

Aspect Industrial Estate: Warehouse 6 & 7 – Waste Management Plan

A Submission to Mirvac Projects Pty Ltd

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In the spirit of reconciliation MRA Consulting Group acknowledges the Traditional Custodians of country throughout Australia and their connection to land, sea and community. We pay our respects to Aboriginal and Torres Strait Islander peoples and to Elders past, present and emerging.

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Glossary

Terminology	Definition
AIE	Aspect Industrial Estate
AS	Australian Standard
C&D	Construction and Demolition
DCP	Development Control Plan
ENM	Excavated Natural Material
EPA	Environment Protection Authority
LGA	Local Government Area
MGB	Mobile Garbage Bin
MRP	Mamre Road Precinct
MSW	Municipal Solid Waste
PCC	Penrith City Council
PDGP	Penrith Development Control Plan 2014
PLEP	Penrith Local Environmental Plan 2010
SEPP	State Environmental Planning Policy
WMP	Waste Management Plan
WSA	Western Sydney Aerotropolis
WSEA	Western Sydney Employment Area
WSP	Waste Service Provider
WSRA	Waste Storage and Recycling Area

1 Introduction

MRA Consulting Group (MRA) was engaged by Mirvac to assist with the provision waste consultancy services related to the proposed State Significant Development Application at the Aspect Industrial Estate (AIE) site. The site is located at 788-882 Mamre Road, Kemps Creek and situated in the Penrith City Council Local Government Area (LGA).

This WMP is prepared with consideration to the Penrith Development Control Plan 2014 (PDCP), including the Mamre Road Precinct DCP 2021, suitable for Development Application (DA) submission to Penrith Council. The PDCP and Mamre Road Precinct DCP lists the following objectives related to waste management, which have each been addressed in this WMP:

- a) To facilitate sustainable waste management in accordance with ESD principles.
- b) To manage waste in accordance with the 'Waste Hierarchy' to:
 - Avoid producing waste in the first place;
 - Minimise the amount of waste produced;
 - Re-use items as many times as possible to minimise waste;
 - Recycle once re-use options have been exhausted; and
 - Dispose of what is left, as a last resort, in a responsible way to appropriate waste disposal facilities.
- c) To achieve waste minimisation targets as set out in the Waste Avoidance and Resource Recovery Act 2001 and NSW Waste Avoidance and Resource Recovery Strategy (2007) (*superseded by the NSW Waste and Sustainable Materials Strategy 2041*).
- d) To support the circular economy in line with the NSW Circular Economy Policy Statement.

2 Background

2.1 Description of Proposed Development

Consent for the concept plan at the site was granted for the development of AIE by way of SSD-10448 on 24 May 2022. This proposal involves the preparation of a subsequent DA for the development of warehouse buildings 6 and 7 at the Aspect Industrial Estate site on Mamre Road in Kemps Creek, for the purposes of 'warehouse and distribution centre'.

Generally, the proposed development includes minor on lot earthworks, installation of on-lot infrastructure, and the construction of two warehouse buildings, landscaping, hardstand and car parking. The lot location and built form configuration will align with that intended to be established under the SSD-10448 MOD 2 (approved by DPE 30th November 2022).

As part of this staged development of Aspect Industrial Estate, Mirvac is seeking approval for a new DA for the staged development of Warehouse 6, Warehouse 7 and an estate café. The development has been prepared in accordance with the approved concept development as well as the approved Stage 1, site preparation works and pad levels (SSD-10448). The proposal includes the following:

Warehouse 6 (Lot 6) – Stage 01

- Construction of a single building comprising warehouse 6A and 6B to a height of 13.7m including:
 - Warehouse 6A – 4,212m² warehouse area and 500m² of office space.
 - Warehouse 6B – 4,212m² warehouse area and 500m² of office space
- Construction of two heavy vehicle crossings and two car park crossings to Access Road 3.
- Construction of hardstand area to the north-east of the warehouse for truck manoeuvring.
- On site services and infrastructure.
- Grading and civil works, including a retaining wall
- Landscaping along site frontages and within car park area.
- Parking for 72 cars across two carparking areas at the north-west and south-east sides of the warehouse building.
- Use of Warehouse 6A and 6B for the purposes of a Warehouse & Distribution Centre use 24 hours a day, 7 days a week.

Warehouse 7 and Café (Lot 7) – Stage 02

- Construction of a single building comprising Warehouse 7 to a height of 13.7m, including:
 - 14,358m² Ambient Warehouse area
 - 750m² Office
 - 100m² Dock Office
- Construction of a 112m² Café building at the north-west corner of Lot 7 to a height of 2.8m.
- Construction of one heavy vehicle crossing and one car park crossing to Access Road 3 for access to Warehouse 7. Construction of one car park crossing to Access Road 4 for dedicated access to the proposed café.
- Construction of hardstand area to the south-east of the warehouse for truck manoeuvring.
- On site services and infrastructure.
- Grading and civil works, including retaining walls.
- Landscaping along site frontages and within car park area.
- Parking for 82 cars across:
 - 62 parking spaces at the carpark area to the north-east of the warehouse building in support of the proposed Warehouse 7 operations.
 - 20 parking spaces at the carpark area to the north-west of the warehouse building in support of the estate café.

- Use of Warehouse 7 for the purposes of a Warehouse & Distribution Centre use 24 hours a day, 7 days a week. Use of the Café as a Food and Drink Premises.

2.2 Location

The development site is located in the suburb of Kems Creek, situated in the Penrith City Council area, at 788-882 Mamre Road, Kems Creek (Figure 1).

The site is identified as Lots 1, 2 & 5 DP 1285305 and Lots 6 & 7 DP 1291562. The site was rezoned on the 12th June 2020, from RU2 (according to PLEP) to IN1 (General Industrial) with a small sliver of land zoned E2 (Environmental Conservation) under the under the *State Environmental Planning Policy (Western Sydney Employment Area) 2009* (WSEA SEPP).

Surrounding land zoning is largely IN1 with some smaller areas of E2 (Environmental Conservation) zoning.

Figure 1: Proposed Development site at 788-882 Mamre Road and surrounds



Source: Nearmap, 2024.

Figure 2: AIE - General Site Plan



Source: SBA Architects, 2023.

2.3 Waste Management Strategies

Waste management for the site considers better practice, necessary equipment, and integration with other guidance documents including the NSW Waste and Sustainable Materials Strategy 2041 (2021), and National Waste Policy: Less Waste, More Resources (DEE, 2018). The key policy aims that are considered are:

- Avoidance (to prevent the generation of waste);
- Reduce the amount of waste (including hazardous waste) for disposal;
- Manage waste as a resource; and
- Ensure that waste treatment, disposal, recovery and re-use are undertaken in a safe, scientific and environmentally sound manner.

The site is subject to the Penrith Development Control Plan (PDCP) and the Mamre Road Precinct DCP (2021).

2.4 Assumptions

This report is a WMP, forming part of the development documentation and assumes:

- Drawings and information that have been used in waste management planning for this WMP are the final design set for the development plan from the project architect, SBA Architects (22 February 2024);
- Waste generation volumes are based existing waste data provided by the future tenant, as well as consideration of waste generation rates outlined in NSW EPA *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities*, and waste management equipment and infrastructure recommendations have been made according to estimated waste generation and PDCP waste guideline suggestions; and
- This WMP is a living document and therefore, waste management equipment and systems described in this report are subject to change based on future operations and available technology.

