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WASTE MANAGEMENT REPORT

DA SUBMISSION

QUEST APARTMENTS
SITE 22
SYDNEY OLYMPIC PARK

DRAFT

Prepared by:

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SITE 22
SYDNEY OLYMPIC PARK
WASTE MANAGEMENT REPORT

1. EXECUTIVE SUMMARY

The proposed development is located on Edwin Flack Avenue. It consists of the following:

- Basement parking
- Ground Floor with foyer, reception, retail tenancies, gym, conference room.
- Seven levels of apartments

The central waste stores are located on the ground floor. Access to the waste stores is directly off the rear laneway. The building will have a waste chute discharging into a carousel compactor located within the central waste stores. Access to the chute on each floor is provided via a staging waste store. Non-recyclable waste will be dropped down the chute and compacted into 240 litre council bins. Recyclable waste will be co-mingled in 240 litre bins. All residential waste bins will be collected by a private collection contractor. The bins will be moved from the central waste store to the kerb by the cleaning contractor. Retail waste will be taken by the tenants directly to the retail waste store each day. Retail will have its own store adjacent to the central store. All retail and recyclable waste will be collected by a private contractor. Based on the waste generation estimates, it is envisaged that a twice weekly collection service will be required for general waste and for recyclable waste.

This report has been prepared based on Council of the City of Sydney "Policy for Waste Minimisation in New Developments", discussions with Council and with contractors. Basic requirements for waste handling facilities are as follows:

- Adequate size.
- Integration with building design and site landscaping.
- Suitable screening from public areas.
- Appropriate access for collection.
- Assurance that OH&S requirements for waste contractors are met.

All waste stores will be fitted out to meet Building Code of Australia and Council requirements. This report outlines the waste management system proposed for the project, including:

- Estimates of waste quantity
- Waste space allocation & equipment
- Management of waste
- Waste segregation and minimization procedures
- Access

2. ACCESS

Waste handling vehicles will access the site via the rear laneway and handlers will pick up the bins from the kerb. Bins will be moved to the kerb by the cleaning contractor.

3. ESTIMATE OF WASTE VOLUME

The waste volumes have been estimated after discussion with private collection companies and also with Council. A summary of the estimated volumes has been tabulated below. It is proposed that general waste will be dropped down the chute to the waste store. Recyclable residential waste will be collected in 240 litre bins located in the staging stores on each floor. One will be for paper and one for glass. The general waste and recyclable waste bins will be transported by a building attendant to the central waste collection store and then to the kerbside. It is proposed that commercial waste will be collected in 240 litre bins, for either general or recyclable waste.

Residential = 77 Apartments

Assume collection is twice per week

General waste - Residential

Waste volume = 80L/unit/week = 6160L = 25.6 (240 litre) bins/ week.
As a compactor will be used, with a 2:1 compaction ration, this reduces to 12.8 bins.
Collection is twice/ week = 6.4 bins, say 7 bins
A carousel compactor can hold, say 6 bins.

Recyclable waste

Waste volume = 40L/unit/week = 3080L = 12.8 (240 litre) bins
Collection is twice/ week = 6.4 bins
Provide parking space for 7 bins in waste store

Plus staging waste store on each floor.
Bins cleared daily
- 1 x 240L bin for bottles per floor
- 1 x 240L bin for paper per floor

Retail

Retail waste/ general

NLA = 235 sqm
Volume = 50L/100 sqm/ day = 118 L/ day = 826 L/ week = 3.4 (240 litre) bins, say 4.

Retail waste/ recyclable

NLA = 235 sqm
Volume = 50L/100 sqm/ day = 118 L/ day = 826 L/ week = 3.4 (240 litre) bins, say 4.

4. ESTIMATE OF REQUIRED STORAGE SPACE

The long term aim of the waste management strategy is to provide an ongoing and coordinated waste management service that satisfies mandatory authority requirements and is adaptable to changing operational needs.

Council will be responsible for providing a residential waste removal service. Commercial waste will be collected by a private contractor. The development will include the supply of the chutes and the equipment and the Body Corporate will look after the maintenance of all equipment and the coordination of this service with the cleaning service and council. The building attendant or cleaning contractor will be responsible for transporting all waste bins to the waste collection areas and for cleaning all the waste handling areas.

