Operational Waste Management Plan

The Ribbon Hotel Serviced Apartments, Retail and Imax

March 2019

Project Details

Developer: Grocon

Project Title: The Ribbon Hotel Serviced Apartments, Retail and Imax

Address: 31 Wheat Road, Sydney

Specific Stage: Sydney Harbour Foreshore Authority offices and mixed retail

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Date: March 2019



Objectives

The objectives of the The Ribbon Operational Waste Management Plan (WMP) are to:

- Ensure responsible and safe management of waste
- Define the development's waste management principles
- Incorporate sound waste practices into the and ongoing management of waste services
- Enable an effective system for the management of waste
- Provide tenants with a clear outline of their responsibilities in regards waste management and minimisation
- Maximise recycling and diversion of waste from landfill.

Site Profile

The development consists of:

- A Hotel
- Serviced Apartments (143 appartments)
- Mixed Retail
- IMAX Theatre

The IMAX and surrounding retail are separate from the Hotel and Apartments. The Hotel consists of four levels of podium with a bar, retail, a gym and restaurant, ballroom, meeting rooms and plant room. Level 5 – 21 house the Hotel rooms and serviced apartments. Level 22 has a pool and level 23 has a restaurant. Areas per type are detailed in the table below:

Table 1 – Area by Type (m2)

Tenant	Details	Size
W Hotel		450 Rooms
Apartments		143 apartments
IMAX	Multiple Theatres	2356m2
Retail 2	Meat & Wine Co	694m2
Retail 3	Restaurant	154m2
Retail 4	Gelatissimo	55m2
Retail 5	Jimmy's Fish Restaurant	578m2
Retail 6	Subway	63m2

Waste Generation Estimates

Table 2 details the type and quantity of estimated waste generation. These quantities were based on City of Sydney waste guidelines plus industry averages of similar type activities.

Note: actual quantities will vary based on actual foot traffic and operational aspects of each tenancy. Tenant's approach to waste minimisation is encouraged with reference to the City of Sydney's policy for waste minimisation and recycling targets.

The final waste contract should allow for increased/decreased collections should volumes vary. This should be monitored during initial operating period.

<u>Table 2 – Total Waste Estimates</u>

Area	Cardboard/Paper	Comingled	Glass	Organics	Residue	Total
	Litres/day	Litres/Day	Litres/Day	Litres/Day	Litres/Day	
Imax	300		50		2,000	2,350
Imax Retail	3,450	735	98	196	4,900	9,379
Hotel	2,900	1,900	1,300	1,500	3,000	10,600
Apartments	261	2,436			2,436	5,133
Total	6,911	5,071	1,448	1,696	12,336	27,462

Note: Comingled waste refers to plastic containers (PET; HDPE); steel cans; aluminium cans; glass bottles and jars and liquid paper board containers. Except for the bar areas, glass would be included in this stream.

Waste Management Systems

Two waste rooms are located in the dock area accessed from Wheat Road. The IMAX and IMAX Retail will use the waste room located adjacent to the dock. The W Hotel and Apartments will use the waste room located opposite the dock, (Refer Appendix A – Waste Room Plan).

<u>Table 3 – Waste System – IMAX/ Retail</u>

Imax/Retail	Infrastructure	Collection/day	
Cardboard	Shared AutoBaler	4 bales	
Paper	660L MGB	2 bins	
Comingled	1100L MGB	2 bin	
Glass	Crusher + 80L bins	5 bins	
Organics	Food Processing Unit + 120L	3 bins	
Residue	Compactor + 1100L MGB	3 bins	
Used Cooking Oil	Tank and Caddy	1	

Table 4 - Waste System - Hotel/Apartments

W Hotel/Apartments	Infrastructure	Collection/day
Cardboard	Shared AutoBaler	4 bales
Paper	660L MGB	1 bins
Comingled	1100L MGB	6 bin
Glass	Crusher + 80L bins	6 bins
Organics	Food Processing Unit + 120L	7 bins
Residue	Compactor + 1100L MGB	2 bins
Used Cooking Oil	Tank and Caddy	1

Waste Management Practices

Each Tenant is responsible for the separation of each stream in line with this WMP. Separate bins should be stored within the tenancy to allow recycling to be separated at source and transferred to the waste room without contamination or mixing of streams.

