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WESTFIELD LIVERPOOL – ELP & OFFICE TOWER

WASTE MANAGEMENT PLAN

JULY 2019

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WESTFIELD LIVERPOOL – ELP & TOWER
Waste Management Plan

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REV	DATE	DETAILS
03	22/07/2019	Waste Management Plan

	NAME	DATE	SIGNATURE
Prepared by:	Laurence Gamble	22/07/2019	
Reviewed by:	Brad Parker	22/07/2019	
Approved by:	Brad Parker	22/07/2019	

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1 SUMMARY

The below is a summary of the waste management strategy proposed for the subject site. The complete report must be read in detail prior to implementing the waste management plan.

The Entertainment and Leisure Precinct (ELP) & Office Tower development of the Westfield Liverpool shopping centre (located at Macquarie Street, Liverpool) proposes the following modifications to the existing structure:

- Partial demolition of existing commercial floor space across Level 01 through Level 03
- Construction of a new ELP, which will provide a range of new restaurant, retail and entertainment tenancies across Level 01 through Level 04
- Construction of a new seven storey office tower positioned atop of the shopping centre.

Waste volumes generated throughout the office tower and ELP facilities will be disposed within and subsequently collected from either Dock 1 or Dock 5 in accordance with Westfield Liverpool's current waste procedures. Waste volumes generated through ELP and office tower operations are anticipated to result in the following changes to current collection operations (refer to Appendix A for dock locations):

Dock 1:

- ***Garbage***: An increase in compactor collection frequency from three times per week to four times per week.
- ***Recycling***: An additional 9 x 660L bins serviced per collection (total 19 x 660L bins collected twice per week).
- ***Cardboard***: An increase in compactor collection frequency from once per week to twice per week.

Dock 5:

- ***Garbage***: An increase in compactor collection frequency from three times per week to four times per week.
- ***Recycling***: An additional 6 x 1100L bins serviced per collection (total 17 x 1100L bins collected twice times per week).
- ***Cardboard***: An increase in compactor collection frequency from once per week to twice per week.

All waste equipment (compactors and bins) will continue to be collected as per current practice. No modifications to the position, layout or access arrangement of Dock 1 or Dock 5 are proposed under the subject development.

2 INTRODUCTION

The following Waste Management Plan has been prepared for the proposed Entertainment and Leisure Precinct (ELP) & Office Tower development at Westfield Liverpool, Macquarie Street.

This Waste Management Plan (WMP) and the waste generation rates therein have been prepared based on the Liverpool Development Control Plan 2008 (Part 1 - General Controls for all development, Part 4 - Development in Liverpool City Centre), current best practice waste management methodology, and technologies commonly available in Australia.

2.1 LAND USE

Client: Scentre Group

Land Use Type: Commercial (Shopping Centre; Office Tower)

Table 1 Development Summary

Use	GLA + LSA: To Be Demolished	GLA + LSA: To Be Constructed	GLA + LSA: Net Change
Retail (non food)	1,032.1m^2	1,479.0m^2	+446.9m^2
Retail (food + beverage)	544.1m^2	80.8m^2	-463.3m^2
Retail (food specialty)	-	236.5m^2	+236.5m^2
Retail (kiosk)	69.0m^2	82.0m^2	+13.0m^2
Retail (food kiosk)	-	72.0m^2	+72.0m^2
Gym	354.0m^2	-	-354.0m^2
Cinema	1,540.0m^2	200.0m^2	-1,340.0m^2
Restaurant	-	2,646.7m^2	+2,646.7m^2
Tavern	-	1,103.0m^2	+1,103.0m^2
Entertainment	-	3,685.0m^2	+3,685.0m^2
Commercial	-	570.0m^2	+570.0m^2
Office Tower	-	9,038.0m^2	+9,038.0m^2

3 WASTE MANAGEMENT PLAN – OPERATIONAL WASTE

3.1 WASTE GENERATION

Where applicable, waste generation rates listed in the NSW EPA document *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities* (2012) have been adopted throughout analysis.

In any instance in which NSW EPA listed waste generation rates were not applicable (i.e. the cinema), case study data held by WSP has been used as the basis of any additional waste generation rates shown.

Table 2 Waste Generation Rates

Use (Scentre Group)	Equivalent Use (NSW EPA)	Waste Generation Rate (L/100m^2/week)		
		Garbage	Recycling	Cardboard
Retail (non-food)	Non-food retail	280	150	200
Retail (food + beverage)	Food retail	1,260	445	500
Retail (food specialty)	Café	1,505	455	455
Retail (kiosk)	Shopping Centres	105	10	60
Retail (food kiosk)	Food retail	1,260	445	500
Gym	Services	385	20	50
Cinema	WSP Data	570	100	30
Restaurant	Restaurant	1,330	665	665
Tavern	Hotels, bars, pubs	560	145	100
Entertainment	Licensed Club	175	100	40
Commercial	Office	60	40	10
Office Tower	Office	60	25	5

A waste generation assessment prepared in accordance with the above rates is provided in Table 3 below. As the proposed redevelopment works will not affect the general manner in which the subject site operates (commercial tenancies unaffected by the construction works to operate as per existing conditions), the below assessment concerns the **change** in waste volumes anticipated across the site only.

