



Waste Management Plan

Electrical Engineering Building

Version 1.0
1st Feb 2016

Prepared by General Services, Facilities Management, UNSW

1.0 Introduction

This Waste Management Plan describes the waste management requirements and practices to be adopted for the Electrical Engineering Building which is currently under construction.

This plan outlines the wider context for waste management at the university, as well as discussing any requirements specific to the building. It is a living document and will be updated as required. Any correspondence relating to the content of this plan should be emailed in the first instance to the Manager, Waste & Relocations at fmgeneralservices@unsw.edu.au

2.0 Waste management at UNSW - overview

UNSW is committed to considering and implementing sustainability initiatives throughout its operations. Environmental sustainability is a key component of the UNSW 2025 Strategic Plan.

The University has an Environment Policy which is available at:

<http://www.gs.unsw.edu.au/policy/documents/environmentpolicy.pdf>

Amongst other things, this policy commits to:

Developing effective waste management and recycling procedures and practices.

Management of the majority of waste streams at UNSW is coordinated by Facilities Management. The UNSW Safety & Sustainability team also manage some minor waste streams. Details of these waste streams, and who has responsibility for managing them, are included in Appendix 1.

UNSW places a high priority on waste minimisation and currently diverts over 80% of its general waste stream from landfill. A key means by which waste to landfill was minimised was the appointment of a new general waste contractor in late 2011, Doyle Bros, which uses an off-site Materials Recovery Facility to extract a high proportion of recyclables from the general waste stream. Much of the residual waste after sorting is shredded and sent to a process engineered fuel facility in South Australia, meaning very little of UNSW's general waste is sent to landfill.

In addition, UNSW has dedicated segregated recycling bins for commingled containers in various public places (to encourage a pre-sorting process prior to transport to the MRF in areas where there is a higher concentration of commingled recyclables in the waste). UNSW has also successfully operated in-house an office paper recycling program, for many years.

Further waste minimisation initiatives include:

- The establishment of a furniture reuse program (information at <http://www.facilities.unsw.edu.au/staff-contractors/furniture-reuse-program>)
- Green waste is collected and mulched, with as much as possible reused on-site
- Collection points around campus for toner cartridges, batteries and fluorescent tubes.

Chemical and biological waste is collected separately by appropriately licensed specialist waste removal contractors. The Laboratory Hazardous Waste Disposal Guideline (OHS321) is available at: <https://www.gs.unsw.edu.au/policy/documents/HS321.pdf>. Additional information is available at <http://safety.unsw.edu.au/procedures-forms> (search for the key word 'waste')..

Further information may be obtained by contacting the Manager, Waste and Relocations, on 9385 5111 or by email at fmgeneralservices@unsw.edu.au.

3.0 Waste during construction

The Principal Contractor will be required under the contract to prepare a Construction Management Plan including a section on waste management. This should describe how the contractor will manage waste produced by themselves and their sub-contractors throughout the construction process. This should cover waste produced during any demolition and site preparation activity, as well as during the construction process itself. The Principal Contractor is responsible for arranging and paying for removal of any project-related waste.

Waste should be managed in such a way as to maximise the diversion from landfill. This may be done either through on-site segregation of recyclable components, or through off-site sorting by specialist waste contractors. Recycling rates of 80% of construction and demolition rates are now quite achievable following the success of industry programs such as Green Star.

General Services within Facilities Management operate a furniture reuse program which may be utilised for any project-related furniture or equipment in good condition which would otherwise be disposed of. Further information on the program can be found at <http://www.facilities.unsw.edu.au/staff-contractors/furniture-reuse-program>.

4.0 Waste management from Electrical Engineering Building (G17) operations.

The EEB Building is a 6 storey building with 14,172m² of GFA (gross floor area, excluding Nura Gilli). It is anticipated that the building will house some xx staff and students.

The proposed occupants of the building are to remain as existing including School of Electrical Engineering; CATS lecture theatre, active learning and informal learning spaces; Institute of Environmental Studies (IES) and Nura Gilli Centre (not in scope of upgrade) .Key uses of the building will be electrical engineering laboratories, teaching and learning spaces, offices, research spaces and a ground floor workshop. The existing Rex Vowels theatre on the lower ground floor will be retained and refurbished retaining the existing capacity of students.

The nearest waste collection point to this building is proposed to be in the open paved area behind the South wing and adjacent to the north wing with access from College Road. The contract cleaners will take bins to this point on a daily basis (on weekdays) for collection.

Spare bins for general waste and paper recycling will be housed in the secure cleaner's storage room on the ground floor (North wing).

Dangerous goods waste will be stored locally adjacent to laboratories that use them in an approved Australian Standards cabinet and transported to the secure dangerous goods waste collection point enclosure outside the building adjacent to the bin area. The dangerous goods waste contractor will pick up waste directly from these cabinets. A manifest must be completed and emailed to FM General Services prior to collection (this process can also be conducted via an online portal).