Summary of Waste Bins to be Stored and Collected Twice per Week

Residential waste	
General waste	7
Recyclable waste	7
Retail waste	
General waste	4
Recyclable waste	4

Assumptions

This report is part of the development application process. The final sizing of waste storage spaces and frequency of waste collection will be made after final agreements are in place. The waste volumes are estimates only and will need to be updated once the final mix is resolved.

Size of central waste stores	**SQM**
Residential waste	
Compactor (holds general waste)	10
Circulation	3
Recyclable bins	7
Bin wash	1
Retail waste	
General	4.5
Recyclable	4.5
TOTAL SIZE	**30 sqm**

Note: A staging waste store for the chute and 2 x 240 litre bins is required on each residential floor.

5. MANAGEMENT OF INTERNAL WASTE REMOVAL

Residents will be responsible for collecting and transporting their waste to the staging store. General waste will be dropped down the chute by each resident. Recyclable waste will be placed in 240 litre bins within the staging store. The cleaning contractor will transport these bins to the kerbside the night prior to collection day. Waste from the common areas will be collected in dedicated bins and moved to the waste stores, by the cleaning contractor. The waste compactors will be an automatic carousel type and will be located at the base of the chute.

6. WASTE REMOVAL AND VEHICLE MANOEUVRING

The various waste removal trucks will park on the street. The cleaning contractor will access the waste stores and will move the general waste bins or the recycling bins to the kerbside. From there, bins will be emptied by council handlers. It is proposed that the waste store area is level with the truck parking space.

7. WASTE SEGREGATION AND MINIMISATION

The waste strategy for the development will be continually evaluated by management, to improve the service provided and to achieve the Local Government's domestic and commercial waste reduction targets, through improved recycling methods aiming to minimize waste.

a) General Waste

General and putrescible wet waste will be sent down the chute to the compactor. Non-organic waste will be separated from organic waste. The compactor system will provide several benefits. It will reduce the amount of waste to be handled and the number of bins required to be housed and picked up and so reduce costs.

b) Recyclable Waste

Each resident will be responsible for separating recyclable waste from non-recyclable waste. Separate recycling bins for the nominated waste categories will be provided at the waste staging store rooms for: paper, cardboard, glass.

8. WASTE STORES REQUIREMENTS

The waste stores will have finishes in line with Council's requirements. The waste bin washing area will be provided with hot and cold water and appropriate drainage. Staging bin storage areas within each residential floor will be designed line with Council requirements.

The waste store will be ventilated by a separate system. The ventilation system will comply with AS 1668 Parts 1 & 2 and Council's Ventilation Code 1983.

Suitable artificial lighting will be provided with a switch both inside and outside the rooms.

Floors will be of concrete slab construction, graded and drained to an approved connection to the sewer. The finish will be sealed, non-slip and impervious to grease and water. It will be coved at all wall junctions.

A central waste bin washing area will be provided on the lower ground floor, with hot and cold water and appropriate drainage.

The walls will be constructed of solid impervious material, cement rendered to a smooth even surface coved at all intersections. Doors will be vermin proof and must be kept closed at all times.

The ceiling will be finished with a rigid, smooth faced, non-absorbent material, capable of being easily cleaned.

Safety and warning signage will be provided

9. BASE DOCUMENTS

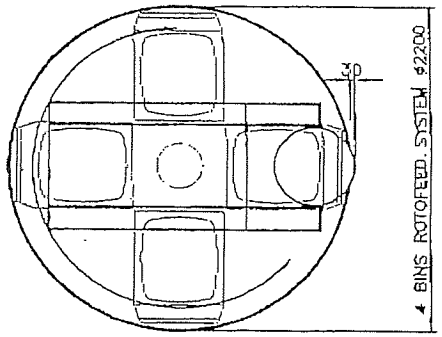
This report has been based on the following documents:

- Area schedule dated 13/11/08
- Drawings various sketches and SK -011 B

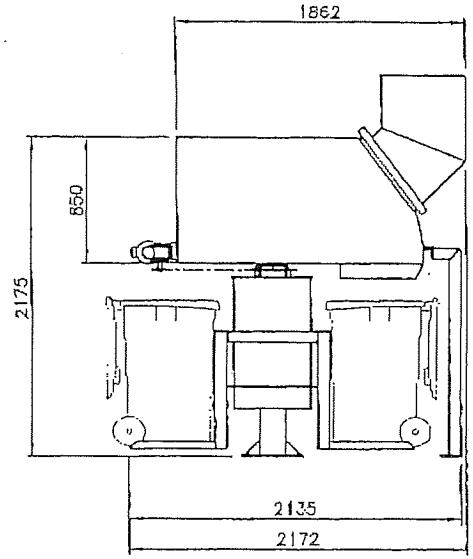
10. EQUIPMENT

The equipment can be procured as follows:

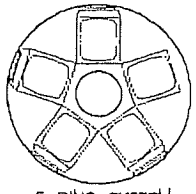
Carousel compactor
Wastech Pty Ltd
The compactor requires a 10 amp GPO



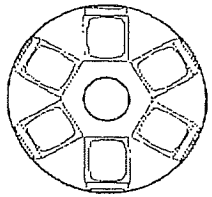
4 BINS SYSTEM ILLUSTRATED



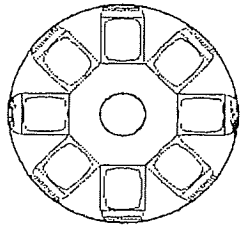
4 BINS ROTOFEED SYSTEM SHOWN



5 BINS SYSTEM
ø = 2400



6 BINS SYSTEM
ø = 2600



8 BINS SYSTEM
ø = 3000

The ECO-PACK waste compactor has been designed specifically for compaction of domestic waste delivered via an overhead chute in multistory apartment buildings. The Patented design is compact in size to suit the tight room restraints that are encountered in most high rise buildings.

SPECIAL FEATURES:

1. High Compaction to reduce number of bins required thus reducing floor space.
2. Compaction blade and ejection door constantly seal the waste chute to reduce smell and also eliminate the risk of fire transfer up the waste chute.
3. Auto cycle operation via "photo cell" to reduce power consumption.
4. Enclosed chamber design provides protection from glass explosion if bottles are dropped from upper levels.
5. Ejection of compacted waste plugs into Bins sized from – 240 to 1500 Ltr.
6. Robust High tensile steel construction to Australian Standards AS4100.
7. Compliance to all current O, H & S and Work Cover requirements.
8. Quiet and efficient hydraulic system.
9. Option of Roto Feed or Conveyor Feed to suit all installations.

SPECIFICATIONS:

Compaction Ratio – 3:1 to 10:1 dependent on waste types.
Construction – 5mm and 20mm grade 350 high tensile plate.
Chamber Dimensions – 560mm wide x 600mm long.
Waste Capacity – 80 Ltr per 15 second cycle = 20m3/Hr.
Power Requirements – 415 V / 20 Amps / 6 Pin Power Point.
Hydraulic Specs. – 12 Lpm Pump, 2.2Kw Motor.
Compaction Force – 62 KN or 6.3 Tones force @ 14 Mpa.
Waste Bin Qty. – 1 x 240 Ltr bin to 8 bins on Roto Feed,
1 x 660 ltr bin to 6 bins on Roto Feed,
1 x 1000 ltr bin to 6 bins on Roto Feed,
1.5m3 and 3m3 front lift bins, and
Conveyor Feed bin systems also available.
Electric Control – PLC control with electronic cycle control and photo cell monitoring.
Service – Comprehensive fixed price service/inspection program available.
Warranty – 12 Month warranty subject to our Std. terms and conditions.

No:	DATE	REVISION	APPD
1	25/03/02	ADDED THE TEXT.	C.O.

