CATHERINE FIELD PRIMARY SCHOOL OPERATIONAL WASTE MANAGEMENT PLAN

VERSION NUMBER:

VERSION 1

REPORT DATE:

20ƒ11ƒ2018

SUBMITTED TO:

MARTIN FENN

SENIOR PROJECT MANAGER | TSA
LVL 15, 207 KENT STREET | SYDNEY NSW 2000

PRESENTED BY:

JO DRUMMOND

ECCELL ENVIRONMENTAL MANAGEMENT PTYLTD
35 WAVERLY CRST, BONDI JUNCTION NSW 2022

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1. INTRODUCTION

1.1. Purpose

This Operational Waste Management Plan (OWMP) has been prepared based on the requirements of the Secretary's Environmental Assessment Requirements Condition 20 Section 4.12 (8) of the Environmental Planning Assessment Act, Section 2 Environmental Planning and Assessment Regulation 2000. There is therein a requirement to prepare an Operational Waste Management Plan.

1. The NSW Department of Education (the Proponent) must assess predicted waste generated from the project during the operation of the overall facility, including:

a) classification of the waste
b) estimates / details of the quantity of each classification of waste to be generated
c) handling of waste including measures to facilitate segregation and prevent cross contamination
d) management of waste including estimated location and volume
e) waste minimisation and reuse
f) lawful disposal or recycling locations for each type of waste and
g) contingencies for the above, including managing unexpected waste volumes.

1.2. Project Profile

The new Catherine Field primary school will be built in the Narellan primary school 'cluster' of Catherine Field in the Sydney Metro South West district. The South West District is identified the Greater Sydney Commission's metropolitan plan 'A Plan for Growing Sydney' as a significant focus for intensive growth and infrastructure investment over next 20 years. The dra South West District Plan also applies to this area. The cluster falls within the Camden Local Government Area and includes nine (9) schools, of which Catherine Field New Primary School is one.

Catherine Field is in the South West Growth Centre, which is undergoing a significant development. The South West Growth Centre will have a significant number of dwellings and very high projected population growth. Consequently, this is expected to generate an increase in numbers of primary school age children, and demand for teaching space and facilities will extend to at least 2031.

1.3. Project Description

The new primary school at Catherine Field will be located on a site within a greenfield development area that is expected to generate both substantial l population and school age population growth. The site allocated for the school is approximately 2.0 Ha and has a direct connect on to a 5.0 Ha future open space area to its northern boundary and allow full road access to the rest of the site's 3 boundaries. The school location borders Barry O'Keefe Drive, Catherine Field.

The construct on will be delivered in a single stage.

- Single stage construct on will include:
- 44 new teaching spaces to accommodate 1012 students.
- Core Facilities, Staff Facilities and Administration of Core 35 Standard and
- Infrastructure, landscaping and parking facilit i es

1.4. Waste Management Objectives

The waste management objectives include:

- Meeting all waste management standards while ensuring the health and safety of the workers on the project
- Maximising the quantities of materials diverted from land fill by the reuse, recycling and reprocessing of the diverted waste streams o −site and
- Overall the diversion from land fill of 65% of waste by weight, to meet the criteria of the NSW State Government's waste legislation, waste policy settings and regulatory regime.

2. LEGISLATION AND GUIDELINES

2.1. Legislation

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 014
- The Department of Planning, Secretary's Environmental Assessment Requirements Condi on 20 Section 4.12 (8) of the Environmental Planning Assessment Act 1979
- Camden Council DA

3. RISK MANAGEMENT

The current relevant legislation determines that *the generator of waste is the owner of the waste until the waste crosses a weighbridge into a licensed facility*. Waste contractors are the primary facilitators and transporters of on−site waste to o −site reuse, recycling and disposal. Additionally, they are the source of subsequent waste reporting and the compilation of data verifying disposal in the format of monthly reports.

Accordingly, all waste contractors will be required to provide monthly reports on waste reused, reprocessed or recycled, thus diverted from land fill and residual waste sent to land ll. These reports have a direct bearing on the waste generator's regulatory liability.