Table 3 Waste Generation Assessment

Use (Scentre Group)	GLA + LSA: Net Change	Waste Generation - Net Change (L/week)		
		Garbage	Recycling	Cardboard
Retail (non food)	+446.9m^2	+1,251	+670	+894
Retail (food + beverage)	-463.3m^2	-5,838	-2,062	-2,317
Retail (food specialty)	+236.5m^2	+3,559	+1,076	+1,076
Retail (kiosk)	+13.0m^2	+14	+1	+8
Retail (food kiosk)	+72.0m^2	+907	+320	+360
Gym	-354.0m^2	-1,363	-71	-177
Cinema	-1,340.0m^2	-7,638	-1,340	-402
Restaurant	+2,646.7m^2	+35,201	+17,601	+17,601
Tavern	+1,103.0m^2	+6,177	+1,599	+1,103
Entertainment	+3,685.0m^2	+6,449	+3,685	+1,474
Commercial	+570.0m^2	+342	+228	+57
Office Tower	+9,038.0m^2	+5,423	+2,260	+452
TOTAL		**+44,484**	**+23,967**	**+20,123**

3.2 WASTE SYSTEMS

Waste shall be sorted on-site by staff and cleaners as appropriate into the following streams:

- Garbage (General Waste)
- Commingled Recycling
- Cardboard
- Additional Waste Streams (Food Organics, Coffee Grinds, LDPE Plastics, Cooking Oil, Hard Waste)

3.2.1 GARBAGE, RECYCLING, CARDBOARD

3.2.1.1 OFFICE TOWER

The office tower shall have provision for small, plastic lined bins for the temporary holding of waste in the form of bin stations (refer below figure), which will incorporates multiple bins for different waste streams at central locations and common areas for ease of disposal. This system is beneficial, as users are required to make a conscious decision as to which bin they place their items, typically resulting in a reduced volume of garbage (landfill).

Figure 1 Example Bin Station Application

Brand: *Ecobins*

Brand: *Method Bins*

The minimum recommended cumulative holding capacities of these temporary holding bins as shown in Table 4. The "Transfer Rate" refers to the frequency at which waste should be transferred by cleaners/staff from the temporary holding bins to the ground level refuse and recycling room for disposal per day.

Table 4 Garbage + Recycling – Temporary Waste Storage Requirements

Stream	Holding Capacity	Transfer Rate
Garbage	10L/100m^2	Once per day
Commingled Recycling	10L/100m^2	Once per day
Cardboard	10L/100m^2	Once per day

In disposing of waste generated throughout the office tower, cleaning staff will generally utilise service trolleys to collect and transfer waste from these bins to Dock 5 at basement level (accessed via goods lift), with waste from the service trolleys to be decanted into the waste equipment intended for collection (garbage compactor, 1100L recycling bins, cardboard compactor) as appropriate.

Garbage is to be disposed of bagged. Commingled recyclables and cardboard are to be disposed of loosely, with any plastic liners/packaging to be disposed of within the garbage bins.

3.2.1.2 ELP TENANCIES

Any area in which waste is generated throughout the ELP facilities (commercial tenancies, public circulation, amenities, etc.) will be fitted with bins for the temporary holding of waste as deemed appropriate by management. Bin position, size and capacity will be provided in accordance with individual tenancy fitout requirements and Westfield Liverpool's standard operating procedure.

Staff/cleaners will transfer waste from these bins within the appropriate equipment provided in Dock 1 and Dock 5 in accordance with Westfield Liverpool's standard operational procedure. Dock 1 and Dock 5 will each be accessible via a goods lift.

3.2.2 ADDITIONAL WASTE STREAMS

WSP understands that the separation of a number of additional waste streams is currently allowed for within both Dock 1 and Dock 5, including (but not limited to):

- Food Organics
- Coffee Grinds
- LDPE Plastics
- Cooking Oil
- Hard Waste

These waste streams will continue to be separated and disposed of within each dock as deemed suitable by management. The subject development is not anticipated to introduce any significant modifications to the equipment used to manage these additional waste streams.

3.3 WASTE EQUIPMENT - QUANTITY, SIZE AND COLLECTION FREQUENCY

3.3.1 EXISTING CONDITIONS – DOCK 1, DOCK 5

A summary of **existing** waste equipment (and associated collection frequencies) used and maintained within Dock 1 and Dock 5 is provided in Table 5 and Table 6 below.

The weekly waste volumes shown assume that all bins and/or compactors are filled to 100% capacity at the time of collection. This provides for a highly conservative waste generation estimate.

A 3:1 compaction ratio has been assumed for each of the garbage and cardboard compactors provided within Dock 1 and Dock 5. WSP understands higher compaction ratios can be achieved under certain conditions.

Table 5 Dock 1 – Waste Collection Summary (Existing Conditions)

Dock 1 – Waste Collection Summary (Existing Conditions)				
Location	**Equipment**	**Collection Frequency**	**Weekly Capacity**	**Weekly Volume**
Garbage	1 x 23m^3 Compactor	3	207,000L	207,000L
Recycling	10 x 660L Bins	2	13,200L	13,200L
Cardboard	1 x 30m^3 Compactor	1	90,000L	90,000L

Table 6 Dock 5 – Waste Collection Summary (Existing Conditions)

Dock 5 – Waste Collection Summary (Existing Conditions)				
Location	**Equipment**	**Collections per Week**	**Weekly Capacity**	**Weekly Volume**
Garbage	1 x 23m^3 Compactor	3	207,000L	207,000L
Recycling	11 x 1100L Bins	2	24,200L	24,200L
Cardboard	1 x 30m^3 Compactor	1	90,000L	90,000L

3.3.2 PROPOSED CONDITIONS – DOCK 1, DOCK 5

A summary of the **proposed** waste equipment (and associated collection frequencies) anticipated when development is complete is provided in Table 7 and Table 8 below.