All tenants are responsible for ensuring recycling is deposited into the correct system within the waste area. Litter and/or spills should be immediately addressed so as to maintain a safe and clean environment.

Volume reduction equipment, as detailed below, has been recommended to enable the effective management and containment of waste within the allocated waste management areas.

Property management will ensure that all staff are trained in the correct and safe use of the waste equipment. Property management are responsible for removing full cardboard bales and storing for collection and overseeing the maintenance of all waste infrastructure.

In accordance with the City of Sydney waste minimisation policy, all tenants should review their waste generation and explore opportunities to minimise the total quantity generated. Avoiding the use of polystyrene containers and single use packaging are recommended as a priority focus.

Technology Options

Volume reduction technologies have been recommended for:-

- Cardboard
- Glass (bar areas)
- General waste (Imax/Retail)
- Organics (Retail/Hotel)

While specific models and makes have been identified within this report, it is important to note that the waste industry is undergoing a period of rapid uptake of new technologies and development of new technologies due to increased government support and drive from business to better utilise space and tie. Further discussions should be undertaken when commissioning and/or tendering the waste contract to establish the best fit for this development. It may be worthwhile directly discussing the site with a limited number of suppliers and having them present what they believe to be their best solution. Below are options I believe should be further investigated.

<u>Cardboard</u>: A shared cardboard baler will provide a good solution in terms of volume reduction and hence space maximisation. Though some cleaner time is required to change over bales. A large unit would be preferred so as to reduce the number of times bales need changing.

The main options are:

 Cardboard - Auto balers, eg Trethewey or Elephant's Foot. These type of balers are good especially where tenants utilise the system directly as they do not require boxes to be flattened and hence are quicker to use and more user friendly. They can also be configured to manage cardboard and plastic in separate balers.

- Glass: BottleCycler Australia is a well-known brand of glass crushers. These are used commonly in high glass generation areas such as bars; conference and convention centres. The units can be stand alone or built into cabinetry. The units can be placed in BOH areas and utilise an 80 litre bin which can be collected directly from the tenancy or placed on the loading dock for direct collection. In Sydney the material is sent to Visy where it is reprocessed. The mixed "Cullet" can also be used in road base; sporting facility flooring etc.
- Organics: This has been the area of greatest new technology due to the Government's focus on food waste and its relative high cost of disposal. Units available range from those that can discharge straight to the grease trap system (ORCA); to those that are macerated and diverted to holding tanks as liquid (Insinkerator; Pulpmaster); to other that dehydrate the food waste (GAI; Closed Loop).
 - o Dehydrators eg Gai Unit & Hungry Giant. These units essentially heat up the material so that the liquid vaporises and is removed from the waste. The liquid is then condensed and diverted to the trade waste system. The remaining solids can either be disposed in the general waste system (having reduced the volume and weight significantly), or could be diverted for further processing.
 - Decomposer eg Closed Loop; WasteMaster. These units utilise heat and microorganisms to break down the organic matter into a compost/nutrient.
 - o Liquefiers eg 'Pulpmaster" these units liquefy the organic waste and send the material to a holding tank to be separately pumped out. There is no solid portion.

In the WMP, the unit has been located in the Hotel waste room so as to maximise access. Some of these units are able to be housed in BOH areas. For example the ORCA system is located in the galley of a Sydney Hotel with the output plumbed directly into the grease trap system. Such setups reduce labour time transporting waste to the waste room, as well as reducing the pressure on the space in the waste room.

 General waste – for waste that is high volume/low weight such as food and drink containers, compressing this material prior to disposal has the capacity to reduce volume by up to 10 times. The Miltek unit is one of many general waste compactors used within the commercial space. This system is being used in Sydney in BOH areas of a high volume food court.

