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**Lots 1 & 5 Broadhurst Crescent, Bateman
Proposed Child Care Centre**

Waste Management Plan



Prepared for:
St Clarence Investments Pty Ltd

October 2022

Lots 1 & 5 Broadhurst Crescent, Bateman

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1 Introduction

This Waste Management Plan has been prepared by **Urbii** on behalf of **St Clarence Investments Pty Ltd** with regards to the proposed child care centre, located at Lots 1 & 5 Broadhurst Crescent, Bateman.

The subject site is situated on the south-west corner of Marsengo Road and Broadhurst Crescent, as shown in Figure 1. The site currently accommodates two residential dwellings and is bound by Marsengo Road to the north, Broadhurst Crescent to the east, Islip Court to the south and residential dwellings to the west. The site is surrounded by mostly residential land uses, with Corpus Christi College located nearby to the north.

It is proposed to develop the site into a child care centre catering for up to 82 children and 17 staff.

The key issues that will be addressed in this WMP include calculation of the waste generation of the site, assessment of waste storage provisions and documentation of the waste collection arrangements.



Figure 1: Subject site



2 Objectives

The objectives of this WMP are adapted from WALGA:

- Ensure that the long-term waste management needs for the development are met in an efficient and sustainable manner.
- Minimise the impact of waste services and facilities on the streetscape and surrounds, in relation to both the footpath/public realm and the frontage of the development.
- Reduce the impact of waste collection services and facilities on the amenity of the locality particularly in terms of noise and odour.
- Maximise safety for both waste collection staff and the public.
- Minimise traffic and footpath obstruction.

3 Referenced documents

The documents referenced in preparing this WMP may include, but are not limited to:

- City of Melbourne *Guidelines for Waste Management Plans* 2021;
- City of Perth *Waste Guidelines for all Developments* 2019;
- WALGA *Multiple Dwelling Waste Management Plan Guidelines*;
- WALGA *Subdivision Waste Management Plan Guidelines*; and,
- Waste Authority WA *Waste Avoidance and Resource Recovery Strategy for 2030*.



4 Guiding concepts

Urbii adopts the guiding concepts of the State’s Waste Strategy and encourages these concepts to be considered in all developments to the furthest extent feasible.

4.1 Waste hierarchy

The *Waste Avoidance and Resource Recovery Strategy 2030* applies the waste hierarchy (Figure 2), which is a widely accepted decision-making tool. The waste hierarchy ranks waste management options in order of their general environmental desirability. Waste avoidance is the most preferred option in the hierarchy.

