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CONSTRUCTION WASTE MANAGEMENT PLAN

GLENWOOD HIGH SHOOL UPGRADE
SSD-23512960

Revision Number: VERSION 1

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Presented by: JO DRUMMOND
ECCell Environmental Management
35 WAVERLEY CRESCENT
BONDI JUNCTION NSW 2022
www.eccellenvironmental.com.au

Submitted to: Jacobs
Marisa Sidoti

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DOCUMENT CONTROL				
ISSUE NUMBER	DATE	AUTHOR	REVIEW	APPROVED BY
DRAFT	10/08/2021	Patrick Nolan	Jo Drummond	Jo Drummond
Version 1	12/11/2021	Partick Nolan	Jo Drummond	Jo Drummond

1 INTRODUCTION

This Construction Waste Management Plan (CWMP) prepared by EcCell Environmental Management (EcCell) accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the *Environmental Planning and Assessment Act* 1979 (EP&A Act) in support of a State Significant Development Application (SSD - 23512960).

The development is for upgrading works comprising alterations and additions to Glenwood High School at 85 Forman Avenue, Glenwood. The site is legally described as Lot 5227 DP 868693.

The site is roughly rectangular in shape, with a total area of 60,790m2 and street frontages to Forman Avenue to the south and Glenwood Park Drive to the east. Glenwood Reserve adjoins the northern and western boundaries of the school.

This report addresses the relevant Secretary's Environmental Assessment Requirements (SEARs), specifically: Section 18 Waste

Table 1 - SEARs Requirement & CWMP Page Reference

SEARs Item 18	Report Reference
Identify, quantify, and classify the likely waste streams to be generated during construction.	Section 9 Project Phase
Provide the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.	Section 7 Waste Management Strategies
Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	Section 6 Waste Management Compliance
Provide a hazardous materials survey of existing aboveground buildings that are proposed to be removed or altered.	Section 7 Waste Management Strategies

2 THE PROPOSAL

The proposed development seeks to upgrade Glenwood High School. The upgrade consists of the following alterations and additions:

- Construction of a new three-storey building at the north-eastern portion of the site facing Glenwood Park Drive which will accommodate new learning spaces;
- Construction of one storey performance pavilion;
- Refurbishment of existing Building Block A (ground floor only) to provide one new support unit within the space of an existing general learning space;
- Refurbishment of Building Block D (ground floor only) to provide an additional office space and storeroom;
- Refurbishment of Building Block E to re-purpose it on the ground floor for computer learning spaces, staff and administration spaces as well as upgrades to the library on the first floor;
- Refurbishment of Building Block J to re-purpose it from visual arts and performing arts to learning spaces and workshops for food tech and woods/metal unit;
- Demolition of existing botany room and construction of a new single storey pavilion comprising of interview rooms and end-of trip facilities; and
- The proposed development will also involve ancillary works at the site associated with the proposed upgrades.

3 PROJECT LOCATION

The site is located at 85 Forman Avenue, Glenwood, NSW, 2768 as shown in Figure 1.

Figure 1 - Site Extents (Source - Transport and Accessibility Impact Assessment by TTW)

4 OBJECTIVES OF THE CWMP

The Objectives of the CWMP Include:

a) Identify, quantity and classify waste streams to be generated during construction.
b) Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.
c) To ensure storage and collection of waste is designed and managed having appropriate regard to space, location, amenity and ongoing management of waste management facilities.
d) Describe measures to be implemented to manage, reuse, and recycle and safely dispose of the waste.
e) To maximise reuse and recycling of construction materials and materials from development.
f) To encourage building design techniques in general which minimise waste generation.
g) To minimise the amount of waste being deposited to landfill with targets to reuse or recycle at least 90% of construction and demolition waste as per the EFSG DG02 2.7.1 Construction and demolition waste requirements.

