;
- Needles that have contained cytotoxic drugs
- Small glass ampoules that have contained or still contain cytotoxic drugs
- Any glass containers that have contained cytotoxic drugs

2.12 Hazardous Chemicals, Hazardous Substances & Dangerous Goods Waste Stream- no colour code

- "Hazardous chemical waste" means a substance that to be disposed of and is listed in a document entitled "List of Designated Hazardous Substance" [NOHSC: 10005 (1999)] published by the National Occupational Health and Safety Commission.
- "Dangerous Goods" are substances which have the potential to cause a severe single exposure risk such as explosion, fire, poisoning or corrosion. They are classified by the Australian Code for the Transport of Dangerous Goods.
- This waste should be stored in the correct containers. A file containing the SDS sheets should be stored with this waste.
- This waste is collected from the area it is generated in on a weekly basis.

A request form can be found on the intranet under Campbelltown/Camden Chemical Disposal Log filled in and press submit, before 12 pm for collection by licensed contractor.

All Relevant Waste Streams are secured from public access

- Confidential paper, clinical waste, sharp waste & cytotoxic waste must be secured from public access at all times. If removing the bin from an area then it should be locked and removed in a safe and orderly manner.

Confidential Paper Recycling- colour code blue (with lockable lid)

- Confidential paper recycling is paper that has any identifying personal information"
- Confidential paper must be disposed of directly into secure locked bins in order to comply with the Privacy & Personal Information Act 1998. It should not be placed into general paper recycling.
- The confidential paper recycling bins are blue 240 litres mobile garbage bins with lockable lids that have slits in the top for disposal. These bins are available on request from General Services Department.
- These bins should only be ¾filled. Once ¾ full a new request for a new bin call General Services Department on speed dial 2176
- In the event that large amounts of confidential waste are being disposed of the bins can be supplied unlocked but will need to be locked immediately after disposal ceases and prior to transport.
- Confidential Waste Paper includes;
  - Patient Health Information
  - Patient Labels
  - Medication Labels
  - Personal Staff Information

NB: Confidential documents that have been shredded may be placed directly into general paper recycling, provided they are emptied out of the plastic bag.

General Paper Recycling- colour code blue

- General paper recycling is any waste paper that does not contain confidential information, wax or food scraps.
- General paper waste should be placed into the blue cardboard boxes that are labelled "paper only". These cardboard boxes are emptied by General Services staff into the blue unlocked mobile garbage bins.
- General Paper Recycling includes;
- Office paper (non-confidential)
- Cardboard (small amounts e.g. empty glove boxes)
- Magazines
- Glossy brochures
- Envelopes
- Notepaper
- Newspapers

NB: Staples and paperclips do not need to be removed.

Pharmaceutical Waste – Orange with a yellow lockable lid

- Pharmaceutical waste should be placed into the orange with a yellow lockable lid. These bins are then collected by General Services staff and placed into a locked room until collect by the waste company.
- Pharmaceutical waste includes;
- unused medications from patients
- out of date medications
- vials which have out of date medications in them

Anatomical Waste – Burgundy with burgundy lid

- Anatomical waste should be placed into burgundy with burgundy lid. These bins are collected by General Services staff and placed into a lockable room until collected by the waste company.
- Anatomical Waste includes;
- Placentas from Birthing Unit
- Legs, Arms and all body parts
- human tissues
- organs
- Pathological specimens
- Body tissue taken during laboratory testing, surgery or treatment and includes animal carcasses used in research.

Mixed/Co-mingled Recycling- colour code Red

- Mixed/Co-mingled waste should be placed into the red cardboard boxes that are labelled “mixed recycling”. These cardboard boxes are emptied by General Services staff into the red mobile garbage bins.
- Mixed Recycling includes;
- Unbroken Glass Bottles (No Pyrex or Winchester bottles)
- Aluminium Cans
- Steel Cans
- Plastic Bottles with recycling sign 1-7
- Milk Cartons (empty)
- Plastic with recycling sign 1-7

Waste that should not be in mixed recycling bins

- Pyrex glass
- Broken glass
- paper
- paper cups
- gloves
- pizza boxes

Single use Surgical Equipment Recycling- no colour code

- Theatres and Interventional Suite will recycle single use surgical equipment and bins will be placed in the each of the Theatre areas which will be clearly marked for “Single Use Surgical Equipment Recycling”.

Cardboard Recycling- no colour code

- All cardboard boxes should be flattened by the person who emptied them. The flattened cardboard boxes should then be placed in trolleys provided or in the waste rooms near the general waste bins. These flattened cardboard boxes will be removed by General services staff.

Battery Recycling- no colour code

- Rechargeable batteries can be recycled. These batteries should be placed in the collection bins inside Biomedical Engineering or Engineering Services, General services do not collect these batteries it is up to individual wards/areas to place these batteries in the receptacles provided inside Biomedical Engineering or Engineering Services
- Battery Recycling includes;
  - lead acid
  - nickel cadmium
- Non recyclable batteries (i.e. alkaline) should be placed in general waste bins (there is currently no recycling facility available for these in Australia.)

Print Cartridge and Toner Recycling- no colour code

- Print cartridge recycling boxes are available on request from General Services. These boxes are lined with plastic bags with special prepaid post address labels. Used print cartridges or photocopy toner cartridges should be placed in these bags. When approximately ½ full the bags should be tied off with cable ties provided. The bags should then be placed outside for collection by the General Services Staff. For departments that do not need their own print cartridge recycling box the cartridges can still be recycled by depositing them in the box outside the mail room. General Services staff **will not** be responsible for placing used cartridges in this location, it is up to the staff generating this waste to do so.
- Print Cartridge Recycling includes;
  - Inkjet cartridges
  - Toner bottles
  - Laser cartridges
  - Fuser Kits
  - Drum kits
  - Fax, photocopier and printer cartridges
  - It is the department/ward responsibility to take advice the General Service Department when the bag is ½ filled.

Broken Glass

- Broken glass should not be placed in the glass recycling bins this will result in General services staff receiving sharps injuries. Broken glass should be swept up and placed into a small cardboard box and then taped shut, “broken glass” should then be written on the outside of the box and the box placed directly into a general waste mobile garbage bin. Pyrex glass should be disposed of in the same manner.

E-Waste / Obsolete Equipment

- E-Waste / Obsolete Equipment should be removed from the asset register using the intranet form: **http://intranet.sswahs.nsw.gov.au/Csahs/Finance/TransferAsset.pdf**
  - Once removed from the asset register removal will then need to be arranged through the General Service Department.
  - E-Waste / Obsolete Equipment which includes: -
  - Computers
  - Fax machines
  - Ward equipment

Furniture

- Furniture can be discarded through the General Service Department online via request for removal of furniture.

Mattresses

- Old mattresses can be discarded the General Service Department online via request for removal of mattresses.

2.13 General Waste Stream- colour code green

General waste includes:

- food scraps
- paper towel
- outer plastic packaging (that does not have a recycling sign 1-7)
- non soiled alcohol wipes
- disposable gowns not visibly stained with blood (paper & plastic)
- paper masks, disposable (theatre) caps
- gloves not visibly stained with blood
- polystyrene cups
- dead flowers
- plastic sheeting off beds not visibly stained with blood
- Incontinence pads or disposable sheets that are not visibly stained with blood or completely soaked in body fluids and/or faeces

Waste that should not be put into general waste bins

- office paper
- confidential paper
- clinical waste
- cytotoxic waste
- computers and furniture
- cardboard boxes

Waste Licensing

- All contractors are to have the appropriate licenses for the removal and disposal of waste under the Environment Protection and Regulation Division of New South Wales. A copy of the contractor/s current licence will be kept by the General Service Department.
- It is a requirement that all contractors coming onto the facility/site must be inducted. This induction course is to be done through: **https://www.inductee.com.au/sswahs/**