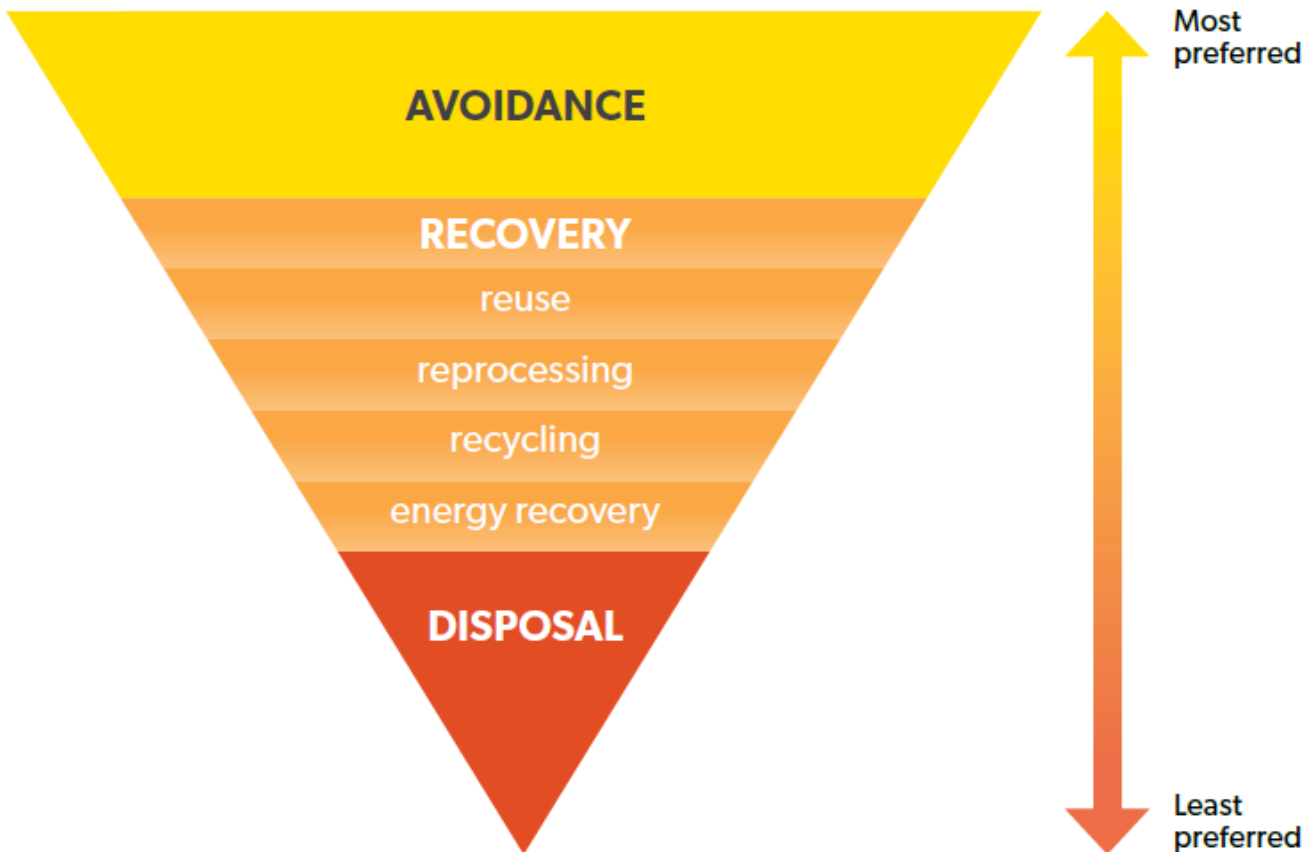


Figure 2: Waste hierarchy

Source: Waste Authority WA *Waste Avoidance and Resource Recovery Strategy for 2030*.

Resource recovery options recover value from materials, thereby offsetting the environmental impacts of extracting and processing raw materials. Energy recovery is the least preferred recovery option. Disposal is the least preferred option. Disposal generally recovers the least value from materials and delivers the least environmental benefit.

4.2 Circular economy

A circular economy (Figure 3) makes use of established sustainability concepts, including life cycle thinking and resource efficiency. A circular economy should consider the flow of both materials and energy. It moves away from the linear 'take, make, use and dispose' model, to one which keeps materials and energy circulating in the economy for as long as possible.

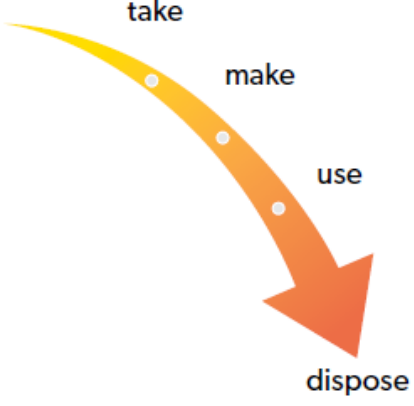

Current approach	Circular economy
 <p>A linear flow diagram showing a downward arrow with four stages: 'take', 'make', 'use', and 'dispose'.</p>	 <p>A circular diagram with seven segments: 'raw materials' (red), 'design' (purple), 'production remanufacturing' (blue), 'distribution' (teal), 'consumption, use, reuse, repair' (green), 'collection' (yellow), and 'recycling' (orange). A central white circle is surrounded by a dark brown arrow pointing clockwise.</p>
Linear flow of materials – 'take, make, use and dispose' model.	Circular flow of materials – materials sorted and retained in the economy for as long as possible.
Limited use of renewable materials and energy.	Preference for renewable materials and energy.
Significant volumes of materials disposed of and lost to the economy. Loss of embodied materials, energy and water.	Materials recovered as high up the waste hierarchy as possible. Embodied materials, energy and water retained in the economy. Organic materials re-enter and regenerate the environment safely (for example, as compost).
Materials managed locally and globally.	Preference to manage materials locally to reduce the costs and impacts of transport, and to provide local employment and investment opportunities.
Economic value of materials, employment and investment not fully accounted for.	Economic value of materials, employment and investment accounted for.
Limited focus on life cycle thinking.	Products designed and manufactured to minimise environmental impact through whole of life.

Figure 3: Transitioning to a circular economy



5 Proposed development

The anticipated volume of general waste, and recyclables is based on the floor area of the development. The floor area of the building was adopted with some exclusion of storage areas which will not generate waste. The floor area for waste generation is around 450m².