5 NSW LEGISLATIVE REQUIREMENTS AND GUIDELINES

Relevant key legislation and guidelines applicable to the project include:

- *Protection of the Environment Operations Act 1997*
- *Protection of the Environment (General) Operations Act 1998*
- *Waste Avoidance and Resource Recovery Act 2014*
- *Protection of the Environment Operations (Waste) Regulation 2014*
- *Waste Classification Guidelines (EPA, 2014)*
- *NSW Department of Planning and Environment, Secretary's Environmental Assessment Requirements (SEARs)*
- *Blacktown Development Control Plan 2015 (DCP, 2015) - Part G Site Waste Management and Minimisation.*

6 WASTE MANAGEMENT COMPLIANCE

The current legislation determines that the generator of waste is the owner of the waste until the waste crosses a calibrated weighbridge into a licensed facility. Waste contractors to construction contractors are the primary transporters of waste off-site, accordingly, waste contractors will be required to provide verifiable monthly reports on waste reused, reprocessed or recycled (diverted from landfill) or waste sent to landfill. These reports have a direct bearing on the generator's compliance with the relevant regulations.

The CWMP will be implemented on-site throughout including; singularly or collectively the demolition, excavation and construction phases.

A Waste Data File must be maintained on-site and all entries are to include:

- The classification of the waste
- The time and date of material removed
- A description of and the volume of waste collected
- The location and name of the waste facility that the waste is transferred to
- The vehicle registration and the name of the waste contractor's company

The Waste Data File will be made available for inspection to any authorized officer at any time during the life of the site works. At the conclusion of site works, the designated person will retain all waste documentation and make this validating documentation available for inspection.

Arrangement's will be made with the Waste Contractor to increase bin supply if there is an unexpected increase in waste generation.

6.1 CONSTRUCTION WASTE MANAGEMENT EQUIPMENT, BIN SIZES AND COLLECTION FREQUENCY

All waste will be removed by a licensed waste contractor using 15-meter bins on site. The construction waste will be removed when bins are full and within the construction site operating hours to reduce disturbance of the neighbours and disruption to the school.

7 WASTE MANAGEMENT STRATEGIES

The waste management strategy for the project will operate over the design, procurement, and construction including the fit-out of the project and is detailed below in Table 2.

Table 2 - Breakdown of Tasks and Responsibilities

Management Strategies	Responsibilities
Design	
• Use of modular components in design • Use of prefabricated components in design • Design for materials to standard sizes • Design for operational waste minimisation	• Architect & Engineer • Architect, Builder, Subcontractors. • Architect, Subcontractors • Architect & Builder
Procurement	
• Select recycled and reprocesses materials • Components that can be reused after deconstruction	• Architect, Engineer, Builder & Sub Contractors • Architect, Engineer & Builder
Pre-construction	
• Waste management plan to be reviewed & approved prior to construction. • Contract a Waste Contractor	• Builder • Waste Contractor
Construction on-site	
• Use the avoid, reuse, reduce, recycle principles • Minimisation of recurring packaging materials • Returning packaging to the supplier • Separation of recycling of materials off site • Audit & monitor the correct usage of bins • Audit and monitor the Waste Contractor	• Builder & Waste Contractor • Sub-contractors • Builder & Sub-contractor • Waste Contractor • Builder & Waste Contractor • Builder

7.1 ON SITE WASTE MANAGEMENT AND STORAGE REQUIREMENTS

There will be a designated waste storage area for the disposal and storage of construction waste prior to collection. This area will be located conveniently for the construction work team to use the bins as well as for waste contractors to collect.

Other requirements include:

- Construction waste storage is contained wholly within the site once the Construction Compound is established.
- The routes for movement of waste between work site and waste storage area are to be kept obstruction-free.
- The routes for movement of bins and waste between storage and collection points are marked in the site drawing and will be kept obstruction-free (if waste is moved between the waste storage area(s).
- The waste bin collection point provided will be accessible for waste collection vehicles. There are no obstructions to turning or reversing, pulling up vehicles and lifting bins.
- Access for waste collection vehicles will not be compromised by construction-related activities vehicles or other consequences of construction staging.
- All waste not being reused on site will be removed during, or at the completion of, the construction stage.
- No waste will be left on site unless it is part of valid reuse on site, which is integral to and in place in the design.
- In order to manage noise levels, collection of waste from the construction site will only occur during hours approved for construction work.
- All vehicles entering or leaving the site must have their loads covered.
- All vehicles, before leaving the site, to be cleaned of dirt, sand and other materials, to avoid tracking these materials onto public roads.
- At the completion of the works, the work site is left clear of waste and debris.

