

# *Waste Management Plan*

for Macksville Hospital Development

*State Significant Development*

*Application*

*State Significant  
Development  
Application*

*No.9103*

*April 2018*



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# ***1 Purpose***

The Waste Management Plan (WMP) has been prepared as part of the Macksville Hospital Development State Significant Development (SSD) application.

The Works will be undertaken by a Principal Contractor. All statements and proposals documented in this WMP are a guide only. At the time of contract award, the Contractor(s) will formulate their own WMP for the Works and ensure alignment with the legislation, health services requirements and project requirements. This WMP will be replaced by the contractor's WMP once appointed.

In preparation for the construction of the new Macksville Hospital which is the subject of this application, a separate external early works package is also being undertaken as part of the project under a separate planning approval process.

The external early works package comprises construction of an access road and bulk earthworks which is subject to a Development Application (dated April 2018).

The focus of this SSD is a new hospital comprising of a new Front of House, Emergency Department, Acute IPU, Sub-Acute IPU, Birthing and Maternity unit, Community Health Centre, Administration, Perioperative Services and Back of House.

# **2 Project Background**

## **2.1 Project Objectives**

The Macksville Hospital Development will deliver increased service capacity, contemporary models of care and align with broader Coffs Clinical Network (CCN) and Mid North Coast Local Health District (MNCLHD) services.

The objectives of the Macksville Hospital Development are:

- Deliver culturally appropriate services which meet the needs of the residents of Nambucca LGA that is characterised as having an ageing population, higher than NSW average Aboriginal population and low-socio-economic profile.
- Enhance Macksville District Hospital's role within CCN and play a key role in providing high volume low acuity perioperative services.
- Provide modern health care facilities delivering contemporary models of care and providing access to culturally appropriate spaces especially for the Aboriginal patients, carers and families.
- Provide integration of services across inpatient, ambulatory and community health to the population of the Nambucca LGA and provide services closer to home with the aim of reducing patient travel times.
- Macksville District Hospital identified as a preferred employer in regional NSW and strengthen partnerships with the Aboriginal stakeholders.

## **2.2 Scope of Works**

The Macksville Hospital Development comprises:

- Construction of a new three (3) storey building approximately 7,000m<sup>2</sup>, including the following services:
  - Front of House
  - Emergency services
  - Community Health services
  - Perioperative Services
  - Acute IPU
  - Sub-Acute IPU
  - Maternity and Birthing services
  - Back of House
  - Mortuary
  - Administration
- Provision of a new patient drop-off and ambulance bay at the entry to the Emergency Department;
- Provision of a new loading dock to service the Back of House; and
- Provision of a new on-grade car park.

The following engineering services will be provided within the new Macksville Hospital Development:

- Hydraulic services such as stormwater, roof drainage, sewer connections, water pumps, pipework, fire hydrant, gas meters and water storage tanks;
- Fire services such as sprinkler systems, isolation valves, pipework, fire alarm monitoring network and alarm signalling equipment;
- Mechanical and medical gas services such as air handling, smoke management, medical gas, medical breathing and oxygen services; and
- Electrical services such as MSBs, kiosk substation, building switchboards, distribution boards, generators, lighting, power, nurse call systems and UPS.

### ***2.3 Phasing Program and Key Milestones***

The key milestones for the Mackville Hospital Development include:

<b><i>Key Milestones</i></b>	<b><i>Date</i></b>
Construction commence	Q3 2018
Construction Complete	Q4 2020

# **3 Legislative Requirements**

The Works will be undertaken in accordance with the following legislative requirements relevant to the management of waste in New South Wales, and any others that must be complied with in carrying out the works as required:

- NSW Health – Waste Reduction and Purchasing Policy 2011-2014
- Waste Management Guidelines for Health Care Facilities
- NSW Occupational Health and Safety Act (2000)
- NSW OH&S Regulation (2001)
- Protection of the Environment Operations Act and Regulation
- Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA)
- Waste Avoidance and Resource Recovery Act
- Contaminated Land Management Act
- NSW EPA, 2014 – Waste Classification Guidelines
- NSW EPA, 2014 – The Excavated Natural Material Order
- NSW EPA, 2014 – The Excavated Public Road Material Order and The Reclaimed Asphalt Pavement Order
- NSW WorkCover, 2011 – How to Safely Remove Asbestos Code of Practice
- Australian Code for the Transport of Dangerous Goods by Road and Rail
- AS/NZS 4031:1992 (Non-reusable containers for the collection of sharp medical items used in health care areas)
- AS/NZS 4261:1994 (Reusable containers for the collection of sharp items used in human and animal medical applications)
- AS/NZS 3816:1998 (Management of clinical and related waste)
- AS/NZS 2161.10 Parts 1-3:2005 (Occupational protective gloves)
- AS/NZS 4123 Parts 1-7:2008 (Mobile waste containers)
- AS/NZS 2243 Part 3:2010 (Safety in Laboratories)
- RPS No.20 Safety Guide for Classification of Radioactive Waste (ARPANSA, 2010)
- Code for the Safe Transport of Radioactive Material (ARPANSA, 2014)

- Code of Practice for Radiation Protection in the Medical Applications of Ionizing Radiation (RPS14) (ARPANSA, 2008)
- Industry Code of Practice for the Management of Biohazardous Waste (including Clinical & Related Wastes) (WMAA, 2014)
- The Australian Council on Healthcare Standards (ACHS) EQUIPNational Guidelines Standard 15 (ACHS, 2012)
- Labelling of workplace hazardous chemicals Code of Practice (SafeWork NSW, 2016)
- Code of Practice: Hazardous manual tasks (SafeWork NSW, 2016)
- PD2008\_004 Community Sharps Disposal by Area Health Services
- PD2013\_043 Medication Handling in NSW Public Health Facilities
- Guideline for Approval of Method to Treat Clinical Waste
- PD2017\_013 Infection Prevention and Control Policy
- PD2017\_010 HIV, Hepatitis B and Hepatitis C - Management of Health Care Workers Potentially Exposed
- PD2007\_052 Sharps Injuries - Prevention in the NSW Public Health System
- PD2012\_061 Environmental Cleaning Policy
- Infection prevention and control practice handbook. Principles for NSW public health organisations (CEC, 2016)
- Environmental Cleaning Standard Operating Procedures. Module 3.4 Environment (CEC-HAI, 2012)
- Environmental Cleaning Standard Operating Procedures. Module 6 Cleaning Agents (CEC-HAI, 2012)
- Environmentally Hazardous Chemicals Act 1985
- Environmentally Hazardous Chemicals Regulation 2017
- Protection of the Environment Administration Act and Regulations
- Code of Practice for the Safe Removal of Asbestos (NOHSC:2002 (2005))
- Guide to the Control of Asbestos Hazards in Buildings and Structures (NOHSC:3002 (1998))
- Resource and Recovery Act 2001
- Environmental Planning and Assessment Act 1979
- Local Government Act 1993
- Soil Conservation Act 1938

# ***4 Waste Management Principles***

In accordance with NSW Health requirements for health care facilities, a WMP will be prepared for the site providing detailed information regarding the nature and volume of waste generated by the development and the means of storage and disposal of waste from the site. Waste management practices will adopt the principles of reduce, reuse, recycle, treat and dispose.

The major components of the waste management system will include:

- Avoidance
- Recycling and Reuse
- Segregation at the source
- Waste streams
- Handling and Storage
- Waste treatment
- Waste disposal
- Waste minimisation procedures and recycling practices is promoted throughout all health service facilities.

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## **4.1 Waste Avoidance**

The most effective strategy in the waste hierarchy is to avoid the generation of waste. Throughout both the operational and construction phase of the Project, the avoidance of waste can be achieved through a number of strategies, including but not limited to:

- Reducing materials brought to site through a thorough understanding of the design, operational requirements, required quantities and detailed project planning; and
- Inventory control, proper storage and management of materials to avoid waste from materials that are out of date or off specification and reducing the need to reorder supplies.

## **4.2 Waste Recycling and Reuse**

### **4.2.1 Construction Phase**

Where the generation of waste cannot be avoided, it is encouraged to promote the reuse and recycling of waste materials. This can be achieved through a variety of strategies, including but not limited to:

- Separating and segregating waste, particularly recyclable material from non-recyclable (Section 4.3);
- Proper disposal of recyclable waste such as glass, paper and aluminium; and
- Where possible, reusing materials and equipment in later stages of the construction phase and/or in different projects. For example, classifying excavated material as Virgin Excavated Natural Material (VENM) or Excavated Natural Material (ENM) to allow potential reuse off-site.