3 Construction and Demolition

Construction and demolition activities at the site will generate a range of wastes, commonly referred to as Construction and Demolition (C&D) waste. Throughout the development process, all materials generated on site will be reused and recycled where possible, minimising the disposal (landfilling) of materials other than those that are contaminated or unsuitable for reuse or resource recovery. All waste materials removed from the site must only be directed to a waste management facility or premises lawfully permitted to accept the materials.

Waste storage of C&D waste during construction and demolition operations will involve stockpiling of excavated and reusable material, and placement of skip bins for separation of mixed C&D materials for recycling. A skip bin for residual waste or contaminated material will also be made available at the site for disposal where necessary. Skip bins may require alternative placement during construction operations as space becomes restricted, to facilitate safe and efficient storage of materials. Skip bins and stockpiles should be placed within property boundaries to avoid illegal dumping.

The quantities, densities and bulking factors for waste and recyclables will differ on site based on actual materials and handling practices employed. Demolition and excavation waste estimations have been addressed separately to construction waste estimations for the proposed development, to better inform resource recovery opportunities for waste material generated during each stage of the development.

C&D waste storage areas will be kept clear and tidy to maintain vehicular access, encourage separation of waste materials and for WHS reasons. Site waste management principles and facilities will be a focus for the induction of all construction or other contractors working at the site.

3.1 Demolition Waste

Demolition has been addressed for the site as part of the Stage 1 State Significant Development Application (SSDA). No additional demolition or site preparation works are proposed through this application.

3.2 Construction Waste

Table 1 below describes the estimated waste quantities through the construction phases of Warehouse 6 & 7 as well as the café, as described in Section 2.1. The table highlights appropriate management methods for material types expected to be generated through construction.

All construction waste materials will be appropriately reused, recycled or disposed of where necessary (e.g. return to manufacturer, recycled at construction and demolition (C&D) processor, or disposed to landfill if contaminated).

Table 1: Construction waste generation estimates

Type of waste generated	Quantity	Reuse	Recycling	Disposal	Methods for reuse, recycling and disposal
Excavation	Minor	✓	✓	✓	Onsite: Reuse for fill and levelling. Offsite: Removed from site for reuse as recycled fill material or soil. Disposal: Removal of any contaminated material for appropriate treatment or disposal.
Concrete	1,000– 1,500m ³	✓	✓	-	On site: to be separated wherever possible to enhance resource recovery. C&D Processor: crushing and recycling for recovered products.
Bricks/pavers	10-15m ³	✓	✓	-	On site: cleaned and separated wherever possible for reuse or to enhance resource recovery. C&D Processor: recovery for reuse where possible, crushing and recycling for recovered aggregate products.
Timber	<10m ³	✓	✓	-	On site: to be separated wherever possible to enhance resource recovery. Reuse: Surplus and offcut material returned to manufacturer for reuse. C&D Processor: recovery and recycling for recovered product (e.g. mulch) or organics processing.
Metal (ferrous and non-ferrous)	10-15m ³	-	✓	-	On site: to be separated wherever possible to enhance resource recovery. Reuse: Surplus and offcut material returned to manufacturer for reuse. C&D Processor: metals recovery and recycling.
Plasterboard	20 - 30m ³	✓	✓	-	On site: to be separated wherever possible to enhance resource recovery.

Type of waste generated	Quantity	Reuse	Recycling	Disposal	Methods for reuse, recycling and disposal
					Reuse/recycling: surplus and offcut material returned to manufacturer for reuse where possible or sent to a suitable recycling facility for processing and recovery.
Glass	<10m ³	✓	✓	-	On site: to be separated wherever possible to enhance resource recovery. Reuse: Surplus and offcut material returned to manufacturer for reuse where possible. Glass recycler: recovery and recycling.
Fixtures and fittings	Minor	✓	✓	-	On site: reuse wherever possible or return to manufacturer. Reuse: Surplus and offcut material returned to manufacturer for reuse where possible. C&D Processor: recovery and recycling.
Floor coverings	40 - 60m ³	✓	✓	-	On site: to be separated wherever possible to enhance resource recovery. Reuse: Surplus and offcut material returned to manufacturer for reuse where possible. C&D Processor: recovery and recycling.
Packaging (used pallets, pallet wrap)	1,000 - 1,500m ³	✓	✓	-	Reuse: returned to manufacturer for reuse where possible. On site: to be separated wherever possible to enhance resource recovery. C&D processor: recycling of timbers and plastic.
Garden organics	Minor	✓	✓	-	Minimal garden organic waste from landscaping.

Type of waste generated	Quantity	Reuse	Recycling	Disposal	Methods for reuse, recycling and disposal
					Organics Processor: Storage on-site (from minor excavations) processing for recovered product (e.g. mulch or other blended recovered fines) or organics treatment.
Recyclable Containers	<5m ³	-	✓	-	Commercial contractor: recycling.
Paper/ cardboard	20-50m ³	-	✓	-	Commercial contractor: recycling of fibres with segregation of paper, cardboard or other streams.
Residual waste	50m ³	-	-	✓	Separate recyclables where possible and disposal at principal licensed waste facility.
Hazardous/ special waste (e.g. spills and contaminated wastes)	Unknown	-	-	✓	Appropriate management methods specified by a licensed asbestos and site hygienist should hazardous or special waste be found at the site.

3.3 Waste Contractors and Facilities

To ensure best practice waste management, appropriate contractors and facilities have been proposed based on their location and service offerings (Table 2).

Table 2: Waste service contractors and facilities

Role	Details
Recommended Waste Collection Contractor	<p>The following are local skip bin operators for consideration in the management of excavation and construction waste for the site:</p> <ul style="list-style-type: none"> • Transwaste Skips; • Orange Skip Bins; • Phillips Skip Bins; • BinsExpress Skip Bins; • Pro Skips; or <p>Or another supplier as elected by the building contractor.</p>
Principal Off-Site Recycler	<p>The following are local C&D processing facilities for consideration in the management of C&D waste generated at the site:</p> <ul style="list-style-type: none"> • Bingo Eastern Creek; • Cleanaway Kemps Creek Resource Recovery Park; • Cleanaway St Marys Industrial and Technical Waste Services; or <p>another appropriate facility as elected by the waste management contractor.</p>
Principal Licensed Landfill Site	<p>Bingo Eastern Creek, or other appropriate facility as elected by the waste management contractor.</p>

3.4 Site documentation

This WMP will be retained on-site during the demolition, excavation and construction phases of the development, along with other waste management documentation (e.g. contracts with waste service providers).

Responsibility for the WMP, waste documentation and processes during the excavation and construction phases will be with the site manager or builder.

A logbook that records waste management and collection will be maintained on site, with entries including:

- Time and date;
- Description of waste and quantity;
- Waste/processing facility that will receive the waste; and
- Vehicle registration and company name.