The proposed development plans are included for reference in Appendix A.

6 Waste generation

6.1 Waste generation rates

The waste generation rates for general waste and recyclables are sourced from the *City of Melbourne Guidelines for Waste Management Plans 2021*. Waste generation rates are detailed in Table 1.

Table 1: Residential waste generation rates

Land use	General waste generation rate	Recyclables generation rate
Child Care Centre	350L/100m ² Floor area/week	350L/100m ² Floor area/week

6.2 Waste generation calculations

The waste generation calculations are detailed in Appendix C. The estimated waste generation for the development is:

- General Waste: around 1,575L per week.
- Recyclables: around 1,575L per week.



7 Waste systems

7.1 Internal waste storage

Internal bins should be provided throughout the child care centre for separate disposal of general waste and recycling.

Internal bins will be emptied by cleaners at regular intervals throughout the week and transferred to the Bin Storage Area for disposal into the appropriate bins.

7.2 External bin storage areas

7.2.1 Bin size, quantity and colour

It is proposed to provide the following bins in a centralized bin store:

- 4 x 240L General waste (red lid bin).
- 4 x 240L Co-mingled recycling (yellow lid bin).

The number of bins required for the development is detailed in Appendix C.

7.2.2 Bin storage area size

As detailed in Table 2, each 240L bin has a footprint area of 0.43m². A 50mm gap is allowed between the bins to allow easy pull movement.

Storage areas should be out of sight or well screened from the street. Bin storage areas should not detract from the aesthetics of the development and should blend in with surrounding structures and landscaping.

Table 2: Larger Mobile Garbage Bin (MGB) dimensions

Bin capacity	80L	120L	140L	240L	360L
Height (mm)	870	940	1065	1080	1100
Depth (mm)	530	560	540	735	885
Width (mm)	450	485	500	580	600
Approximate footprint (m ²)	0.24	0.27	0.27	0.43	0.53

Source: WALGA

7.2.3 Bin storage area design

Urbii has checked the proposed bin storage location and confirmed that required clearances are provided. A bin storage plan is included in Appendix B.

The following is a list of generic advice offered for consideration at subsequent detailed design stages of the project:

- **Size:** Ensure the size of the area set aside for the management of waste is sufficient to accommodate the number of bins required.
- **Ventilation and odour:** If covered, the design of the bin store will provide for adequate natural ventilation through ventilated doors or an alternative method which will be permanent, unobstructed natural ventilation openings direct to the external air, not less than one-twentieth i.e. 5% of the floor area.
- **Lighting:** Artificial light controlled by switches will be located near the bin store entrance.
- **Noise:** Bins will be collected from the waste collection presentation point outside of opening hours of the development.
- **Aesthetics:** The bin store should be consistent with the overall aesthetics of the development.
- **Vermin:** Self-closing doors can be considered to eliminate access to vermin.
- **Washing bins and waste storage area:** If there is no space for bin washing outdoors then the internal bin stores will have bin-washing facilities including an adequate supply of hot and cold water mixed through a centralised mixing valve with hose cock and have floor drainage installed. Staff will be responsible for washing bins (or contracting a provider to wash bins) and for maintenance of their bin stores.

7.3 Access to bins

Waste and recycling storage facilities are in positions that:

- Permit easy, direct and convenient access for the users of the facility.
- Permit easy transfer of bins to the presentation point.
- Permit easy, direct and convenient access for collection service providers.
- Are well screened and do not reduce amenity.
- Are secure and provide protection against potential vandalism.
- Reduce potential noise pollution and disturbance of residents.
- Are close to building exits.



8 Waste collection

8.1 Waste vehicle types

A private contractor will undertake waste collection, via a side loader waste truck.

8.2 Waste collection frequency

Waste collection will be scheduled at a frequency of two times per week.

8.3 Waste collection method and presentation points

Bins are proposed to be wheeled out from the bin store to the Broadhurst Crescent verge for presentation on scheduled waste collection days.

Private collection will be scheduled at a frequency of two days per week. Waste collection will be scheduled to occur outside the peak times for drop-off and pick-up of children

A bin presentation plan is included in Appendix B.

8.4 Vehicle access and maneuvering

Waste collection will be facilitated on-street from the Broadhurst Crescent verge. Therefore, no internal waste truck access or circulation needs to be allowed for.

Side loader waste trucks can pull into the proposed on-street parking embayment and collect waste while being stopped outside the traffic lane.

9 Additional waste requirements

9.1 Bulk waste

Bulk waste can be temporarily placed in a store room within the building until private arrangement for collection is made.