### **4.2.2 Hospital Operations**

Recyclable waste including paper, cardboard, glass, aluminium and plastics will be disposed of in separate bins. All toner cartridges will be recycled in appropriate containers, scrap metal will be recycled in the allocated metal skip bin.

## **4.3 Waste Segregation**

Segregation of various streams of waste is an important part of efficient waste management.

### **4.3.1 Construction Phase**

Where possible, waste such as excavated material will be separated on-site into dedicated bins and areas for reuse and/or collection by a licensed contractor. If separation is not possible on-site, the Contractor(s) shall organise the separation of waste off-site. Waste will be classified in accordance with the requirements of the NSW EPA (2014) Waste Classification Guidelines.

### **4.3.2 Hospital Operations**

Effective segregation can be best achieved through:

- Education and training to all personnel who generate waste;
- Reviewing of material composition (Safety Data Sheet) for waste classified as hazardous (e.g. hazardous chemicals and dangerous goods) to ensure that waste components are handled safely, including storage and disposal;
- Ensuring identifiable colour coding and labelling for waste streams in line with Tables 1 and 2;
- Providing suitable containers and bags in appropriate locations;
- Incorporating quick and efficient waste disposal methods into patient care procedures; and
- Ensuring all waste can be easily, safely and correctly segregated at the point of generation.

Colour coded (closed) mobile bins will be used to contain and transport waste. Bins will be provided by appointed contractor(s) on an exchange basis. Appointed contractor(s) shall utilise other containers such as cardboard boxes to collect paper & toner cartridge recycling and skip bins to collect scrap metal for recycling.

## ***4.4 Waste Streaming***




### ***4.4.1 Hospital Operations***

Hospital waste can be divided into a number of broad categories which are defined in the NSW Health Department's Clinical and Related Waste Management for Health Services 2017. The management, handling, labelling, containment, and where relevant, storage and transport for various waste streams generated by health services is summarised in Table 1 and 2, below.



Throughout both the operational and construction phase of the Project, organic and green waste that is biodegradable should be recycled where possible. Uses of organic waste include, but are not limited to, mulch or garden compost to enhance lawns and gardens. Where reuse is not possible, organic waste should be placed in blue mobile bins for regular collection by a licensed contractor.

Domestic wastes - such as non-biodegradable food scraps, bottles, cans and packaging – should be segregated into recyclables and non-recyclables at point of generation and collected by a licensed contractor.