Waste management documentation, the logbook and associated dockets and receipts must be made available for inspection by an authorised Council Officer at any time during site works.

4 Operational Waste Management

Ongoing waste management requirements for the subject facility will result from the daily operation of the on-site activity, being generally distribution warehouse and ancillary office use.

4.1 Estimated Waste and Recycling Generation

Waste generation rates for the proposed development are expected to be consistent with uses identified in the PDCP and/or NSW EPA guidelines, including café, industrial (warehouse) and offices. Waste generation rates for the café alongside general warehouse and office uses have been derived from the PDCP, and NSW EPA guidelines where the PDCP does not provide specific reference to a use (Table 3).

Figure 3: Waste generation rates by use

Source	Use	Waste generation (L/100m ² /day)	Recycling Generation (L/100m ² /day)	Organics Generation (L/100m ² /day)
PDCP	Office	10	10	-
PDCP	Warehouse	10	10	-
PDCP	Café	150*	200	150*

**The PDCP does not specify a waste generation rate for organics (food waste). Considering the likelihood of café uses generating a large proportion of food waste as part of the general waste stream, based on previous experience, MRA expects 50% of the general waste stream for a café will be food waste.*

4.1.1 Warehouse 6 & 7

Warehouses 6 and 7 are located adjacent to each with a café attached to warehouse 7. Estimated generation volumes are based on a seven – day per week operation.

Table 3: Model waste generation rates according to PDCP for warehouse 6

Premises type/use	Weekly Waste Volume (L)	Weekly Recycling Volume (L)	Weekly Organics Volume (L)
Warehouse 6			
WH6A Office (500m ²)	350	350	-
WH6A Warehouse (4,212m ²)	2,949	2,949	-
WH6A Total	3,299	3,299	-
WH6B Office (500m ²)	350	350	-
WH6B Warehouse (4,212m ²)	2,949	2,949	-
WH6B Total	3,299	3,299	-
Warehouse 7			
Office (850m ²)	595	595	-
Warehouse (14,358 m ²)	10,051	10,051	-

Premises type/use	Weekly Waste Volume (L)	Weekly Recycling Volume (L)	Weekly Organics Volume (L)
WH7 Total	10,646	10,646	-

4.1.2 Café

The café is located adjacent to the carpark within the boundary of warehouse 7. Waste generation rates have been derived from the PDCP and refer to a 7-day work week. The rates for food generation have been calculated by dividing general waste rates in half to encourage resource separation.

Table 4: Model waste generation rates according to PDCP for warehouse 7

Premises type/use	Weekly Waste Volume (L)	Weekly Recycling Volume (L)	Weekly Food Waste Volume (L)
Café (112m²)	1,176	1,568	1,176
Weekly totals	1,176L	1,568L	1,176L

4.2 Waste Storage Requirements

Waste storage requirements have been derived from expected weekly waste volumes described in Table 3. A separate waste management area will be allocated for each Warehouse tenancy within the industrial site and has been denoted on plans in Appendix A. Storage areas will be sized and located to accommodate necessary waste storage bins and other associated waste management equipment according to estimated site waste generation rates outlined earlier in Section 4.1.1.

Individual tenancies will be responsible for retaining smaller internal bins for each relevant waste stream which can then be emptied into larger bins for collection as necessary. Internal bins should be retained in the café, offices and warehouse floors and any other areas where waste will be generated in large quantities without direct access to the building waste storage area. Staff will be responsible for transferring waste from each unit to the recycling collection bins and general waste bins or compactor for each warehouse.

Table 5 below outlines the number and type of waste management containers that may be suitable for the proposed industrial uses, including frequency of waste collection by a private waste contractor.

Table 5: Industrial unit waste storage and collection options

Area	Waste Stream	Bin Type / Collection Frequency
Warehouse 6A	General waste	1 x 4.5m ³ / collected once per week
	Comingled Recycling	1 x 2m ³ / collected once per week
	Paper & Cardboard Recycling	1 x 2m ³ / collected once per week
Warehouse 6B	General waste	1 x 4.5m ³ / collected once per week
	Comingled Recycling	1 x 2m ³ / collected once per week
	Paper & Cardboard Recycling	1 x 2m ³ / collected once per week
Warehouse 7	General Waste	1 x 4.5m ³ / collected three times per week

	Comingled Recycling	1 x 3m ³ / collected two times per week
	Paper & Cardboard Recycling	1 x 3m ³ / collected two times per week
Café	General Waste	2 x 660L / collected weekly
	Recycling	2 x 1,100L / collected weekly
	Food Waste	3 x 240L / collected twice per week
	Grease Trap	Serviced as required

**Paper and cardboard recycling volumes have been estimated as representing approximately 50% of the total recycling waste stream, as this material can be further source separated to increase recycling rates and recovery targets.*

Front-Lift Bins collected on a regular basis

Site management may elect to incorporate regular collection of bulk waste (front lift) bins for the management of general waste and recycling onsite.

These are calculated assumptions and actual requirements will be dependent on the waste generated by the associated industrial tenancies once operation has commenced. With the presence of food in the waste, more frequent collections may be required to prevent odour.

Waste Compaction Units

If required, space is available external to the warehouse which can be allocated for a waste compactor. The waste compactor may be a hook-lift or Roll-On Roll-Off (RORO) unit which is collected at a schedule agreed with the elected private waste contractor. This type of compactor has a capacity of 10,000L and a compaction ratio of 5:1. A fully loaded and compacted unit would therefore have a capacity of 50,000L. A compactor of this size typically has a footprint of 9.2m² (see Appendix B for further details).

Large volumes of recycling waste are expected to be generated as a result of onsite warehouse activity. Equipment to reduce volumes of cardboard and plastic waste will allow the number of bins required onsite to be reduced.

Cardboard Baler

A paper and cardboard baler may be appropriate for use in each of the industrial units as this material is typically bulky and easily separated from other recycling streams. Paper and cardboard is also valuable as a separated commodity and may be able to be collected for free or sold for a profit, rather than incurring a fee for collection. Further information and examples of commercial cardboard balers is included in Appendix B.

4.3 Waste Management Equipment

A range of bins may be utilised at the site for the management of different waste streams. It is expected that the site will make use of mobile bins and bulk bins, the specifications of which are outlined in Table 6 and Table 7 according to the NSW EPA (2019) *Guidelines for Waste Management in New Developments*.

Table 6: Mobile garbage bin specifications

Bin Capacity	140L	240L	360L	660L	1,100L
Height (mm)	1,065	1,080	1,100	1,250	1,470
Depth (mm)	540	735	885	850	1,245
Width (mm)	500	580	600	1,370	1,370
Footprint (m ²)	0.27	0.43	0.53	1.16	1.71

Table 7: Bulk bin dimensions

Bin Capacity	1.5m ³	2m ³	3m ³	4.5m ³	6m ³
Height (mm)	910	1,250	1,225	1,570	1,650
Depth (mm)	905	935	1,505	1,605	1,850
Width (mm)	1,800	1,800	1,800	1,800	2,000
Footprint (m ²)	1.63	1.68	2.71	2.89	3.70

All bins will be in accordance with AS4123.7-2006 mobile waste containers – colour, markings, and designation requirements. Private bins shall be labelled to identify the waste generator and site address.