MATERIAL

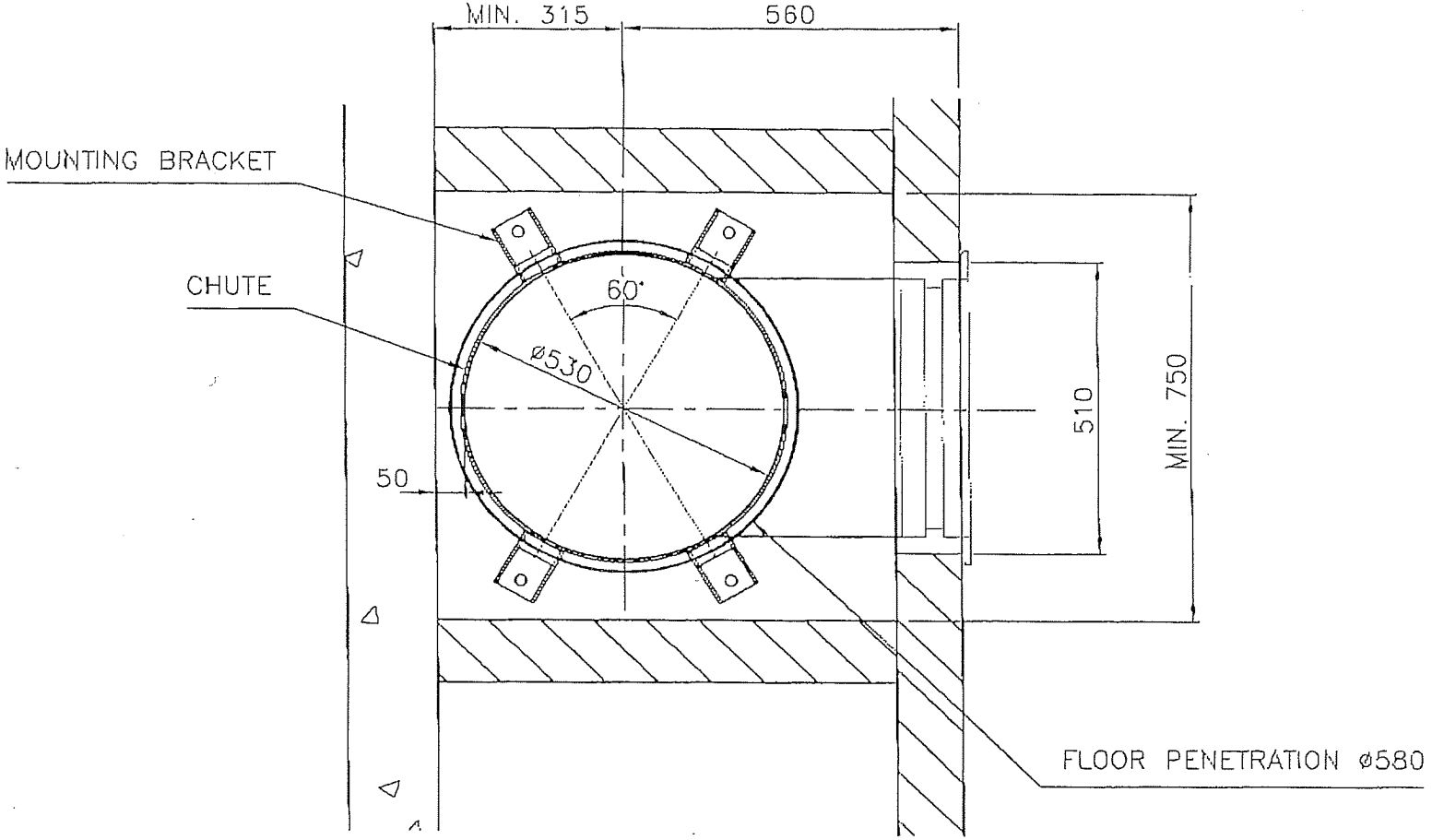
UNLESS OTHERWISE STATED ALL DIMENSIONS IN MILLIMETRES

DEBURR ALL EDGES

QTY:

WASTECH ENGINEERING
SPECIALISING IN DESIGN, MANUFACTURE AND SERVICE OF WASTE DISPOSAL AND RECYCLING EQUIPMENT
21 CAPITAL CRCT, DANDENONG VIC. 3175 PHONE (03) 9794 7155 FAX (03) 9794 7834

DRN A.B	TITLE	ECOPACK 100 ROTOFEED SYSTEM CONFIGURATIONS	
CKD B.DUBOIS			
APP ---	SCALE D.N.S	CAD FILE NAME	REV.
DATE 08.10.99	VIEWS ---	ROTOFEED	1



No:	DATE	REVISION	APPD
1	7-2-03	UPGRADED TO RHS BRACKETS	CL

MATERIAL
A.S.

