

# Lot 303 Croatia Avenue, Edmondson Park

## WASTE MANAGEMENT PLAN

7 February 2025

Prepared By for Landcom: MRA Consulting Group

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## 1 Introduction

This Waste Management Plan (WMP) has been prepared by MRA Consulting to accompany an application for a State Significant Development (SSD-77211717) for infill Affordable Housing at Lot 303 Croatia Avenue, Edmondson Park.

### 1.1 Project Overview

As the NSW Government's land and property development organisation, Landcom has a mandate to take a lead role in improving the supply, diversity, and affordability of new housing in NSW.

Landcom aims to create innovative and productive places that demonstrate global standards of liveability, resilience, inclusion, affordability, and environmental quality, and uses its sites and close working relationships with the private sector to deliver quality, socially inclusive community places, where people can grow and thrive regardless of income levels and stages of life.

In response to the NSW Government's commitment to increasing the supply of Affordable Housing under the National Housing Accord, Landcom has committed to delivering 1,800 affordable rental housing dwellings by 2029. As part of this commitment, Lot 303 Croatia Avenue has been earmarked as a suitable site for infill affordable housing.

### 1.2 Project Objectives

Landcom's objectives for the project are:

- Delivery of sustainable high quality affordable accommodation.
- Provide a sense of place within the development to ensure good high-quality accommodation.
- The use of robust materials that allow for long service life of the building.
- A building that meets the need of the community and serves the requirements of the area.
- Seamless integration of cultural and sustainable objectives that align to Landcom's key principles.

### 1.3 Proposed Development

Landcom is seeking development consent to construct an infill affordable housing development. Development consent is sought for:

- Site preparation works
- Civil bulk earthworks
- Removal of trees and vegetation
- Construction of:
  - A nine (9) storey residential flat building, comprising 58 infill affordable dwellings, of which 100% will be designated affordable rental housing for key workers.
  - Single level basement to accommodate 18 car parking spaces, 47 bicycle parking spaces and two (2) car share parking spaces.
  - landscaping; and
  - utilities and infrastructure services.

The proposed development has an estimated development cost that exceeds \$30million and 100% of the gross floor area of the development will be used for the purposes of affordable housing. Accordingly, the proposal is SSD for the purposes of the State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP).

This WMP addresses the requirements of the Consent Authority (Minister for Planning and Public Spaces) and conforms to the following environmental planning instruments and reference documents:

- Liverpool Development Control Plan 2008 (LDCP)
- Liverpool Local Environmental Plan 2008 (LLEP)
- Edmondson Park South Development Control Plan 2012 (EPSDCP)
- Liverpool City Council: *Domestic Waste Management Policy* (2016)
- Liverpool City Council: *Waste Management Services For Residential Flat Buildings And Multi Dwelling Housing* (2018).

Consideration has also been given to the following supplementary documents in the preparation of this WMP:

- *Better practice guide for Resource Recovery in Residential Developments* (NSW EPA, 2019); and
- *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities* (NSW EPA, 2012).

## 1.4 Report Purpose

This Report has been prepared to address the following ‘Secretary’s Environmental Assessment Requirements (SEARs) issued by the Department of Planning, Housing and Industry on 24 October 2024.

Table 1: Secretary’s Environmental Assessment Requirements

SEARs Requirements	Report Section
<p>1. Statutory Context</p> <ul style="list-style-type: none"><li>• Address all relevant legislation, environmental planning instruments (EPIs) (including drafts), plans, policies, guidelines and planning circulars.</li><li>• Identify compliance with applicable development standards and provide a detailed justification for any non-compliances.</li><li>• Provide an explanation of how the development as described in the EIS is consistent with the development as was described in the request for SEARs (including any components that were not SSD) and provide a justification for any differences.</li><li>• Address the requirements of any approvals applying to the site, including any concept approval or recommendation from any Gateway determination.</li><li>• Provide documentation demonstrating that a registered community housing provider will manage the affordable housing component of the development for 15 years (after issue of Occupation Certificate).</li></ul>	
<p>2. Estimated Development Cost and Employment</p> <ul style="list-style-type: none"><li>• Provide the estimated development cost (EDC) of the development prepared in accordance with the relevant planning circular using the Standard Form of EDC Report.</li><li>• The EDC Report must specify the EDC of the residential component of the development.</li><li>• Provide an estimate of the retained and new jobs that would be created during the construction and operational phases of the development, including details of the methodology to determine the figures provided.</li></ul>	

### 3. Design Quality

- Demonstrate how the development will achieve:
    - design excellence in accordance with any applicable EPI provisions.
    - good design in accordance with the seven objectives for good design in *Better Placed*.
  - Demonstrate that the development:
    - where required by an EPI or concept approval, or where proposed, has been subject to a competitive design process, carried out in accordance with an endorsed brief and Design Excellence Strategy; or
    - in all other instances, has been reviewed by the State Design Review Panel (SDRP) where required under the *NSW SDRP: Guidelines for Project Teams*.
  - Recommendations of the jury and Design Integrity Panel (where a competitive design process has been held) or the SDRP are to be addressed prior to lodgement.
- 

### 4. Built Form and Urban Design

- Explain and illustrate the proposed built form, including a detailed site and context analysis to justify the proposed site planning, design approach and application of the height and floor space bonuses under the Housing SEPP.
  - Demonstrate how the proposed built form (layout, height, bulk, scale, separation, setbacks, interface and articulation) addresses and responds to the context, site characteristics, streetscape and existing and future character of the locality.
  - Demonstrate how the building design will deliver a high-quality development, including consideration of façade design, articulation, activation, roof design, materials, finishes, colours, any signage and integration of services.
  - Assess how the development complies with the relevant accessibility requirements.
  - Provide a floorplan outlining the gross floor area and units that are dedicated as affordable housing.
- 