Note that the weekly volumes shown represent the existing waste volumes (refer Section 3.3.1) adjusted for the anticipated increase in site-wide volumes resulting from the subject development (refer Section 3.1), assumed to be distributed across Dock 1 and Dock 5 as follows:

- All waste generated throughout the office tower will be disposed of within Dock 5
- Half of all waste generated throughout the ELP facilities will be disposed of within Dock 1
- Half of all waste generated throughout the ELP facilities will be disposed of within Dock 5
- All waste generated throughout the existing facilities of the site unaffected by the subject development will continue to be disposed of as per current practice.

A 3:1 compaction ratio has been assumed for each of the garbage and cardboard compactors provided within Dock 1 and Dock 5. WSP understands higher compaction ratios can be achieved under certain conditions.

Table 7 Dock 1 – Waste Collection Summary (Proposed Conditions)

Dock 1 – Waste Collection Summary (Proposed Conditions)				
Location	**Equipment**	**Collections per Week**	**Weekly Capacity**	**Weekly Volume**
Garbage	1 x 23m^3 Compactor	4	276,000L	226,531L
Recycling	19 x 660L Bins	2	25,080L	24,054L
Cardboard	1 x 30m^3 Compactor	2	180,000L	99,839L

Table 8 Dock 5 – Waste Collection Summary (Proposed Conditions)

Dock 5 – Waste Collection Summary (Proposed Conditions)				
Location	**Equipment**	**Collections per Week**	**Weekly Capacity**	**Weekly Volume**
Garbage	1 x 23m^3 Compactor	4	276,000L	231,954L
Recycling	17 x 1100L Bins	2	37,400L	37,314L
Cardboard	1 x 30m^3 Compactor	2	180,000L	100,291L

3.4 BIN COLOUR AND SUPPLIER

Australian Standard AS4123.7 2006 specifies the following bin colours, however due the private nature of waste collection these are only recommendations and are not mandatory:

- Garbage (general waste) bins shall have red lids with dark green or black body.
- Recycle bins shall have yellow lids with dark green or black body.
- Cardboard bins shall have blue with dark green or black body.

Private collection contractors often supply their own bins for collection.

3.5 SIGNAGE

Waste storage areas and bins will be clearly marked and signed with the standard Westfield signage or equivalent (such as shown in Figure 2).

Commercial tenants will be instructed by building management to adhere to these requirements.

Figure 2 NSW EPA Waste Management Signage

3.6 WASTE COLLECTION METHODOLOGY

Waste volumes generated through ELP and office tower operations are anticipated to result in the following changes to the collection operations of the site:

Dock 1:

- ***Garbage***: An increase in compactor collection frequency from three times per week to four times per week.
- ***Recycling***: An additional 9 x 660L bins serviced per collection (total 19 x 660L bins collected twice per week).
- ***Cardboard***: An increase in compactor collection frequency from once per week to twice per week.

Dock 5:

- ***Garbage***: An increase in compactor collection frequency from three times per week to four times per week.
- ***Recycling***: An additional 6 x 1100L bins serviced per collection (total 17 x 1100L bins collected twice times per week).
- ***Cardboard***: An increase in compactor collection frequency from once per week to twice per week.

All waste equipment (compactors and bins) will continue to be collected as per current practice. No modifications to the position, layout or access arrangement of Dock 1 or Dock 5 are proposed under the subject development.

4 WASTE MANAGEMENT PLAN – CONSTRUCTION AND DEMOLITION WASTE

A Construction and Demolition (C&D) Waste Management Plan will be prepared as a separate document by the appointed building contractor prior to the commencement of construction works, to be prepared in accordance with Liverpool Development Control Plan 2008, Part 1, Section 14 (Demolition of Existing Developments) and Section 25 (Waste Disposal and Re-use Facilities).

In addition to details regarding material separation, collection and handling, the C&D Waste Management Plan will detail the following items (as specified by Liverpool Development Control Plan 2008):

- Estimated volumes generated according to type throguhout the construction and demolition processes.
- Information about reuse, recycling and disposal options for all types of waste produced on site during construction or demolition activities.
- Information on how the WMP will be implemented throughout the development, construction and demolition use of the development.

APPENDIX A

SCALED WASTE ROOM DRAWINGS

CAMPBELL STREET

BATHURST STREET

GEORGE STREET

ELIZABETH STREET

LOADING DOCK 1

LOADING DOCK 5 (Below Ground)

EX. LOADING DOCK

+ E.RL15.100

+ E.RL14.230

+ E.RL13.775

+ E.RL13.725

+ E.RL13.400

+ E.RL14.93

+ E.RL14.885

BOUNDARY

SCALE = 1:500

0 5m 10m 15m 25m 50m

LEGEND

- PROPOSED COMMERCIAL TOWER
- PROPOSED ENTERTAINMENT/ LEISURE/ MINI MAJOR
- PROPOSED FOOD SPECIALTY/KIOSK
- PROPOSED RETAIL SPECIALTY/KIOSK
- PROPOSED RESTAURANTS
- PROPOSED CINEMA
- PROPOSED STORAGE
- PROPOSED AMENITIES/ BACK OF HOUSE
- PROPOSED MALL
- PROPOSED CORRIDOR
- PROPOSED PLANT/ SERVICES
- PROPOSED VERTICAL TRANSPORT
- PROPOSED/ MODIFIED CARPARK
- PROPOSED LANDSCAPE ZONE
- PROPOSED AWNING
- PROPOSED EXTERNAL AREA
- UPGRADED COLUMNS AS PER LATEST FITPATRICK&PARTNERS AND TTW DESIGN
- NEW COLUMNS AS PER LATEST FITPATRICK&PARTNERS AND TTW DESIGN
- EXISTING COLUMNS
- EXISTING COLUMNS TO BE DEMOLISHED
- STRUCTURAL BLOCK LINE

ZA ZD ZB ZC

NOTES:

- This document describes a Design Intent only.
- Written dimensions take precedence over scaling and are to be checked on site.
- Refer to all project documentation before commencing work.
- Refer any discrepancies to the Project Design Manager
- Copyright is retained by Scentre Design and Construction.
- Written authority is required for any reproduction.