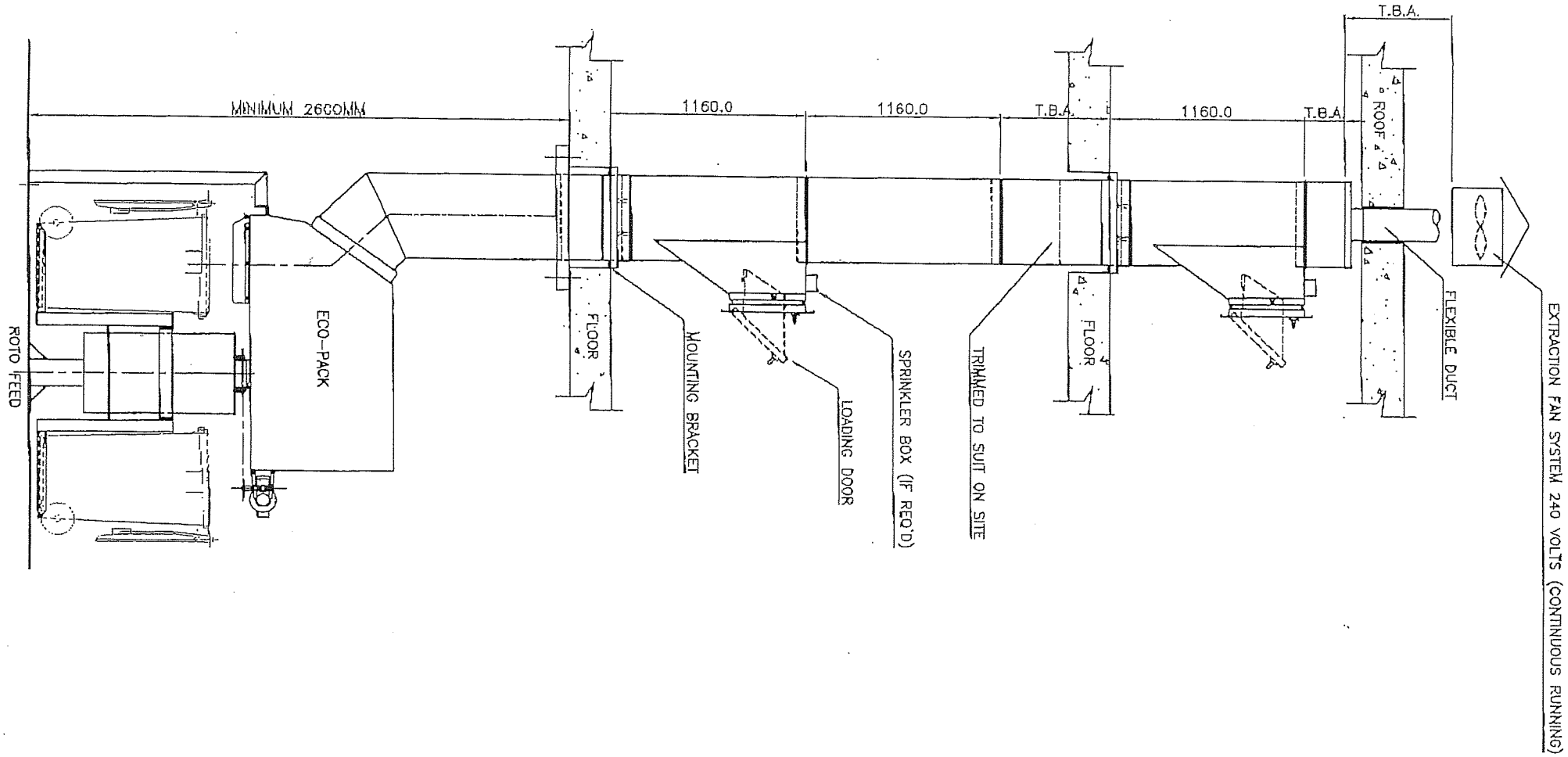
UNLESS OTHERWISE STATED
ALL DIMENSIONS IN MILLIMETRES

DEBURR ALL EDGES

QTY: A.S.

