WASTE MANAGEMENT PLAN

Project Details	
Project Name:	Chau Chak Wing Museum
Project Number:	
Project Location:	F21 Chau Chak Wing Museum, Sydney University, University Avenue, Camperdown Campus
Client:	University of Sydney
Senior Project Manager:	Branko Mihaljevic
Date work is to commence (approx.)	15/04/2018
Estimated duration of work:	23 Months
Name of principal contractor:	FDC Construction
Company address:	22-24 Junction Street Forest Lodge
ABN:	72608609427

Approvals					
Senior Project Manager:	Branko Mihaljevic	**Signature:**		**Date:**	
General Manager:	Sean Gibbeson	**Signature:**		**Date:**	
Divisional IMS Manager:	Joe Abraham	**Signature:**		**Date:**	

Distribution:	Client, Project Manager, Site Manager, Client, Subcontractors
Management Plan Revision:	Revision A – Project Start Up

Rev Date	REVISION DESCRIPTION	PM's INITIALS (acceptance of changes)
10/04/18	Revision A – Project Start	BM

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1 Overview

The purpose of this Waste Management Plan is to outline the proposed method to deal with construction waste throughout the entire construction phase of the building from demolition and excavation through to building fitout, landscaping and handover.

The method of dealing with construction waste is consistent throughout to ensure that our environmental obligations are being met.

The plan outlines how we propose to achieve the project requirements.

2 Recycling

Recycling is a vital means whereby Australia's natural resources are conserved and efficiently utilised. FDC aim is to develop a waste management system centered on resource recovery and recycling.

2.1 Option 1: On-site Recycling

The efficiency of on-site recycling depends on the anticipated waste stream types and quantity along with space being available (and suitable) to house the bins required.

The on-site separation of scrap metals such as aluminum, copper pipe and wire, lead and steel is viable. Bins will be identified clearly on sites to aid in the separation of materials. FDC will work together to reduce waste coming to site.

Site conditions permitting separate on-site bins for cardboard and paper are also possible and FDC have committed to provide a paper bin for use on site for this purpose.

FDC feel that off-site recycling is the more viable option for all other wastes.

2.2 Option 2: Off-site Recycling

Off-site recycling is the most appropriate course of action for mixed waste streams and sites with minimum room or access difficulties.

At the landfill and recycling facility, it is possible to sort and recycle wastes coming in. This sorting and recycling includes the recovery and production of the following materials:
- Paper/cardboard Glass
- Steel – OSI and Black Iron
- Non-ferrous metals such as: lead, copper, electrical cable, brass and aluminium, all of which are sorted and sent to the appropriate processing plants.
- Timber, such as formwork pallets, hardwood, oregon and the like are sorted for reuse with the remainder being processed to make woodchip.
- Plasterboard and Gyprock are transformed into soil conditioners. Green waste is transformed into mulch.
- Problem waste such as tree stumps and plastics are all processed or recycled to avoid the potential problems that wastes such as these cause at landfills.

All hard-core materials such as bricks, mortar, concrete, dirt, soil, sand, tiles and stone are either stacked for reuse or reprocessed into high quality raw materials such as road base, aggregates for drainage, fill sand, soil and turf underlay etc.

3 Environmental Management and Compliance

FDC offer a waste management service in accord with the Protection of the Environment Operations Act 1997 and the Waste Minimisation and Management Act 1995.

Clients of FDC are secure in the knowledge that their waste is being disposed of according to environmental protection legislation and the principles of ecologically sustainable development. FDC has in place, as a major part of our business, a materials recovery and recycling programme that exceeds the objectives of the waste minimisation and management legislation.

4 Legislation and Due Diligence

4.1 Legislation

The disposal of wastes in New South Wales is under the control of the Environmental Protection Authority. The EPA administers the Protection of the Environment Operations Act and associated legislation and regulations.

4.2 Due Diligence

Companies and individuals are required to act with due diligence in respect of the disposal of the waste they generate. Companies and individuals are exercising due diligence by using appropriate organisations to dispose of waste.

Due diligence may be considered to be the legal opposite of negligence. If due diligence is not exercised then negligence may be considered to have occurred. Due diligence applies to both a requirement to act and to a failure to act, thus commission and omission of actions. Due diligence applies to companies, company Directors and employees. Due diligence means that companies and individuals have all the reasonable means to ensure that legal obligations have been met.

For waste management, due diligence requires both the waste producer and the waste collector to mutually exercise:

a) Duty of care, and
b) Duty of disclosure

5 Definitions of Waste

5.1 Wastes

Wastes are described by many different names and come in many different types i.e. industrial, commercial, building and demolition, clinical, solid, domestic, putrescible, non-putrescible, hazardous, household, inert, municipal and trade waste. They are defined for regulatory purposes in the Protection of the Environment Operations Act.