All entries in the Waste Data File must include:

- Time and Date of waste removal
- Description and size (in liters) of waste removed from the school
- Waste facility used for recycling and waste disposal to land fill and
- Vehicle registrations and the company name

4. WASTE STREAMS & CLASSIFICATION

4.1. EPA Waste Classification

The NSW EPA Waste Classification Guidelines (NSW EPA, 2014) provide for the classification of wastes into groups that pose similar risks to the environment and human health, these are defined in the Protection of the Environment Operations Act 1997.

Classes of waste described in the guideline are:

- Special waste
- Liquid waste
- Pre–classified waste, or wastes classified by chemical assessment as:
  - Hazardous waste
  - Restricted solid waste
  - General solid waste (putrescible)
  - General solid waste (non–putrescible).

4.2. Site-Specific Waste Stream

Potential waste types and corresponding EPA classifications or the operation of Catherine Field School are included in **Table 1.**

Table 1: Potential Waste Types and Classifications

Waste Type	EPA Classification	Waste Management
Paper including all types of recyclable paper but excluding paper towels, toilet paper & tissues	General solid waste (non–putrescible)	Paper recycling
Cardboard, excluding waxed cardboard.	General solid waste (non–putrescible)	Cardboard recycling
Plastics (recyclables) Toner cartridges (recyclable)	General solid waste (non–putrescible)	Co–mingled recycling
Plastics (non–recyclables)	General solid waste (non–putrescible)	General waste
Garden waste	General solid waste (non–putrescible)	General waste
Glass including bottles and containers	General solid waste (non–putrescible	Co–mingled recycling
Light bulbs, batteries, e–waste	Potentially hazardous waste	Specific recycling
General refuse such as food scraps and non–recyclable plastics.	General solid waste (putrescible) or General solid waste (non–putrescible	General waste or compost
Chemical waste from a Science Laboratory or Materials Workshop, Visual Arts	Potentially hazardous waste	Specialist Waste Contractor
Sharps	Hazardous Waste	Specialist Waste Contractor

5. WASTE GENERATION QUANTITIES

It is estimated that 1012 will be in attendance at the school.

As a conservative approach, the higher average waste and the lower recycling generation ates from the tables below have been adopted, thus it is estimated that the facility will produce approximately 4,432 litres of waste per week (5 working days) and 2,200 litres of recycling per week (5 working days).

Table 2: DCP (2014) Estimated Average Waste and Recycling Generation Rates

Premises Type	Average Waste Generation	Average Recycling Generation
Office	10 L ƒ 100 m^2ƒ per day	10 L ƒ100 m2 ƒ per day
Takeaway	80 L ƒ 100 m^2ƒ per day	Variable

Table 3: EPA (2012) Estimated Average Waste and Recycling Generation Rates

Premises Type	Average Waste Generation	Average Recycling Generation
Primary Education	7 L ƒ 100 m^2ƒ per day	0 L ƒ100 m2 ƒ per day
Office	8 L ƒ 100 m^2ƒ per day	6 L ƒ100 m2 ƒ per day
Takeaway	175 L ƒ 100 m^2ƒ per day	685 L ƒ100 m2 ƒ per day

Table 4: Estimated Average Waste and Recycling Generation Rates for Catherine Field

Waste	Quantity Generated per Week	Clearance Frequency
General Waste	4,432L	Minimum of once per week
Recycling	2,200 L	Minimum of once per week

6. WASTE MANAGEMENT

6.1. Waste Hierarchy

The following table indicates waste management practices i accordance with the Waste Avoidance and Resource Recovery Act 2001 (NSW EPA, 2014).

Table 5:

Implementing the Waste Hierarchy
Reduce
Conduct an audit on purchasing and use of an organization's materials e.g. paper and other school materials
Reduce general waste at the source, determine changes in returnable delivery systems including packaging and purchasing
Develop and implement a printing policy including settings all machines to duplex, rational sing printers copiers, phasing out non−duplex machines and guiding what should be processed electronically.
Institute *'think before you print'* policy aimed at eliminating unnecessary printing. Reduce font sizes use word processing so ware to t more text onto a page of paper and encourage double sided page printi g
Require suppliers to use stackable returnable reusable boxes instead of disposable cardboard boxes.
Focus on minimising waste (i.e. excess packaging, take−back, post use collection).
Reuse
Set up a reuse area for excess materials and promote the contribute on and reuse of excess materials. Reuse discarded paper printed on one side.
Conduct trial of recycled toner cartridges to determine quality and suitability for existing equipment and paper. Investigate arranging supply contracts around the policy of reusable toner cartridges and recycled paper.
Donate old (useable) computer electrical equipment, furniture and s e t t i n g s to charities, or sell at auction.
Implement the Enviro Bank program
Recycle