Certificate of Destruction

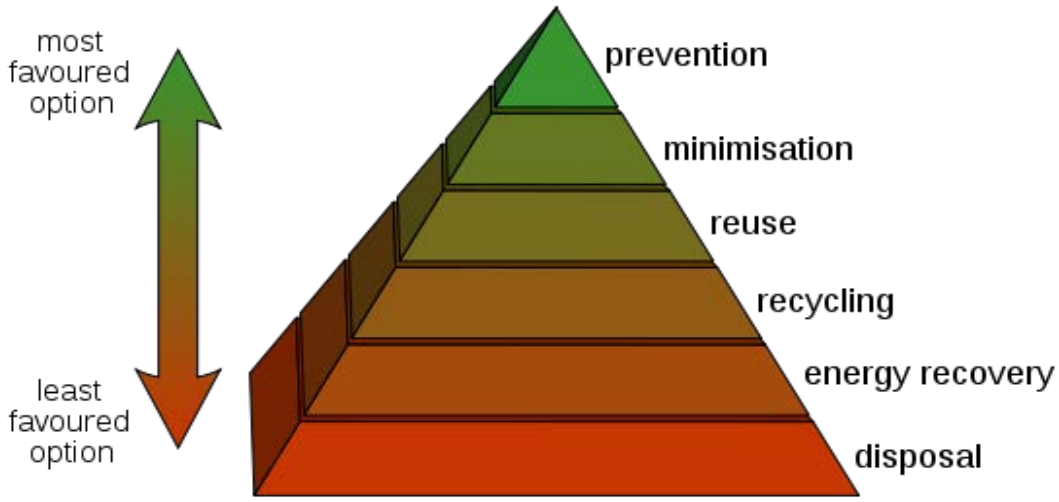
- A certificate of destruction for single use surgical equipment, confidential, cytotoxic, chemical liquid, clinical and printer cartridges should be obtained from the waste contractor/s to ensure the waste has been disposed of correctly.

Waste Management Policy - Display Version See on next page

3. Performance Measures

- Key Performance Indicators are used by the Camden and Campbelltown Hospitals Waste Management Committee, Camden and Campbelltown Hospitals WH&S Peak Committee and the Camden and Campbelltown Hospitals General Services Department to monitor compliance to Waste Management policy and Guidelines, ensure cost efficiency, identify and develop targeted waste management strategies performance with other health care facilities. These include:
- Cost and tonnage trends over time
- Cost and tonnage trends over time by unit or department
- Clinical waste trends vs. hospital activity (tonnes/1000 occupied bed days)
- General waste trends vs. hospital activity (tonnes/1000 occupied bed days)
- Sharps waste trends vs. hospital activity (litres/ 1000 occupied bed days)
- Recycling rates (kilograms per 100 DOHRS FTE)

WASTE HIERACHY



http://en.wikipedia.org/wiki/File:Waste_hierarchy.svg

- The waste hierarchy refers to the "3 Rs" reduce, reuse and recycle, which classify waste management strategies according to their desirability. The 3 Rs are meant to be a hierarchy, in order of importance.

Reports

- Reports are produced on a monthly basis from contractor with information regarding the diversion

4. Definitions

- Nil

5. References and links

- Work Health and Safety Regulation 2011
- Waste Avoidance and Resource Recovery Act 2001
- Protection of the Environment Operations (Waste) Regulation 2005
- NSW Ministry of Health Waste Management Guidelines for Health Care Facilities August 1998 PD 2005_132
- NSW Ministry of Health Infection Control Policy PD2007_036
- Australian / New Zealand Standard AS/NZS 4478/1997
- Australian / New Zealand Standard AS/NZS 3816/1998
- NSW Ministry of Health Hand Hygiene Policy PD2010_058
- NSW Ministry of Health Infection Control Policy PD2007_036

Author: Ron Taylor - WHS Manager

Reviewers: General Services Staff
Waste Committee Members

CAMDEN AND CAMPBELLTOWN HOSPITALS WASTE MANAGEMENT POLICY – DISPLAY VERSION

1. Aim / Expected outcome of this policy: To provide a framework that ensures all waste at Camden and Campbelltown Hospitals is managed safely and efficiently with consideration to General issues. This policy outlines the overall objectives of the Camden and Campbelltown Hospitals waste management program and the responsibilities of staff in relation to waste management. To improve our waste segregation by labelling clearly and colour coding our waste streams. Operational details of the Camden and Campbelltown Hospitals waste management system can be found in the Camden and Campbelltown Hospitals Waste Minimisation and Management Plan.

2. Policy Statement/ Principles /Guidelines: Camden and Campbelltown Hospitals is committed to maintaining an efficient and cost effective waste management system that protects the health and safety of all employees, patients and other persons working in or visiting the hospital premises. In accordance with NSW government policy and international best practice, the hospital takes a "cradle to the grave" approach to waste management which implies responsibility for waste from point of generation to final disposal. As such, all staff as waste generators has an obligation to dispose of waste responsibly. Camden and Campbelltown Hospitals Waste management strategies focus on waste minimisation principles of avoidance, reduction and correct segregation of waste and the promotion of re-use and recycling practices where feasible. Waste management is legislated under the Waste Act (1995) and Waste Regulation (1996) which is administered by the NSW General Protection Authority. The implementation of the Camden and Campbelltown Hospitals Waste Minimisation and Management Plan in conjunction with this Policy aims to ensure compliance with all relevant legislative and regulatory requirements as set out in Section 8 of this policy.

3. Scope: All employees and contractors working in the hospital or at other premises controlled by the hospital.

4. Exceptions: No exceptions.

5. Policy principles: The Camden and Campbelltown Hospitals Waste Management Policy in conjunction with the Camden and Campbelltown Hospitals Waste Minimisation and Management Plan has been implemented with the following objectives:

Waste segregation
To ensure waste is managed throughout the hospital via the appropriate waste streams that are classified in accordance with the NSW Ministry of Health Policy Guidelines

Camden and Campbelltown Hospitals Waste Management Committee
To monitor and report on the efficiency and effectiveness of the waste management system via the Camden and Campbelltown Hospitals Waste Management Plan.

Education and Training
To promote good waste management practice via ongoing waste management education and training programmes.

Waste management Strategies
Camden and Campbelltown Hospitals Waste management strategies focus on waste minimisation principles of avoidance, reduction and correct segregation of waste and the promotion of re-use and recycling practices where feasible.

Waste Handling Containment and Transport
To ensure segregated waste is stored and transported appropriately

Waste Disposal
To ensure waste management contracts are consistent with relevant regulations as well as track and record various waste streams

Work Health and Safety
To minimise the incidence of injuries related to waste generation and handling, through safe work practices, staff training and the provision of Personal Protective Equipment.

6. Cognizant Office / Getting Help: Camden and Campbelltown Hospitals General Services Department.

7. References
Work Health and Safety Regulation 2011
Waste Avoidance and Resource Recovery Act 2001
Protection of the Environment Operations (Waste) Regulation 2005
NSW Ministry of Health Waste Management Guidelines for Health Care Facilities August 1998 PD 2005_132
NSW Ministry of Health Infection Control Policy PD2007_036
Australian / New Zealand Standard AS/NZS 4478/1997 and AS/NZS 3816/1998
NSW Ministry of Hand Hygiene Policy PD2010_058
NSW Ministry of Health Infection Control Policy PD2007_036

8. Note: This is a display version of the Waste Management Policy. Further details should be obtained from the comprehensive version of the Waste Management Policy.

POLICY APPROVAL AUTHORITY:	Alison Derrett	Policy Reference No.	Review Date:
	General Manager	MC_PDxxxx_xxx	NOVEMBER 2017

Health
Western Sydney
Local Health District

NSW GOVERNMENT

Policy

Waste Management

Date Created	November 30, 2006
Last Updated	April 16, 2016
Version Number	2.0
Drug Committee Approved	n/a

Contents

Policy Statement

Western Sydney Local Health District (WSLHD) is committed to reducing to the minimum possible level the waste generated in the normal course of pursuing a high standard of health care for our patients. Where waste generation cannot be avoided, methods must be found to handle, store and dispose of it in the least damaging ways available to our environment whilst being mindful of the high financial costs associated with incorrect waste segregation and disposal.

To meet this commitment WSLHD has:

Appointed an Environmental Sustainability Coordinator who is responsible for the development and implementation of WSLHD's Sustainable Waste Management Program. This also includes the identification of cost saving opportunities, initiatives to reduce waste to landfill, ensuring compliance to relevant legislation, identifying and implement waste management best practice and provide staff education.