AMP CAPITAL

SCENTRE GROUP

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ACN 000 267 265

Title

PROPOSED LEVEL 1 PLAN (BASEMENT LEVEL)

Centre

WESTFIELD LIVERPOOL

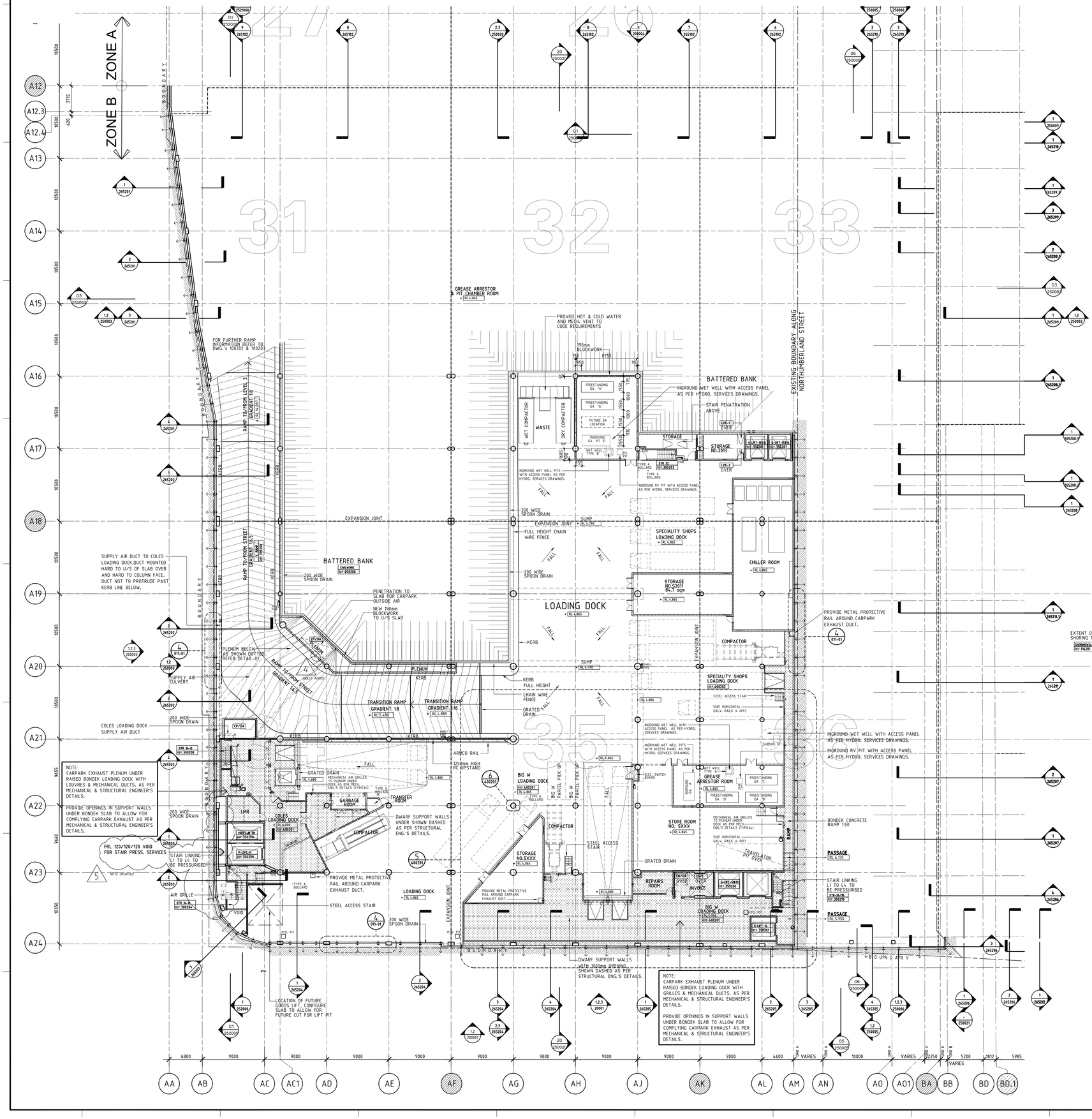
SCHEME 07

PRELIMINARY

Project No.	Drawing No.	Revision
5222	L1.02.01	W

Drawing Scale 1:500 @A1

Plot Date 24/06/2019



HYDRAULIC PENETRATIONS SET-OUT & LOCATIONS

SLAB PENETRATIONS THAT RELATE TO HYDRAULIC SERVICES, FALLS TO BE CO-ORDINATED WITH HYDRAULIC ENGR'S DETAIL DRAWINGS

ELECTRICAL PENETRATIONS SET-OUT & LOCATIONS

SLAB PENETRATIONS THAT RELATE TO ELECTRICAL SERVICES TO BE CO-ORDINATED WITH ELECTRICAL ENGR'S DETAIL DRAWINGS.

MECHANICAL PENETRATIONS SET-OUT & LOCATIONS

SLAB PENETRATIONS THAT RELATE TO MECHANICAL SERVICES/EQUIPT. TO BE CO-ORDINATED WITH MECHANICAL ENGR'S DETAIL DRAWINGS..