Waste Signage and Colour Coding

Signage will be displayed within the waste rooms in compliance with the City of Sydney Waste Policy. These signs will consist of safety warnings in regards equipment and movement as well as instructional signage in regards each of the waste streams in place.

The signs and waste bins will be colour coded in line with the Australian Standard for Mobile Garbage Bins. The key streams and details as follows:-

• Paper:- Paper Waste is placed in "Sky" Blue colour coded bins. Paper Waste includes:

- Small cardboard boxes and packaging
- Photocopy paper
- Printed or typed reports (does not include secure/confidential papers)
- Newspapers & magazines
- Phonebooks
- Brochures

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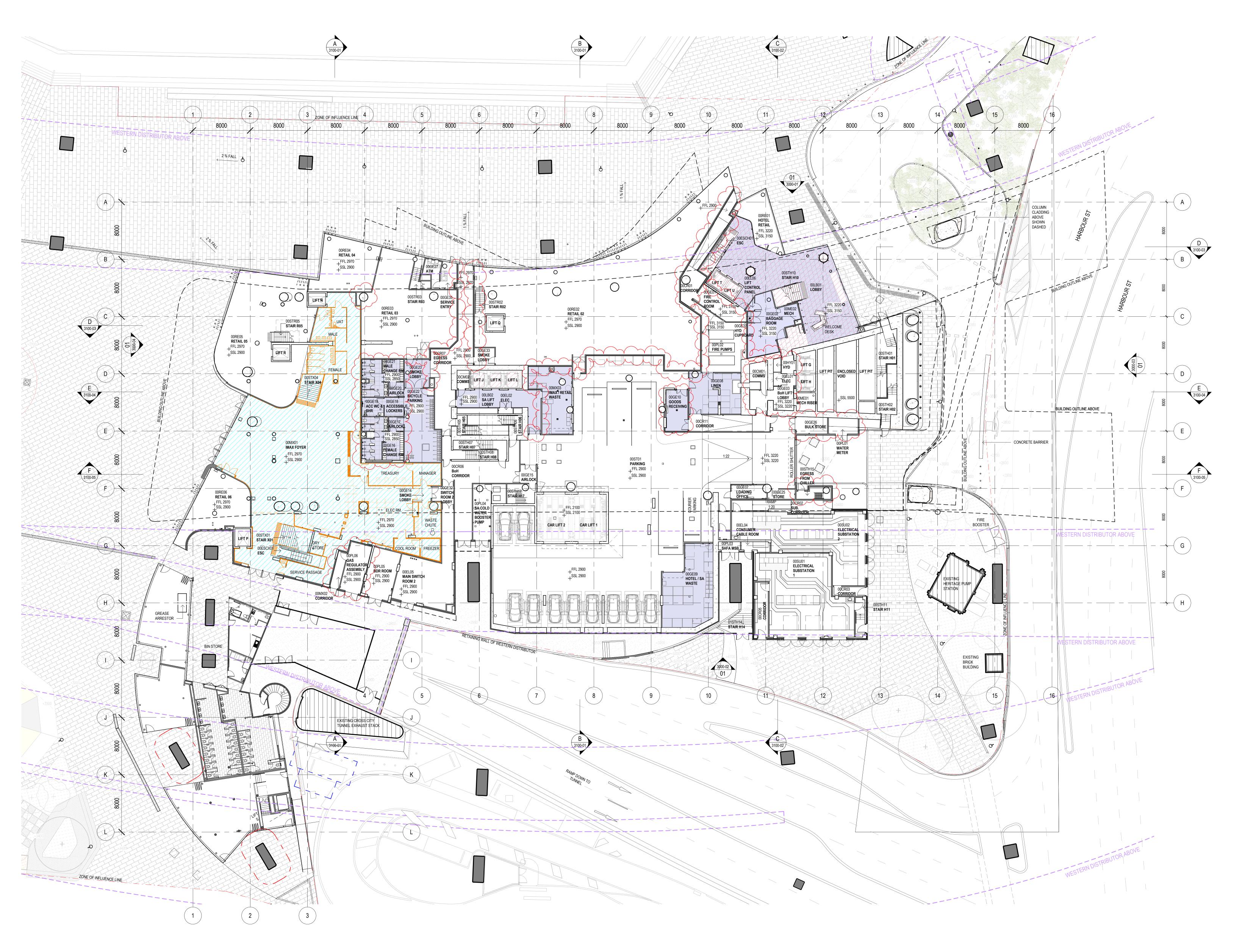
- Envelopes
- Tissue Boxes.
- Cardboard:- cardboard will be flattened and transported to the auto-baler. Cardboard signs will be
 Dark Blue. The cardboard stream accepts all grades of cardboard. Waxed cardboard is
 NOT acceptable in this stream.
- Mixed Recycling (Commingled):- Mixed Recyclables are disposed of in Yellow colour coded bins. No
 other material such as cardboard, paper, food waste and plastics are to be placed in these
 bins. Mixed recyclables include:
 - Aluminium Cans All types of aluminium
 - Glass Glass bottles, jars and containers (does not include glassware and/or crockery)
 - Milk and Juice Cartons Milk and juice cartons, poppers, brick shaped cartons e.g., long life milk/juices
 - Steel Cans Aerosol cans, food tins, paint tins (empty of all liquid) and cooking oil containers (empty of all liquid)
 - Rigid Plastics (PET –"1", HDPE "2") Soft drink bottles, milk bottles and water bottles (does not include soft plastics e.g. plastic bags).
- General Waste (Landfill): General waste is disposed of in the Red general waste bins. No other material
 such as recyclables, paper and/or cardboard is to be placed in these bins. General waste
 includes:
 - Waxed paper
 - Tissues/Paper towels/Napkins
 - Containers with leftover food
 - Coffee cups
 - Used office stationary e.g. pens; clips
 - Other non-recyclable waste.