Bins will be serviced by the contracted WSP according to the agreed collection schedule upon commencement of operation.

4.4 Bulky Waste Management

Site tenancies are expected to generate some bulky waste items (fit-out, whitegoods, etc), including items that would be returned to suppliers from deliveries (such as pallets, crates, etc). Additional space for the storage of bulky waste items will be available for each tenancy, nearby the bin storage areas.

Bulky waste will be serviced as required and can be organised between tenants and their waste contractor(s). Bulky waste collection vehicles will be similar in size to those that will provide waste collection for general waste and recycling and therefore, no additional access considerations are likely to be necessary for bulky waste collection access.

5 Site Waste Management Systems

5.1 Waste Management System Summary

The various waste streams generated on-site are summarised as follows:

- **Waste:** General waste shall be placed within a tied plastic bag prior to transferring into the general waste bin or waste compactor. Receptacles will be situated in each designated waste management and storage area for individual industrial units;
- **Commingled recyclables:** All recyclables will be stored in commingled bins (including paper, cardboard, mixed plastic, glass, aluminium, steel). All recyclables should be decanted loose (not bagged) with containers un-capped, drained and rinsed prior to disposal into the recycling bin.
- **Paper and cardboard:** Based on *BinTrim: Reducing business waste (NSW EPA, 2017)*, Paper and cardboard can represent more than 75% of all recyclables generated by various commercial and industrial uses. It may be suitable for industrial unit tenancies to incorporate a separate paper and cardboard collection or cardboard baler to reduce waste collection costs and improve resource recovery potential. All cardboard should be flattened prior to placement into a cardboard bin or baler.
- **Film Plastic:** Some industrial tenancy uses may produce a significant amount of plastic film waste which can be managed with a separate collection. A 1m³ bag and frame setups are considered appropriate for film plastic and can be collected by a range of major waste contractors and specialist service providers.
- **Timber Waste:** Pallets (treated and untreated), sawdust and offcuts are common manufacturing waste outputs. Introducing a separate timber organics waste service can reduce size of general waste bin and increase business recycling.
- **Garden Waste:** Minimal garden waste is expected to be generated on site. Any garden waste generated through the maintenance of landscaped areas around the site would be managed and removed by the landscape management contractor.
- **Food Waste:** Management methods such as composting or vermiculture are considered impractical due to the nature of the site. Alternative methods such as a separate food organics collection may be applicable for sites generating a substantial amount of food waste.
- **Grease Trap:** The café use will maintain a grease trap for the capture of cooking oils and grease associated with the operation of the café. This waste will be serviced direct from the grease trap by a specialist tanker pump truck and removed from the site to a suitably qualified facility to handle and treat grease trap waste.
- **Other (Problem) Waste:** The disposal of hard, bulky, liquid or potentially hazardous wastes shall be organised between industrial tenants and their respective waste contractors as necessary. Collection would need to be coordinated between tenancies and their contracted WSP.

5.2 Collection Method and Loading Areas

Based on the anticipated waste generation rates for the site, a private contractor will be required to collect waste generated at the site. Tenants will be responsible for engaging and maintaining a waste collection contract for the regular servicing of waste generated at each industrial unit and other relevant uses. Mirvac will include general waste management details in lease agreements according to this waste management plan.

The recommended arrangements access and collection servicing for the site are as follows:

- Entrance to the site via Mamre Road;
- Collection of general waste and recycling front lift bins will occur directly from each building waste storage area;
- Collection and replacement of waste compactors (where required):
 - Drop off and collection of waste compactors will occur outside of regular business hours to minimise impact on staff and visitors to the site, as well as local residents (timings to be determined in service contract);

- The contractor will initially drop off an empty waste compactor to replace the full one (one for each industrial unit);
- Site management is to indicate the correct waste compactor receiving general waste, through the form of temporary signage and restriction of access to full compactor;
- The contractor will return to collect the full waste compactors in a timely manner.
- Steel front lift bins shall be collected by a front-lift vehicle. Due to their weight, steel bin will be stored in a position that minimises the need to shift bins to/from the collection vehicle. Typical front-lift vehicle dimensions are as follows:
 - 11.5m length,
 - 6m operational height, and
 - 30 tonne gross vehicle mass.
- Any plastic wheelie bins (240L - 1100L) shall be collected by a rear-lift vehicle (similar vehicle to collect cardboard, e-waste and film plastic bales) with typical dimensions as follows:
 - 8.8 – 11.5m length,
 - Maximum 4m operational height, and
 - 24 tonne gross vehicle mass.
- Identifiable areas will be required where users, visitors and WSP staff can recognise and avoid any risk associated with moving vehicles, and bin moving and handling;
- Exit from the site will be via the exit point back onto Mamre Road.

Note: Compaction of refuse and the breaking up of bottles will not occur in the vehicle while the collection vehicle is standing stationary at or near the site.

Table 8 below outlines relevant requirements and specifications related to the use of collection points and loading areas.

Table 8: Collection points and loading areas requirements and specifications

Component	Requirement	Specification
Collection point	Allow safe waste collection and loading operations	<ul style="list-style-type: none"> - Adequate clearance and manoeuvring space; - Sufficient clearance for the safe handling of materials and equipment; and - Loading bays do not impede upon traffic and pedestrian safety.
Vehicle loading space	Space for adequate lift clearance	<ul style="list-style-type: none"> - Adequate operational clearance for bin lifting mechanisms.
Operating times	Appropriate collection times to limit noise and traffic disturbance	<ul style="list-style-type: none"> - Collection times will be arranged during off-peak traffic times to ensure minimal disturbance to site users and general traffic flows associated with the use of the site.

5.3 Site Waste Management Responsibilities

Site tenancy users will be responsible for general operation of waste management systems, maintaining waste management contracts, maintaining waste storage areas and associated waste contamination reduction.

Should any issues impacting on the operational efficiency, safety and suitability of waste management be identified, site users should inform their waste contractor to revise waste management procedures as necessary.

Site tenants will be responsible for the following with regards to waste management:

- Using this WMP to inform waste management operations, design and infrastructure;
- Providing educational materials and information to users outlining:
 - Waste management system and use/location of associated equipment,

- Sorting methods for recycled waste, awareness of waste management procedures for waste minimisation, maximising recovery and reducing contamination of recyclables,
- Improving facility management results (lessen equipment damage, reduce littering, and achieve cleanliness).
- Making information available to users, site staff and visitors about waste management procedures;
- Ensuring correct signage is installed and maintained in waste storage and service areas;
- Encouraging waste avoidance and achievement of resource recovery targets;
- Providing operational management for delivery of waste objectives;
- Holding a valid and current contract with licensed collector(s) for waste and recycling collection;
- Ensuring waste service providers access the site appropriately;
- Ensuring timing of waste collections does not clash with peak traffic periods in relation to general operation of the site tenancies;
- Organising waste, recycling and bulky pick-ups by elected contractor for the site (if not directly managed by site users);
- Organising, maintaining and cleaning the waste storage and service areas;
- Using contracts to define the allocation of responsibilities with cleaners and users;
- Monitoring any vermin and pest issues and arranging appropriate controls (traps or fumigating) and maintenance of doors or other points of potential entry; and
- Ensuring all tenants do not prevent or impede correct access of the site for waste collection.
- Holding a valid and current contract with a licensed collector for any specialty waste collections and disposal;
- Allocating space for a dedicated and enclosed waste and recycling storage area for intermediate storage before disposal to designated waste storage areas;
- Disposing of waste and recycling at their designated building's waste storage area;
- Maintaining general cleanliness when using waste storage areas to prevent the occurrence of odour, vermin or amenity issues;
- Notify site management of waste storage use and efficiency should additional bins or services be required (that are covered under general waste arrangement as outlined in lease agreements);
- Notify site management hazards or damages related to the building waste storage areas, including but not limited to:
 - Damaged bins,
 - Illegally dumped items,
 - Apparent miss-use of waste storage areas (such as vandalism, contamination, etc), and
 - Odour, vermin or amenity issues.