There is a General Services Manager/ Supervisor at each facility of WSLHD responsible for the day-to-day operations and management of waste activities at the facility. These Managers/ Supervisors oversee compliance with the WSLHD Sustainable Waste Management Policy and program; collection and collate waste stream data for submission and inclusion in the LHD Waste Report; track and monitor waste systems, promote and educate General Service staff in waste minimisation and best practice

Implement a Waste Policy manual that includes but is not limited to:

- Definition of waste streams
- Waste management responsibilities
- Legislative guidelines and obligations
- Waste tracking and monitoring systems
- Correct segregation and disposal procedures
- Educational and promotional programs
- Purchasing Policies which encourage sustainability
- Transporting and storage of waste requirements
- WHS waste related issues

Intended Audience

General Services Mangers will use this as a reference guide. WSLHD workers must follow this policy when discarding waste.

Scope

This Waste Management Policy manual has been based on a wide range of National and State waste guidelines and has incorporated waste legislative requirements. The WSLHD Waste Policy applies to all areas that are governed by WSLHD and requires the cooperation and commitment of all workers.

The WSLHD Waste Policy manual is available on the WSLHD Environmental Sustainability Intranet Site and will be reviewed as required by the WSLHD Environmental Sustainability Coordinator.

Rationale

In general, waste pollutes the environment and is potentially harmful to the health of humans and many other life forms. The minimisation and appropriate management of all types of waste within a health care facility is essential for the benefit of a healthy environment, resource preservation, legal obligations and for realising cost efficiencies.

Expected Outcomes

WSLHD will manage all streams of waste as required by the Environmental Protection Authority (EPA) and environmental legislation.

It is expected that all WSLHD workers commit to the Waste Management Policy Manual. Key Performance Indicators (KPIs) have been established to monitor and evaluate waste performance on a quarterly basis. WSLHD has implemented various waste strategies and systems that aim to meet the expected outcomes below:

- Compliance with legislative and licensing requirements by ensuring that workers of WSLHD are aware of these guidelines and apply these as part of their normal work routine
- Standardisation of Waste Management Programs across WSLHD facilities to ensure best practice systems are in place and that waste is managed in a safe and cost-effective manner
- Improved waste performance through the implementation of ongoing waste minimisation strategies that supports effective recycling programs and promote waste practices cost efficiencies
- Meet waste management requirements as stated in: NSW Health waste policies, Work Health Safety and Injury Management Profile (WHS&IM) and National Standards.
- Compliance with the NSW Health WHS and Injury Management Tool – PD2007_030 *under review as of March 2016*
- All workers are educated on waste management and can demonstrate that knowledge through correct segregation and disposal methods
- An effective promotional program that continually improves waste awareness and enhances worker involvement.

Definitions

See Acronyms

Acronyms

- EPA- Environmental Protection Authority
- OEH- Office of Environment and Heritage
- WHS- Work Health and Safety
- WARR- Waste Avoidance and Recovery Resource Strategy
- GREP- Government Resource Efficiency Policy
- POEO- Protection of the Environment Operations Act
- SDS- Safety Data Sheet
- IIMS- Incident Information Management System
- MoH- Ministry of Health

WSLHD Waste Commitment

WSLHD has a formal, executive endorsed and documented "Waste Commitment" statement aimed at promoting and supporting the Waste Management Program. Waste Policies and Procedures have been developed to demonstrate this commitment so that the workers have a clear understanding of their responsibilities in waste management. The Waste Statement is displayed in the front entrances of WSLHD facilities to ensure that the wider community is aware of WSLHD commitment to waste minimisation.

The statement reads: *Sydney West Area Health Service (WSLHD) workers are committed to a sustainable future by supporting a waste, energy and water management program that is safe, efficient, cost effective and protects the environment*.

The rationale for this commitment is indicated as follows:

Safety- WSLHD is committed to ensuring the health, safety and welfare of all its workers and the health and safety of others in the workplace. This will be achieved by adopting an Occupational Health and Safety Risk Management approach to the management of waste.

Safe work practices/safety rules associated with waste handling, collection and disposal have been integrated into departmental job instructions and training for relevant workers.

Efficiencies- Waste minimisation programs have been implemented within the health care environment for all types of waste streams. These are aimed at reducing waste to a minimum whilst promoting cost efficiencies through reducing, reusing and recycling (refer to Waste Streams & Posters section on the Intranet).

Environment- Waste pollutes the environment and is potentially harmful to the health of humans and many other life forms. As most are aware, waste to landfill contributes to atmospheric pollutants primarily through the production of methane emissions which is the result of waste breaking down in landfill.

Relevant Waste Guidelines

There are a number of legislative requirements and guidelines relating to Waste that must be complied with. The guidelines are similar in content, however, significant guidelines are regularly referred to and monitored throughout WSLHD, these are:

- Environmental Protection Authority (EPA) Protection of the Environment Operations Act (POEO) 1997
- NSW Health: Waste Management Guidelines for HCF, 1998
- Waste Avoidance Resource Recovery Strategy 2014 - 2021
- Office of Environment and Heritage, Government Resource Efficiency Policy
- Work Health and Safety Regulation 2011

Protection of the Environment Operations Act

Whilst holding a licence is no longer a requirement, Health Care Facilities will still continue to be regulated and audited for compliance to the Act by the Office of Environment and Heritage.

NSW Health, Management of Clinical and Related Waste 1998

The Ministry of Health Guidelines apply to all NSW Public Health facilities including community health centres. The guidelines are designed to assist managers and personnel of health facilities to implement standards that comply with the relevant legislations.

Waste Avoidance Resource Recovery Strategy (WARR Strategy)

The NSW Waste Avoidance and Resource Recovery (WARR) Strategy 2014–21 is a key component of the Government's vision for the environmental, social and economic future of the state that will be supported financially by the *Waste Less, Recycle More* initiative.

There are 6 Key Result areas:

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

Government Resource Efficiency Policy (GREP)

The aim of the NSW Government Resource Efficiency Policy is to reduce the NSW Government's operating costs and lead by example in increasing the efficiency of the resources it uses. The policy will help to ensure NSW meets the goals of NSW 2021: A plan to make NSW number one. It aims to drive resource efficiency by NSW Government agencies in three main areas – energy, water and waste – and also reduce harmful air emissions from government operations.

This policy will ensure NSW Government agencies:

- meet the challenge of rising costs for energy, water, clean air and waste management

- use purchasing power to drive down the cost of resource-efficient technologies and services
- show leadership by incorporating resource efficiency in decision-making.

This policy replaces the previous NSW Government Sustainability Policy and streamlines reporting under the
Waste Reduction and Purchasing Policy (WRAPP). It supports goals and targets in NSW 2021 and delivers NSW
Government actions from the:

- NSW Energy Efficiency Action Plan to drive government agencies to undertake energy efficiency projects
- NSW Renewable Energy Action Plan to encourage renewable energy development in NSW and support midscale solar projects
- Draft NSW Waste Avoidance and Resource Recovery Strategy 2013–21 to reduce the generation of waste and make better use of resources
- NSW Auditor-General's report, Building Energy Use in NSW Public Hospitals, which recommends investment in energy efficiency and improved energy benchmarking
- Data Centre Reform Project that will consolidate the NSW Government's data centres into two new highly efficient centres.

Work Health and Safety Act and Regulation 2011

The Waste Management Policy has been developed in accordance with WHS legislative requirements and reflects responsibilities in regards to waste management. Refer to the WHS Unit for all documents related to safety requirements for workers and managers at WSLHD.

Waste Management

Waste Responsibilities

Everyone within WSLHD has a role in Waste Management. Indicated below are specific worker responsibilities:

- *The General Services Business Review Group* in conjunction with the Environmental Sustainability Coordinator oversees the Waste Management Program and monitors waste accidents/incidents and collects statistical data
- *Health Support Services* ensures that purchases made by the organisation comply with the GREP.
- *Each unit/service manager* is responsible for his or her area of work and for ensuring that their workers adhere to all waste management training.
- Each WSLHD facility has a nominated General Services Manager or Supervisor who is responsible for the day-to-day management of waste activities, waste data collation and record keeping.
- All WSLHD workers are responsible for the correct segregation and disposal of waste. Workers are required to carry out their duties in accordance with the documented safe work practices/safety rules and report waste accidents/incidents. Workers are not to remove waste from disposal areas for their own private usage or personal gain. Workers are only to utilise bins provided by the LHD. Bins not provided by the LHD will not be serviced by waste removal staff/ contractors.