Note: Hazardous; toxic; medical; sharps; liquid; flammable; chemical waste MUST NOT be disposed in the General waste bins. Please contact the property management team for further information.

- Organics: Organic waste will be separated and transferred to Burgundy bins or the food processing unit. Organic waste consists of food waste such as meat, fish, poultry, fruit, vegetables, breads and green waste such as flowers. The final acceptance criteria will be dependent on the system selected for on-site processing as some systems for instance do not accept large bones.
- Ad Hoc Waste Streams:- Additional waste streams will, where possible, be segregated and diverted for recycling, these streams may include:

- Soft Plastics
- Cooking Oil
- E-waste
- Food donations (Oz Harvest, charities)
- Mobile phones
- Florescent tubes.
- Container Deposit Scheme: The Container deposit stream consist of those eligible drink containers with the 10c refundable signage. Some drink containers are not accepted. If this system is introduced it will reduce the volume of the mixed, comingled stream. The CDS scheme offers potential cost savings to the site and may be introduced in specific areas such as IMAX where separation and promotion can be more easily achieved.

Appendix A – Waste Room Plans



GENERAL NOTES 1. DIMENSIONS ARE IN MILLIMETERS UNO. 2. ALL DIMENSIONS ARE ROUNDED TO THE NEAREST 5mm 3. DO NOT SCALE OFF DRAWING. 4. ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE PROCEEDING.
5. ALL DISCREPANCIES TO BE NOTIFIED IN WRITING TO

RIDLEY CONSOLIDATED GROUP PTY LIMITED ("RIDLEY")
6. REFER TO ARC-RID-1021-00 FOR RADIAL GRID SET-OUT.

SERIES NOTES

 REFER TO THE ARC-RID-0001-XX SERIES FOR THE FULL DRAWINGS LIST AND SERIES.
 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH: ARC-RID-22XX SERIES - GENERAL ARRANGEMENT PLANS.