5.4 Waste Storage and Recycling Areas

The waste storage areas provide centralised storage that has adequate capacity to receive and store the maximum likely generation of waste and recycling between collection times. Waste storage areas must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties. The waste storage areas are to be constructed to improve amenity, minimise odour, protect surrounding areas and promote user safety. Construction must conform to Building Code of Australia, Australian Standards and local laws. Specifications include:

- Sited away from areas of high pedestrian traffic to minimise odour and amenity impacts;
- Enclosed to minimise exposure and reduce risk of odour and amenity impacts;
- Signage for safety and waste bin identification;
- Safety precautions, staff training and signage for plant;
- Noise attenuation for waste management and waste storage areas that limits effects to residents from compactor, bin transfer and collection vehicle noise;

- Floors constructed of concrete or other approved solid, impervious material that can be cleaned easily;
- Adequate supply of water with hose cock as close as practicable to the doorway or storage area;
- Ventilation in accordance with Australian Standards AS1668; and
- Security and lighting.

Additional measures shall be put in place for the wash bay, and Area B which will be entirely enclosed:

- Light colour finish for all room surfaces;
- Smooth, even surface covered with vertical wall and plinth faces;
- Grading and draining to an approved drainage fitting located in the room;
- Doorway ramp (if not level);
- Close fitting and self-closing door; and
- Suitable construction including limited entry paths to prevent vermin.

5.5 Signage

Signage that promotes resource recovery, waste minimisation, safety and amenity follows the Australian Standard for safety signs for the occupational environment (Standards Australia 1994).

Signage will be designed to consider language and non-English speaking backgrounds, vision impairment and accessibility. Illustrative graphics must form a minimum 50% of the area of the signage. Signage is to be prominently posted in each waste storage area indicating:

- Garbage is to be bagged and placed into waste bins;
- Details regarding acceptable recyclables and the location of their respective receptacles;
- Commingled recyclables are to be disposed of loose (not bagged);
- No standing and danger warnings applying to the area surrounding waste storage and collection areas;
- Contact details for arranging the disposal of bulky items;
- Information on keeping the areas tidy.

5.6 Prevention of Pollution and Litter Reduction

To minimise dispersion of litter and prevent pollution (to water and land via contamination of runoff, dust and hazardous materials), site tenants shall be responsible for the following:

- Maintenance of open and common site areas;
- Ensuring waste storage areas are well maintained and kept clean, including:
 - Prevention of overflow,
 - Keeping lids closed, and
 - Checking for bung leaks and damage bins.
- Securing the waste storage area from vandalism and the escape of litter;
- Identification and appropriate disposal of goods with hazardous material content (paints, fluorescent tubes, smoke detectors);
- Acting to prevent dumping and unauthorised use of waste areas; and
- Requiring contractors to clean up any spillage that may occur during waste servicing or other work.

The above will minimise the dispersion of site litter, prevent stormwater pollution and thus, reduce the risk of impact to local amenity and the environment.

5.7 Waste Management Plan Revisions

For any relevant future Council requests, changes in legal requirements, changes in the development's needs and/or waste patterns (waste composition, volume, or distribution), or to address unforeseen operational issues, the

operator shall be responsible for coordinating the necessary Waste Management Plan revisions, including (where required):

- A waste audit and new waste strategy;
- Revision of the waste system (bin size/quantity/streams/collection frequency);
- Re-education of users/staff;
- Revision of the services provided by the waste collector(s); and
- Any necessary statutory approval(s).

6 Access Requirements and Limitations

6.1 Best practice requirements

The following best practice methods shall be incorporated where relevant/practicable to ensure site waste management is completed safely and effectively:

- Tenancies shall ensure that bins are not overfilled or overloaded.
- Waste incineration devices are not permitted, and any offsite waste treatment and disposal shall be carried-out in accordance with regulatory requirements.
- For bin traffic areas, should any ramp gradients be present, bin weight, and/or distance can affect the ease/safety of bin transfers. In the case of a potential safety concern, use of a suitable tug or cart will be considered.
- Site tenants and contracted WSPs shall observe all relevant WHS legislation, regulations, and guidelines. The relevant entity shall define their tasks.
- All staff/contractors should be provided with equipment manuals, training, health and safety procedures, risk assessments, and adequate personal protective equipment (PPE) to control/minimise risks/hazards associated with all waste management activities.

6.2 Limitations

This report is based on the following conditions:

- Waste generation figures outlined in the demolition and construction sections are approximate only and should be confirmed by building and demolition contractors through demolition and construction operations.
- The figures presented in this report are estimates only. The actual amount of waste will depend on the development's occupancy type, occupancy rate, waste generation profile, the user's disposition toward waste and recycling and the overall approach to waste management maintained at the site. Tenancies will adjust their waste management needs based on actual waste and recycling volumes experienced through regular operation (if the actual volumes of the streams are greater than estimated, then the number of bins and/or the number of collections per week shall be increased).
- This report shall not be used to determine/forecast operational costs, or to prepare feasibility studies, or to document operational/safety procedures.

Appendix A Proposed Site Plans (WH6&7 and café)



OVERALL DEVELOPMENT DATA	
Total Site Area	558,323 m ²
Mamre Rd Reserve Area	14,004 m ²
Rev. Boundary Site Area	544,319 m ²
Access Roads Area	39,876 m ²
Future Roads Area	3,570 m ²
Creek Riparian Area	29,718 m ²
Retained Riparian Area	4,042 m ²
Basin Lot Area	18,157 m ²
Total Developable Area	448,956 m ²
Total Office Area (incl. dock off)	10,025 m ²
Total Warehouse Area	235,227 m ²
Cafe	125 m ²
Total Building Area	245,377 m ²
Restriction on User Area	4,613 m ²

WAREHOUSE 1	
Site Area	61,170 m ²
Offices	900 m ²
Warehouse	32,686 m ²
Dock Office	300 m ²
Total GFA	33,886 m ²
Carpark Provided	141

WAREHOUSE 2	
Site Area	40,172 m ²
Offices	1,500 m ²
Warehouse	22,595 m ²
Dock Office	200 m ²
Total GFA	24,295 m ²
Carpark Provided	138

WAREHOUSE 3	
Site Area	42,755 m ²
Offices	700 m ²
Warehouse	20,735 m ²
Dock Office	100 m ²
Total GFA	21,535 m ²
Carpark Provided	89