BLOCK B DIMENSIONS

ALL DIMENSIONS IN BLOCK B - FROM GRIDLINE AM AND B13-B130 TO BE SETOUT BY CO-ORDINATE POINTS WITH SURVEYOR ON SITE.

ZB REFERENCE DRAWINGS

THIS DRAWING TO BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS :

AHU PACKAGE	410001-420007
AWNINGS PACKAGE	560250-
BALUSTRADE/VOIDS	63200
CEILING PACKAGE	140203-140215
COLUMN CLADDING	645100
CONCRETE SETOUT PACKAGE	110201-110207
DEMOLITION PACKAGE	055202-055207
DETAIL WALL SECTIONS	116201-116204
FIRE STAIR PACKAGE	300200-300207
FLOOR FINISHES PACKAGE	130203-130209
GLAZING PACKAGE	530200-530206
LIFT PACKAGE	350200-352202
LOADING DOCK PACKAGE	400201-400202
METAL SCREEN PACKAGE	520200-520201
LOUVRE PACKAGE	526201-526202
PEDESTRIAN RAMP PACKAGE	TBA
PERIMETER WALL DETAILS PACKAGE	TBA
PRECAST PACKAGE	500201-500206
RESTROOM PACKAGE	610203-610205
SIGNAGE PACKAGE	160201-160207
SKYLIGHT PACKAGE	560200-560203
TRAVELATOR PACKAGE	370201-370206
VEHICULAR RAMP PACKAGE	390200-390201
ZONE DRAWINGS	100203-100209

FOR CONSTRUCTION

1002201

Rev	Date	By	Description
5	10.10.06	WW	ISSUED FOR CONSTRUCTION (AS CLOUDED)
4	19.12.05	JN	ISSUE FOR CONSTRUCTION
3	16.06.05	WW	ISSUE FOR CONSTRUCTION (AS CLOUDED)
2	21.04.05	WW	ISSUE FOR CONSTRUCTION
1	01.04.05	AS	ISSUE FOR CONSTRUCTION
E	25.02.05	RAS	CONSTRUCTION CERTIFICATE
D		EG	HOIST IN SHAFT ADDED
C	03.05.04	EG	ISSUE FOR PRELIMINARY (AS CLOUDED)
B	08.03.04	AS	FOR PRELIMINARY (CONCRETE ONLY) (F.T.)
A	22.12.03	AS/JC	ISSUE FOR PRELIMINARY (FOR COSTING)

Westfield

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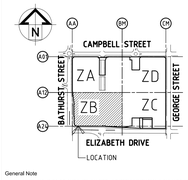
Key plan



General Note

ALL DIMENSIONS TO BE CHECKED ON SITE, WRITTEN DIMENSIONS ONLY TO BE USED. REFER TO ALL DETAIL DRAWINGS, STRUCTURAL, MECHANICAL & REPORTS/SPECIFICATIONS BEFORE COMMENCING WORK. REFER ANY DISCREPANCIES TO THE ARCHITECT. COPYRIGHT OF THE DESIGN SHOWN HEREIN IS RETAINED BY WESTFIELD DESIGN & CONSTRUCTION. WRITTEN AUTHORITY IS REQUIRED FOR ANY REPRODUCTION.

Project

LIVERPOOL

Title

FLOOR PLAN ZONE B LEVEL 1 LOADING DOCK

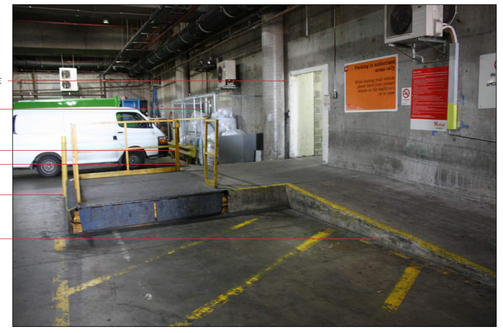
Scale Bar 1:1

0 10 20 30 40 50 75m

Drawn By	AS / JC
Project No	5212
Checked By	10.10.06
Drawing Scale	1:200
Drawing No.	100201
Revision	5

PROJECTSITE : J:\LIICD\100201.DWG

A LOADING DOCK FIRE SEPARATION
REAR WALL INFILL
CAD REF.:



B FIRE SHUTTER INSTALLATION
BUILDING B ACCESS
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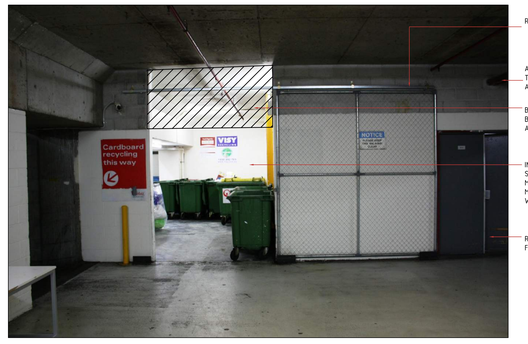