### 5. Environmental Amenity

- Address how good internal and external environmental amenity is achieved, including access to natural daylight and ventilation, pedestrian movement throughout the site, access to landscape and outdoor spaces.
  - Assess amenity impacts on the surrounding locality, including lighting impacts, reflectivity, solar access, visual privacy, visual amenity, view loss and view sharing, overshadowing and wind impacts. A high level of environmental amenity for any surrounding residential or other sensitive land uses must be demonstrated.
  - Provide a solar access analysis of the overshadowing impacts of the development within the site, on surrounding properties and public spaces (during summer and winter solstice and spring and autumn equinox) at hourly intervals between 9am and 3pm, comparing the proposed development, existing situation and a development with no bonuses applied.
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### 6. Visual Impact

- Provide a visual analysis of the development from key viewpoints, including photomontages or perspectives showing the proposed and likely future development.
  - Where the visual analysis has identified potential for significant visual impact, provide a visual impact assessment that
- 

### 7. Public Space

- Demonstrate how the development maximises the amount, access to and quality of public spaces (including open space, public facilities and streets/plazas within and surrounding the site), reflecting relevant design guidelines and advice from the local council and the Department.
  - Demonstrate how the development:
-

- ensures that public space is welcoming, attractive and accessible for all.
  - maximises permeability and connectivity.
  - maximises the amenity of public spaces in line with their intended use, such as through adequate facilities, solar access, shade and wind protection.
  - maximises street activation.
  - minimises potential vehicle, bicycle and pedestrian conflicts.
  - Address how Crime Prevention through Environmental Design (CPTED) principles are to be integrated into the development, in accordance with *Crime Prevention and the Assessment of Development Applications Guidelines*.
- 

#### 8. Trees and Landscaping

- Assess the number, location, condition and significance of trees to be removed and retained and note any existing canopy coverage to be retained on-site.
  - Provide a detailed site-wide landscape plan, that:
    - details the proposed site planting, including location, number and species of plantings, heights of trees at maturity and proposed canopy coverage (as a percentage of the site area).
    - provides evidence that opportunities to retain significant trees have been explored and/or informs the plan.
    - demonstrates how the proposed development would:
      - contribute to long term landscape setting in respect of the site and streetscape.
      - mitigate the urban heat island effect and ensure appropriate comfort levels on-site.
      - contribute to the objective of increased urban tree canopy cover.
      - maximise opportunities for green infrastructure, consistent with *Greener Places* and having regard to any bush fire risk.
- 

#### 9. Ecologically Sustainable Development (ESD)

- Identify how ESD principles (as defined in section 193 of the EP&A Regulation) are incorporated in the design and ongoing operation of the development.
  - Demonstrate how the development will meet or exceed the relevant industry recognised building sustainability and environmental performance standards.
  - Demonstrate how the development minimises greenhouse gas emissions (reflecting the Government's goal of net zero emissions by 2050) and consumption of energy, water (including water sensitive urban design) and material resources.
- 

#### 10. Traffic, Transport and Accessibility

- Provide a transport and accessibility impact assessment, which includes:
    - an analysis of the existing transport network, including the road hierarchy and any pedestrian, bicycle or public transport infrastructure, current daily and peak hour vehicle movements, and existing performance levels of nearby intersections.
    - details of the proposed development, including pedestrian and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances), parking arrangements and rates (including bicycle and end-of-trip facilities), drop-off/pick-up-zone(s) and bus bays (if applicable), and provisions for servicing and loading/unloading.
    - analysis of the impacts of the proposed development during construction and operation (including justification for the methodology used), including predicted modal split, a forecast of additional daily and peak hour multimodal network flows as a result of the development (using industry standard modelling), identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cyclist conflict) and any cumulative impact from surrounding approved developments.
-

- measures to mitigate any traffic impacts, including details of any new or upgraded infrastructure to achieve acceptable performance and safety, and the timing, viability and mechanisms of delivery (including proposed arrangements with local councils or government agencies) of any infrastructure improvements in accordance with relevant standards.
  - proposals to promote sustainable travel choices for employees, residents, guests and visitors, such as connections into existing walking and cycling networks, minimising car parking provision, encouraging car share and public transport, providing adequate bicycle parking and high quality end-of-trip facilities, and implementing a Green Travel Plan.
  - Provide a Construction Traffic Management Plan detailing predicted construction vehicle routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.
- 

#### 11. Biodiversity

- Assess any biodiversity impacts associated with the development in accordance with the *Biodiversity Conservation Act 2016* and the *Biodiversity Assessment Method 2020*, including the preparation of a Biodiversity Development Assessment Report (BDAR), unless a waiver is granted, or the site is on biodiversity certified land.
  - If the development is on biodiversity certified land, provide information to identify the site (using associated mapping) and demonstrate the proposed development is consistent with the relevant biodiversity measure conferred by the biodiversity certification.
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#### 12. Noise and Vibration

- Provide a noise and vibration assessment prepared in accordance with the relevant NSW Environment Protection Authority (EPA) guidelines. The assessment must detail construction and operational noise, and vibration impacts on nearby sensitive receivers and structures and outline the proposed management and mitigation measures that would be implemented.
- 

#### 13. Ground and Water Conditions

- Assess potential impacts on soil resources and related infrastructure and riparian lands on and near the site, including soil erosion, salinity and acid sulfate soils.
  - Provide a Surface and Groundwater Impact Assessment that assesses potential impacts on:
    - surface water resources (quality and quantity) including related infrastructure, hydrology, dependent ecosystems, drainage lines, downstream assets and watercourses.
    - groundwater resources in accordance with the relevant *Groundwater Guidelines*.
- 

#### 14. Water Management

- Provide an Integrated Water Management Plan for the development that:
    - is prepared in consultation with the local council and any other relevant drainage or water authority.
    - outlines the water-related servicing infrastructure required by the development (informed by the anticipated annual and ultimate increase in servicing demand) and evaluates opportunities to reduce water demand (such as recycled water provision).
    - details the proposed drainage design (stormwater and wastewater) for the site including any on-site treatment, reuse and detention facilities, water quality management measures and nominated discharge points.
    - demonstrates compliance with the local council or other drainage or water authority requirements and avoids adverse downstream impacts.
  - Where drainage infrastructure works are required that would be handed over to the local council, or other drainage or water authority, provide full hydraulic details and detailed plans and specification of proposed works that have been prepared in consultation with, and comply with the relevant standards of, the local council or other drainage or water authority.
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15. Flood Risk