 GENERAL ARRANGEMENT PLAN ZONES ARE INDICATED ON THE KEYPLAN PART OF THE DRAWING.
 BASE BUILD INFORMATION AND LAYOUTS ASSOCIATED WITH THE IMAX FITOUT ARE BASED ON THE FOLLOWING PMDL DESIGN DRAWINGS:

• IMX-PMD-1100-02(19)

• IMX-PMD-1101-02(16)

 IMX-PMD-1103-02(17) • IMX-PMD-1104-02(19) IMX-PMD-SKT-3100(1)

• IMX-PMD-1102-02(16)

LEGEND

RL XXXX RELATIVE LEVEL

SSL XXXX STRUCTURAL SLAB LEVEL

FFL XXXX FINISH FLOOR LEVEL AREA SUBJECT TO FITOUT

REDESIGN AREA SUBJECT TO PMDL IMAX FITOUT DESIGN

MATCHLINE

ROOMS DOCUMENTED AT 1:50 ON ROOM LAYOUT SHEETS MIRRORED ROOMS DOCUMENTED AT 1:50 ON ROOM LAYOUT SHEETS

VARIANT ROOMS DOCUMENTED AT 1:50 ON ROOM LAYOUT SHEETS PMDL SCOPE

G ISSUED FOR COORDINATION

F MILESTONE UPDATE PRIOR TO FITOUT REDESIGN E ISSUED FOR INFORMATION D ISSUED FOR INFORMATION C ISSUED FOR INFORMATION
B ISSUED FOR STAGE 2B CONSTRUCTION
CERTIFICATE A ISSUED FOR CONSTRUCTION FOR PLASTERBOARD PACKAGE ONLY ISSUED FOR COORDINATION