C FIRE SHUTTER INSTALLATION
GEN WASTE ROOM
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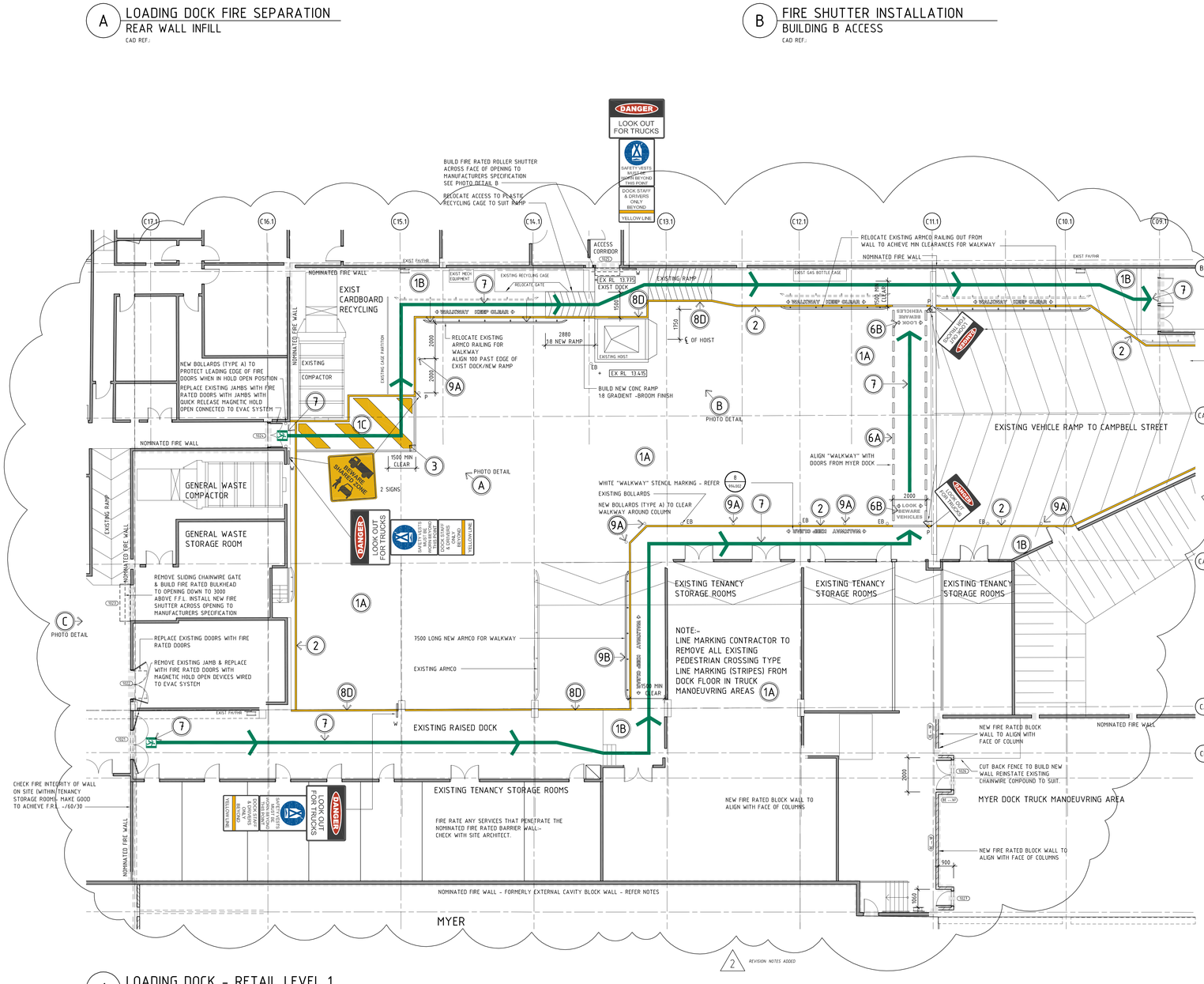

1 LOADING DOCK - RETAIL LEVEL 1
ZONE C & D LEVEL 3 1:100
CAD REF.:

FIRE RATED ROLLER SHUTTERS - NOTES

DOORS 1023 & 1025 - ALSO REFER DOOR SCHEDULE

ROLLER SHUTTERS SHALL BE GALVANISED STEEL ROLL FORMED INTER-LOCKING SLATS WITH STEEL ANGLE BOTTOM RAIL EQUAL TO "MIRAGE" FIRE RESISTANT ROLLER SHUTTER - MINIMUM 60 MINUTES FIRE RATING.

EACH SHUTTER SHALL BE FITTED WITH AN ELECTRIC MOTOR AND GEARBOX UNIT WITH HAND CHAIN OPERATION FOR EMERGENCY USE. MOTORS SHALL BE SELECTED BASED ON THE SIZE OF THE OPENING PROVIDED FOR EITHER LIGHT HEAVY OR EXTRA HEAVY DUTY INSTALLATION TO ENSURE LONGETIVITY OF OPERATION.

SWITCHING CONTROL SHALL BE FULL OPEN OR FULL CLOSED WITH NO FACILITY FOR PARTIAL OPENING /CLOSING..

WHEN LOCAL FIRE ZONE IS IN FIRE MODE ACTIVATION TO LOWER SHUTTER IS ALSO BY FIRE ALARM NETWORK

SIGN FIXING LEGEND

- S — TYPICAL SUSPENDED SIGNAGE FIXED TO STRUCTURE OVER REFER TO DETAIL 16/991610
- P — SIGNAGE FIXED PERPENDICULAR TO COLUMN
- W — SIGN FIXED TO WALL
- C — SIGN FIXED TO COLUMN
- P OR O — SIGN FIXED TO POLE - 60 DIA G.S. POST
- EB O — EXISTING BOLLARD TO REMAIN

NOMINATED FIRE WALL NOTES

EXISTING NOMINATED MASONRY WALLS TO BE UPGRADED TO FIRE RATED WITH FRL 60/60/60
SOME WALLS REQUIRE CHECKING ON SITE AFTER SHOPFITTING CLADDING, SHELVING & CEILINGS ARE REMOVED.
INSULATION - ALL BLOCKWORK & BRICKWORK WILL GIVE 60 MINUTES MIN STRUCT ADEQUACY /INTEGRITY - 140 BLOCK (MIN GREY BLOCK) :-
4200 H X 4000 L WILL ACHIEVE 60 MINUTES (SUPPORTED 4 SIDES)