WASTECH ENGINEERING
SPECIALISING IN: DESIGN, MANUFACTURE AND SERVICE OF WASTE DISPOSAL AND RECYCLING EQUIPMENT
21 CAPITAL DRIVE, CHIRNSIDE PARK, 3176. PHONE (03) 97947165. FAX (03) 9794 7634

DRN C.L.	TITLE	FLOOR PENETRATION Ø580 WASTE CHUTE	
CKD C.G.			
APP ---	SCALE D.N.S	CAD FILE NAME CT-02-03040	REV. 1
DATE 7-02-2003	VIEWS ---		



No:	DATE	REVISION	APPD
1	6/6/01	MODIFIED MOUNT BRACKET; ADDED COLLAR	C.G.
1	7/2/02	REMOVED SLIDE-DOOR	C.G.

MATERIAL: A.S.

UNLESS OTHERWISE STATED ALL DIMENSIONS IN MILLIMETRES

DEBURR ALL EDGES

QTY: A.S.

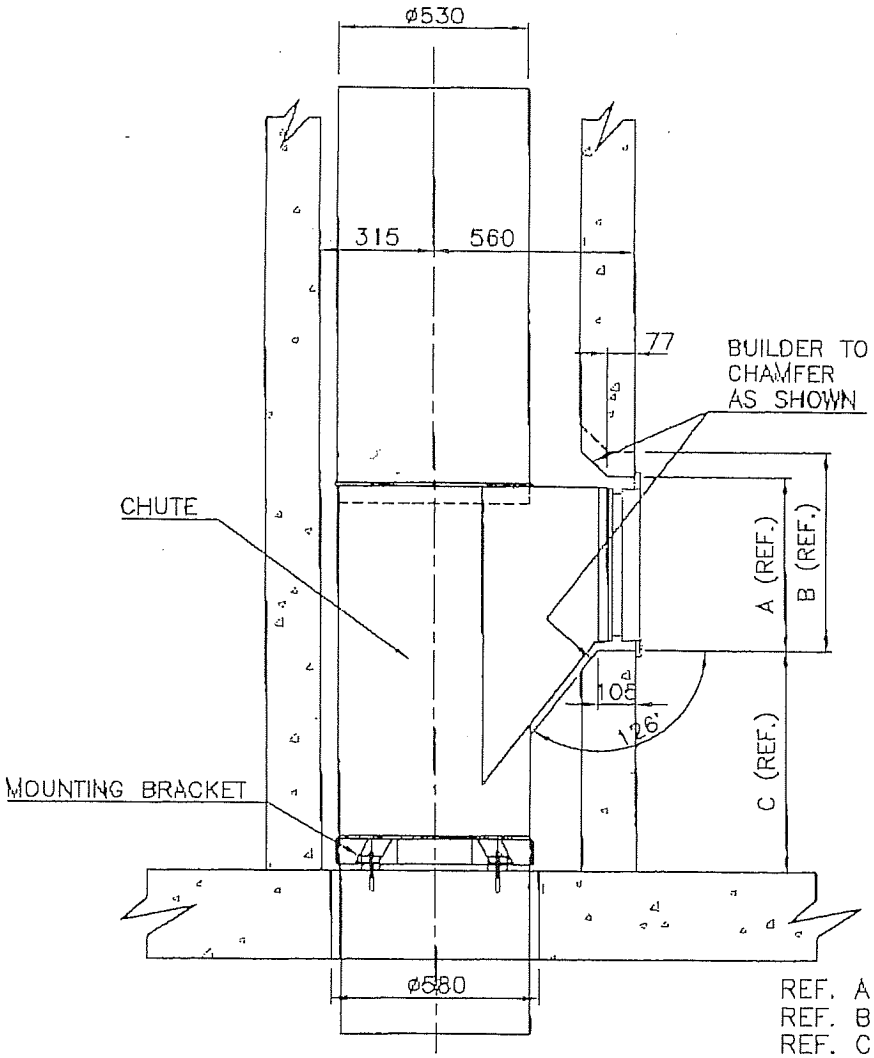
W/O

WASTECH ENGINEERING

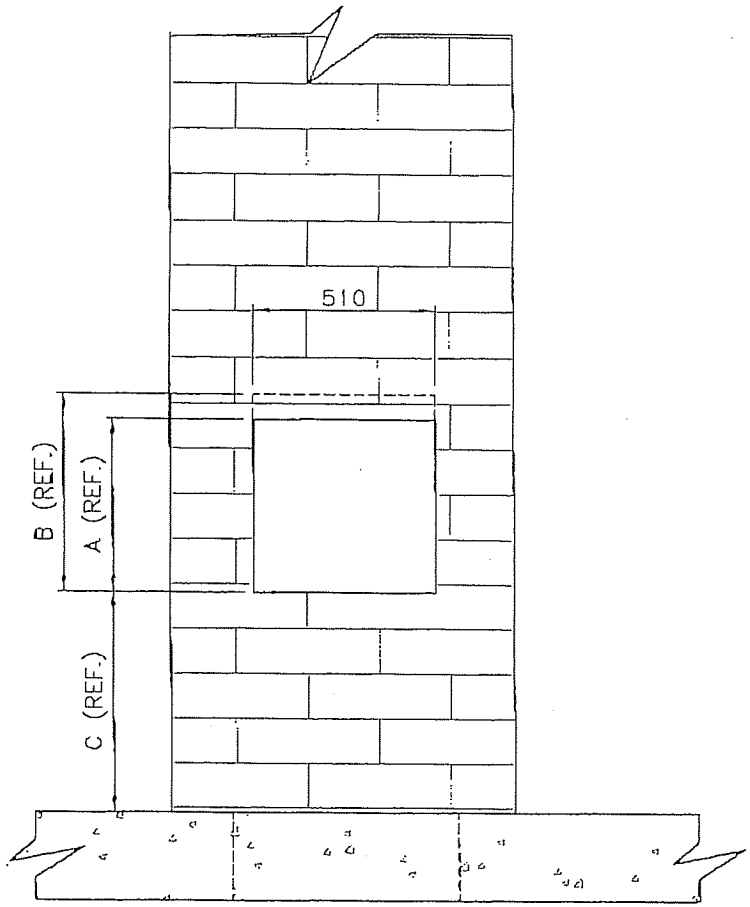
SPECIALISED IN DESIGN, MANUFACTURE AND SERVICE OF WASTE DISPOSAL AND RECYCLING EQUIPMENT

21 CAPITAL DRIVE WILLEMBIO VIC. 3170 PHONE (03) 97947165 FAX (03) 9704 7035

DRN C.G.	TITLE	WASTE CHUTE SYSTEM ROTO FEED	
CKD B.DUBOIS			
APP	SCALE D.N.S	CAD FILE NAME	REV. 1
DATE 9-4-2001	VIEWS		



VIEW SHOWN ø580 PENETRATION WITH RUBBER MOUNTING



REF. A : 510MM (BRICK WALL: WALL BUILT AFTER CHUTE INSTALL)
REF. B : 580MM (CONCRETE WALL: WALL BUILT BEFORE CHUTE INSTALL)