Waste Contacts

The facility General Services Manager/ Supervisor should be contacted in the first instance with day-to-day operational issues regarding waste management.

The Environmental Sustainability Coordinator is available to provide advice and assistance with any waste matters as well as conduct in-services at a suitable time.

Table 1: WSLHD Waste Contacts

Facility	Contact Number	Tie Line/Ext*	Position
Auburn	8759 3052	801 3052	General Services Site Manager
Blacktown	9881 8328	48328	General Services Site Manager
Cumberland	9840 3023	43023	General Services Site Manager
Mt. Druitt	9881 1748	41748	General Services Site Supervisor
Westmead	9845 6000	56000	General Services Site Manager
WSLHD	9840 3770	43770	Environmental Sustainability Coordinator

Waste Storage Areas

Waste storage areas must comply with all aspects of the POEO Waste Regulation.

Consideration should be given to the following when designating an area as a waste storage area:

- appropriate ventilation
- adequate fitted locks to secure the area whilst unattended
- rigid impervious flooring for hosing and cleaning purposes
- appropriate drainage
- suitably located to restrict public access
- suitably located to prevent contact with food and clean supplies
- availability of appropriate spill kits and cleaning equipment to clean spillages and appropriate personal protective equipment (PPE)
- hand basin facilities for hygiene purposes

Waste Collection Procedure and Schedule

Trained General Service's workers collect waste. These workers wear appropriate personnel protective equipment (PPE) whilst performing their duties. General Service's workers collect waste from all areas of the hospital on a routine basis determined by the Waste officer at each facility to minimise:

- WHS risks to staff, visitors and patients
- infection and cross contamination
- odours arising from waste disposal
- manual handling risks through overfilling of containers

For local procedures consult with the facility General Services Manager/ Supervisor.

Cleaning of waste equipment

- cleaning of bins should be completed in compliance with local safe work practices and local cleaning policies
- waste trolleys and electric buggies used to transport waste should be cleaned daily
- waste holding areas should be part of the pest control schedule to discourage the harbouring of vermin

Waste Streams Definition

This section gives in-depth information relating to the various waste streams that exists within the facilities and as classified by the Office of Environment and Heritage.

General solid Waste

Any waste, which is inert or solid and is not capable of being composted, recycled, reprocessed or reused in a hospital setting.

Examples of general waste generated in NON clinical areas are:

- plastic products not capable of being recycled (ie, heavily contaminated with food, blood etc)
- disposable items such as foam cups & food containers
- contaminated plastic eating utensils
- confectionery wrappers/chip packets
- cleaning cloths, used mops etc
- uneaten/leftover meals (not applicable to staff cafeterias)
- spent (dead) flowers/plants

Examples of General waste generated in CLINICAL areas include (items must not be heavily soiled with blood or bodily fluids):

any of the above, plus the following -

- nappies and incontinence pads
- clinical gowns (soiled)
- reused Kimguard
- sanitary napkins/tampons
- drained dialysis waste
- non-recyclable packaging
- any other sanitary waste resulting from the control of body fluids
- other wastes as directed by the Area Infection Control team

Monitoring of general waste occurs at the Waste Services Centres to detect the presence of unacceptable components of our general waste, such as inappropriate disposal of Clinical Waste. These waste centres and associated transfer stations are not licensed to receive clinical, Cytotoxic, pharmaceutical, radioactive or sharps waste.

If any clinical or hazardous wastes are disposed of as general waste, the whole load will be segregated and transported to an appropriate licensed treatment facility. Breaches by the customer or transporters will incur substantial fines.

Segregation practices

General waste should be placed in semi-opaque white bags or designated colour coded mobile garbage (wheelie) bins or other non mobile bins that are provided in the work area.

Full waste bags should be transported to the nearest mobile garbage (wheelie) bin. Bags should be transported avoiding any body contact with the bag. Hands should never be placed in waste bags under any circumstances. Mobile garbage (wheelie) bins should be transported one at a time to avoid manual handling injuries. Bins should be transported in a safe manner at all times and should be transported via non-public routes where possible.

Storage and collection

General waste is stored in bins/compacted at the waste holding area. An Area appointed waste contractor collects the bins/compactors on a scheduled basis or as required and transports the contents to a licensed waste transfer station for landfill.

Cost of disposal

The cost of disposing general waste is in accordance with the current contract price and is generally five (5) times lesser than for Clinical waste disposal.

Clinical Waste

Clinical waste is waste that has the potential to cause sharps injury, infection or offence. When segregated and disposed correctly in appropriate solid yellow containers, there is virtually no public health significance.

Types of clinical waste: *(Refer to PD 2005_132)*

- Sharps
- Human tissue *(excluding hair, teeth & nails)*
- Bulk body fluids and blood
- Visibly blood stained body fluids and visibly blood stained disposable material and equipment
- Laboratory specimens and cultures
- Animal tissues, carcasses or other waste arising from laboratory investigation or for medical or veterinary research unless treated by a method approved by the Director General of NSW Health

Segregation practices

Clinical waste should be segregated and disposed of in yellow lockable mobile garbage (wheelie) bins/containers which are appropriately placed in all clinical areas. Immediate segregation and disposal of clinical waste should occur at the point of generation. Clinical waste should be disposed of into the designated yellow plastic bag or bin. Correct identification of clinical waste is essential as it costs five times the amount of general waste to dispose. However, if the waste classification (from a clinical area) is unclear it is advisable for the employee to dispose the waste as clinical waste.

Double handling of waste should be avoided at all times and bins should never be overfilled. Plastic liners placed by the waste contractor should never be adjusted, as these have no significance except for the waste contractor.

Where bags are utilised to contain clinical waste, these must be the approved yellow bags with the appropriate international recognised bio hazard symbol in black, as illustrated in NSW MoH Waste Management Guidelines for Health Care Facilities, August 1998.

Bags should be:

- Securely fitted to receptacles or pedal operated bag holders. These are fitted so that sufficient space is left to tie the bag without compacting or disturbing the contents. Handling of bags whilst transferring to the yellow mobile garbage (wheelie) bin should be done avoiding body contact.
- Drainage bags with tap attachments should be drained of body fluids by emptying in the sluice in the utility rooms *(drainage bags that don't have tap attachment should not be cut into or manipulated but must be emptied full).* Extreme care should be taken when undertaking this procedure and appropriate PPE such as gloves, goggles and aprons must be worn to minimise hazards associated with splashes.

Waste handling and transportation

Mobile garbage (wheelie) bins containing clinical waste must never be overfilled and handled with care due to the infectious nature of the waste. Protective apparel should be worn when transporting these bins.

Mobile garbage (wheelie) bins should be locked and transported one at a time to the holding area. The waste transporters should use non-public routes to transfer the waste and should check for any spillages that may occur.

Clinical waste spill kit

Areas that generate clinical waste must risk assess to determine if department spill kits are required.

Sharps Waste (Clinical)

Any object capable of inflicting a penetrating injury, which may or may not be contaminated with blood and or body substances. This includes needles and any other sharp objects or instruments designed to perform penetrating procedures.

Sharps disposal and responsibility

The WHS legislation requires employers and workers to maintain a safe working environment. Accordingly, it is hospital policy that the person who uses any sharp object capable of inflicting a penetrating injury is responsible for its safe disposal.

New legislations require health facilities to accept needles and syringes from the community for disposal (free of charge).

External organisations requesting disposal of large volumes of needles and syringes may be charged and should be informed of the appropriate waste contractor for future collection.

Segregation practices

Sharps should be disposed of in approved yellow sharp container that meets AS/NZS 4261:1994 or AS/NZS 4031:1992 depending on if reusable or disposal system and should only be filled to the marked line. The container should be sealed in accordance with manufacturers guidelines. Full disposable sharp containers are to be sealed and placed in the appropriate designated storage area and transported to a lockable area awaiting collection

Cytotoxic & Related Wastes

Related waste is waste that has the same risks as clinical waste and present health risks to the environment and the wider community. Related waste includes:

- Cytotoxic waste
- Pharmaceutical waste
- Recognisable Body Parts

Cytotoxic waste

Cytotoxic waste means material contaminated with residues or preparations containing materials that is toxic to cells, principally through action on cell reproduction. This includes any residual Cytotoxic drug and any discarded material associated with the preparation or administration of Cytotoxic drugs.