9.2 E-Waste

Storage space for E-waste will be accommodated within the building. E-waste will be disposed in a suitable manner, such as bulk drop-off to the tip or using public battery recycling boxes.

9.3 Garden organics

The site caretaker will manage garden organic waste. Garden waste can be placed in general waste bins if there is space or can be removed by trailer to be disposed offsite in a suitable location.



10 Waste management

Staff/cleaners will be responsible for:

- Cleaning their bin storage areas and facilities;
- Transferring waste stored internally to the consolidated bin storage area daily; and,
- Regularly cleaning their bins.

Staff should comply with the City's waste sorting requirements and only place permitted waste in each respective bin type. Waste that does not belong in any bin should be disposed of through private services or another appropriate method.

11 Conclusion

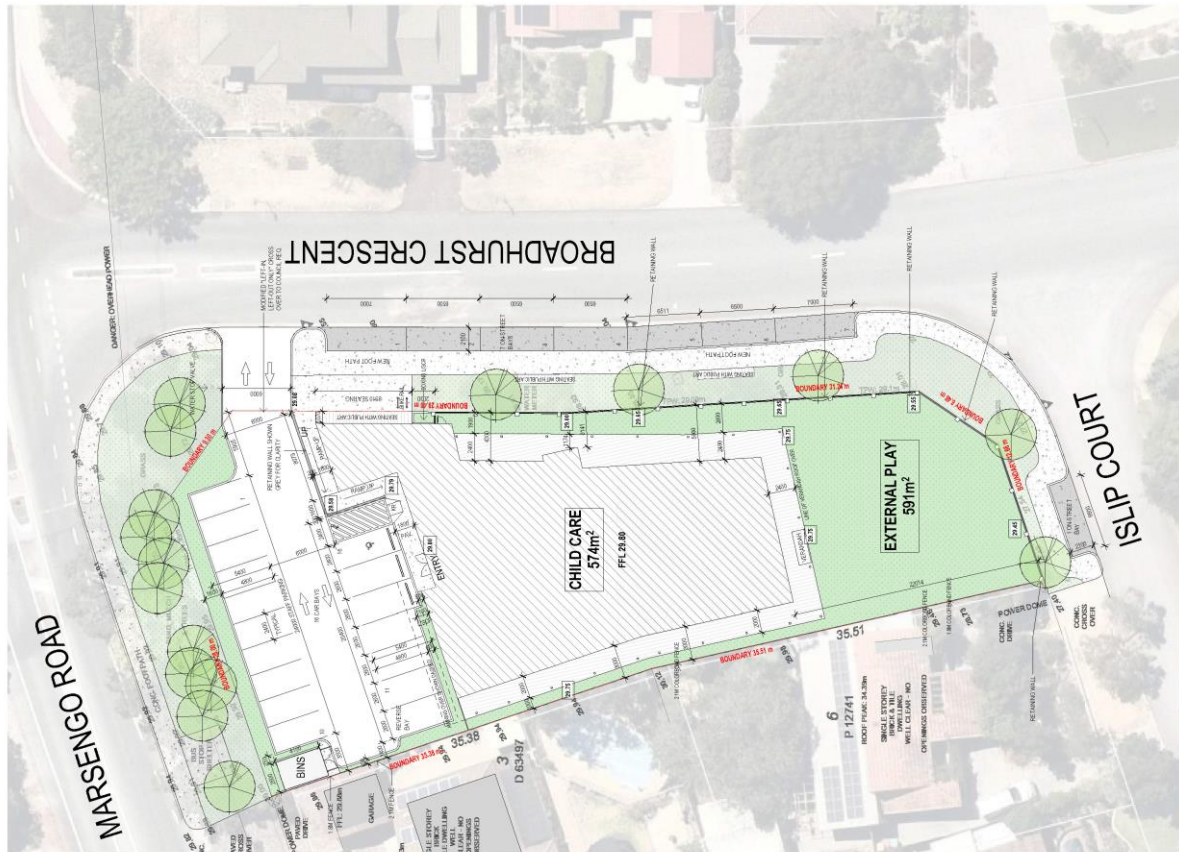
As demonstrated within this Waste Management Plan, the proposed development provides sufficient bin storage and adequate bins to service the site for general waste, recyclables and other waste.

Furthermore, the servicing of the bins by private contractor can be adequately achieved without having an adverse impact on the site and the local street network.