The following processes will be employed to manage the various waste streams:

Waste stream	Process
General waste (office)	The cleaners empty under-desk bins and kitchen bins and general waste bins in open-plan research areas on a daily basis (weekdays only). An exception is locked offices, from which general waste will only be collected daily if left outside overnight. Otherwise, the general waste will be collected from these spaces weekly during cleaning. Under-desk bins will be provided as part of the project delivery. They are not supplied by General Services, and replacement bins must be ordered by Faculty. It has been estimated that 5-10 x 240L wheelie bins (depending on whether usage is average or high) will be required for collection daily on weekends.
Paper and cardboard	A number of blue 240L recycling bins will be provided throughout the building, at least one on each floor, particularly near photocopiers. It has been estimated that approximately 10-12 paper bins will be required. An additional 660L bin for paper and cardboard will be stored in the ground floor waste room for bulky paper/cardboard waste (eg cartons etc). Staff will be required to place paper and cardboard in these bins. Under-desk cartons for paper recycling can be provided by the Sustainability Office upon request. UNSW General Services staff are responsible for collecting paper for recycling and will visit the site periodically (frequency to be determined but nominally weekly). Full bins can also be picked up upon request by raising a service request in the ARCHIBUS system (for further information ring FM Assist on ext 55111).
Commingled recyclables	Commingled recyclables (glass bottles, cans and plastic but NOT paper) should be included in the general waste bins as they will be sorted off-site for recycling at a Materials Recovery Facility.
Chemical waste	Chemical waste is collected each Thursday by a specialist contractor, but must be 'booked in' by Faculty staff prior to collection. The process described in <i>OHS321 Laboratory Hazardous Waste Disposal Guideline</i> (https://www.gs.unsw.edu.au/policy/documents/HS321.pdf) and requires a form detailing all chemical waste to be submitted to General Services in FM by the Monday before collection is required.

For information on how other waste types are managed, refer to Appendix 1.

Appendix 1- UNSW Management Responsibility for Waste Streams

Waste Stream	UNSW Management Responsibility	Contractor	Details/Comment
Batteries	UNSW Sustainability	MRI	Multiple collection bins on campus – FM Assist, Arc reception and Contact
Biological waste (Including sharps)	FM	SteriHealth	See: <i>UNSW Laboratory Hazardous Waste Disposal Procedure</i> . Infectious, Biological, Clinical, GMO, human blood or body fluids, infectious animal carcasses or material
Building waste	FM (Project Manager)	Relevant contractor	Managed through Facilities Management via construction contract.
Chemicals - laboratory waste	FM	Toxfree	<i>OHS321 Laboratory Hazardous Waste Disposal Guideline</i>
Commingled recyclables (plastic, aluminium, glass, steel)	FM	Doyle Bros	Commingled recyclables only collected separately in high-use public areas (eg near food retailers)
Drugs (Schedule 8 drugs)	Health & Safety Unit	n/a	Duty Pharmacist from NSW Health Department notified if any Schedule 8 drugs require disposal.
E-waste	FM	HP/Reverse e-waste	Consultation with UNSW IT initially; then a service request in ARCHIBUS to be arranged.
Food and organics	FM	Doyle Bros	Segregated food waste is composted from some food retailers. Food/organic waste removed from the general waste stream is sent for low-grade composting.
Furniture	FM	Crown	UNSW staff members needing additional furniture for their workplace, or wanting to responsibly dispose of old workplace furniture can create a user account, and search for furniture via the UNSW Furniture Re-use Centre . To donate furniture to the Furniture Re-use Centre fill out an online service request via ARCHIBUS. Furniture is stored offsite, with external storage provider
Garden waste	FM	Landscape Solutions	Garden organics and tree pruning off cuts mulched and used on gardens as feasible. Lawn clippings and some leaf material picked up while mowing lawns is collected and transported off-site for processing.
General waste	FM	Doyle Bros	Waste to landfill is residual after sorting in Materials Recovery Facility and sending much of the shredded post-sort material to a process engineered fuel facility in South Australia. This also relates to hard waste from skips (for which diversion rates are not currently known)
Mobile phones	UNSW Sustainability	Australian Recycling Program	
Paper and cardboard	FM	RORA (paper mill)	In-house recycling program with UNSW staff and truck
Radioactive	UNSW Safety & Sustainability	Dependant on material.	<u>Radioactive Waste Transfer Request Form</u> . Radioisotopic declaration form . Refer also to OHS321. Ionising radiation emitting materials (<schedule 1, Radiation Control Regulations) <schedule 1 Radiation Control Regulations statement e.g.<100 Bq/g Biological waste containing radiological material Must not exceed the licensable amount per vehicle load (each load removed must contain less than 1MBq of H3 and C14.

Waste Stream	UNSW Management Responsibility	Contractor	Details/Comment
			Must be less than 100Bq per gram or millilitre of any material per individual bin. All radioactive disposal is to be authorised by the UNSW Radiation Safety Officer and monitored under the conditions of our licence as issued by the EPA.
Stationery	ARC	ARC volunteers	Student volunteer project
Toner cartridges	UNSW Staff Volunteers	Planet Ark	