Cytotoxic Segregation practices

Cytotoxic waste including materials and personal protective equipment should be carefully disposed of in approved purple bags with the waste symbol (denoting a cell in telophase), sealed and taped at the neck of bag. These should be placed in the purple wheelie bin and stored for collection away from public view. General Services staff remove the bin as required.

Sharps (Cytotoxic)

Any object capable of inflicting a penetrating injury, which may or may not be contaminated with blood and or body substances. These include needles attached to Cytotoxic syringes, scalp vein sets, intrathecal and intra-cavity stylets, Cytotoxic contaminated bottles and ampoules. Other sharp objects or instruments designed to perform penetrating procedures.

Sharps used for Cytotoxic drug administration should be disposed of in the approved “purple sharps container” and should only be filled to the marked line. The container lid should be placed carefully over the opening of the container to seal the contents. Disposable sharp containers should be placed in the purple mobile garbage (wheelie) bin and the reusable sharp containers should be stored in an area away from public view.

Cytotoxic spill kit

Facilities should manage waste spills as they occur. Personnel involved in spill management should be trained in emergency spill procedures and handling requirements. Spill kits and appropriate PPE should be readily available in areas where Cytotoxic substances are used or stored. If a cytotoxic spill kit is used it must be disposed of in a cytotoxic bin.

Pharmaceutical Waste

Consists of pharmaceuticals or other chemical substances specified as regulated goods in the Poisons and Therapeutic Goods Act 1966. This includes any substance that is specified in a Schedule of the Poisons List under that Act, as well as any therapeutic good, which is unscheduled.

Pharmaceutical waste includes:

- Expired and discarded drugs
- Pharmaceutical waste generated in manufacture
- Filters, laminar flow cabinets and packaging contaminated by pharmaceutical products

Segregation practices

Pharmaceutical waste should be placed in the Purple wheelie bin, which is used for Cytotoxic waste. These bins should be kept locked and kept in a secure area whilst awaiting collection by the contractor. The disposal process is by incineration.

Recognisable Body Parts

These are parts of the human body that can still be recognised including products of conception *(excluding teeth, hair and nails).*

Segregation practices

This waste must be disposed of in a Burgundy wheelie bin and transported to a secure waste storage area for collection by the WSLHD contractor.

Storage and transportation

Cytotoxic, pharmaceutical and body parts are stored in the clinical waste storage area. This is kept secure till such time as collection occurs by the WSLHD waste contractor.

Hazardous Waste

Hazardous Chemicals disposal

Examples of hazardous chemicals within health are: formalin, petrol chemicals, cleaning agents, acids etc.

The cost of disposal will be billed to individual departments that have generated the waste. Quotes for disposal are to be organised through the WLSHD Environmental Sustainability Coordinator.

Labelling & Recording

When disposing of hazardous chemicals in a container that is not the original container, the container must be adequately labelled as prescribed in the Code of Practice Managing the risks of Hazardous Chemicals in the workplace .

Liquid Wastes

Liquid Waste is defined as waste material that is determined to contain “free liquids” and separated from the solid portion of waste under ambient temperature and pressure.

Liquid wastes includes grease trap waste, used lubricating oil and waste normally discharged to the sewer.

Grease trap procedures

Grease traps procedures should be in place to ensure grease traps are maintained in accordance with Sydney Water’s standards, these include:

Grease traps should be adequate for the collection of all grease wastes, and are operating and maintained at maximum efficiency to reduce vermin infestation;

Vegetable cut-offs, scraps and/or similar waste should be prevented from entering the waste water stream by installing fine screens to sumps, plus other work practices.

Grease trap disposal and recording procedures

- All facilities in WSLHD are to use the services of an area appointed general waste contractor for the disposal of liquid waste
- All facilities are to ensure that their grease traps are adequate for the collection of all grease wastes, operating, maintained at maximum efficiency and prevents the harbourage for vermin
- Facilities are to retain all relevant dockets and records concerning collection services from the appointed waste contractor
- Facilities are to provide appropriate supervision of the contractor to ensure correct procedures for the removal of grease trap waste are complied with
- The process of "de-watering" is not permitted and facilities requiring guidance should consult with the Sydney Water’s, Trade Waste Section.

Batteries

Discharged batteries that contain elements of acids, cadmium and ni-cad are toxic and should not be disposed of in the normal general waste stream.

Large discharged batteries should be disposed of through an external contractor. This can be organised through the facility BioMedical Unit. Please refer to this link for more details.

Alkaline batteries (AA, AAA, D, C etc) – currently there is no provision for the separate capture of these batteries for recycling purposes. Until such time as an alternative service is available, it is safe to dispose of these in the General Waste Stream.

Tender specifications for the purchase of batteries should include suppliers/manufacturers return policies, so that the supplier/manufacturer can collect discharged batteries. This will reduce the high costs associated with waste-to-landfill disposal.

Radioactive Waste

Radioactive waste is material contaminated with radioactive substances which arises from medical or research use of radionuclides. It is produced for example, during nuclear

medicine, radio immunoassay and bacteriological procedures and may be in a solid, liquid or gaseous form and be included in the body waste of patients under treatment. At WSLHD, radioactive waste is only generated at Westmead.

Segregation practices

Material is handled after consultation with the hospital's Radiation Safety Officer. Scintillation waste is removed as hazardous waste after transfer to radioactive waste store. Transfer arrangements should be made through the hospital's Radiation Safety Officer (contact Med Physics on your campus). Under the NSW POEO Act, solid radioactive waste may not be sent to landfill and has to be stored in-house until no longer legally radioactive. Radioactive waste found in treated patients body waste should be disposed following local departmental procedures.

Radioactive Spill procedure

1. Evacuate all personnel from the immediate area
2. Contact the Radiation Safety Officer in Medical Physics
3. Restrict access to the area, if possible contain the spill
4. Await instructions from Radiation Safety Officer -in-charge
5. Record incident on the Radiation Safety Form and an IIMS Staff, Visitor, Contractor form.

Additional information regarding Radiation waste can be found on the WHS Unit Intranet site.

Bio Hazard / Genetically Modified Waste

This waste is genetically manipulated biological material, includes any material used in the construction and or propagation of Genetically Modified Organisms (GMOs). GMOs can be viroids, viruses, plasmids, cells and other organisms (including animals). GM material may be solid or liquid and may derive from clinical or research applications.

Segregation & transport practices

Guidelines for handling GMOs are developed by the Office of the Gene Technology Regulator (OGTR: www.ogtr.gov.au) in accordance with the Gene Technology Act 2000. All uses of GMOs must be assessed and approved by the local responsible Institutional Bio-Safety Committee (IBC) prior to any work being carried out. Depending on their level of hazard, GMOs are dealt with in facilities of varying physical containment (PC level).

GMO waste from PC2 facilities should be segregated into bins suitable for autoclaving, lined with autoclave bags. These bins must be supplied with tight fitting or lockable lids for transport. Transport of waste to the site of autoclaving must be in accordance with the Guidelines for Transport of GMOs published by the OGTR.

Should a spill of GMO waste occurs in transit to the site of autoclaving the spill must be chemically disinfected and cleaned up immediately. This disinfection and clean up must only be performed by an appropriately trained person (PC2 trained), and not by staff from General Services. A written report of the incident must be lodged with the IBC.

Disposal methods

Preferably, GMO waste from PC2 facilities should be sterilised on site by steam autoclaved and temperatures must reach 121°c for 20 minutes. Once autoclaved the waste should be disposed of as clinical waste. Where no autoclave facilities exist, GMO waste can be disposed of in a Cytotoxic (purple) waste bin to ensure high-temperature incinerated. However, this waste must be stored in a secure facility in a locked waste bin prior to incineration. Waste from a PC3 facility must be autoclaved within the facility and then be disposed of as clinical waste.