**Table 1: Hospital Waste Streaming Categories**

Waste stream	Anatomical waste	Clinical sharps waste	Clinical waste (Incl. Pathological Waste)
<b>Definition</b>	Identifiable human body parts such as limbs, organs, placenta and recognisable or large pathological specimens resulting from investigation or treatment of a patient It does not include deceased bodies	Any clinical object capable of inflicting a penetrating injury which may or may not be contaminated with blood and or body substance. This includes needles, ampoules and any other sharp objects or instruments designed to perform penetrating procedures[1]  May contain clinical material or Genetically Modified Organism (GMO)[2] waste	Clinical waste with the potential to cause injury, infection or offence: <ul style="list-style-type: none"> <li>• Unrecognisable human tissue (excluding hair, teeth, nails and anatomical waste)</li> <li>• Bulk blood or other body fluids (or body substances)</li> <li>• Material and equipment visibly stained by blood or body fluids (includes incontinence pads and disposable nappies that come from an infectious patient)[3]</li> <li>• Lab specimens, cultures or other waste from lab investigations</li> <li>• Waste from medical or veterinary research</li> <li>• Genetically Modified Organisms (GMOs)</li> </ul>
<b>Bin colour</b>	Yellow	Yellow	Yellow
<b>Lid colour of bin</b>	Orange	Yellow	Yellow
<b>Plastic bin liners</b>	Orange	N/A	Yellow
<b>Labelling of bins and if applicable liners</b>	Anatomical waste	Clinical sharps	Clinical waste
<b>Symbol</b>			
<b>Symbol (description)</b>	Black biological hazard	Black biological hazard	Black biological hazard
<b>Label (if containing viable PC1 or PC2 GMOs)</b>		Contains GMOs	Contains GMOs
<b>Specific requirements</b>	For incineration only	For incineration or autoclaving and shredding Sharps containers must be rigid-walled and meet the requirements specified in AS/NZS 4031 and AS/NZS 4261[4,5] Autoclave tape and bag indicators must be used to show autoclaving has been completed	For incineration or autoclaving [6] and shredding. Autoclave tape and bag indicators must be used to show autoclaving has been completed. Fluid may be able to be discharged into sewer depending on Liquid Trade Agreement between the health service and water utility All clinical waste once treated by a process acceptable to NSW Health[7] may be reclassified in accordance with the Waste Classification Guidelines[8] before recycling or disposal There are special precautions regarding disposal of waste related to cases of viral haemorrhagic fever[9]
<b>Relevant Act/Regulation /Australian Standard</b>	AS/NZS 3816:1998 Management of clinical and related waste AS/NZS 4123:2008 Mobile Waste Containers	AS/NZS 3816:1998 Management of clinical and related waste AS/NZS 4123:2008 Mobile Waste Containers <i>Protection of the Environment Operations Act 1997</i> <i>Protection of the Environment Operations (Waste) Regulation 2014</i>	AS/NZS 3816:1998 Management of clinical and related waste AS/NZS 4123:2008 Mobile Waste Containers <i>Protection of the Environment Operations Act 1997</i> <i>Protection of the Environment Operations (Waste) Regulation 2014</i>
<b>EPA licence requirements</b>	No	No	No

**Table 2: Hospital Waste Streaming Categories**

Waste stream	Cytotoxic waste	Pharmaceutical waste	Radioactive waste
<b>Definition</b>	Material contaminated with residues or preparations containing materials toxic or otherwise harmful to cells. This includes any residual cytotoxic drug or laboratory chemical and any discarded material or clinical waste associated with the preparation or administration or excretion of cytotoxic drugs May include Genetically Modified Organisms (GMOs) or tissues containing GMOs	Pharmaceuticals or other chemical substances specified as regulated goods in the Poisons and Therapeutic Goods Act 2008. Includes any substance specified in a Schedule of the Poisons List under the Act, as well as any therapeutic good which is unclassified Includes expired or discarded pharmaceuticals, filters or other material contaminated by pharmaceutical products	Waste material, including sharps and clinical waste contaminated with a radioisotope which arises from the medical or research use of radionuclides, e.g. during nuclear medicine, radioimmunoassay and bacteriological procedures, and may be in solid, liquid or gaseous form, and which emits a level of radiation above the level set by regulatory authorities
<b>Bin colour</b>	Purple	Red	Red[1]
<b>Lid colour of bin</b>	Purple	Red	Red
<b>Plastic bin liners</b>	Purple	N/A	Red
<b>Labelling of bins and if applicable liners</b>	Cytotoxic waste	Pharmaceutical waste	Radioactive waste plus specific requirements below
<b>Symbol</b>		Nil	
<b>Symbol (description)</b>	White telophase	Nil	Yellow background with distinctive 'trefoil' symbol in black and the lettering 'CAUTION RADIATION' in black
<b>Label (if containing viable PC1 or PC2 GMOs)</b>	Contains GMOs		
<b>Specific requirements</b>	For incineration only Collection, transport and handling only by licensed and registered waste management companies	Storage, destruction and disposal methods must comply with PD2013_043 Medication Handling in NSW Public Health Facilities[2] Pharmaceutical waste must be incinerated at a licensed controlled waste facility. Certain pharmaceuticals may only be destroyed by authorised persons under the <i>Poisons and Therapeutic Goods Act 1966</i> [3] Pharmaceutical waste bins must be lockable	Radioactive material to be stored on-site in appropriate storage area until it decays to below the thresholds of a "radioactive substance" as defined under the Radiation Control Act and Regulation Waste is to be classified with reference to the Safety Guide for the Classification of Radioactive Waste[4] and in accordance with the EPA Waste Classification Guidelines[5] Radioactive waste must be labelled with the substance, activity level and the date at which it is measured Handling and storage to comply with a Radiation Management Plan in accordance with the Code of Practice for Radiation Protection in the Medical Applications of Ionizing Radiation (ARPANSA 2008)[6] Radioactive sharps – see page 9 [7] When radioactive waste is to be transported, health services must comply with the Code of Practice for the Safe Transport of Radioactive Material (ARPANSA 2014)[8]
<b>Relevant Act and Regulation</b>	AS/NZS 4123:2008 Mobile Waste Containers <i>Protection of the Environment Operations Act 1997</i> <i>Protection of the Environment Operations (Waste) Regulation 2014</i>	<i>Poisons and Therapeutic Goods Act 1966</i> <i>Poisons and Therapeutic Goods Regulation 2008</i>	AS/NZS 4123:2008 Mobile Waste Containers <i>Radiation Control Act 1990</i> <i>Radiation Control Regulation 2013</i>
<b>EPA licence requirements</b>	No	No	Yes - Waste Classification Guidelines Part 3: Waste containing radioactive material (EPA, 2014)