7.2 REUSE OF DEMOLITION, EXCAVATION AND CONSTRUCTION MATERIALS

Construction Materials and off-cuts can be reused on-site. An area within the materials lay-down area will be allocated for the storage of materials to be reused.

These items include

- Plastic buckets
- Timber crates
- Timber off cuts
- Paint brushers and rollers (Wrapped in plastic to maintain moisture)
- Plasterboard offcuts
- Cardboard boxes
- Clean fill will be reused on-site after verification by soil testing and Waste Classification.

7.3 MANAGEMENT OF HAZARDOUS WASTE

Regarding the risk of Hazardous Building materials, it is noted that all buildings to be removed or demolished were installed at the site post 2006 and therefore it is unlikely that these buildings will contain Hazardous Materials.

Notwithstanding if required a Hazardous Materials survey can be conducted prior to the commencement of the works.

7.4 UNEXPECTED FINDS PROTOCOL

An unexpected find can be defined as:

- Any unanticipated archaeological discovery e.g., aboriginal relics, items of significance, etc.;
- Buried or surface asbestos containing materials (Bonded, Friable or other);
- Buried waste materials e.g., medical waste, contaminated waste, etc.
- Septic or underground storage tanks;
- Animal burial pits; or
- Discoloured and odorous soils and groundwater/seepage.

Should an unexpected find of potential contamination be encountered during the works, the following procedure should be followed:

- Identified finding by worker;
- Cease work as soon as safe to do so and move clear of the finding;
- Do not tamper or attempt to remove the finding;
- Contact Construction Management immediately;
- Site Management to delineate an exclusion or quarantine zone around the area using fencing and or appropriate barriers and signage;
- Preliminary assessment of the find and need for immediate management controls;
- Further assessment and/or remediation works are required and how such works are to be undertaken in accordance with contaminated site regulations and guidelines;
- Any unexpected finds must be documented, and records of volumes and types of materials identified removed from the site must be kept on file;
- Receipt documentation from the licensed facility confirming volume received.

8 WASTE MANAGEMENT PLAN APPLICATION

Project

Glenwood High School Upgrade

Address

85 Forman Avenue, Glenwood, NSW, 2768.

Applicant

Dept of Education
School Infrastructure NSW
Level 8, 259 George Street,
Sydney, N.S.W, 2000

Details of Application

The development is a new build and upgrading works comprising alterations and additions to Glenwood High School at 85 Forman Avenue, Glenwood. The site is legally described as Lot 5227 DP 868693.

Description of Buildings and Other Structures Currently on the Site

The site is roughly rectangular in shape, with a total area of 60,790m 2 and street frontages to Forman Avenue to the south and Glenwood Drive to the east. Glenwood Reserve adjoins the northern and western boundaries of the school.

Brief Description of Proposal

The proposed development seeks to upgrade Glenwood High School. The upgrade consists of the following alterations and additions:

- Construction of a new three-storey building at the north-eastern portion of the site facing Glenwood Park Drive which will accommodate new learning spaces;
- Construction of one storey performance pavilion;
- Refurbishment of existing Building Block A (ground floor only) to provide one new support unit within the space of an existing general learning space;
- Refurbishment of Building Block D (ground floor only) to provide an additional office space and storeroom;
- Refurbishment of Building Block E to re-purpose it on the ground floor for computer learning spaces, staff and administration spaces as well as upgrades to the library on the first floor;
- Refurbishment of Building Block J to re-purpose it from visual arts and performing arts to learning spaces and workshops for food tech and woods/metal unit;
- Demolition of existing botany room and construction of a new single storey pavilion comprising of interview rooms and end-of trip facilities; and
- The proposed development will also involve ancillary works at the site associated with the proposed upgrades.

If Materials/Waste is Reused On-Site or Off-Site, how will it be re-used?