Implementing the Waste Hierarchy
Introduce recycling systems for major waste streams generated onsite including: > Paper and cardboard > Bo les and cans > Packaging and plastics
Conduct daily visual inspections f bin contents to assess contamination of separated waste streams. Organize to retrain students and staff if bins are continually contaminated
Modify or refresh signage on recycling bins or in recycling areas to promote correct recycling practice.
Provide regular information and education o students and staff on appropriate usage and recycling bins.
Recycle or reuse all electronic and IT equipment following replacement.
Monitoring and assessment
Request waste contractor to provide monthly data and reporting on recycled and materials sent to land ll
Report cost savings made from the reduce, reuse, recycle programming against the pre−cycle audit.

6.2. Waste Storage Area

The bins will be placed on a designated outdoor waste storage pad or within a compound. The waste storage area or bin parking area will be designed as per government guidelines.

These include:

- The floor finish in the compound will be a sealed concrete slab, graded and drained to meet Sydney Water Guidelines and able to support various weights relating to machinery
- The skips used for storage will be stored on a level slab
- A screen will be provided to ensure the bin parking area is screened from view and integrated into the building design
- Drainage in the bin parking area will be graded and drained to sewer and a potential grease trap installed compliant with Sydney Water's requirements
- The waste storage area is open and for unenclosed to provide adequate venti a on
- All equipment will require a safe operation procedure be in place with appropriate safety signage
- Washing of bins will require a trapped gully with hot and cold water mix tap
- The path of travel from the bin holding area and the waste stores to the truck needs to be level and will require no steps and a maximum gradient =1.14 (level for skips)
- All bins will be well maintained with lids a ached to prevent a rat vermin and infestation
- The waste storage area will be secured within the school compound to prevent the or vandalism

6.3. Waste Movement

The school facility manager will place smaller bins approximate Size 20−40lt throughout the school to collect waste. This includes the office, class rooms, playground areas and the canteen. Larger bins (240L Sulo) will be used near the canteen and the playground. The waste will be taken to the waste storage area. The cleaner will collect the waste on a regular basis and transport the collected waste by trolley if required, to the main waste storage 660 litre bins.

- General waste and recycling bins will be located around the school
- Bins will be clearly labelled using colour coding according to AS4123.7−2006 Mobile Waste Containers − Part 7
- General waste and recyclable waste will be collected in separate bins
- The path from the compound to the truck will be level for easy transfer of waste and recycling
- The cleaner will collect waste on a regular basis and transport in trolley to the main waste compound
- The cleaners will be advised to ensure bins are not too heavy to handle alone risking injury, before bins are taken to the dedicated Waste Storage Area
- Adequate storage space will be available for easy maneuvering of bins within the school
- Bins will be kept in good condition any damaged, lidless, wheel−less, split or incomplete bins will be repaired or disposed of
- Where smaller but physically overweight bins are emptied into larger bins, proper liftin equipment will be installed and used
- Mobile and wheelie bins will not be li ed by hand as they are designed for mechanical liaising
- Collection points will enable the mechanical collection of bins
- Appropriate personal protection equipment (PPE) will be provided for all people handling waste or bins
- Appropriate gloves and other PPE should be used at all ti es
- Avoid the need to carry bags of waste any distance. Bags can be used for lining bins but should be placed immediately into another appropriate container when removed from bins.

6.4. Waste Collection Point

The Waste Collection Point has been designed to be placed within the compound near the carpark allowing easy access as shown in Appendix A. It is considered that both the waste storage and pad areas are located at an appropriate location.

6.5. Waste Collection Vehicle Movements

The waste collection truck will enter through the car park through Barry O'Keefe Drive and waste will be collected from the designated Waste Collection Point. The truck will complete a reverse entry where it will collect the 660L Mobile Garbage Bins and will then move forward and exit by the carpark.