Microbiological Waste

Microbiological waste is created by microbial or tissue cultures and may be autoclaved by the user depending on the type of hazard before disposal into the contaminated waste stream. GMO microbiological waste must be treated a biohazard waste.

Trade Waste

Trade Waste is a type of inert waste which consists of virgin excavated natural materials such as clay, gravel, sand, soil and rock that are not mixed with any type of waste. Building and demolition wastes such as bricks, concrete, metal, timber are also included in this stream. These wastes must be free from asbestos or any form of contamination.

At writing, mattresses are to be discarded in trade waste bins. The LHD is charged per unit for removal of mattresses and is currently exploring options in recycling.

Broken glass

Uncontaminated broken glass or small items (e.g. < 500-ml beaker) should be placed in an AS/NZS 4031:1992 approved sharps containers. Large amounts of glass should be carefully wrapped, labelled and stored appropriately in designated waste holding areas and disposed of as trade waste or general waste if more convenient.

Contaminated glass

Contaminated broken glass should be safely placed in an AS4031-1992.approved sharp containers

Fluorescent tubes

Fluorescent tubes should be safely disposed of. Please contact your facility's Maintenance Department for correct disposal bin.

Asbestos

Asbestos disposal is not covered under this policy. Refer to the WSLHD WHS Unit or facility Maintenance Department for assistance.

Recyclable Products

Recyclable Waste is items that have the capability to be reused or reprocessed for reproduction.

Segregation and disposal

Recyclable waste should be segregated and disposed of in appropriate coloured wheelie bins (see below). These are collected and stored in the waste area until collection by the waste contractor. Recyclable waste is transported to recycling plants (materials recovery facilities):

Packaging and Paper – all types of coloured or non-coloured paper, index cards, magazines, newspaper, manila folders and hardbound manuals, stapled documents are acceptable. These items should be disposed of in orange-lidded green wheelie bins

Cardboard – all types of non-waxed cartons/cardboard, e.g. egg containers, cereal packaging, stationery boxes, photocopy paper boxes, medical provision boxes etc. All cardboard boxes should be flattened and neatly stacked, then placed beside the orange-lidded mobile garbage (wheelie) bin *(not to be placed directly in mobile wheelie bin)*. Smaller packaging may be flattened and placed directly in the in orange-lidded green wheelie bins. All cardboard boxes to be stored in designated collection points within the work area. The General Services Staff collect and transfers these to the waste area. The cardboard is then compacted or dissembled by the hospital staff ready for collection by the waste contractor

Mixed (Commingled) recycling products:

Plastic Products - plastic products that have a recyclable symbol is a recyclable product. These including PET, HDPE, LDPE bottles, milk containers, etc. Acceptable clean recyclable products should be placed in the yellow-lidded green wheelie bins (commingled bin). The General Services Staff collect and transfers these bins to the waste area where they are stored for collection by the waste contractor (do not place paper/cardboard in this bin). Some sites may have bins with a blue lid or other colour, check with your local General Services Department for the correct bin. If your department does not have a commingled recycling bin, then please ask your General Services Department to order one for you.

Glass Waste - all types of unbroken cleaned glass/bottles are recyclable and should be placed in the yellow-lidded green wheelie bins (commingled bin). Acceptable clean recyclable products should be placed in the yellow-lidded green wheelie bins (commingled bin). If possible, any labelling should be dislodged and disposed of into general waste. Broken glass should be wrapped and marked as such and left in the dirty utility room to be disposed of as trade waste

Aluminium - aluminium cans are placed in the yellow-lidded green wheelie bins (commingled bin) for collection

Phones - out dated or broken mobile phones and communication equipment can be recycled. Take phones to designated E-Waste collection points.

Toner Cartridges - toner printer cartridges are recyclable and should be placed in a cardboard box marked as such. These can be returned to the nominated officer designated within your facility.

Furniture- furniture may be recycled within the LHD by alerting the Environmental Sustainability Coordinator. Furniture that meets WHS standards will be advertised on the

Environmental Sustainability intranet site. Furniture that may not be suitable for continued use in Health may be recycled through means such as auctions or donations. Contact the Environmental Sustainability Coordinator for assistance.

Confidential Waste

Under the NSW Privacy Laws, an organisation must take reasonable steps to protect the personal information it holds from misuse and loss and must take reasonable steps to destroy or permanently de-identify personal information if it no longer needed (refer NSW Privacy Acts).

Waste is classified as “confidential“ if the contents of the material or document contain sensitive information that may breach confidentiality, cause undue stress to an individual or embarrassment to the organisation. These documents should be disposed of as “confidential waste”. However, documents/records cannot be disposed of without appropriate authorisation (refer to WSLHD Policy on Corporate Records Management)

Confidential material/data should be disposed of in a locked bin/ container or shredded only in accordance with the WSLHD Policy on Corporate Records Management and associated Procedure for Management of Administrative Records and Procedure for Management of Health Care Records.

Shredding is not cost effective if more than 10 x A4 pages need shredding per day.

Confidential DVDs and CDs must be also disposed following NSW Privacy Laws. This can be arranged by contacting the WSLHD Environmental Sustainability Coordinator.

Collection and Disposal

Confidential documents are shredded under secure measures and the shredded material is sent for recycling. The waste contractor must provide a destruction certificate to the facility as proof of destruction. These certificates are held in the General Services Department of each facility for safekeeping and may be accessed if required.

Health facilities requesting the destruction of large volumes of archived documents, electronic/magnetic media items, optical media items, hard drives, non-electronic and non-paper media item (such as videos, x-rays, microfiche, etc.) should make arrangements through the General Services Department at the relevant site (refer Section 8.2 Waste Contacts) once appropriate authorisation for destruction is received (refer to Policy on Corporate Records Management).

Cost of Disposal

As per contract price, currently charged by number of bins (not its content). For DVDs and CDs a quote will be obtained and is to be paid for by the cost code requiring the disposal.

Organic Products

This includes wood, garden, food, vegetable and natural fibrous material waste and bio-solids, which are capable of composting or could be used to enhance lawns /gardens.

Segregation practices

Some facilities may utilise pulping equipment for their food waste. The food waste should be segregated and disposed of in the solid BLUE wheelie bin. Food waste from patient trays contains a small amount of paper, which is acceptable for recycling.

Food waste that is not pulped and is biodegradable is also placed in the blue mobile garbage (wheelie) bin or where available compost bins should be used.

Kitchen waste that is not suitable for pulping, non-biodegradable and is not recyclable should be disposed of in the general waste stream. Shrubs should be shredded and utilised for compost where possible.

Handling and Disposal

Each unit should have procedures in place that aim to minimise waste handling. Handling and disposal of recyclable vegetable waste should be as efficient as possible and disposed of in mobile garbage (wheelie) bins. The bins should only be half filled and be removed from the area as required to avoid odours.

Wheelie bins must be cleaned with neutral detergent after collection before reuse in the kitchen area.

Recycling Disposal Costs

All recyclable waste is disposed of without charge, however, when recycling is contaminated, fines to the LHD can apply.

E-Waste

E-Waste includes end-of-life electronic equipment, such as televisions, computers, mobile phones, stereos and small electrical appliances (but not whitegoods). Managers of departments are expected to co-ordinate movement of any E-Waste to the collection points.

Table 2: WSLHD E-Waste Collection Points

Auburn Hospital	General Services Waste Holding Room
Blacktown Hospital	Near the back of Maintenance
Cumberland Hospital	Collection point at Information Technology Services
Mount Druitt Hospital	Compactor area
Westmead Hospital	Collection point at Westmead Bio Medical opposite Dock 6
Community Health	Facility disposal rooms

Demolition and Construction Materials

Any demolition or construction works at WLSHD must consider if it is possible to re-use building material for the proposed construction.

Managers of demolition or construction projects must demonstrate project management which seeks to:

- re-use of excavated material on-site and disposal of any excess to an approved site;
- green waste is mulched and re-used in landscaping either on-site or off-site;
- bricks, tiles and concrete re-used on-site as appropriate, or recycled off-site;
- plasterboard re-used in landscaping on-site, or returned to supplier for recycling;
- framing timber re-used on-site or recycled elsewhere;
- windows, doors and joinery recycled off-site;
- plumbing, fittings and metal elements recycled off-site;
- all asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with Safe Work NSW and EPA requirements;
- locations of on-site storage facilities for material to be reused on-site, or separated for recycling off-site; and
- destination and transportation routes of all materials to be either recycled or disposed of off-site.