- Waste from demolition and construction phases will be comingled and recycled off site
- Waste Waste from the excavation will be recycled off-site and some reused on-site
- Twenty (20) demountable classrooms to be removed and reused at another location during and after works conclude
- Clean fill will be reused on-site after verification and soil testing

Prepared by:	
Name:	Jo Drummond
Signed:	
Contact Number:	0412 214 233
Date:	12/11/2021

9 PROJECT PHASE

9.1 DEMOLITION

MATERIAL TYPE ON SITE	ESTIMATED VOLUME (m^3) or WEIGHT (t) (Most Favourable → Least)			ON-SITE TREATMENT	OFF-SITE TREATMENT	
	Reuse	Recycling	Disposal	Proposed reuse and/or recycling collection methods	Disposal / Transport Contractor	Waste Depot, Recycling Outlet or Landfill site
Brick & Concrete		80 m^3		Comingled	TBA	TBA
Asphalt		15 m^3		Comingled	TBA	TBA
Metal		45 m^3		Comingled	TBA	TBA
Plasterboard		30 m^3		Comingled	TBA	TBA
Timber		35 m^3		Comingled	TBA	TBA
Doors & Windows	10 units			Removed for reuse	TBA	TBA
General Waste			60 m^3			
Total	**265m3**					
Narrative: Demolition of the Botany Room and internal demolition of exisitng buildings to accommodate the new fit out. All material will be comingled and taken off site for recycling.						

9.2 EXCAVATION

MATERIAL TYPE ON SITE	ESTIMATED VOLUME (m^3) or WEIGHT (t) (Most Favourable → Least)			ON-SITE TREATMENT	OFF-SITE TREATMENT	
	Reuse	Recycling	Disposal	Proposed reuse and/or recycling collection methods	Disposal / Transport Contractor	Waste Depot, Recycling Outlet or Landfill site
Trees & Shrubs Roots		10 m^3		Separated to a designated Bin	TBA	Recycled
Clean Fill	330 m^3			Separated to a designated stockpile	TBA	Reused
Sub-Total	**340 m^3**					
Total	**340 m^3**					
Narrative: Aside from the new three-storey building's excavations and pilings, the proposed excavations on-site are minor excavation for piers and footings. Some trees and shrubs are to be lopped and recycled.						

9.3 CONSTRUCTION

MATERIAL TYPE ON SITE	ESTIMATED WEIGHT (t) or VOLUME (m^3)			ON-SITE TREATMENT	OFF-SITE TREATMENT	
	Reuse	Recycling	Landfill Disposal	Proposed reuse and/or recycling collection methods	Disposal / Transport Contractor	Recycling Outlet or Landfill site
Concrete, Brick, Block Work, Render, Tiles		125 (m^3)		Co-mingled Bins	TBA	Crushed for road base
Metals		90 (m^3)		Co-mingled Bins	TBA	Scrap Metal Dealer for smelting
Timber Off-Cuts		110 (m^3)		Co-mingled Bins	TBA	Recycled for woodchips and mulch
Cardboard		35 (m^3)		Co-mingled Bins	TBA	Recycled into cardboard packaging
Plasterboard		120 (m^3)		Co-mingled Bins	TBA	Recycled as soil conditioner
Containers, Plastics, Plastic Packaging		130 (m^3)		Co-mingled Bins	TBA	Recycled into further plastic
Pallets And Reels	40 units			Co-mingled Bins	TBA	Returned to the supplier
Liquid Waste			35 (m^3)	Separated Container/Bin	TBA	Transferred to licenced landfill
General Waste			80 (m^3)	Co-mingled Bins	TBA	Transferred to licenced landfill
Sub Total		**610 (m^3)**	**115 (m^3)**			
TOTAL	**(m^3)**			NB: An additional 40 pallets & reels (single units returned to suppliers for reuse)		
Narrative: This is a modular three-storey building and partial fit-out there are no structural materials (steel & concrete) and the waste stream's weight is proportionately reduced. *As the contracts for all contractors have not been let there are still those including the waste contractor TBA.						