6.6. Waste Collection Hours

The waste collection truck will schedule work during out of school hours to reduce any risk from the truck and bin movements to the school children. The collection of waste and for any recycling activity, must only occur before 8 am and after 4 pm on school days and undertake to minimise noise disturbance to the nearby area.

6.7. Waste Collection Contractor

A contract with a licensed waste contractor for the collection and removal of all waste to a licensed facility, needs to be arranged and concluded prior to commencement of waste removal. The contract will also include specific provisions for the times and manor of collections and the verification of recycling and for disposal of all of the facility's aforementioned waste streams and potential interment streams including but not exclusively: batteries, electronics, light bulbs, smoke detectors and any other fixtures or fittings that are generated as recyclable waste.

Upon engagement, a precondition is written evidence of a valid and current contract with a licensed collector for waste and recycling collection and will be provided to the client of the facility. The contract will, as stated above, include specifi details on the method, ming and local on of both the licensed recycling facilities used and for licensed land fill(s) used for the disposal of non−recyclable waste. The generator of the waste is the owner of the waste until it crosses a weighbridge into a licensed land ll or licensed recycling facility.

7. ONGOING WASTE MANAGEMENT PLAN

Number of students: 1012

Number of levels: One

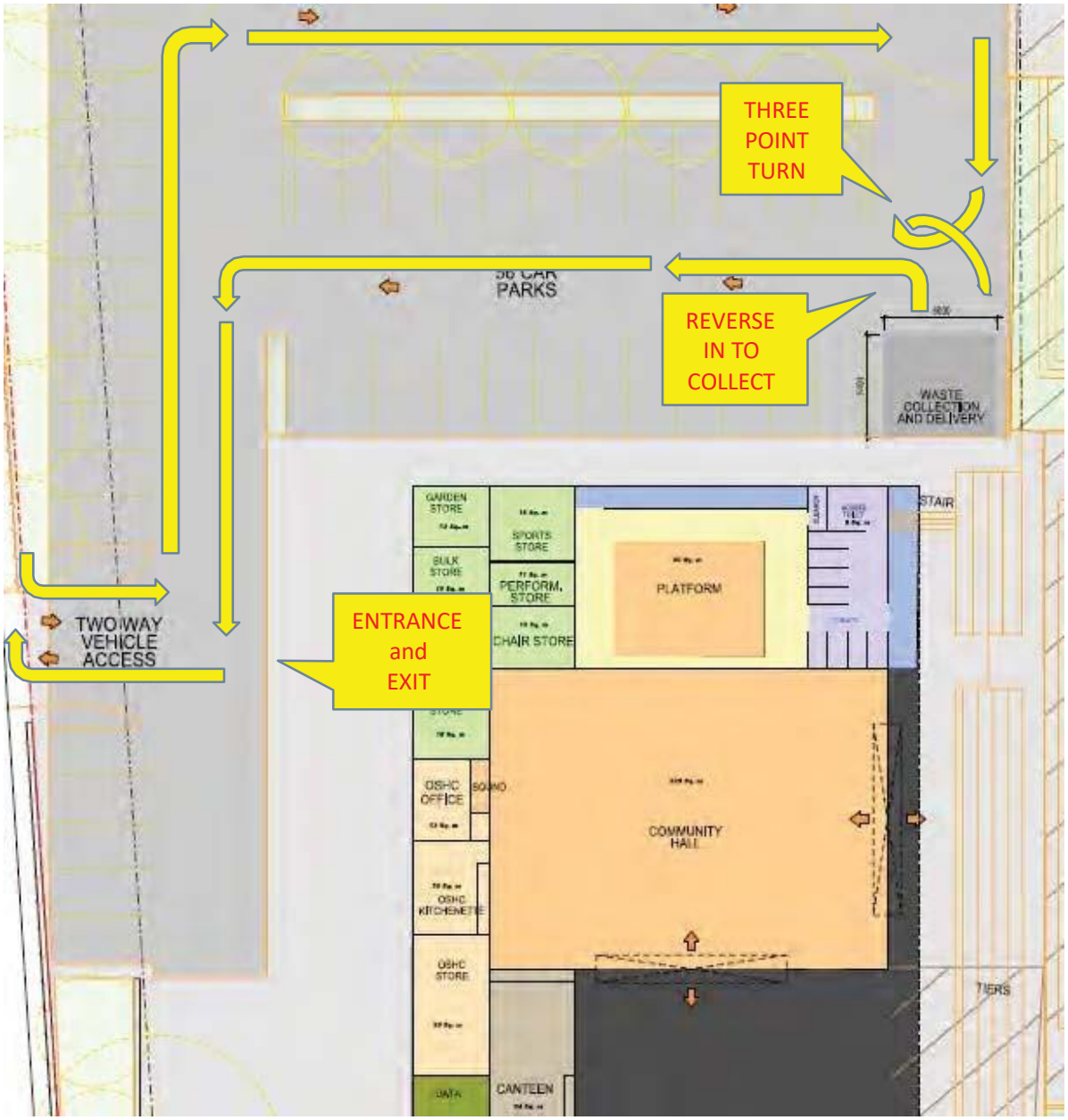
Location of pick up: Barry O'Keefe Drive, Catherine Field