- Identify any flood risk on-site having regard to adopted flood studies, the potential effects of climate change, and any relevant provisions of the *NSW Flood Risk Management Manual*.
  - Where the development could alter flood behaviour, affect flood risk to the existing community or expose its users to flood risk, provide a flood impact and risk assessment (FIRA) prepared in accordance with the Flood Impact and Risk Assessment – Flood Risk Management Guide LU01.
  - Detail design solutions and operational procedures to mitigate flood risk where required.
- 

16. Contamination and Remediation

- In accordance with Chapter 4 of SEPP (Resilience and Hazards) 2021, assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable (or will be suitable, after remediation) for the development.
- 

17. Waste Management

- Identify, quantify and classify the likely waste streams to be generated during construction and operation.
  - Provide the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.
  - Identify appropriate servicing arrangements for the site.
  - If buildings are proposed to be demolished or altered, provide a hazardous materials survey.
- 

18. Aboriginal Cultural Heritage

- Provide an Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with relevant guidelines, identifying, describing and assessing any impacts to any Aboriginal cultural heritage sites or values associated with the site.
- 

19. Environmental Heritage

- Where there is potential for direct or indirect impacts on the heritage significance of environmental heritage, provide a Statement of Heritage Impact and Archaeological Assessment (if potential impacts to archaeological resources are identified), prepared in accordance with the relevant guidelines, which assesses any impacts and outlines measures to ensure they are minimised and mitigated.
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20. Social Impact

- Provide a Social Impact Assessment prepared in accordance with the *Social Impact Assessment Guidelines for State Significant Projects*.
- 

21. Infrastructure Requirements and Utilities

- In consultation with relevant service providers:
    - assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site.
    - identify any infrastructure required on-site and off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained.
    - provide an infrastructure delivery and staging plan, including a description of how infrastructure requirements would be co-ordinated, funded and delivered to facilitate the development.
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22. Bush Fire Risk

- If the development is on mapped bush fire prone land, or a bush fire threat is identified on or adjoining the site, provide a bush fire assessment that details proposed bush fire protection measures and demonstrates compliance with *Planning for Bush Fire Protection*.
-

23. Aviation

- If the development proposes a helicopter landing site (HLS), assess its potential impacts on the flight paths of any nearby airport, airfield or HLS.
  - If the site contains or is adjacent to a HLS, assess the impacts of the development on that HLS.
- 

24. Construction, Operation and Staging

- If staging is proposed, provide details of how construction and operation would be managed and any impacts mitigated.
- 

25. Contributions and Public Benefit

- Address the requirements of any relevant contribution plan(s), planning agreement or EPI requiring a monetary contribution, dedication of land and/or works-in-kind and include details of any proposal for further material public benefit.
  - Where the development proposes alternative public benefits or a departure from an existing contributions framework, the local council, the Department and relevant State agencies are to be consulted prior to lodgement and details, including how comments have been addressed, are to be provided.
- 

26. Engagement

- Detail engagement undertaken and demonstrate how it was consistent with the *Undertaking Engagement Guidelines for State Significant Projects*. Detail how issues raised, and feedback provided have been considered and responded to in the project. In particular, applicants must consult with:
    - the relevant Department assessment team.
    - any relevant local councils.
    - any relevant agencies (including the Western Parkland City Authority for development within the Western Parkland City).
    - the community.
    - if the development would have required an approval or authorisation under another Act but for the application of s 4.41 of the EP&A Act or requires an approval or authorisation under another Act to be applied consistently by s 4.42 of the EP&A Act, the agency relevant to that approval or authorisation.
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## 1.5 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, DKO Architecture, (10<sup>th</sup> October 2024);
- Waste and recycling volumes are based on information provided from the LDGP; 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.

### 1.5.1 Council requirements

A pre-lodgement Waste Provisions meeting with MRA Consulting, Landcom, and Liverpool Council was held on 10 December 2024. In this meeting, waste collection frequency and waste storage arrangement were key points of discussion. Requirement outcomes from the meeting and follow-up email correspondence are addressed in Table 2.

Table 2: Council requirements for operational waste management based on Pre-DA meetings

Council Requirement	Discussion	Where addressed in report:
<p>Landcom letter to Liverpool City Council (13 December 2024) : Our position is that a single level of basement, providing 18 car spaces and twice weekly garbage collection, is an appropriate response on the basis that:</p> <ul style="list-style-type: none"> <li>Twice weekly garbage collection would allow for an additional car space in the basement. Based on our experience in other parts of Sydney, there is likely to be continued pressure for more frequent collections in Edmondson Park once its development progresses. We note that the adjacent Bathla site has the capacity for approx. 600 units, and weekly collection for a development of this scale seems unrealistic.</li> </ul>	<p>At the time of issuing that letter Landcom’s preference was twice weekly collection, however from subsequent engagement with Council, Landcom accepted to incorporate Councils preference for once weekly collection which resulted in the reduction of car parking spaces to 17 spaces.</p>	<p>Table 9</p>
<p>Option 1 – preferred arrangement - twice weekly on-street collection (existing waste room), 18 car spaces</p> <p>Option 2 – alternative – weekly on-street collection (doubled waste room), 17 car spaces – note this will require a column to be shifted</p>	<p>A weekly collection frequency (Option 2) was agreed upon Council advice received via email on 7 January 2025.</p>	<p>Table 9</p>
<p>Place the FOGO waste store immediately next to the recycling waste room and then push the bulky waste room to the corner. Recycling and FOGO waste rooms will be used by residents with a greater frequency than the bulky waste store.</p>	<p>The FOGO waste store was merged with the Bulky waste room on the left corner of the Basement level based on advice from Council on 7 January 2025 and MRA Consulting received on 31 January 2025. The merged room is located immediately next to the Recycling waste room for easy access to both rooms by residents.</p>	<p>Appendix A</p>
<p>6 x 1,100L bins are to be utilised by the development using Councils standard 1,100L bins</p>	<p>1,100L bin footprints derived from Liverpool City Council’s <i>Fact Sheet – Waste Management Services For Residential Flat Buildings And Multi Dwelling Housing 2021</i> were used to calculate bin room sizes. On 10 December 2024, Council discussed and confirmed that 6 x 1,100L bins would adequately accommodate the waste generated by 58 units.</p>	<p>Table 9</p>