WAREHOUSE 4	
Site Area	41,365 m ²
Offices	750 m ²
Warehouse	18,055 m ²
Dock Office	100 m ²
Total GFA	18,905 m ²
Carpark Provided	93

WAREHOUSE 5	
Site Area	28,160 m ²
Offices	850 m ²
Warehouse	11,872 m ²
Dock Office	100 m ²
Total GFA	12,622 m ²
Carpark Provided	60

WAREHOUSE 6	
Site Area	19,439 m ²
Offices	1,000 m ²
Warehouse	8,574 m ²
Total GFA	9,574 m ²
Carpark Provided	71

WAREHOUSE 7	
Site Area	27,120 m ²
Offices	750 m ²
Warehouse	14,358 m ²
Dock Office	100 m ²
Cafe	125 m ²
Total GFA	15,333 m ²
Carpark Provided	84

WAREHOUSE 8	
Site Area	75,710 m ²
Offices	750 m ²
Warehouse	44,196 m ²
Dock Office	200 m ²
Total GFA	45,146 m ²
Carpark Provided	166

WAREHOUSE 9	
Site Area	113,082 m ²
Offices	1350 m ²
Warehouse	64,900 m ²
Dock Office	266 m ²
Total GFA	66,516 m ²
Carpark Provided	266



*Areas are measured to future Mamre Rd boundary in red
**All areas subject to survey

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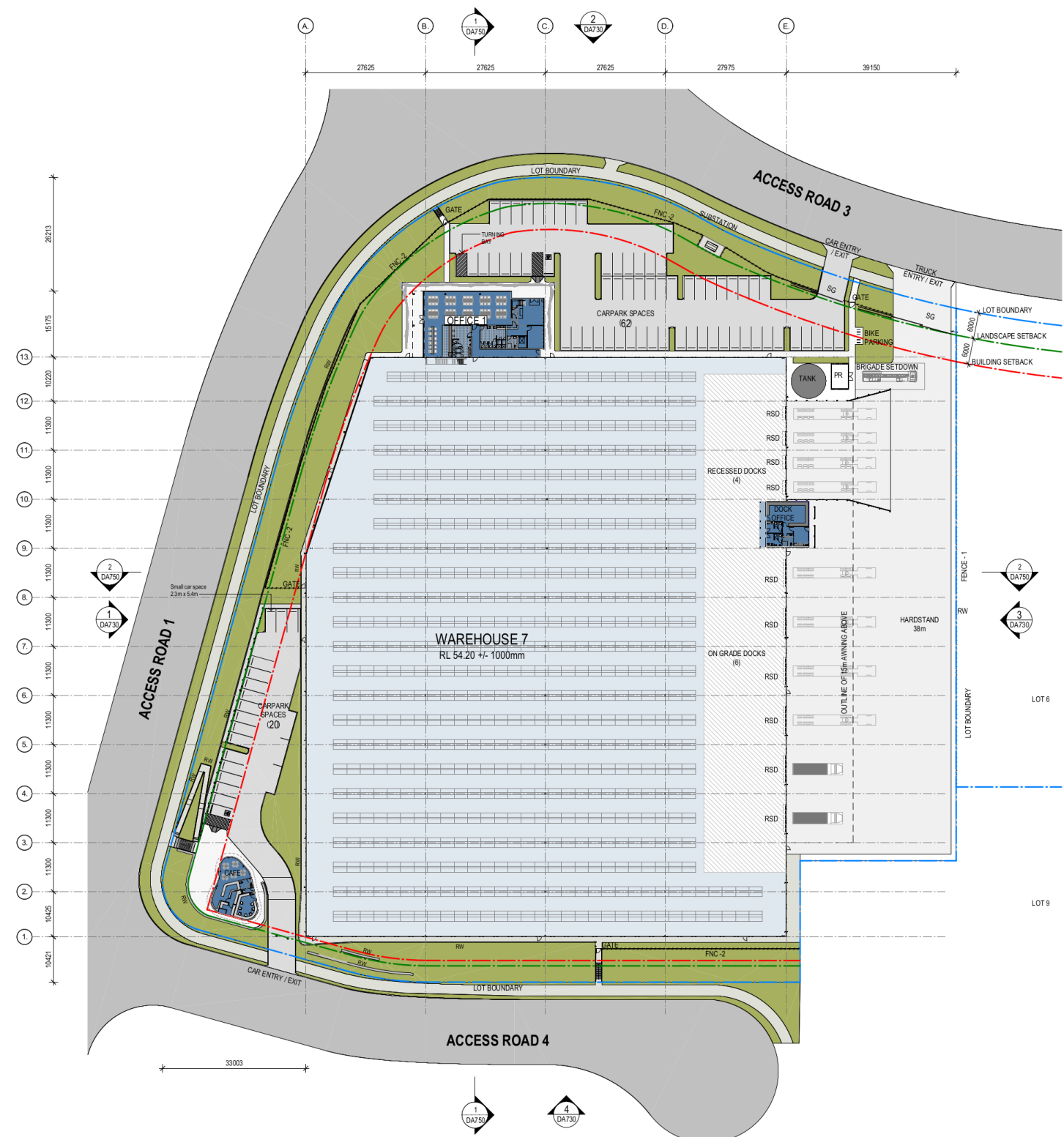
ASPECT INDUSTRIAL ESTATE

LOTS 1-5 (DP1285305) MAMRE ROAD, KEMPS CREEK

LOT 2 SSDA ESTATE MASTERPLAN

A/E EST.DA.1020

DATE: 13.06.2023 SCALE: 1:4000 @ A3 JOB NO: 22247 DRAWING NO: MP2-01



SITE LEGEND	
---	FNC-1 CHAINMESH FENCE
---	FNC-2 PALISADE FENCE
---	FNC-3 POST & RAIL FENCE
---	RETAINING WALL
---	ROLLER SHUTTER DOOR
---	SLIDING GATE
---	PUMP ROOM
---	GATE
---	PEDESTRIAN GATE
---	TELESCOPIC GATE
---	SITE BOUNDARY
---	LOT BOUNDARY
---	LANDSCAPE SETBACK
---	BUILDING SETBACK
---	ROAD LINES RESERVE
---	LOADING ZONE

LOT 7 GFA AREA SCHEDULE	
GROSS FLOOR AREA DEFINED AS PER PRIORITY COUNCIL LEP 2010	
SITE AREA	27135 m ²
CAFE	112 m ²
OFFICE (2 LEVEL)	750 m ²
DOCK OFFICE	100 m ²
WAREHOUSE	14358 m ²
LESS LOADING ZONE	2100 m ²
TOTAL GFA	13220 m ²
SITE COVERAGE	56.5%
CARPARK SPACES PROVIDED	82