Time of pick–up: Before 8.00 a.m. and after 4.00 p.m.

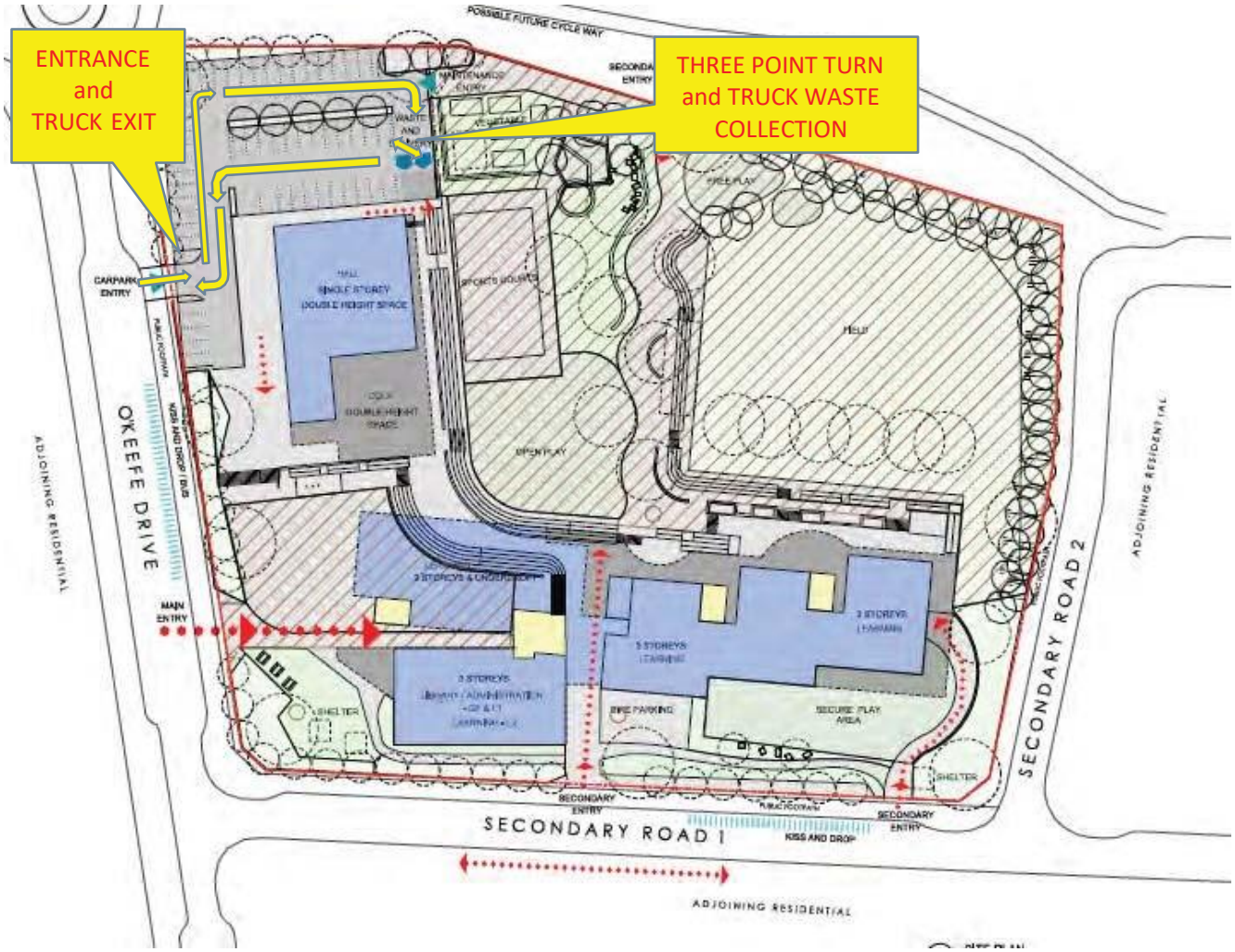
Waste Contractor: TBA

Material Type on Site	Estimated Volume (Litres or Weight (t) (Most Favourable ⓪ Least)			Proposed quantity of garbage bins	Clearance Frequency	
	Reuse	Recycling	Disposal	Proposed quantity of garbage bins	Clearance frequency of recycling bins	Clearance frequency of general bins
General Waste including: Food Scraps, Tissues Napkins Hand Towels, scraps from canteen.			4,432 litres	4 X 1,100L or 7 X 660L or 18 X 240L		Weekly
General Recyclable Material including Paper, Mixed Plastic 1–7), Plastic Bottles, Cardboard, Mixed Metal, Aluminum Cans.		2,200 L		2 X 1,100L or 4 X 660L or 9 X 240L	Weekly	
Potentially hazardous waste Chemical waste from a Science Laboratory or Materials Workshop, Visual Arts		TBA				
Special Waste including, batteries, e–waste		TBA				

APPENDIX A – WASTE COLLECTION ZONE



APPENDIX B – TRAFFIC FLOW



CATHERINE FIELD PRIMARY SCHOOL CONSTRUCTION WASTE MANAGEMENT PLAN

VERSION NUMBER:

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35 WAVERLY CRST, BONDI JUNCTION NSW 2022

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1. INTRODUCTION

This report has been prepared based on the requirements of the Secretary's Environmental Assessment Requirements Condition 20 Section 4.12 (8) of the Environmental Planning Assessment.

Section 2 Environmental Planning and Assessment Regulation 2000

Prepare a Construction Waste Management Plan

The Waste Management Plan will

a) Identify, quantity and classify waste streams to be generated during construction.
b) Describe measures to be implemented to manage, reuse, and recycle and safely dispose of the waste.
c) Identify servicing arrangements (including but not limited to waste management loading zones and mechanical Plant for the site.
d) Prepare a site drawing for Construction Waste Management Loading Zones.

2. PROJECT PROFILE