## 2 Site Information

The proposed development site is in the Liverpool Local Government Area within the Town Centre North precinct of Edmondson Park South. Edmondson Park South is identified in the Western City District Plan as a Local Centre in recognition of its proximity to the Southwest Rail Line and the Edmondson Park Railway Station. It borders the motorway intersection of

the M31, M5 and M7 with Camden Valley Way, providing excellent road access to a large extent of the Greater Sydney Metropolitan Area.

The proposed development site is a 2,043m<sup>2</sup> parcel of land currently known as Block 24 and part of Lot 303 in DP 1259974, Croatia Avenue, Edmondson Park (Figure 1). A Site Plan is provided at Figure 2.

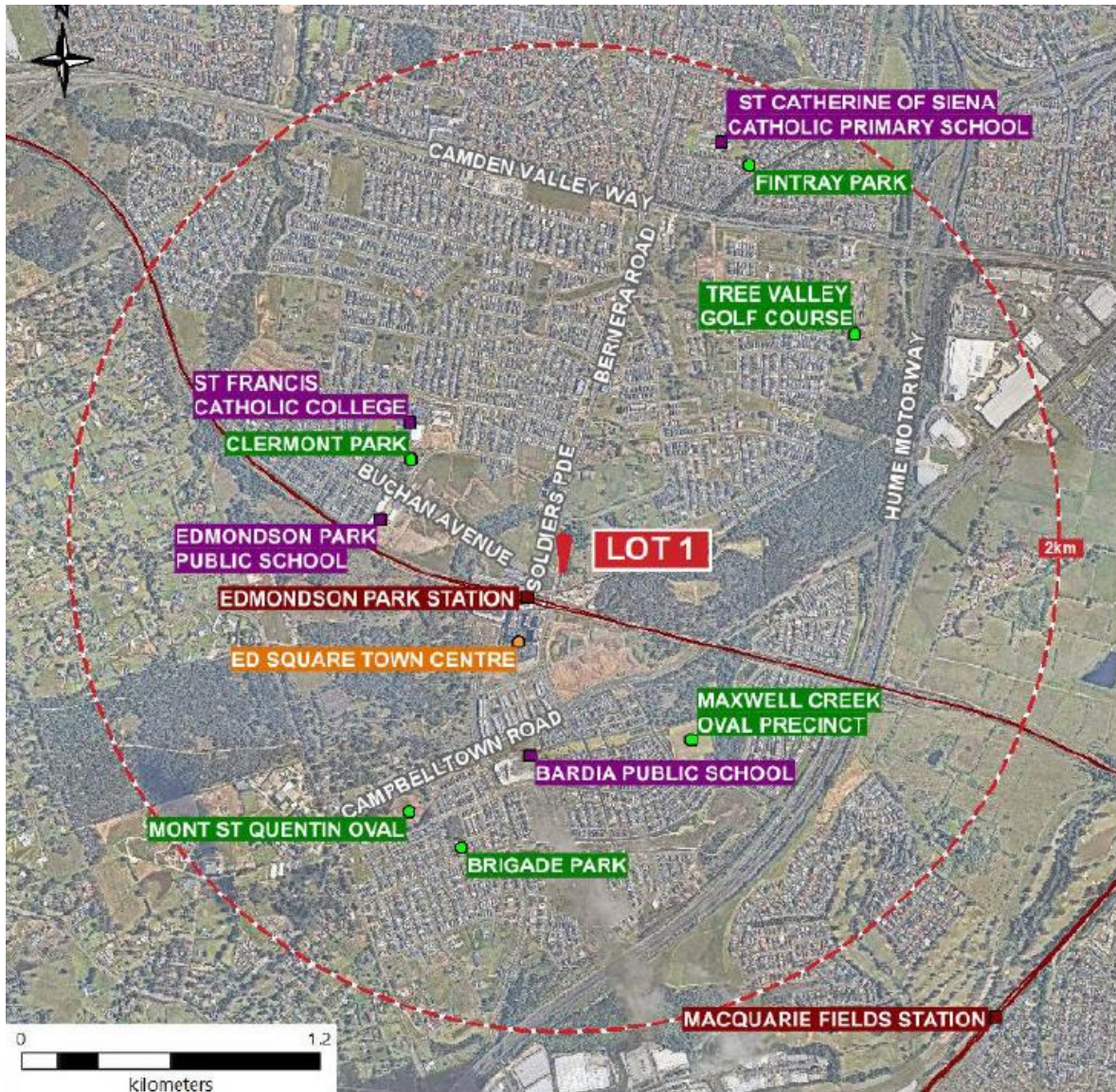


Figure 1: Site Location



Figure 2: Site Plan

## 2.1 Site Analysis

Photographs of the current site conditions are provided in Figure 3.



Figure 3: Site image

Table 3 summarises the key features of the site which have the potential to impact or be impacted by the proposed development.