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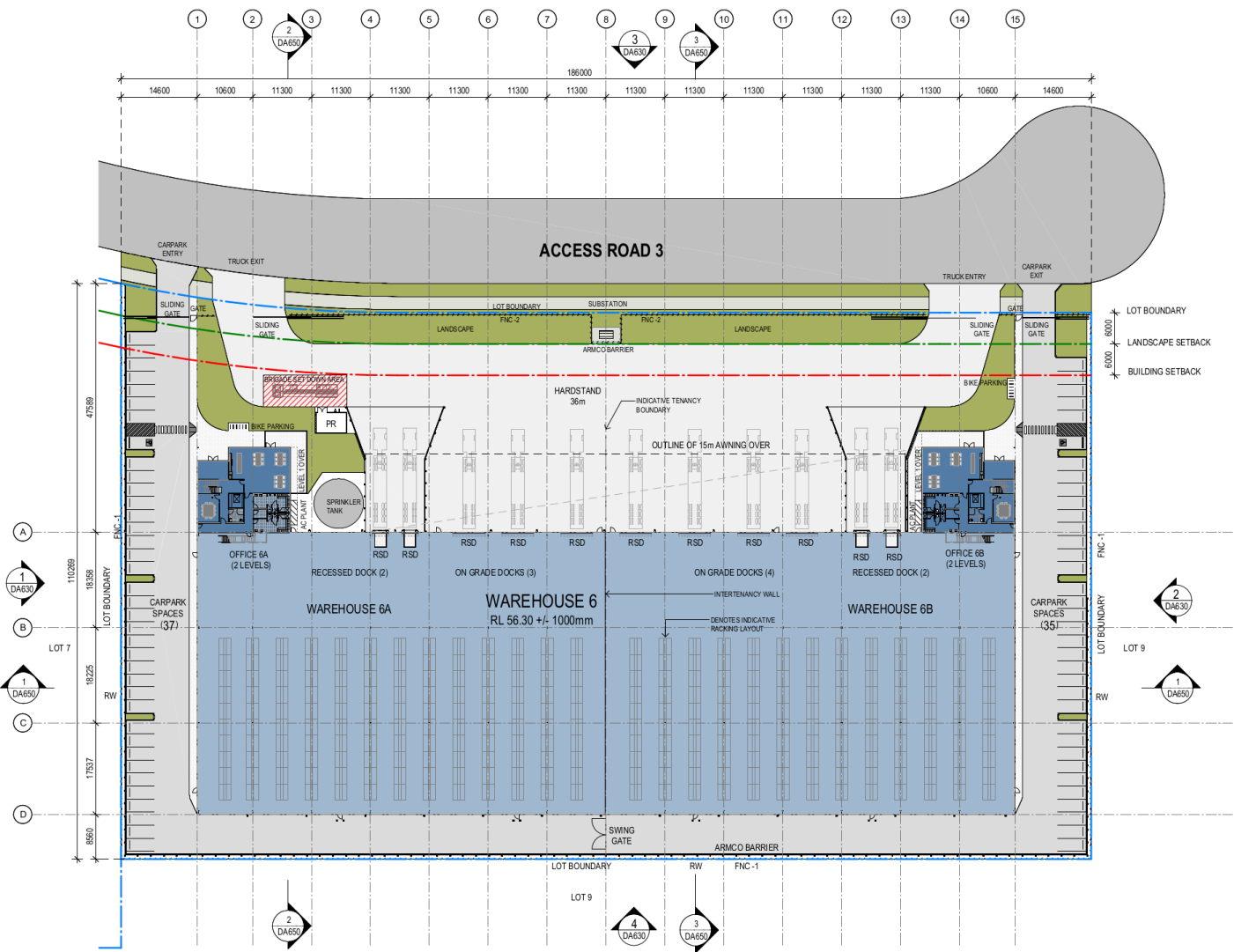
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ASPECT INDUSTRIAL ESTATE
LOTS 6 & 7 KEMPS CREEK

LOT 7 SITE & WAREHOUSE FLOOR PLAN

DATE: 19.02.2024 SCALE: 1:500@A1 JOB NO: 23256 DRAWING NO: DA701 A



SITE LEGEND

----	FNC-1 CHAINMESH FENCE
----	FNC-2 PALISADE FENCE
----	FNC-3 POST & RAIL FENCE
----	RETAINING WALL
----	ROLLER SHUTTER DOOR
----	SLIDING GATE
----	PUMP ROOM
----	GATE
----	PEDESTRIAN GATE
----	TELESCOPIC GATE
----	SITE BOUNDARY
----	LOT BOUNDARY
----	BUILDING SETBACK
----	LANDSCAPE SETBACK
----	ROAD LINES RESERVE
----	LOADING ZONE

LOT 6 GFA AREA SCHEDULE
GROSS FLOOR AREA (DEFINED AS PER PENRITH COUNCIL LEP 2010)

SITE AREA	19568 m ²
WAREHOUSE 6A	4212 m ²
WAREHOUSE 6B	4212 m ²
OFFICE 6A (2 LEVEL)	500 m ²
OFFICE 6B (2 LEVEL)	500 m ²
TOTAL GFA	9424 m ²
SITE COVERAGE	47.5%
CARPARK SPACES PROVIDED	72

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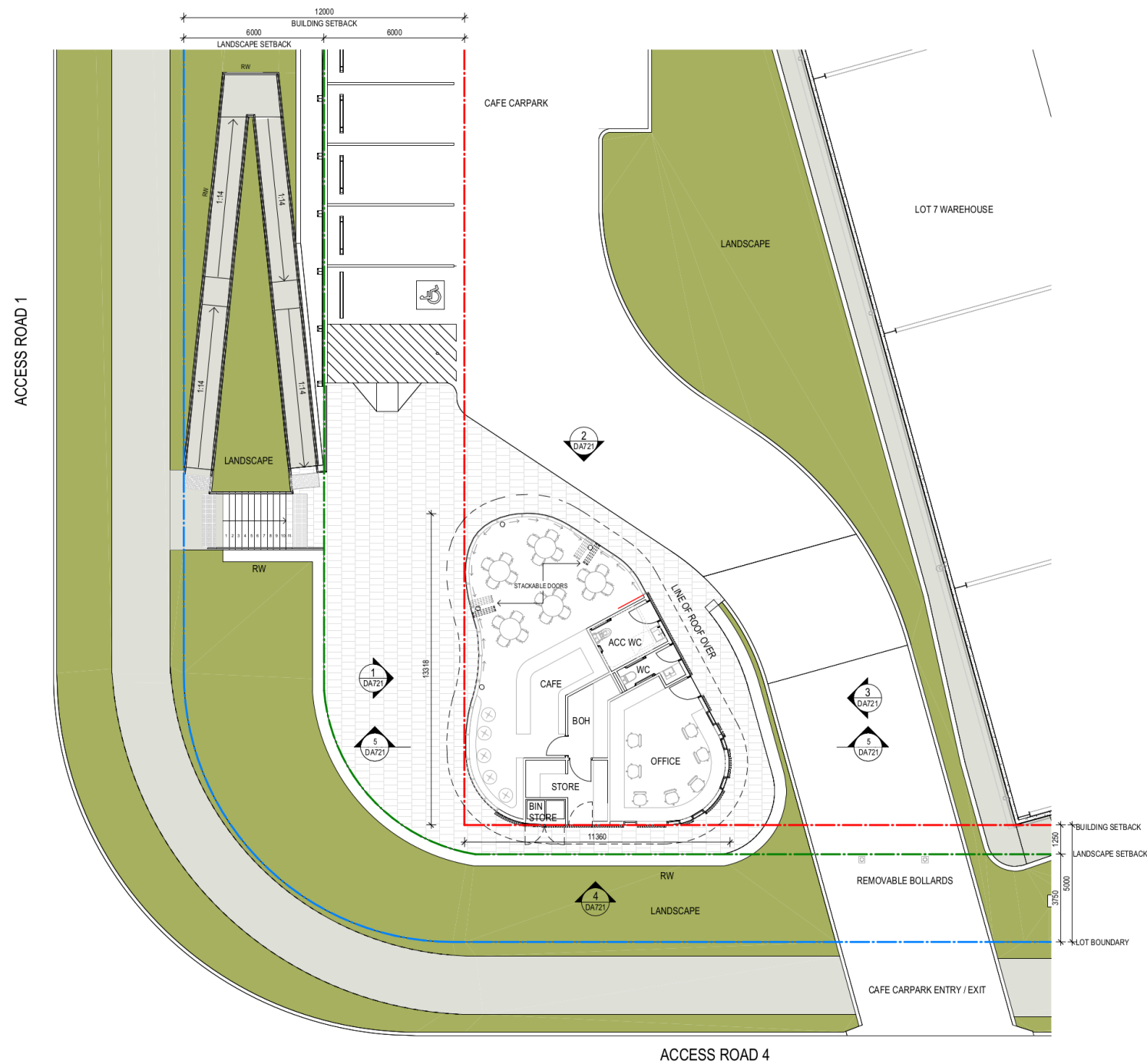
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ASPECT INDUSTRIAL ESTATE