DESIGN ARCHITECT
HASSELL

DOCUMENTING ARCHITECT

RIdley

PROJECT
THE RIBBON

31 WHEAT ROAD, SYDNEY

RIDLEY PROJECT NUMBER
160130-RDH DRAWN CHECKED APPROVED KC JC MK

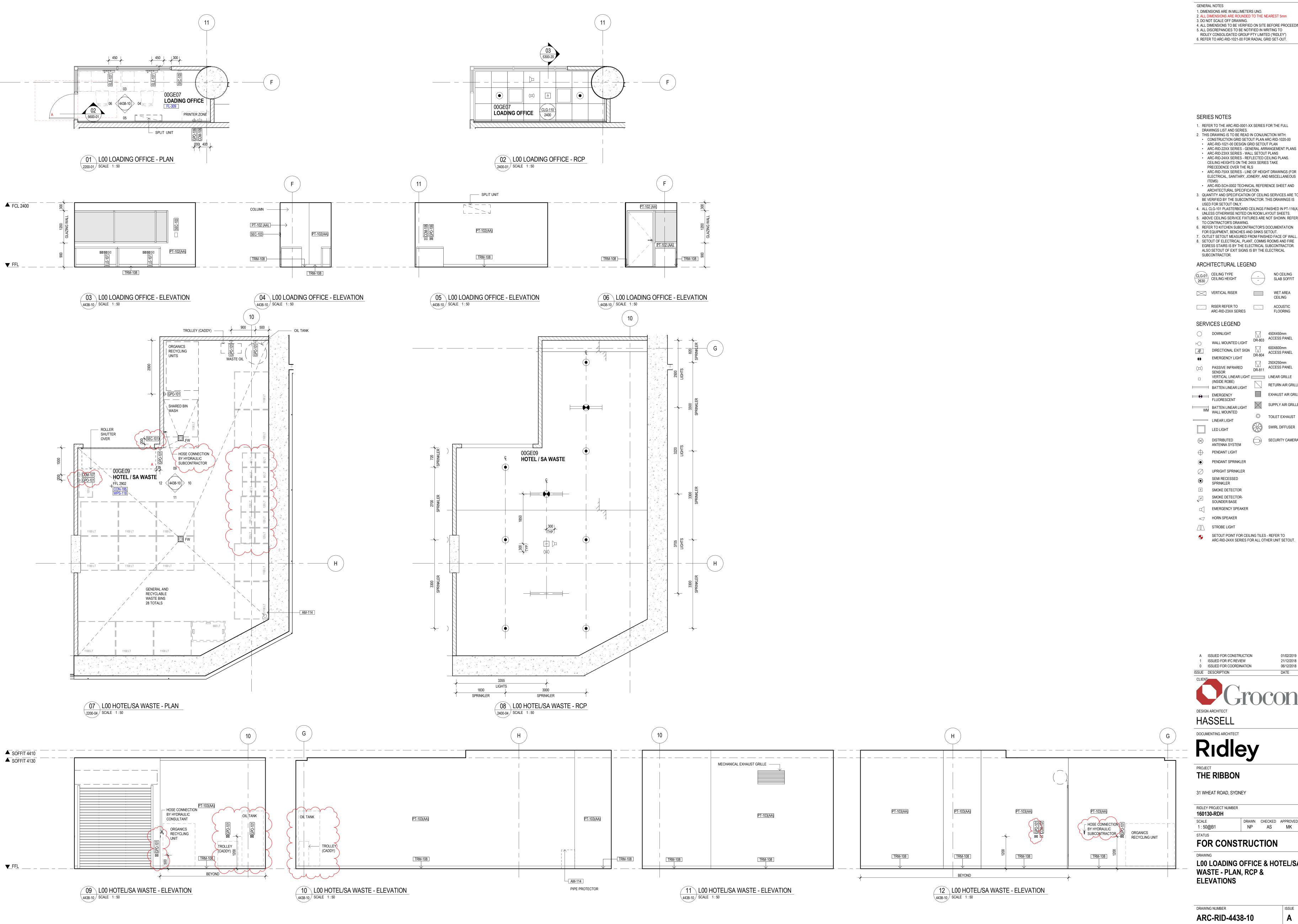
FOR CONSTRUCTION

KEY PLAN - L00 GROUND

DRAWING NUMBER

ISSUE 2 ARC-RID-1100-00

Original Sheet Size B1- 1000 x 707



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2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH: CONSTRUCTION GRID SETOUT PLAN ARC-RID-1020-00

 ARC-RID-1021-00 DESIGN GRID SETOUT PLAN ARC-RID-22XX SERIES - GENERAL ARRANGEMENT PLANS ARC-RID-23XX SERIES - WALL SETOUT PLANS

 ARC-RID-24XX SERIES - REFLECTED CEILING PLANS. CEILING HEIGHTS ON THE 24XX SERIES TAKE PRECEDENCE OVER THE RLS

 ARC-RID-75XX SERIES - LINE OF HEIGHT DRAWINGS (FOR ELECTRICAL, SANITARY, JOINERY, AND MISCELLANEOUS

ARC-RID-SCH-0002 TECHNICAL REFERENCE SHEET AND

ARCHITECTURAL SPECIFICATION

3. QUANTITY AND SPECIFICATION OF CEILING SERVICES ARE TO

BE VERIFIED BY THE SUBCONTRACTOR. THIS DRAWINGS IS USED FOR SETOUT ONLY.

4. ALL CLG-101 PLASTERBOARD CEILINGS FINISHED IN PT-116(A) UNLESS OTHERWISE NOTED ON ROOM LAYOUT SHEETS.

5. ABOVE CEILING SERVICE FIXTURES ARE NOT SHOWN. REFER TO CONTRACTOR'S DRAWING.

6. REFER TO KITCHEN SUBCONTRACTOR'S DOCUMENTATION FOR EQUIPMENT, BENCHES AND SINKS SETOUT.

8. SETOUT OF ELECTRICAL, PLANT, COMMS ROOMS AND FIRE EGRESS STAIRS IS BY THE ELECTRICAL SUBCONTRACTOR.
ALSO SETOUT OF EXIT SIGNS IS BY THE ELECTRICAL