Appendices

Appendix A: Proposed development plans



1 PROPOSED SITE PLAN
1:200

CHILDCARE - 12 CHILDREN		1,785sqm
SITE AREA	REQUIRED	PROVIDED
INTERNAL AREA	320sqm CHILD ANGLERY & CIRCULATION 250sqm PLAY AREA TOTAL 570sqm CHILD TOTAL 320sqm CHILD 800.25-805.5sqm REQUIRED.	574 sqm
OUTDOOR PLAY AREAS	7sqm CHILD REQUIREMENT TOTAL 574sqm REQUIRED.	591 sqm

OCCUPATIONAL SCHEDULE - 12 CHILDREN			
AGE GROUP	NO. OF CHILDREN	NO. OF STAFF	RATIO
NURSERY - BIRTH TO 2 YRS	12 CHILDREN	3 STAFF	1:4
TODDLERS - 2 TO 3 YRS	14 CHILDREN	3 STAFF	1:5
TODDLERS - 3 TO 4 YRS	14 CHILDREN	3 STAFF	1:5
PRESCHOOL - 4 TO 5 YRS	30 CHILDREN	3 STAFF	1:10
ADDITIONAL STAFF		2 STAFF	
TOTAL	82 CHILDREN	17 STAFF	



DATE OF FINAL	21.10.2022
DESCRIPTION	PROPOSED CHILDCARE DEVELOPMENT
PROJECT NO.	1 ISLIP CRT 2A&2B BROADHURST CR. BATEMAN
DATE	21.10.2022
SCALE	1:200
PROJECT TO	28.22

Hodge Collard Preston
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BROADHURST CRESCENT



EXTERNAL PLAY
82 PLACES
574 m² REQ.
591 m² PROV.

Childroom Room Schedule

Room	Package Area	Required Area
ART	12 m ²	12 m ²
ADHERITIES	12 m ²	12 m ²
ART	11 m ²	39.4m ²
CIRCULATION	20 m ²	20 m ²
COTTES	12 m ²	12 m ²
FOYER	20 m ²	97.5 m ²
KITCHEN	20 m ²	20 m ²
LAUNDRY	8 m ²	39.8m ²
MEETING	10 m ²	10 m ²
PLAY	27 m ²	27 m ²
PLUMBING	9 m ²	9 m ²
RECEPTION	8 m ²	8 m ²
STAFF	26 m ²	26 m ²
STORE	8 m ²	8 m ²
STORE	9 m ²	9 m ²
STORE	5 m ²	5 m ²
TOILETS	17 m ²	65.5 m ²
TOILETS	9 m ²	9 m ²
TOILETS	6 m ²	6 m ²