Table 3: Key Features of the Site and Surrounds

Attribute	Site details
Land ownership	<ul style="list-style-type: none"> <li>The site is owned by Landcom.</li> </ul>
Land configuration	<ul style="list-style-type: none"> <li>The site has an approximate area of 2,043m<sup>2</sup> in a single lot (Lot 303 DP 1259974).</li> <li>The site is triangular in shape and has frontages of:                             <ul style="list-style-type: none"> <li>41 metres to Croatia Avenue</li> <li>215 metres to Soldiers Parade</li> </ul> </li> </ul>
Topography and geology	<ul style="list-style-type: none"> <li>The topography and slope of the site is generally low to moderate. While the site itself is fairly flat, the interface to Soldiers Parade has a level difference of about 2m.</li> <li>The site is characterised by Wianamatta Shale, claystone, laminates and fine to medium grained sandstone.</li> </ul>
Existing features	<ul style="list-style-type: none"> <li>The site is currently vacant with the exception of a stand of trees on the eastern boundary.</li> </ul>
Easements and covenants	<ul style="list-style-type: none"> <li>The site is unencumbered of easements and covenants.</li> </ul>
Local context	<ul style="list-style-type: none"> <li>The site and its surrounds are generally made up of large super lots comprising remnant vegetation, cleared areas, grassed paddocks and scattered, which are undergoing progressive development.</li> </ul>
Regional context	<ul style="list-style-type: none"> <li>The site is strategically positioned between the Western Sydney Aerotropolis and the regional centres of Liverpool and Campbelltown/Macarthur.</li> <li>The site is approximately 10km from Liverpool CBD, 14km from Campbelltown CBD and 25km the future Western Sydney International Airport (WSI) and Aerotropolis, which is earmarked to become Sydney's third CBD (Figure 6).</li> <li>The site is accordingly well placed to leverage off the growth and job opportunities from these strategic centres and the WSI and Aerotropolis. The Region Plan and District Plan show that these strategic centres will play a critical role in attracting investment, business activity and jobs across Greater Sydney.</li> <li>The site and broader Edmondson Park Town Centre are anchored by the Edmondson Park Train Station and Southwest Railway Line. These public transport corridors will act as a gateway which will integrate the site with the broader Western Parkland City, the WSI and Aerotropolis.</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>Civil works for future Macdonald Road is underway and will be complete early 2025.</li> </ul>
Site access	<ul style="list-style-type: none"> <li>Vehicular access to the site is proposed from future Macdonald Road.</li> </ul>
Services	<ul style="list-style-type: none"> <li>Services will be provided through DA1098/2021 including sewer, potable water, recycles water, electrical and communications. The site will be independently serviced with appropriate metering to the apartments.</li> <li>Service will enter the site from the North East.</li> </ul>
Contamination	<ul style="list-style-type: none"> <li>A Site Audit Statement issued for the site confirms it is suitable for the purposes of 'residential with gardens and accessible soil'.</li> <li>No further potential sources of contamination have been identified to date.</li> </ul>

Attribute	Site details
Stormwater and flooding	<ul style="list-style-type: none"> <li>The Edmondson Park South site is located at the top of three catchments, and is traversed by Maxwells Creek, Bunbury Curran Creek and Cabramatta Creek. The upper catchment of the Maxwells Creek flows through the Town Centre North, with water flowing to the north-east.</li> <li>The site is situated on the banks of Maxwell Creek - a tributary of Cabramatta Creek and Georges River.</li> <li>Liverpool City Council’s online flood mapping tool indicates the site is not flood prone.</li> </ul>
Bushfire risk	<ul style="list-style-type: none"> <li>The site is mapped as Category 3 - Medium Risk bushfire prone land.</li> <li>The adjoining land has been identified as a future Asset Protection Zone from nearby riparian land. Bushfire impact assessments prepared to support previous DAs have concluded that the site is considered a reduced bushfire threat due to the surrounding and future residential development.</li> </ul>
Biodiversity	<ul style="list-style-type: none"> <li>Edmondson Park South has been Biodiversity Certified under the now repealed Threatened Species Conservation Act 1995. It is also covered by a Conservation Agreement under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).</li> <li>Edmondson Park South site also includes a Regional Park to be managed for biodiversity conservation objectives.</li> </ul>
Aboriginal heritage	<ul style="list-style-type: none"> <li>No Aboriginal heritage items, Aboriginal objects, or areas of archaeological potential are considered likely to be present within the site.</li> <li>Previously identified sites within Edmondson Park South have already been removed as part of previous consents. This has been confirmed during subsequent site visits.</li> </ul>
European heritage	<ul style="list-style-type: none"> <li>The site does not contain any mapped items of non-Aboriginal heritage (Figure 7). The nearest mapped non-Aboriginal heritage items to the site are: <ul style="list-style-type: none"> <li>Ingleburn Military Heritage Precinct, including the Bardia Barracks which contains three Riley-Newman prefabricated cottages (moveable items) around 750m south of the site and Mont St Quentin Oval including entry gates and former hospital gates around 910m south of the site</li> <li>Hurlstone Agricultural High School around 2.5km east of the site</li> <li>Macquarie Field House, homestead group ruins and rural landscape setting around 1.4km south-east of the site</li> <li>Leppington House Park around 3km south-west of the site</li> <li>Sydney Water Supply Upper Canal around 2.6km west of the site</li> <li>Dwelling and Rural Lot around 1.9km north-west of the site</li> <li>Horningsea Park Group, including site, main house and archaeological features around 2.2km north-west of the site</li> <li>Remnants of former sandstone cottage “Bernera” around 3.3km north of the site</li> </ul> </li> <li>The above listed items are locally listed under the Liverpool Local Environmental Plan 2008 (LLEP 2008) and the Campbelltown Local Environmental Plan 2015 (CLEP 2015). The Ingleburn Military Heritage Precinct which includes the Bardia Barracks and Mont St Quentin Oval, including entry gates, are also listed on the NSW State Heritage Register.</li> </ul>

As outlined in Table 3, the site and surrounds retain interspersed remnant vegetation and grassed paddocks which are undergoing progressive development. To make way for construction of the proposed development has already undergone some clearing and site preparatory works to accommodate the proposed construction works. Therefore, this WMP and the following assessment considers the potential construction waste generation and management, however, does not address demolition and site preparatory stages as these stages have otherwise been dealt with.