ARCHITECTURAL LEGEND

NO CEILING SLAB SOFFIT

RISER REFER TO ARC-RID-23XX SERIES ACOUSTIC FLOORING

SERVICES LEGEND

⊢ WALL MOUNTED LIGHT DIRECTIONAL EXIT SIGN

PASSIVE INFRARED SENSOR

VERTICAL LINEAR LIGHT ______ LINEAR GRILLE (INSIDE ROBE) RETURN AIR GRILLE

BATTEN LINEAR LIGHT EMERGENCY FLUORESCENT

BATTEN LINEAR LIGHT WALL MOUNTED

LINEAR LIGHT

ANTENNA SYSTEM

→ PENDANT LIGHT PENDANT SPRINKLER

UPRIGHT SPRINKLER

SEMI RECESSED

SPRINKLER 9 SMOKE DETECTOR

SMOKE DETECTOR-

SOUNDER BASE EMERGENCY SPEAKER

STROBE LIGHT

SETOUT POINT FOR CEILING TILES - REFER TO ARC-RID-24XX SERIES FOR ALL OTHER UNIT SETOUT.

A ISSUED FOR CONSTRUCTION 1 ISSUED FOR IFC REVIEW 0 ISSUED FOR COORDINATION

21/12/2018 06/12/2018

HASSELL

DOCUMENTING ARCHITECT

THE RIBBON

31 WHEAT ROAD, SYDNEY

RIDLEY PROJECT NUMBER 160130-RDH DRAWN CHECKED APPROVED NP AS MK

FOR CONSTRUCTION

L00 LOADING OFFICE & HOTEL/SA WASTE - PLAN, RCP & **ELEVATIONS**

DRAWING NUMBER ARC-RID-4438-10

Original Sheet Size B1- 1000 x 707

ISSUE



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4. ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE PROCEEDING. 5. ALL DISCREPANCIES TO BE NOTIFIED IN WRITING TO RIDLEY CONSOLIDATED GROUP PTY LIMITED ("RIDLEY") 6. REFER TO ARC-RID-1021-00 FOR RADIAL GRID SET-OUT.

SERIES NOTES

1. REFER TO THE ARC-RID-0001-XX SERIES FOR THE FULL DRAWINGS LIST AND SERIES.

2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH: CONSTRUCTION GRID SETOUT PLAN ARC-RID-1020-00 ARC-RID-1021-00 DESIGN GRID SETOUT PLAN

 ARC-RID-22XX SERIES - GENERAL ARRANGEMENT PLANS ARC-RID-23XX SERIES - WALL SETOUT PLANS ARC-RID-24XX SERIES - REFLECTED CEILING PLANS. CEILING HEIGHTS ON THE 24XX SERIES TAKE

PRECEDENCE OVER THE RLS ARC-RID-75XX SERIES - LINE OF HEIGHT DRAWINGS (FOR ELECTRICAL, SANITARY, JOINERY, AND MISCELLANEOUS

 ARC-RID-SCH-0002 TECHNICAL REFERENCE SHEET AND ARCHITECTURAL SPECIFICATION

3. QUANTITY AND SPECIFICATION OF CEILING SERVICES ARE TO

BE VERIFIED BY THE SUBCONTRACTOR. THIS DRAWINGS IS USED FOR SETOUT ONLY.

EGRESS STAIRS IS BY THE ELECTRICAL SUBCONTRACTOR. ALSO SETOUT OF EXIT SIGNS IS BY THE ELECTRICAL

> NO CEILING SLAB SOFFIT

ACOUSTIC

FLOORING

4. ALL CLG-101 PLASTERBOARD CEILINGS FINISHED IN PT-116(A) UNLESS OTHERWISE NOTED ON ROOM LAYOUT SHEETS. 5. ABOVE CEILING SERVICE FIXTURES ARE NOT SHOWN. REFER

TO CONTRACTOR'S DRAWING. 6. REFER TO KITCHEN SUBCONTRACTOR'S DOCUMENTATION

FOR EQUIPMENT, BENCHES AND SINKS SETOUT. 7. OUTLET SETOUT MEASURED FROM FINISHED FACE OF WALL. 8. SETOUT OF ELECTRICAL, PLANT, COMMS ROOMS AND FIRE