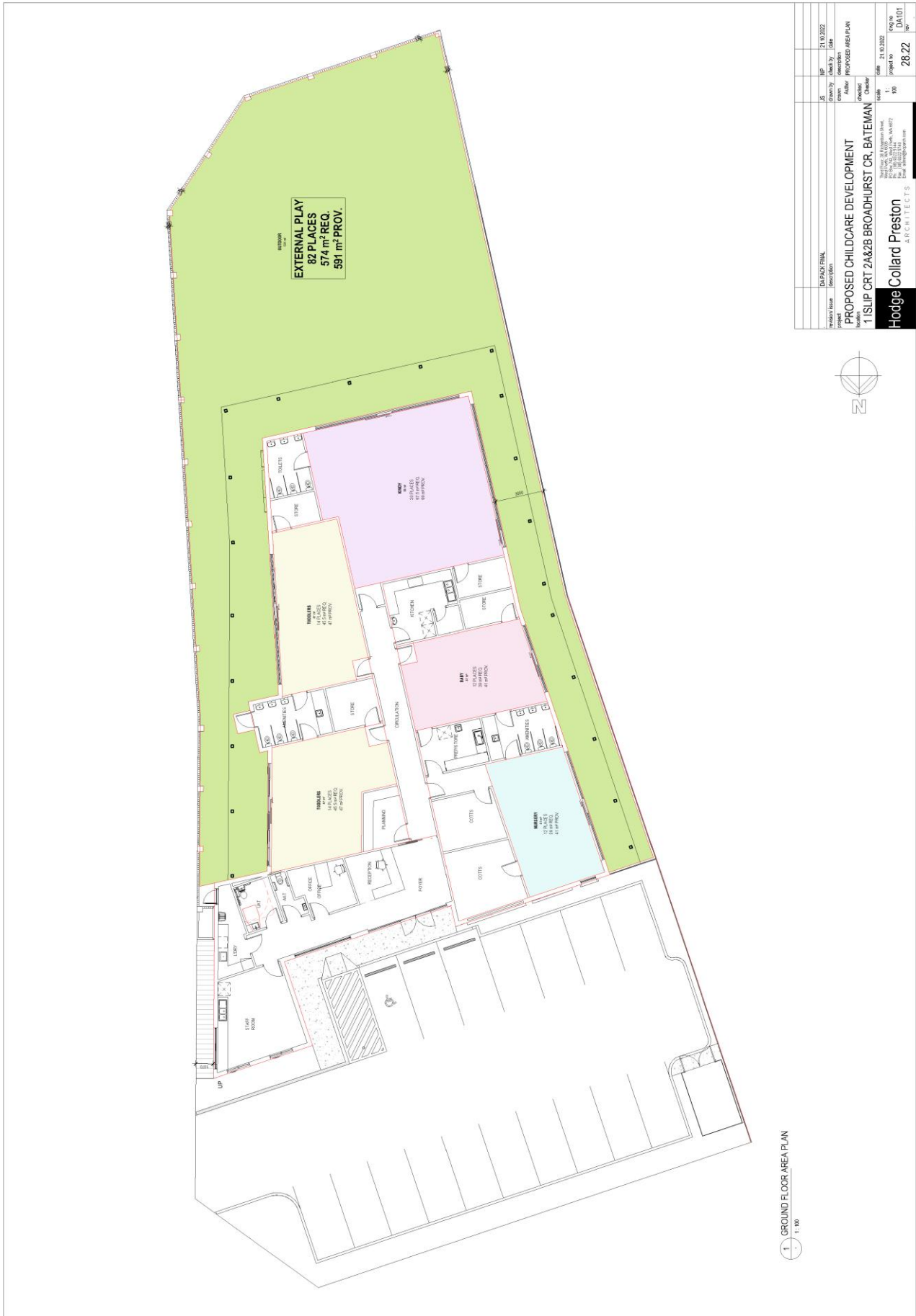
- LEGEND:**
- CONCRETE PAVING
 - LANDSCAPING AREA AS PER L.A. DRAWINGS
 - VERANDAH AREA
 - S STAFF PARKING
 - 28.85 PROPOSED LEVEL
 - 27.50 EXISTING LEVEL

1. GROUND FLOOR PLAN
1:100

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PROPOSED CHILDCARE DEVELOPMENT
1 ISLIP CRT 2A&2B BROADHURST CR. BATEMAN

DATE: 21.10.2022
PROJECT NO: DA100
JOB NO: 28.22



EXTERNAL PLAY
82 PLACES
574 m² REQ.
591 m² PROV.

1 GROUND FLOOR AREA PLAN
1:100



Revision Issue	DATE/FINAL	DESCRIPTION	ISSUED BY	CHECKED BY	DATE
PROPOSED CHILDCARE DEVELOPMENT 1 ISLIP CRT 2A&2B BROADHURST CR, BATEMAN					
Project Name	1 ISLIP CRT 2A&2B BROADHURST CR, BATEMAN	Project No	28.22	Scale	1:100
Client	Hodge Collard Preston	Architect	Hodge Collard Preston	Project to	28.22
Site No	1 ISLIP CRT 2A&2B BROADHURST CR, BATEMAN	Project to	28.22	Scale	1:100
Project to	28.22	Scale	1:100	Project to	28.22
Scale	1:100	Project to	28.22	Scale	1:100

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Appendix B: Bin storage and bin presentation plans



BROADHURST CRESCENT



Revision notes:

Rev.	Date:	Notes:
1	24/10/2022	

Date: 24/10/2022

Scale: @ A3
1:200

Revision: sdc1

Project: U21064 - Lots 145 Broadhurst Crescent, Baleman
Proposed Child Care Centre

Client: St Clarence Investments Pty Ltd

Drawn by: Paul Ghanous

Drawing Title: Bin store layout and presentation plan
2405 General Waste and 2406 Recycling Bins

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Appendix C: Waste calculations

Table 3: Weekly waste generation, bin types and collection frequency

Waste type	Daily generation (L)	Weekly waste generation (L)	Weekly collection frequency
General waste	225	1575	2
Recyclables	225	1575	2

General Waste Bins

Bin Size (L)	Number of bins	Weekly capacity
240	4	1920

Total weekly capacity (L) 1920

Recycle Waste Bins

Bin Size (L)	Number of bins	Weekly capacity
240	4	1920

Total weekly capacity (L) 1920