For practical purposes, New South Wales has adopted a waste management hierarchy that prioritises ecological sustainable waste solutions.

The hierarchy consists of:

1. Avoiding waste
2. Reusing materials
3. Recycling and reprocessing materials
4. Waste disposal

6 Waste Management

Wastes need to be managed in order to comply with every aspect of the legislation covering wastes. The waste management service provided by FDC is a total waste management service. By engaging FDC to manage wastes, a waste generator has exercised complete due diligence. FDC assumes the responsibility and requirement for the correct collection, transport, storage and disposal of wastes.

The waste management service of FDC covers all aspects of all wastes, a complete and thorough service to assist industry, a significant service that is keeping Australia clean.

7 Ecologically Sustainable Development

Ecologically sustainable development as the fundamental tenant of Australian business stems from the Intergovernmental Agreement of the Environment between Australian Commonwealth, State, Territory and Local Governments on ecologically sustainable development made in May 1992. FDC fully endorses and is committed to the four principles which constitute ecologically sustainable development.

7.1 Principle 1: The Precautionary Principle

For general hard wastes, there is a great deal of scientific certainty concerning their treatment, storage, transport and disposal. Such materials, in general, have been used by society for millennia. For special wastes, FDC applies the measures and procedures for handling and disposal required by NSW legislation. These measures and procedures are designed to ensure the known and suspected effects of such materials are controlled.

7.2 Principle 2: Inter-generational Equity

Resource recovery and recycling as carried out by FDC together with corresponding savings in fossil fuel energy and more efficient use of landfill sites are direct, positive and practical measures to provide for inter-generational (future generations) and intra-generational (present generation) equity.

7.3 Principle 3: Conservation of Biological Diversity and Ecological Integrity

Disposal of waste by FDC is at a designed licensed landfill site. The site has detailed rehabilitation plans to ensure the biological diversity and ecological integrity of the site and its environs. The recovery and recycling of resources conserves resources and consequently minimises the impact of the initial production of resources on the biological diversity and ecological integrity of land.

7.4 Principle 4: Improved Valuation and Pricing of Environmental Resources

FDC applies control measures in the treatment, storage, transport and disposal of waste materials to minimise air, water and noise pollution. These control measures are the means whereby the valuation of the environmental resources of air quality, water quality and area amenity is enhanced.

8 Conclusion

FDC's clients can feel secure in the knowledge that their waste is being disposed of and recycled according to environmental protection legislation and the principles of ecologically sustainable development.

Recycling Reports are a key feature of FDC's waste management services and can be provided to clients at the end of each month indicating the recycling results achieved by individual sites. This allows our clients the confidence of knowing they are achieving Government standards and meeting all reporting requirements.

9 Waste Estimates

Refer to the tables on the following page

Project: *Chau Chak Wing Museum*

MATERIALS ON-SITE		DESTINATION		
		REUSE AND RECYCLING		DISPOSAL
Expected Waste Materials	Estimated Volume (m^3)	**ON-SITE** • Specify proposed reuse or on-site recycling methods.	**OFF-SITE** • Specify contractor and recycling outlet.	• Specify contractor and landfill site.
Excavation Material (topsoil)	650 m^3		TBC with classification	TBC with classification
Green Waste	35 m^3		Use off site for mulch and the like if possible	Landfill for materials unable to be re-used
Bricks / Blocks	179 m^3		Recycled via waste transfer depot though bin contractor for recycling	
Concrete	638 m^3		Recycled via waste transfer depot though bin contractor for recycling	
General Construction Waste	300 m^3		Recycled via waste transfer depot though bin contractor for recycling	Non-recyclables to landfill from waste transfer depot
Timber	55 m^3		Recycled via waste transfer depot though bin contractor for recycling	

Project: *Chau Chak Wing Museum*

MATERIALS ON-SITE		DESTINATION		
		REUSE AND RECYCLING		DISPOSAL
Type of Material	Estimated Volume (m^3)	**ON-SITE** • Specify proposed reuse or on-site recycling methods.	**OFF-SITE** • Specify contractor and recycling outlet.	• Specify contractor and landfill site.
Plaster-board	750 m^3		Waste and excess material returned to supplier for recycling.	Non-recoverable waste sent to waste transfer depot and then to landfill.
Metals – Steel	36 m^3	Separated in separate recycling bins on site	Recycled via waste transfer depot Sims Metal Recycling (site rubbish skip bin service)	
Other – Putrescibles waste	30 m^3			To landfill from waste transfer depot via waste skip
Non-recyclable waste	45 m^3			To landfill from waste transfer depot via waste skip
Cardboard/ Packaging	15 m^3	Separated on site where possible	Recycled where possible	Landfill for on recyclable items