TREATMENT TO ALL NOMINATED FIRE RATED MASONRY WALLS:-
JOINTS:-
ALL JOINTS & GAPS TO BE RESCALED WITH FIRE RATED SEALANT EQUAL TO BOSTIK'S "FIREBAN ONE". REPAIR ANY CRACKS & SEAL.
DOORS:-
ANY DOORS TO BE CHECKED FOR FIRE RATING COMPLIANCE & UPGRADED / REPLACED ACCORDINGLY - REFER DOOR SCHEDULE.
SERVICES:-
INFILL / MAKE GOOD TO ANY EXPOSED WALL PENETRATIONS AFTER REDUNDANT SERVICES HAVE BEEN REMOVED.
ALL NEW & REMAINING SERVICES PENETRATING FIRE RATED WALL HYDRAULICS:- FIRE RATED SLEEVE TO PIPES
CABLES - SEALED WITH FIRE RATED SEALANT /PILLOWS AS REQ'D
DUCTWORK - INSTALL FIRE DAMPERS TO SUIT.
- REFER SERVICES ENGINEERS DRAWINGS.
ANY QUERIES PLEASE SEE SITE ARCHITECT /PROJECT DESIGN MANAGER

SAFETY CHECKLIST / LEGEND FOR DOCKS

ZONES

1. ORGANISE DOCK INTO ZONES :-
PLAN / ISOLATE VEHICLE CIRCULATION FROM PEDESTRIAN CIRCULATION AS MUCH AS POSSIBLE. DESIGNATE INTO:-

1A. VEHICLE ZONE -VEHICLE MANOEUVRING & ACCESS AREAS, PARKING /UNLOADING BAYS - THESE ARE PEDESTRIAN EXCLUSION ZONES (TRAINED DOCK STAFF AND TRUCK DRIVERS WITH RELEVANT SAFETY VESTS "PPE" ARE THE EXCEPTION)

1B. PEDESTRIAN SAFETY ZONES - PEDESTRIAN ACCESS PATHS, AREAS THAT CAN BE ISOLATED FROM VEHICLES & SIMILAR HAZARDS. :- WHERE AUTHORIZED STAFF / RETAILERS ARE ALLOWED - NOT FOR PUBLIC ACCESS

1C. SHARED ZONES - WHERE PEDESTRIANS MUST UNAVOIDABLY WORK IN AREAS AROUND VEHICLES TO ACCESS EQUIPMENT OR FOR WASTE & RECYCLING ETC.

LINE MARKING

2. PAINT YELLOW SAFETY LINE TO PERMETER OF VEHICLE ZONE FROM POINT OF DOCK ENTRY INCLUDING SHARED ZONES. TRUCK /VEHICLE ZONE PERIMETER PAINTED IN 100 WIDE YELLOW CONTINUOUS LINE AT 100 FROM FACE OF BOUNDING WALLS WHERE APPLICABLE

3. PAINT YELLOW DIAGONAL HAZARD LINES ACROSS SHARED ZONES. 600 WIDE YELLOW LINES AT 1800 CTS AT 45° TO ADJACENT WALLS

6A. PAINT WALKWAYS WHERE REQUIRED FOR -
-CLEARWAYS WITHIN PEDESTRIAN ZONES &
-TO GUIDE PEDESTRIANS ACROSS TRUCK ZONES IN AREAS WHERE TRUCKS HAVE PRIORITY. REFER DETAIL 1+2 991610

6B. PAINT "LOOK" WORDING WITH ARROWS ON WALKWAYS THAT CROSS TRUCK ZONES TO EMPHASIZE VEHICLE PRIORITY - REFER DETAIL 1 991610

7. PAINT GREEN GUIDING LINES & ARROWS FOR ESCAPE ROUTE FROM EMERGENCY ESCAPE CORRIDORS LEADING INTO DOCK TO NEAREST SAFE EXIT - REFER DETAIL 3 991610

PEDESTRIAN PROTECTION :-

8D. PAINT EDGE OF DOCK & STAIRS YELLOW FOR CONTRAST -50 WIDE MIN

9A. FLAT DOCKS -BUILD BARRIERS TO LIMIT VEHICLE ACCESS BUT ALLOW PALLETS, TROLLEYS & BINS THROUGH
ALIGN WITH TRUCK ACCESS FOR UNLOADING
- INSTALL BOLLARD TYPE "A" FOR DETAILS REFER - 1+2 991709

9B. BUILD BARRIERS - SUCH AS WALLS, ARMCO -REFER OR BALUSTRADES -REFER 12 991902 3-5 991902

SIGNAGE :-

10. APPLY REGULATORY TRAFFIC & PARKING SIGNAGE IN ACCORDANCE WITH CHECKLIST - REFER GUIDELINE P 40.4002
REFER SIGNAGE DETAILS 7 991902

11. APPLY OCCUPATIONAL SAFETY SIGNAGE IN ACCORDANCE WITH CHECKLIST - REFER GUIDELINE P 40.4002
REFER SIGNAGE DETAILS 10-17 991902