SUBCONTRACTOR. ARCHITECTURAL LEGEND

CLG-01 CEILING TYPE CEILING HEIGHT

VERTICAL RISER

RISER REFER TO ARC-RID-23XX SERIES

SERVICES LEGEND DOWNLIGHT

├─ WALL MOUNTED LIGHT

DIRECTIONAL EXIT SIGN

(xx) PASSIVE INFRARED SENSOR VERTICAL LINEAR LIGHT ______ LINEAR GRILLE

(INSIDE ROBE) BATTEN LINEAR LIGHT

EMERGENCY FLUORESCENT

BATTEN LINEAR LIGHT WALL MOUNTED

LINEAR LIGHT

DISTRIBUTED ANTENNA SYSTEM

PENDANT LIGHT

PENDANT SPRINKLER

UPRIGHT SPRINKLER

SEMI RECESSED SPRINKLER

9 SMOKE DETECTOR SMOKE DETECTOR-

SOUNDER BASE EMERGENCY SPEAKER

STROBE LIGHT

SETOUT POINT FOR CEILING TILES - REFER TO ARC-RID-24XX SERIES FOR ALL OTHER UNIT SETOUT.

A ISSUED FOR CONSTRUCTION 2 ISSUED FOR IFC REVIEW 1 ISSUED FOR COORDINATION 0 ISSUED FOR INFORMATION

06/12/2018 15/06/2018 ISSUE DESCRIPTION

21/12/2018

HASSELL

DOCUMENTING ARCHITECT

THE RIBBON

31 WHEAT ROAD, SYDNEY

RIDLEY PROJECT NUMBER

160130-RDH SCALE 1:50@B1

STATUS

FOR CONSTRUCTION

L00 IMAX RETAIL WASTE & REFUSE - PLAN, RCP & **ELEVATIONS**

DRAWING NUMBER

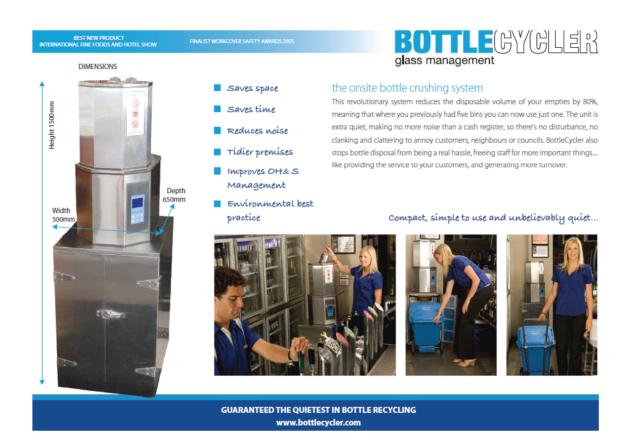
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ISSUE

Original Sheet Size B1- 1000 x 707

DRAWN CHECKED APPROVED JC AS MK

Appendix B – Equipment





Trethewey Industries Pty Ltd





Capacity/day: 100kg

Touchscreen Controls | Automatic Operation Electricity usage/month: 1700kWh (maximum)

Elec. requirements: AC 3 phase, 20 amp, 5 pin dedicated outlet

Power rating: 415V, 50Hz, 6kW

Overall footprint (mm): 2155 (w) x 1060 (d) x 1350 (h)

Overall dry weight: 660kg



Minimize your waste of time, space and money

- Stainless steel
- 10:1 compaction
- Improves security and safety

- Low on noise, low on energy
 Air-powered, clean and hygienic
 Suitable for kitchens & offshore environments

Ideal for small spaces and indoor environments, the X-Press 200S compactor is tough, durable and can handle all forms of general black bog waste including food, fluids and hazardous waste, compacting by a ratio of up to 10:1.

The Mil-tek X-Press 200S stainless steel waste compactor is extremely flexible and suitable for a wide variety of locations including kitchens, food preparation sites, hospitals and offshore environments.



ORCA Food Unit in Commercial Kitchen.





Example of Colour Coded waste room.