Vehicular access via Soldiers Parade and the future McDonald Road will accommodate access for construction vehicular traffic into and out of the site which will facilitate the removal of construction related wastes through this stage of development. In future, McDonald road is intended to facilitate the main vehicular access to the site and will provide kerbside presentation for bins for the purpose of ongoing waste collection.

### 3 Project Background

Within the Edmondson Park Concept Plan, the town centre comprises two precincts - Town Centre North and Town Centre South. Landcom owns the Town Centre North site situated within the northern portion of Edmondson Park South to the north of the Southwest Railway Line, which is being developed for local centre and residential purposes.

The Edmondson Park Concept Plan was most recently modified on 14 February 2025 by MP 10\_0118 MOD 5. MOD 5 modified the Edmondson Park Concept Plan as it applies to Town Centre North including:

- reducing the size of land allocated to a school site from 8ha to 6ha;
- allowing residential use on the 2ha of land formerly identified as school land;
- introducing a maximum gross floor area limit of 140,389m<sup>2</sup> for the Station Precinct;
- increasing the anticipated number of dwellings from 440 to 3,030;
- increasing maximum building heights to between 12m and 50m in nominated locations and up to 67m for one landmark building;
- amending the Town Centre North road layouts, bushfire asset protection zones and dwelling typology;
- introducing car, motorcycle and bicycle parking rates;
- introducing a Design Excellence Strategy, Design Guidelines and a Public Domain and Landscaping Plan;
- adjusting and increasing the Concept Plan site boundary; and
- amending conditions and Statement of Commitments.

As Block 24 is located within Town Centre North, the Edmondson Park Concept Plan as approved under MOD 5 applies to the proposed development.



Figure 4: Layout plan showing Affordable Housing Land in context of the Landcom wider precinct

## 4 Methodology

This WMP was undertaken to address various phases of development including construction and operation of the proposed use once complete. To develop this report, the following general methodology was carried out to assess the respective stages of development

### 4.1 Construction Waste

Through assessment of aerial mapping and review of proposed development plans, construction waste was assessed in the following manner, across each aspect of the proposed development:

- Classification of waste material expected to be generated during construction activities;
- Estimated quantities of material during excavation and construction activities; and
- Identification of appropriately licensed waste contractors and facilities to manage excavation and construction waste, with a focus on maximising resource recovery potential.

Construction works of a 9-storey building including:

- 58 affordable housing dwellings

Table 4 outlines indicative volume to weight conversion factors for common construction materials.

Table 4: Indicative volume to weight conversion factors for common construction materials

Building waste material	Tones per m <sup>3</sup>	Waste as % of the total material ordered
Soil/aggregate	1.4 – 1.6	–
Bricks	1.2	5–10%
Concrete	1.5	3–5%
Tiles/ceramics	0.5 – 1	2–5%
Timber	0.3	5–7%
Plasterboard	0.2	5–20%
Metals	0.15 – 0.9	–

Source: Green Building Code of Australia C&D Waste Criteria.

### 4.2 Operational Waste

In consultation with Council and coordination with the project design team, operational waste management requirements were determine and assessed in the following ways:

- Classification of waste materials and generation volumes expected to be generated through typical operational activities, according to Council and State waste management guidance.
- Waste equipment and infrastructure determined based on expected waste volumes;
- Waste Storage and Recycling Area (WSRA) design in accordance with required waste infrastructure;
- On site waste management practices proposed, aimed at reducing waste to landfill and maximising resource recovery; and

- Access and collection arrangements developed within the constraints of the subject site, to provide a safe and efficient method for residents to interact with and Council to service on a regular basis.

## 5 Assessment

### 5.1 Overview

The following assessment aims to address the waste management requirements of the project SEARs which are summarised as follows:

- Identify, quantify and classify the likely waste streams to be generated during construction and operation.
- Provide the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.
- Identify appropriate servicing arrangements for the site.

Section 5.2 addresses the above noted as it relates to the construction phase of the proposed development, Section 5.3 addresses the waste generation, storage and management of waste once the proposed development becomes operational.

### 5.2 Construction Waste

Construction activities at the site will generate a range of construction waste. Throughout the development process, all materials will be reused and recycled where possible, minimising the disposal (landfilling) of materials other than those that are contaminated or unsuitable for reuse or recycling processes.

Waste storage during construction operations will involve some stockpiling of reusable material, as well as placement of wheeled bins for the separation of construction materials for recycling. A bin for residual waste or contaminated material will also be made available at the site for disposal where necessary. Bins may require alternative placement across construction operations to facilitate the safe and efficient storage of materials and will be retained within property boundaries to avoid illegal dumping.

A waste storage area shall be designated by the construction contractor and shall be sufficient to store the various waste streams expected during operations. Waste storage areas will be kept clear to maintain access and shall also be kept tidy to encourage separation of waste materials and for WHS reasons. The waste storage area will retain multiple bins to allow for source separation of waste to allow for ease of recovery and reuse of materials.

Waste management principles, management measures and facilities in use on the site shall be included as part of the site induction for all personnel working on the site.

#### 5.2.1 Construction Waste Generation and Management

Table 5 outlines the estimated waste generation rates for materials through construction of the proposed development, in addition to the appropriate management methods for each material type. The information below presents multiple options for materials reuse, recycling and disposal where applicable (e.g. return to manufacturer, recycled at construction and demolition (C&D) processor, or disposed to landfill if contaminated).

Table 5: Construction waste generation estimations

Type of Material	Estimated Volumes (m <sup>3</sup> )	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Excavated material	5,000-6,000	✓	✓	✓	<5%	>95%	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.
Bricks/pavers	30-40	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.
Concrete	<30	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for filling, levelling or road base. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Tiles	10-20	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.
Timber (clean)	100-200	-	✓	✓	<10%	>90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse removed to C&D facility for recovery where possible.
Timber (treated)	100-200	-	✓	✓	50%	50%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse removed to C&D facility for recovery where possible.