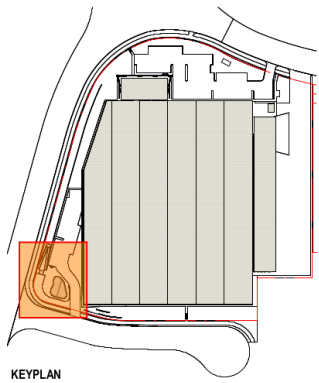
LOTS 6 & 7 KEMPS CREEK

LOT 6 SITE & WAREHOUSE FLOOR PLAN

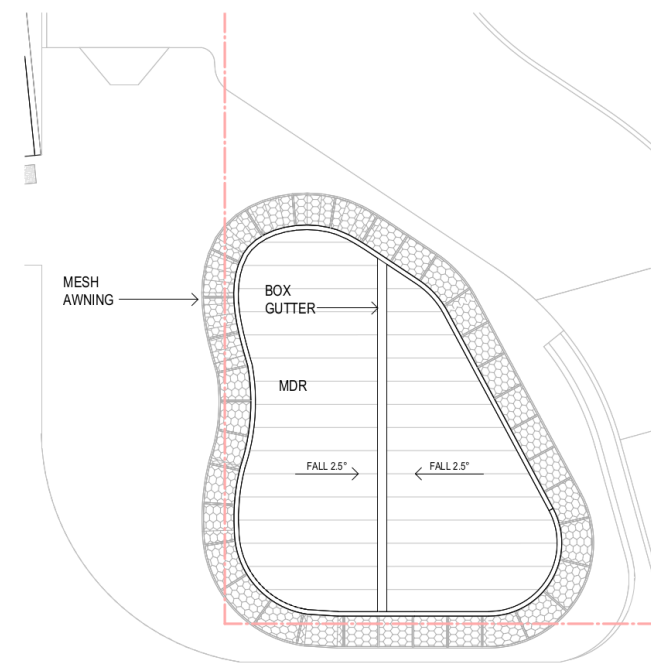
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1 CAFE PLAN 1:100



LOT 7 CAFE AREA SCHEDULE	
TOTAL CAFE GFA AREA	112 m ²



2 CAFE ROOF PLAN 1:100

DA ISSUE

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Appendix B Waste Compaction and Baling Equipment Examples

Hook-Lift Compactor

A compactor unit will need to be supplied with 3 phase power. Please refer to the below specifications for a compactor unit suitable for this site:



DIMENSIONS

Width	1665mm
Length	5320mm
Weight	4.5T
Feed Opening	1500 x 2100
Swept Volume	2.3m3

PERFORMANCE

Power Supply	415V 3-phase
Motor	11kW
Cycle Time	55-86 secs
Compaction Force	38T

Baling Equipment

The table below outlines some equipment suppliers that can offer balers. Please note the list is not exhaustive.

Table 9: Baling Equipment Details

Brand	Model	Dimensions
Autobaler	LS 150 (single chamber)	H: 3100mm W: 1000mm D: 1250mm Bale weight: <100kg
	Ti 350 - Ti 500	H: 2025mm to 2030mm W: 2250mm D: 1470mm to 1850mm Bale weight: between 300kg to 550kg
Miltek	H500 - H600	H: 3100mm to 2170mm W: 1600mm to 1890mm D: 1300mm to 1400mm Bale weight: between 350kg to 500kg
WasTech	B50	H: 3180mm W: 1860mm D: 1055mm Bale weight: between 400kg to 500kg

Appendix C Standard Signage

Waste Signage

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the NSW Office of Environment and Heritage (NSW OEH 2008b).

Standard symbols for use in signage, bin facade and educational materials are promoted through the NSW Environment Protection Authority. They are available for download from the NSW EPA website (NSW EPA 2016b), in black and white and colour versions. The Australian Standard series AS 4123 (Part 7) details colours for mobile waste containers (Standards Australia 2008).

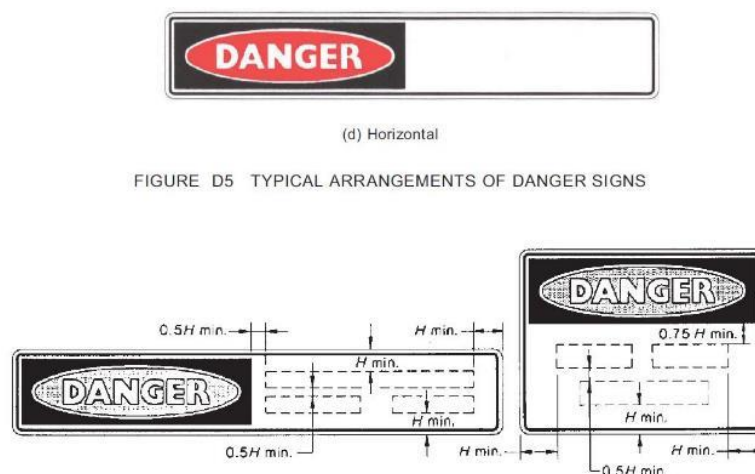
Figure 4: Examples of standard signage for bin uses



Safety Signs

The design and use of safety signs for waste and recycling rooms and enclosures should comply with AS 1319 (Standards Australia 1994). Safety signs should be used to regulate, and control safety related to behaviour, warn of hazards and provide emergency information, including fire protection information. Below are some examples. Clear and easy to read 'NO STANDING' and 'DANGER' warning signs must be fixed to the external face of each waste and recycling room where appropriate.

Figure 5: Example and layout of safety signage



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