## **4.5 Waste Handling and Storage**

### **4.5.1 Construction Phase**

Storage locations of waste will be planned to consider the changing nature of the site and construction phases. It is important to provide clear signage to mark the location of different types of waste and materials.

Stockpile management strategies include, but are not limited to:

- Locating stockpiles in designated, marked areas and away from drainage lines and up-slope of sediment barriers;
- Locating stockpiles on hardstand surfaces or on plastic sheeting, and covering stockpiles or stabilising surfaces to reduce erosion; and
- Maximum stockpile height of 2 m.

Where applicable, liquid wastes will be stored in bunded areas protected from the weather. Containers will be labelled with name of the waste stream, composition and physical state, restricted properties and date of storage to ensure safe handling and management procedures are met.

### **4.5.2 Hospital Operations**

Full contaminated clinical waste will be stored in designated lockable mobile bins which will be provided in all inpatient unit and clinical departmental dirty utility rooms. The size of storage facilities will be determined according to the volumes of waste generated.

Designated mobile bins for general (dry) waste will be provided in departmental equipment or disposal rooms according to the volume generated. Wet waste will be deposited directly into mobile bins and removed from the kitchen at regular intervals.

Tamper proof reusable wall or trolley mounted containers for sharps will be provided in all clinical areas and public toilets for the disposal of sharps. Filled containers will be held in the inpatient unit and other departmental disposal rooms for collection as part of the clinical waste stream. Filled containers are held in inpatient unit and other departmental disposal rooms, for collection as part of the clinical waste stream.

Designated lockable mobile bins will be provided to those inpatient units and other departments generating cytotoxic waste. Bins will be located in dirty utility and disposal rooms according to the volume generated.

## **4.6 Waste Treatment**

### **4.6.1 Construction Phase**

It is intended that no waste is treated on-site. Treatment of construction and general waste will be performed by a licensed contractor after proper removal of waste off the project site.

### **4.6.2 Hospital Operations**

Liquid trade waste will either be pre-treated prior to discharge to render it safe, or will be contained in sealed, covered and bunded drums for disposal by an

appropriate trade waste disposal contractor. Treatment systems, pits and associated apparatus will be developed with regard to local authority requirements.

Prior to discharge into the sewer system, chemotherapy waste water discharges are to be treated strictly in accordance with guidelines issued in the following publications:

- NSW Department of Health Waste Management Guidelines for Health Care Facilities, 1998.
- EPA Environmental Guidelines Classification and Management of Liquid and Non- Liquid Waste.

## ***4.7 Waste Disposal and Transport***

### ***4.7.1 Construction Phase***

Waste that cannot be recycled and/or reused will be disposed off-site by a licensed contractor to a licensed landfill or recycling facility.

All vehicles transporting waste off-site will have covered loads. A waste tracking record should be maintained of all disposals that records the waste facility name and address, type and identity of disposal vehicle, date of disposal, type and quantity of waste and method of treatment (where applicable). Contractor(s) will keep evidence of the proper disposal of waste to licensed facilities.

### ***4.7.2 Hospital Operations***

Waste bins will be transferred to the waste holding area for removal on a regular basis. Waste will be removed from the health service secure waste holding area and transported off-site by licensed contractor(s).