Type of Material	Estimated Volumes (m <sup>3</sup> )	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Plasterboard	<5	-	✓	✓	<10%	90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier or removed to a C&D/plasterboard recovery facility for recovery where possible.
Glass	<150	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.
Metals (ferrous) Metals (non-ferrous)	<150	-	✓	✓	<10%	>90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse or removed to C&D facility for recovery and recycling.
Floor covering	10-20	✓	✓	✓	<10%	>90%	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.
Fixtures and fittings	<200	✓	✓	✓			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.
Electronic waste	<100	-	✓	✓	<10%	>90%	Offcut wires and electronics separated where possible or returned to supplier for reuse.
Packaging materials (pallets,	100-150	-	✓	✓	<10%	>90%	Returned to supplier where possible or separated by material type for resource recovery.

Type of Material	Estimated Volumes (m <sup>3</sup> )	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
wrap, cardboard, etc)							
Residual waste	100-150	-	✓	✓	100%	-	Resource recovery dependant on facility destination capability.

### 5.2.2 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 6).

Table 6: Waste service contractors and facilities

Role	Details
Examples of Waste Collection Contractor	<p>The following are local skip bin operators for consideration in the management of construction waste for the site:</p> <ul style="list-style-type: none"> <li>• Brown Bros. Skip Bins,</li> <li>• Bingo Industries;</li> <li>• Aussie Skips;</li> <li>• Bin2Go Skips,</li> <li>• ACE Skips and Waste,</li> <li>• Phillips Skip Bins,</li> </ul> <p>Or another supplier as elected by the building contractor.</p>
Principal Off-Site Recycler	<p>The following are local C&amp;D processing facilities for consideration in the management of C&amp;D waste generated at the site:</p> <ul style="list-style-type: none"> <li>• Benedict Recycling;</li> <li>• Bingo Recycling Centre Auburn or Eastern Creek.</li> </ul> <p>Or another appropriate facility as elected by the waste management contractor.</p>
Principal Licensed Landfill Site	<p>Bingo Eastern Creek Landfill,</p> <p>or another appropriate facility as elected by the waste management contractor.</p>

### 5.2.3 Site Documentation

This WMP will be retained on-site during the 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 of collections;
- 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.



### 5.3 Operational Waste

Waste management strategies related to site operations have been established according to the documents outlined in the LDCP and NSW EPA guideline documents.

The proposed development is for 8-storey development with 58 affordable housing dwellings across 7 levels. Operational waste generation addressed in the following sections relates to waste generation associated with residential and commercial/retail components of each building.

The following space calculations are based off the bin dimensions sourced from the LDCP and NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* (2019) (Table 7).

Table 7: MGB capacity and footprint

Bin Capacity (L)	Height (mm)	Depth (mm)	Width (mm)	Footprint (Approx. m <sup>2</sup> )
140	920	640	535	0.27
240	1,060	730	580	0.42
660	1,210	1,420	780	1.16
1,110	1,310	1,088	1,196	1.31

Source: *Liverpool DCP 2008 and NSW EPA's Better Practice Guide for Resource Recovery in Residential Developments* (2019)

#### 5.3.1 Waste Generation

Table 6 outlines waste generation expectations for the residential component of the proposed development, in accordance with the Liverpool DCP 2008 and the Liverpool Council *Waste Management Services For Residential Flat Buildings and Multi Dwelling Housing Fact Sheet*.

Table 8: Weekly Waste Generation Volumes

Dwelling units	Waste Stream	Generation rate	Weekly Volumes (L)
	General waste	120L/unit/week	6,960

58	Recycling	120L/unit/week	6,960
	FOGO	Shared 240 litre bins can be provided by Council. Numbers of bins will be assessed on a case by case basis and require provision of adequate storage.	

### 5.3.2 Waste Storage Requirements

Waste storage has been calculated considering estimations of bin type, as described in the table below (Table 9). The following bin number requirements are based on either Council’s weekly or twice weekly general waste and recycling collection.

Table 9: Residential waste storage and bin type

Waste Stream	Weekly Generation (L)	Bin Allocation / Collection frequency*	Approximate Space Required (m <sup>2</sup> )**
General Waste	6,960	6 x 1,100L / Collected once per week	12
Recycling	6,960	6 x 1,100L / Collected once per week	12
FOGO***	-	6 x 240L / Collected once per week	-
Bulky Waste			15
Bin Tug			2
<b>TOTAL</b>			<b>41m<sup>2</sup></b>

\* A meeting with Liverpool Council on 10 December 2024 confirmed that 6 x 1,100L bins will adequately accommodate the expected general waste and recycling expected to be generated by the proposed development on a weekly basis.

*\*\*includes handling and manoeuvring space of bin footprint  $m^2 \times 1.5$*

*\*\*\* Organics bins have been accommodated provisionally in the proposed waste management arrangement, to facilitate the introduction of FOGO waste services in future.*

A residential bin storage room has been provided for on the ground floor and are sufficient to provide space for bins and bulky waste in accordance with the table above, at approximately **41m<sup>2</sup>**.

Building management can observe the bin fullness levels once the site is fully occupied and adjust the number of bins accordingly. The bin storage area for the site will be sufficiently sized to accommodate proposed bins and have space to facilitate potential changes to waste servicing in the future.

### **Temporary waste storage and disposal**

Each dwelling is to be provided with space to store at minimum one day's garbage waste and recycling generated. Residents will be responsible for the transfer of waste from the dwelling to the general waste chute and 240L recycling bin located on each residential level. The single general waste chute will empty into a 1,100L bin within the Waste Storage and Recycling Area (WSRA) on the ground floor level. Building management will be responsible for transferring recycling waste to the communal bins within the WSRA.

### **Bulky Waste**

Bulky waste items include those that cannot be disposed of in general waste and recycling bins, including but not limited to broken/damaged/old whitegoods, furniture, appliances, mattresses, etc.

The development features a total of 58 units which requires a residential bulky waste storage area of **15m<sup>2</sup>** located on the ground level.