Pharmaceutical Waste

Pharmaceutical waste awaiting disposal should be stored in the same manner as pharmaceuticals in use. Pharmaceutical waste should be placed in non-reactive containers and should not be discharged to the sewer or any process where they may find their way into the environment.

Pharmaceutical cytotoxic waste should only be disposed of in purple cytotoxic bins.

120 L/ 64 L RED bins should be used for collection of partially empty glass vials, hard capsule or tablet medication, broken ampules or drawing up needles.

Waste Tracking and Monitoring Systems

Key Performance Indicators

Key Performance Indicators (KPI's) have been developed and benchmarks have been established to measure waste performance, these tools include:

- recycling percentages to monitor performance
- occupied bed days "OBD" to measure (kg and cost per patient)
- The data is monitored and analysed by the Environmental Services Business Review Group to ensure that continuous improvement is made in waste management.

Segregation Audits

Waste audits are conducted to monitor waste performance and compliance to legislative requirements. These may be completed by General Services Managers, the Environmental Sustainability Coordinator or contracted persons from various waste companies.

Random segregation audits are performed by cutting open waste bags and checking the contents for correct segregation.

Segregation audits determine the accuracy of waste segregation at the department level and provides feedback to General Services management and departments on performance.

Audits should be conducted by observing the following:

- well-ventilated area
- trained personnel to perform the audit
- appropriate equipment to handle waste
- appropriate PPE (Personal Protective Equipment)
- disposal sheeting to separate waste streams
- reporting document
- Following completion of audit, waste must be safely disposed of in correct bins.

Waste Education Sessions and Promotional Activities

WSLHD workers are provided with ongoing training and education in Waste Management principles to ensure that correct segregation practices and correct disposal methods are known and adhered to.

New Workers

New WSLHD workers are required to complete the HETI Online course: Waste Management as part of their orientation.

Existing Workers

Existing workers are kept informed and are provided with waste updates through the Environmental Sustainability Intranet website, broadcasts messages and through specially designed in-services in their respective work areas. Waste promotional programs are conducted from time to time across WSLHD and workers are encouraged to participate.

General Services Staff

Workers who regularly perform duties involving the collection, handling and transporting of waste are provided with a competency based training program to ensure that waste is handled in a competent and safe manner.

The waste handlers training program is designed to educate workers to carry out their duties in a safe manner.

The training module includes:

- Safe handling and transportation of waste
- Correct lifting and manual handling techniques
- Immunisation and vaccination programs
- Use of protective equipment
- Safe work practices
- Correct hygiene procedures
- Reporting requirements associated with waste incidents
- Safe operation of waste equipment and transport vehicles
- Waste segregation and tracking systems
- Spillage procedures
- Spill kits and cleaning equipment

Waste Contracts and Tenders

The Clinical & General Waste contracts are awarded on a 3-year contract with a 2-year option. Specifications are reviewed prior to the expiration date of the waste contracts. These are updated to ensure that WSLHD requirements are met. Annual evaluations are conducted with the waste contractors to ensure that their services are carried out in accordance with the specifications specified in the tender. Officers of WSLHD are nominated as members of the tender committee and approve tenders. The Contractors must provide on- going reports to meet the GREP (Government Resource Efficiency Policy) reporting requirements.

For the list of current WSLHD waste contractors visit the Environmental Sustainability Intranet site.

Clinical Waste Contract

NSW Health Support Services coordinates the tender process for the disposal of Clinical and related wastes contract. The clinical waste disposal contract includes the follow waste:

- Clinical and Related Wastes
- Cytotoxic
- Body parts

Sharps are a separate contract controlled by DSTA.

General Waste Contract

Health Share coordinates the Integrated Waste Contract (9698). The Integrated Waste Contract includes the following waste for disposal and reproduction:

- General Waste
- Recyclable waste
- Clinical Waste
- Security document destruction

Local Service Agreements need to be negotiated in order for the following waste streams to be provided, preferable as part of the above contract, if not, a separate contract is needed:

- Grease Trap Waste
- Food Waste
- Trade Waste
- Hazardous waste
- Scrap Metal

For all current waste service providers, please refer to the Environmental Sustainability Intranet site.

Home Health Care Waste – Clinical

This section applies to those who provide home healthcare on a professional basis. While the patient is under the care of a professional health care provider and clinical/related wastes is generated, then waste should be managed in accordance with the Industry Code of Practice for the Management of Clinical and Related Wastes *(5th edition 2007)*.

Clinical Wastes

Clinical waste is defined as having the potential to cause injury, infection or offence. Clinical waste includes dressings and disposable linen, which is heavily soiled with blood and body fluids. If a small amount of clinical waste is generated (e.g. dressings) in the home environment, this should be wrapped or secured and mixed with other waste and disposed of through the normal household waste stream. If there is a considerable amount of clinical waste, this should be placed in the approved yellow clinical waste bag, secured and transported to the nearest hospital site by the health provider. This is then disposed of as clinical waste.

Segregation practices

Sharps should be deposited into containers that comply with the relevant Australian Standard. (AS/NZ4031) - Yellow rigid containers with the biohazard symbol for disposable sharp containers and, (AS/NZ 4261) for reusable sharps containers.

Health carers have a duty of care to advise clients of safe disposal of sharps/ needles that are used within the home. Clients should be encouraged to dispose their sharps through local council exchange programs or at the nearest hospital facility. This will eliminate the safety risks associated with disposal of needles in the normal household waste.

Waste handling and transport

Vehicles transporting sharps containers should be fitted with a bracket or velcro strapping to secure contents to avoid movement and leakage whilst in transit.

Waste collected by the health provider must be transferred to the nearest health facility.

Clinical waste spillages- clean up bulk of spillage using appropriate PPE with disposable cloth/paper towel and dispose in yellow bag. Wash area with neutral detergent and shampoo carpeted area (spill kit should be kept in vehicle).

Other Health Service provision

Dental Clinics

Managers of Dental Clinics should be aware of the definition of Clinical Waste as contained in this manual in accordance with the Department of Health guidelines *(refer 9.2)*. Managers are responsible for the correct segregation of waste in their respective units and making staff aware of these.

Each dental clinic shall ensure that:

- General, clinical, confidential document destruction and recycling receptacles are provided in all areas of work
- Rigid sharp containers are provided for the containment of sharps
- Waste Storage areas are weatherproof and lockable whilst awaiting collection awaiting collection

Amalgam/Mercury

Mixing silver tin powder with liquid mercury makes dental amalgam. Amalgam is a repairing material used for tooth fissures and is formed in Dental Clinics by the use of single use alloy/mercury capsules. A small amount of amalgam waste is usually formed when a single use capsule is mixed.

The National Health and Medical Research Council recommends storing amalgam waste by immersing in used photographic fixer solution in an unbreakable screw top container and stored in a lockable cupboard in the Dental Clinic. A commercial metal recycling contractor collects these.

Amalgam restoration in extracted teeth should be recycled and therefore should not be disposed of as clinical or general waste. Amalgam restoration should be collected in a separate marked container prior to collection by an external contractor.

For further reference regarding Amalgam/ Mercury review GL2011_002 Dental Amalgam- Its Clinical Use and Disposal.

Mobile School of Dental Screening Services

It is required that personnel attending dental screenings should be provided with disposable gloves and paper towels and a waste bag to contain the waste. These bags should be transported to the dental clinic for disposal in the general waste stream.

HIV and Hepatitis C Prevention Service

Large community sharp disposal bins are located at Blacktown, Mt Druitt, and Westmead Hospitals as well as Doonside, Parramatta, Merrylands and Auburn Community Health Centres. These are available for use to all those community members who are injecting drugs for any reason.

The Sharps/Clinical waste contractor empties these bins on a contractual basis.

The HIV and Hepatitis C Prevention Service operates a “clean up” service, whereby known “hot spots” in the community are regularly patrolled and any sharps found are collected using an “easy reach” tool, and disposed of into a yellow sharps container. This sharps container is then deposited into the large yellow sharps bin at the appropriate Community Health Centre.