The new Catherine Field primary school will be built in the Narellan primary school cluster of Catherine Field (Part), in the Sydney Metro South West district. The South West District is identified the Greater Sydney Commission's metropolitan plan "A Plan for Growing Sydney" as a significant focus for intensive growth and infrastructure in− vestment over next 20 years. The draw South West District Plan also applies to this area. The Cluster falls within the Camden Local Government Area (LPG) and includes 9 schools, which Catherine Field New Primary School is part o.

Catherine Field (Part) is in the South West Growth Centre, which is undergoing a significant development. The South West Growth Centre will have a significant number of dwellings and very high projected population growth. This is expected to generate increase in numbers of primary school age children, and demand for teaching space, and facilities to at least 2031.

3. PROJECT DESCRIPTION

The new primary school at Catherine Field (Part) will be located on a site within a Greenfield Development that is expected to generate substantial population and school age population growth. The site allocated for the school is approximately 2.0 Ha and has a direct connection to a 5.0 Ha future Open Space to its Northern boundary, and full road access to the rest of the site's 3 boundaries.

The construction will be delivered in a single stage as referenced CDR 17027 Catherine Field 181113

- Single stage construction will include:
- 44 new teaching spaces to accommodate 1012 students.
- Core Facilities, Staff Facilities and Administration o Core 35 Standard
- Infrastructure and landscaping
- Parking facilities

4. OBJECTIVES & TARGETS

The project objectives include:

- Meeting all waste management standards while ensuring the health and safety of the workers on the project.
- Maximising the quantities of materials diverted from land fill by reusing, recycling and reprocessing o −site.
- Disposal of no more than 20% of residual waste materials to a licensed land fill in accordance with both regulatory and legal requirements.
- The diversion from land fill of 80% of construction waste by weight, to meet the criteria of the NSW State Government's waste legislation waste policy setting s and regulatory regime.

