

**CONRAD
GARGETT** | ANCHER
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WOOLLEY

Hurlstone Agricultural High School (Hawkesbury)

**Head Design Consultant
Waste Management Plan**

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Documentation Control

Revision	Issue date	Prepared by	Reviewed by
DRAFT	20.09.2017	M.Walsh	P.Baigent
A	26.09.2017	M.Walsh	P.Baigent
B			
C			

executive summary

This Waste Management Plan outlines the strategies employed by the design team to minimise waste and effectively manage recycling across all stages of the proposed Hurlstone Agricultural High School (Hawkesbury) development. It is subdivided into three main sections:

- Stage 1 Demolition
- Stage 2 Construction and Use
 - o Stage 2(A) Potential for Waste Minimization During Construction
 - o Stage 2(B) Ongoing Waste Management

Outline of the Proposal

Site Address: 2 College Drive, Richmond, NSW 2753 (Lot 2/DP1051798)

Name of Applicant: David Tonge – NSW Department of Education

Applicant Address: C/- Mace, Suite 1605, Level 16, 44 Market Street, Sydney, 2000

Applicants Representative: Chris Aspen – Mace

Phone: 02 9126 8010

Description of proposal:

New STEM (Science, Technology, Engineering & Maths) Agricultural High School

Waste Management Plan completed by:

Name

Mitch Walsh

Architect

Conrad Gargett Ancher Mortlock Woolley

02-82189100 | msoeryanto@conradgargett.com.au

1 stage 1 - demolition

Existing Site – Demolition

The existing site is located within the Western Sydney University – Hawkesbury Campus. The site is currently used as grazing land for cattle and has no built structures located on it. Some existing trees will need to be removed as part of the development proposal (refer to landscape drawings for locations).

Demolition Waste Management Plan Details of Waste Management

MATERIALS ON-SITE		DESTINATION	
		Reuse and Recycling	
Type of materials	Estimated Vol (m3)	ON-SITE *Specify proposed reuse or on-site recycling methods	OFF-SITE *Specify contractor and recycling outlet
Green waste	50 m3	-	By competitive tender (contractor to be determined)

2 stage 2A - construction

Waste Minimisation

Waste Minimisation During Construction

The selected contractor in conjunction with the design team will consider various measures that save resources and minimise waste during the Construction Stage, such as:

- Purchasing policy i.e. ordering the right quantities of materials and prefabrication of materials and building elements will be investigated where possible,
- Reusing formwork,
- Careful source separation of offcuts to facilitate reuse, resale or efficient recycling.
- Trades will be carefully co-ordinated and sequenced to promote waste minimisation at all stages of construction.

Construction Waste Management Plan
Details of Waste Management

MATERIALS ON-SITE		DESTINATION		
		Reuse and Recycling		Disposal
Type of materials	Estimated Vol (m3)	ON-SITE *Specify proposed reuse or on-site recycling methods	OFF-SITE *Specify contractor and recycling outlet	*Specify contractor and landfill site
Excavation Material	Unknown at this stage	To be reused as fill to green roof where possible.		
Green waste	Unknown at this stage	-	By competitive tender (contractor to be determined)	By competitive tender (contractor to be determined)
Bricks	Unknown at this stage	-	By competitive tender (contractor to be determined)	By competitive tender (contractor to be determined)
Concrete	Unknown at this stage	-	By competitive tender (contractor to be determined)	By competitive tender (contractor to be determined)
Timber	Unknown at this stage	-	By competitive tender (contractor to be determined)	By competitive tender (contractor to be determined)
Plasterboard	Unknown at this stage	-	By competitive tender (contractor to be determined)	By competitive tender (contractor to be determined)
Metals	Unknown at this stage	-	By competitive tender (contractor to be determined)	By competitive tender (contractor to be determined)
Other waste	Unknown at this stage	-	By competitive tender (contractor to be determined)	By competitive tender (contractor to be determined)

3 stage 2B - use

Ongoing Waste Management

The design of the development will allow for waste management use of use for the occupiers and user friendly recycling options. The below proposed site plan indicates the location of both waste storage and recycling areas. It also indicates the collection access point on site where bins will be stored whilst awaiting collection. No roadways or access points will be blocked or restricted during collection. Consideration will also be given with regards to flexibility so that future changes in size and use can be catered for.

Waste Generation Rates

CGAMW has been advised by Hawkesbury City Council that their development control plan does not provide waste generation rates guidance. Due to this omission, the project team have used the NSW Environment Protection Authority's "Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities" (December 2012) publication as a guide for assessing the proposed developments ongoing waste management requirements. The 'Tertiary Education' waste generation rates from the NSW EPA publication have been used when preparing the Waste Management Plan for the Hurlstone Agricultural High School (Hawkesbury).

Waste Generation Rates for the above premises type is as follows:

Type of Premises	Waste Generation	Recycling Generation
Tertiary Education (Average)	25L/100m ² per day	3L/100m ² per day
Tertiary Education (Maximum)	40L/100m ² per day	7L/100m ² per day

Proposed Hurlstone Agricultural High School (Hawkesbury) Gross Floor Area:

13,485 m²

Using the maximum Waste Generation Rate above the following volumes of waste are assumed to be generated:

General Waste (Litres)

$(40/100) \times 13,485 \text{ m}^2 = 5,394\text{L/day} \times 5 \text{ days} = \mathbf{26,970\text{L/week}}$

Based on a weekly waste collection arrangement this equates to 6 x 4.5m³ medium front lift bins.

Recycle (Litres)

$(7/100) \times 13,485 \text{ m}^2 = 944\text{L/day} \times 5 \text{ days} = \mathbf{4,720\text{L/week}}$

Based on a weekly recycling collection arrangement this equates to 2 x 3m³ medium front lift bin

Note: refer to companies such as J.J.Richards or Suez for example of bin types.

The types of waste to be generated by the school will include glass, plastic, paper & cardboard, Metal and aluminium cans and food waste. The proposed on-site waste storage area is location between Building 02 and 03 and is serviced by a dedicated service road. The centrally located refuse store will be subdivided into waste and recycled materials before being collected by a third party provider.

The above waste generation figures are based upon a weekly collection. CGAMW have been advised by the NSW Department of Education that their similar agricultural high schools have arranged more frequent waste collection to reduce the amount of medium front lift bins on site. As part of this waste management plan it is proposed that new Hurlstone Agricultural High School (Hawkesbury) operate their general waste collection on a triweekly basis and their recycling collection on a biweekly basis. **This operation will allow the school to reduce their bin storage to 2 x 4.5m³ medium front lift bins for general waste and 1 x 3m³ medium front lift bin for recycling.**

The NSW department of education employ on site ground staff as part of their Asset Management Unit (AMU) to maintain the school facilities – including the upkeep and maintenance of on-site waste facilities.

CONRAD GARGETT PTY LTD

Brisbane Studio

Level 27 / 400 George Street
Brisbane Qld 4000
T (07) 3229 3555

Townsville Studio

Level 1 / 45 Eyre Street
North Ward Qld 4810
T (07) 4795 0200

Sydney Studio

Suite C 3.18 / 22-36 Mountain Street
Ultimo NSW 2007
T (02) 8218 9100