REF. C : 638MM (ø580 PENETRATION WITHOUT RUBBER MOUNTING)
655MM (ø580 PENETRATION WITH RUBBER MOUNTING)
680MM (SQUARE PENETRATION WITH UNISTRUT; WITHOUT RUBBER MOUNTING)
697MM (SQUARE PENETRATION WITH UNISTRUT AND RUBBER MOUNTING)

No:	DATE	REVISION	APPD
1	7-2-03	UPGRADED TO RHS BRACKETS	CL

MATERIAL: A.S.

UNLESS OTHERWISE STATED ALL DIMENSIONS IN MILLIMETRES

DEBURR ALL EDGES

QTY: 1 OFF

WASTECH ENGINEERING
SPECIALISING IN DESIGN, MANUFACTURE AND SERVICE OF WASTE DISPOSAL AND RECYCLING EQUIPMENT
21 CAPITAL DRIVE, WINDSORIC VIC. 3175. PHONE (03) 97947156 FAX (03) 9794 7636

DRN C.L.
CKD C.G.
APP ---
DATE 7-02-2003

TITLE: CHUTE HOPPER ASSY
WASTE CHUTE

SCALE D.N.S
VIEWS ---

CAD FILE NAME: CT-01-03039

REV. 1

Section B Specific Provisions – Residential Developments

Single dwellings

General

B1 Council's standard waste and recycling service for single dwellings such as houses and terraces is:

- Waste in 1 x 120 litre MGB collected once weekly
- Recycling in 2 x 55L plastic crates - collected weekly;
- A weekly "clean up" service by booking only.

To check the service level for the relevant collection zone contact Council's Waste Services Unit.