5. 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 2001
- Protection of the Environment Operations (Waste} Regulation 014
- Secretary's Environmental Assessment Requirements

6. RISK MANAGEMENT

The current legislation determines that the generator of waste is the owner of the waste until the waste crosses a weighbridge into a licensed facility. Waste contractors including construction contractors are the primary transporters of waste o −site, accordingly contractors will be required to provide monthly reports on waste reused, reprocessed or recycled, thus diverted from land fill or waste sent to land ll. These reports have a direct bearing on the generator's regulation.

The WMP will be implemented on site throughout excavation and construction.

All entries in the Waste Data File must include:

- Time and Date of material removed
- Description and size ofwaste
- Waste facility used
- Vehicle registration and Waste Contractors Company name

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

7. WASTE MANAGEMENT STRATEGIES

The waste management strategy for the project will operate over the design, procurement, and construction including t out of the project.

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

8. WASTE MANAGEMENT PLAN FOR DEVELOPMENT APPLICATION

Brief Outline of Proposal:

The construction will be delivered in a single stage.

- Single stage construction will include:
- 44 new teaching spaces to accommodate 1012 students.
- Core Facilities, Staff Facilities and Administration of Core 35 Standard
- Infrastructure
- Parking facilities

Project Site Address:

Barry O'Keefe Drive, Catherine Field (Part) Precinct, NSW 2567

Name

Martin Fenn (TSA Management)
of Department of Education NSW

Applicant's Address:

Level 15, 207 Kent Street | Sydney NSW 2000

Phone Number:

Existing and other structures currently on site:

No existing structures the site is a Greenfelds site

PHASE 1: EXCAVATION

Material Type on Site	Estimated Volume (m^3) or Weight (t) (Most Favourable ⓪ Least)			ON–SITE TREATMENT	OFF–SITE TREATMENT	
	Reuse	Recycling	Disposal	Proposed reuse and for recycling collection methods	Disposal / Transport Contractor	Waste Depot, Recycling Outlet or Land fill site
Excavated materials	1,100					
Sub Total						
TOTAL	**1,100**					
Narrative: Excavated material reused on site						

PHASE 2: CONSTRUCTION

Material Type on Site	Estim ted Volume (m^3) or Weight (t) (Most Favourable ⓪ Least)			ON–SITE TREATMENT	OFF–SITE TREATMENT	
	Reuse	Recycling	Disposal	Proposed reuse andfor recycling collec on methods	Disposal ƒ Transport Contractor	Waste Depot, Recycling Outlet or Land ll site
Concrete Brick Block–work & Tile		197m^3		Co–mingled Bins	TBA	Crushed for road base
Metals		114m^3		Co–mingled Bins	TBA	Scrap Metal Dealer for smelting
Timber o –cuts		247m^3		Co–mingled Bins	TBA	Recycled for chips and mulch
Cardboard		169m^3		Co–mingled Bins	TBA	Recycled into cardboard
Plasterboard		184m^3		Co–mingled Bins	TBA	Recycled as soil conditioner
Plastics plastic packaging, paint drums, containers		142m^3	25 m^3–	Co–mingled Bins	TBA	– Styrene and plastic o land fill * Paint drums nested and recycled
Pallets and Reels	130 units			Separated onsite	TBA	Returned to the supplier
Liquid Waste			17 m^3	Separated onsite	TBA	Transferred to licensed land fill
General Waste			170 m^3	Co–mingled Bins	TBA	Transferred to licensed land fill
Sub Total	**NB:130 units**	**1,053m^3**	**212 m^3**			
TOTAL	**1,265 m^3**			**NB: Plus, an additional 130 pallets (single units returned to suppliers for reuse)**		

Narrative:
As the contracts for all contractors have not been let there are still those including the waste contractor To Be advised (TBA**).**
All waste will be co–mingled and taken for onsite separation an reuse or recycling except Pallets and Reels and liquid waste to be sent to land fill for processing.

9. APPENDIX A – WASTE MANAGEMENT LOADING ZONE