The HIV and Hepatitis C Prevention Service also respond to Needle Hotline (1800 needle) calls made by community members. When a community member calls the Needle Hotline to report discarded sharps, Hotline staff contact the closest HIV and Hepatitis C Prevention Service and staff will go to the site to collect the sharps, which are then disposed of in the same manner.

A Safe Work Practice/Safety Rules for Safe Sharps Retrieval has been developed and must be followed by all staff whenever undertaking sharps retrieval.

FOR ALL OTHER WASTE STREAMS AND RECOVERY INITIATIVES, PLEASE REFER TO THE WSLHD INTRANET SITE AT THIS LINK:

http://wslhdintranet.wsahs.nsw.gov.au/Environmental-Sustainability/Environmental-Sustainability

Policy Requirements

All aspects of waste management as outlined in this policy must be followed.

Risk category: *Facilities & Assets Management*

Risk rating: *Low - Review in 5 Years*
(NSW Ministry of Health Risk Matrix is to be used to determine the appropriate risk rating)

Implementation Plan

National Standard:

Essentials of Care Domain *(clinical only)*:

Implementation Timeframe	*By 2017*
Author	*Mitchell Clancy*
Department Manager	*n/a*
Position Responsible	*n/a*
Brief description of the implementation strategy *(link to all resources available or developed)*:	
Process for monitoring and review of the implementation process:	

Education Notes

n/a

References

Waste References

- Waste Management Guidelines for Health Care Facilities, 1998 *(under review as of March 2016)*
- Infection Control Guidelines for Oral Healthcare Settings, GL2005_037*(NSW Health)*
- Radiation Safety Guidelines, 2005 *(NSW Health)*
- Cytotoxic Drugs & Related Waste - Safe Handling in the NSW Public Health System, 2008 *(NSW Health)*
- Glutaraldehyde in NSW Public Health Care Facilities, Policy & Guidelines for the Safe Use, 2005 *(NSW Health)*
- Protection of the Environment Operations Act, 1997
- Waste Avoidance and Resource Recovery Act, 2001
- Protection of the Environment Operations (Waste) Regulation, 2005
- Cytotoxic Drugs & Related Waste – Risk Management, 2008 *(NSW WorkCover)*
- Work Health and Safety Act 2011, Safe Work Australia

Waste Web-sites for further reference

- WSLHD Environmental Sustainability Website
- NSW Health -Waste Management Guidelines in Health Care Facilities
- Office of Environment and Heritage
- Safe Work NSW

Version History

Date	Version	Change details	Author
30.11.2016	1.0		
10.6.2010	2.0		Rita Granada
15.4.2016	3.0	Terminology changes, changes of relevant government body names, changes in legislation	Mitchell Clancy

Health
Western Sydney
Local Health District

Authorisation Sheet

Document Title: WSLHD Waste Management Policy			
Team Leader (TL) Name	Mitchell Clancy	Names of Team Members	Bruce Hampton
			Young-Hee Rieymer
			Raynelle Howat
			Arnel Krishna
			Debbie Ryan
Team Leader's Signature:			

Evidence of Consultation
All documents are required to identify anyone consulted during the process this must be clearly documented below.

Name	Position/Department/Facility
Mitchell Clancy	Environmental Sustainability/ Asset Systems & Sustainability
Bruce Hampton	General Services Manager/ General Services, Auburn
Young-Hee Rieymer	General Services Manager/ General Services, Cumberland
Raynelle Howat	General Services Manager/ General Services, Westmead
Arnel Krishna	General Services Manager/ General Services, Blacktown
Debbie Ryan	General Services Manager/ General Services, Mt. Druitt
Grace Abdini	Senior Clinical Pharmacist/ Mount Druitt Hospital

Name of Manager/Head of Department: KIM PAUL

Signature: _____ Date: 28/7/16

P&P Committee (Chairperson) Date: __/__/____

Name: _____ Signature: _____

General Manager / Director of Operations

Name: _____ Position: _____

Signature: _____ Date: __/__/____

Tier 2 Executive Director (if applicable)

Name: B MANGAN Position: _____

Signature: _____ Date: 9/8/16

WSLHD Chief Executive (LHD Policy)

Name: Danny O'Connor

Signature: _____ Date: 9 / 8 / 2016

Appendix I

Health
Western Sydney
Local Health District

broadcast

Waste Management Practices

A local commitment to environmental sustainability by Western Sydney has in the past been recognised by NSW Health. This has been part of the local culture. It is apparent however that waste management at its most operational level, i.e. within departments is conducted in an unsustainable and conventional manner that is contrary to the WSLHD Waste Management Plan and which is costing a fortune.

I object to diverting scarce funds from valued organisational objectives of patient care and service development to waste management practices that are archaic and unthinking.

Belle Mangan, WSLHD Manager Corporate Governance has requested Ms Rita Granata, Environmental Sustainability Co-ordinator for this LHD to ensure full implementation of the current Waste Management Plan.

General Managers and Service Directors are required to support Ms Granata by ensuring that General Service personnel comply with her instructions for resource renewal and replacement and changed waste management practice.

Rita's presence and leadership will be felt immediately. I expect organisational compliance with this directive. For further information about Waste Management Practices visit Sustainable Waste Management Home Page

Danny O'Connor
Chief Executive
Western Sydney Local Health District

Appendix II Facility Waste Report Template

WSLHD - FACILITY WASTE DATA TEMPLATE

Dept & Facility:	Auburn Hospital, General Services														
Quarter Ending:	(Month)	2013													
Type of Waste	Volume (kgs)	Cost ($)	Occupied Bed Days	Volume (kgs)	Cost ($)	Occupied Bed Days	Volume (kgs)	Cost ($)	Occupied Bed Days	Total Waste Volume (kgs)	Total Waste Cost ($)	Total Occupied Bed Days	Kg/pt	$/pt
Clinical Waste	0.00	$0.00	0	0.00	$0.00	0	0.00	$0.00	0	0.00	$0.00	0	#DIV/0!	#DIV/0!
General Waste 1 cubic metre = 98.5kg	0.00	$0.00		0.00	$0.00		0.00	$0.00		0.00	$0.00	0	#DIV/0!	#DIV/0!
Trade Waste 1 cubic metre = 98.5kg	0.00	$0.00		0.00	$0.00		0.00	$0.00		0.00	$0.00	0	#DIV/0!	#DIV/0!
Food Waste 240 ltr. = 25 kgs half full bin	0.00	$0.00		0.00	$0.00		0.00	$0.00		0.00	$0.00	0	#DIV/0!	#DIV/0!
Commingled 240 ltr = 28 kg per bin (full) 120 ltr = 14 kg per bin (full)	0.00	$0.00		0.00	$0.00		0.00	$0.00		0.00	$0.00	0	#DIV/0!	#DIV/0!
Cardboard 85kg or 65kg per bale depending on size of compactor	0.00	$0.00		0.00	$0.00		0.00	$0.00		0.00	$0.00	0	#DIV/0!	#DIV/0!
Paper Waste 240l = 25kgs per bin (full) 120l = 12.5kgs per bin full	0.00	$0.00		0.00	$0.00		0.00	$0.00		0.00	$0.00	0	#DIV/0!	#DIV/0!
Security Waste 240 ltr bin = 55 kgs 120 ltr full bin = 27.5 kgs	0.00	$0.00		0.00	$0.00		0.00	$0.00		0.00	$0.00	0	#DIV/0!	#DIV/0!
Total Volume & Cost										0.00	$0.00	0	#DIV/0!	#DIV/0!

Click in cell then on drop down arrow to choose facility

Click in cell then on drop down arrow to choose quarter and year

NB: Entries must be in kilograms IN DIGITS ONLY, using specified average weight when no weight given on invoice from supplier.
PLEASE FILL IN ALL YELLOW SHADED AREAS - DO NOT LEAVE A CELL BLANK USE THE DIGIT '0' TO INDICATE NIL.

Reports are due on the 20th of EVERY MONTH and are to be forwarded VIA EMAIL to Rita Granata - Thank you.

Figures for OBD can be found on Intranet link below - Choose Last 13 months in the left hand column & then click on your facility.

http://dashboard/dashboard/production/sap/webpages/sapframeset.htm

ALL COSTS ARE TO BE EX GST