Space

B2 Space must be allocated inside each residence for a waste (garbage), recycling and compostable organic receptacle, each with capacity to store 1 day's volume of waste, recyclables and compostables.

B3 Space must be allocated within each property boundary for storing Council specified waste and recycling bins. See Appendix F – Waste Management Equipment for more information.

B4 Space and bin(s) for composting and worm farming, being an unpaved earth surface, must be available in rear yards.

Access

B5 Waste and recycling bins must be placed kerbside for collection, and removed as soon as possible the same day as collection.

Amenity

B6 All waste and recycling must be containerised to reduce the incidence of littering, storm water pollution and vermin.

B7 Waste and recycling not presented in the appropriate containers will not be collected.

Multi-unit residential buildings and serviced apartments

General

B8 Council's waste and recycling service for multi-unit dwellings, such as residential flat buildings is as follows:

- Waste collected in 240L or 1000L MGB;
- The use of 1500L or 2000L bulk bins is allowed only in consultation with Council's Waste Services Unit;
- Paper Recycling collected in 240L MGB;
- Container Recycling collected in 240L MGB;
- A method for calculating the number of bins required is given in Appendix B – Waste and recycling generation rates for residential and commercial premises.

B9 Council and its contractors use 8, 15 and 19 cubic metre, rear loading, compacting collection vehicles for collecting waste and recycling. See Appendix C – Collection Vehicles for more information.

B10 For buildings with a rise of more than three (3) storeys at least one waste chute is required. In some developments more than one waste chute may be required. The total maximum travel distance from any dwelling to a waste chute must not exceed 45 metres.

B11 In certain buildings it may be more efficient to have waste chutes discharging into a compaction unit (Application can be made to Council's Waste Services Unit if this is required.) See Appendix G – Waste

Chutes for more information.

Space

B12 Space must be allocated inside each residence for a waste, recycling and compostable organic receptacle, each with capacity to store 1 day's volume of waste, recyclables and compostables.

B13 In buildings where a chute system is used, a waste service compartment must be provided on each floor of the building to contain the waste chute hopper and recycling containers (120L or 240L MGBs) for the intermediate storage of recyclables generated on that floor. Sufficient space must be allocated to allow easy opening of the chute hopper and the storage and manoeuvring of the 120L or 240L MGB's. For example, doors must open outwards to allow maximum storage unless prevented by BCA requirements.

B14 A centralised waste and recycling room must be provided near the collection point that has the capacity for storing all waste and recycling likely to be generated in the entire building in the period between normal collection times.

B15
- Council's preferred containers for general waste storage in multi-unit residential buildings are the 240 litre, 660 litre and 1000 litre MGB's. See Appendix F – Waste Management Equipment and Bin Specifications for more information.
- A 1500 litre or 2000 litre bin may only be used after consultation with Council's Waste Services Branch. For OH&S reasons bins must be fitted with plastic lids, not metal lids.
- Sufficient clearance must be allowed to ensure the safe handling of materials and equipment.

B16 A room or caged area must be allocated for the storage of discarded bulky items and recyclable electronic goods and sign marked appropriately. The allocated space must be a minimum of $8m^3$ (8 cubic metres). Recyclable electronic goods include batteries, equipment containing printed circuit boards, computers, televisions, flourescent tubes and smoke dectectors.

B17 Space for composting and worm farming, being an unpaved earth surface, must be available for all residents in a communal facility or in small private court yards.

Access

B18 Details of the transfer of waste and recycling to its disposal point must be included in the waste management plan.

B19 For internal servicing (ie. If Council collection vehicles are required to enter a building in order to collect waste or recycling), the following access specifications apply:
- Maximum grade 1 in 20 for first 6 metres from street, then 1 in 8 or 1 in 6 with a transition of 1in 12 for 4 metres at lower end;
- Minimum vertical clearance 4 metres. Note: clearances must take into account service ducts, pipe work, etc;
- Minimum width of driveway required 3.6 metres;
- Minimum radius turning circle required 10.5 metres.

B20 If chutes are installed they must be accessible to residents on each habitable floor. Chute hoppers must open only into a service compartment or service room.

Amenity

B21 Residential units must be insulated from noise to comply with the residential amenity provisions of Council's relevant Development Control Plan if they are adjacent to or above;