12. INSTALL WAYFINDER & DOCK IDENTITY SIGNAGE
REFER SIGNAGE DETAILS 7-11 991617

13. INSTALL CENTRE DOCK SAFETY RULES SIGNAGE

BUILDERS & CONTRACTORS

NOTES & LEGEND REFERENCES

THIS DRAWING MUST BE READ IN CONJUNCTION WITH RELEVANT NOTES AND LEGENDS FOUND ON DRAWINGS 00.0001 & 00.0002 AS HIGHLIGHTED BELOW BUT NOT LIMITED TO

NOTES
1 GENERAL
2 GENERAL
3 DEMOLITION
4 BULK EXCAVATION
5 FOOTINGS
6 SHORING
7 CONCRETE
8 BLOCKWORK
9 COLUMN
10 STRUCT. STEEL
11 EXPANSION JOINT
12 FLOOR TILING
13 FLOOR ACCESS POINTS
14 STAIR
15 LIFT NOTES
16 RAMP NOTES
17 ESC/TRAVELATORS
18 MALL ENTRIES
19 AUTOMATIC DOORS
20 EGRESS
21 GENERAL GLAZING

NOTES (CONT.)
22 GLAZING NOTES
23 LOUVRE NOTES
24 COMPOSITE PANELS
25 CAR PARK ENTRIES
26 PARKING
27 LOADING DOCKS
28 BOLLARDS
29 ROLLER SHUTTERS
30 SLAB SOFFIT INSUL.
31 METAL ROOF NOTES
32 BALUSTRADE
33 COLUMN CLADDING
34 SIGNAGE COLOURS
35 PAINT FINISHES
36 EXTERNAL FINISHES
37 INTERNAL FINISHES

LEGENDS
1 GENERAL
2 SYMBOLS
3 SECTIONS
4 FIRE
5 DEMOLITION
6 BULK EXCAVATION
7 FOOTINGS
8 FLOOR ACCESS POINTS
9 FLOOR FINISHES
10 FLOOR/WALL FINISHES
11 INTERIOR FINISHES
12 CEILING PLAN
13 CEILING FINISHES
14 ROOF FINISHES
15 BALUSTRADE
16 PARKING
23 AREA COLOURS
24 LEVEL COLOURS
25 SIGNAGE COLOURS
26 PAINT FINISHES

ARCHITECTURAL DRAWING REFERENCES

THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL RELEVANT DISCIPLINES SUCH AS STRUCTURAL, SERVICES DETAIL DRAWINGS AND SPECIFICATIONS INCLUSIVE OF ARCHITECTURAL DWG SERIES PACKAGES HIGHLIGHTED BELOW BUT NOT LIMITED TO

00 INDEX SHEET
01 GRID SETOUT
02 EXISTING BUILDING
03 DEMOLITION
05 BULK EXCAVATION
05 CONCRETE FOOTINGS
05 SHORING & RETAINING
06 EARLY WORKS
07 CIRCULATION
08 GENERAL ARR. PLANS
08 MASTER LEASE PLANS
09 EGRESS PLANS
10 ZONE PLANS
10 CONCRETE PROFILES
12 BLOCKWORK DETAILS
13 MALL FINISHES
14 CEILING PLANS
15 MALL SIGNAGE
10 CARPARK & SIGNAGE
18 STRUCTURAL STEEL
20 BUILDING ELEVATIONS
25 BUILDING SECTIONS
26 WALL SECTIONS
30 STAIRS
30 VEHICULAR RAMPS
30 LIFTS
30 ESC/TRAVELATORS
40 LOADING DOCKS
40 ROLLER SHUTTERS
50 SUBSTATIONS
62 HYD. PUMP ROOMS
63 AHU ROOMS
44 FIRE CONTROL
45 WASTE MANAGEMENT
49 INSULATION
49 METAL WORK
50 EXTERNAL FINISHES
53 GLAZING
56 ENTRIES/AUTO DOORS
55 SKYLIGHTS
57 ROOFS & AWNINGS
58 EXTERNAL FOOD COURT
60 CENTRE MANAGEMENT
61 AMENITIES
62 FOOD COURT, FRESH FD
63 VOIDS & BALUSTRADES
13 COLUMN CLADDING
90 WALL FINISHES
70 EXTERNAL/ROAD WORK
71 PAVING/LANDSCAPING
80 LEASE PLANS
83 MINI MAJORS
85 MAJOR TENANTS
69 STANDARD DETAILS

WORK SHOP DRAWINGS

BUILDER: The Builder is required to arrange detailed **shop drawings** that are fully coordinated workshop fabrication drawings by the contractor and submitted to Westfield Architect prior to manufacture for comment, coordination and approval.
Workshop Drawings Required:

1. FIRE RATED ROLLER SHUTTER

Rev	Date	By	Chk	Description
2	30.03.2011	F.Z.	JC	ISSUE FOR CONSTRUCTION (ROOM NAMES ADDED)
1	10/01/2011	F.Z.	JC	ISSUE FOR CONSTRUCTION

Key Plan

General Note
ALL DRAWINGS TO BE CHECKED ON SITE. WRITTEN DIMENSIONS ONLY TO BE USED. REFER TO ALL DETAIL DRAWINGS, STRUCTURAL, MECHANICAL & SERVICES DRAWINGS BEFORE COMMENCING WORK. REFER AMP CAPITAL INVESTORS & WESTFIELD DESIGN & CONSTRUCTION.
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ACN 000 267 365

Title
LOADING DOCK EGRESS UPGRADE

Drawing Scale	Scale Bar 1:1	
1:100	0 10 20 30 40 50	
Drawn By	CAD Filename	Plot Date
F.Z.	400001.DWG	11/2/ 2011
Project No.	Drawing No.	Revision
5220	400001	2

FOR CONSTRUCTION TO BE PRINTED IN COLOUR

400001 121