## 6 Recommendations

### Waste Management System Summary

The following specific management methods are proposed for the various collection waste streams expected to be generated at the site, including alternative waste streams outside of general waste, recycling and organics:

- **General Waste:** General waste shall be placed within a tied plastic bag prior to transferring into collection bins. For collection purposes, general waste shall be stored within a mobile garbage bin (MBG).
- **Commingled Recycling:** All recyclables will be stored in commingled bins (mixed plastic, paper, cardboard, 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 should be flattened and placed in paper and cardboard bin if applicable.
- **Garden Waste:** It is expected that landscaping at the site will be maintained by an external contractor who will remove all vegetation waste from ongoing maintenance activities.
- **Food Waste:** Residential food organics waste generation from the development can be collected and treated on-site at small scale should management decide to do so. Organics treatment can be used to produce conditioners, compost or vermiculture castings for application on or off-site. Equipment options include different size and capacity composters, dehydrators, worm farms and macerators. For organics treated to acceptable standards, discharge of effluent or any output to sewer as commercial trade wastewater may be permitted.
- **Other (Problem) Waste:** The disposal of hard, bulky, electronic, liquid or potentially hazardous wastes shall be organised between the operator and site users as necessary.

### Waste Management and Recycling Method

The flow of **residential waste and recycling** goes from generation to collection through several steps:

1. Waste is temporarily stored within the dwelling at its point of generation in an appropriately sized receptacle, clearly marked for type of waste (for example, in the kitchen);
2. Residents are to transfer waste to the designated general waste chute and 240L bin on each level. Waste will be transferred to the residential waste storage room on the ground floor for appropriate disposal into the respective bin.
3. Site management are responsible for maintenance of bins and the waste storage rooms, ensuring bins are clean and in working order. Site management are also responsible for switching out full bins and monitoring bin fullness;
4. Site management is to ensure contracts with Council or a private waste contractor, who also ensure appropriate collection scheduling and access is organised to minimise noise, odour, vermin, and visual amenity impacts to staff, visitors and the public.

### **Management System and Responsibilities**

The site manager will be responsible for the management of waste at the site. Should there be any issues that impact on the operational efficiency, safety and suitability of waste management, management will be responsible for making any necessary changes, responsibilities include:

- Using this WMP to inform waste management operations, design and infrastructure;
- Providing educational materials and information on sorting methods for recycled waste, awareness of waste management procedures for waste minimisation and resource recovery;
- Maintaining a valid and current contract with a licensed waste service provider for waste and recycling collection and disposal;
- Making information available to residents and visitors about waste management procedures;
- Organising, maintaining and cleaning bins as part of a regular maintenance schedule;
- Manoeuvring bins to specified onsite collection point prior to and following scheduled collection of waste bins;
- Organising bulky waste collections as required;
- Ensuring bin allocation and waste/recycling collection frequency is adequate. Requesting additional infrastructure or services where necessary; and
- Monitoring any vermin and pest issues and arranging appropriate controls (traps or fumigating) and maintenance of doors or other points of potential entry.

### **Collection Method and Loading Areas**

Waste generated from the proposed residential development will be managed through a structured collection process to ensure efficiency and compliance with Council. In accordance with a pre-lodgement meeting between MRA Consulting, Landcom and Liverpool City Council and ongoing email correspondence, it was decided that Council collection services will collect waste once per week using a kerbside collection method via Macdonald Road (Table 2). To facilitate this process, Building Management will be responsible for transporting bins from the designated Waste Storage Area (WSA) to the kerbside of Future Macdonald Road on collection days utilising a bin tug. This arrangement ensures that waste is managed effectively while minimising disruption to residents and maintaining the cleanliness of the surrounding area.

The outcomes of all the Council correspondence, have been documented and addressed in Table 2, ensuring that all considerations and requirements are incorporated into the final waste management plan.

Table 10: Collection points and loading areas requirements and specification

Component	Requirement	Specification
Collection point	Allow safe waste collection and loading operations	<ul style="list-style-type: none"> <li>- Adequate clearance and manoeuvring space;</li> <li>- Sufficient clearance for the safe handling of materials and equipment; and</li> <li>- Sectioned loading bay does not impede upon traffic and pedestrian safety.</li> </ul>
Vehicle manoeuvring and loading space	Truck space for adequate lift clearance, manoeuvring and operation for a contractor collection vehicle	<ul style="list-style-type: none"> <li>- Collection from the kerbside utilising a kerbside collection method service from the designated WSRA by a rear lift collection vehicle via Macdonald Road;</li> <li>- Adequate loading bay dimensions to not impede lift clearance;</li> <li>- Operational clearance for truck manoeuvring in a forward direction; and</li> <li>- The provision of space clear of vehicle parking spaces (level and free of obstructions).</li> </ul>
Operating times	Appropriate collection times to limit noise and traffic disturbance	<ul style="list-style-type: none"> <li>- Collection times will be arranged during off-peak times to ensure minimal disturbance to pedestrians and visitors.</li> </ul>

**Waste and Recycling Storage Areas**

The waste areas will provide centralised storage that has adequate capacity to receive and store the maximum likely generation of waste and recycling between collection times. In accordance with the DCP, it is recommended the bin storage areas be designed with the following considerations:

- Storage areas reflect the equipment, infrastructure, manoeuvring space and potential future needs of the development;
- Separate Residential and Commercial waste areas will be maintained;
- Be located in a position that is convenient for users and waste collection staff, located away from habitable rooms;
- Waste handling, storage and collection systems for residential and non-residential waste to be separate and self-contained;
- All waste and recycling storage areas and access paths to be kept clean and free of obstructions;
- The floor being graded and drained to an approved drainage outlet connected to the sewer and having a smooth, even surface, coved at all intersections with walls;
- The walls being cement rendered to a smooth, even surface and coved at all intersections; and
- The room shall be adequately ventilated (either natural or mechanical) in accordance with the Building Code of Australia.

### **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 the waste room indicating:

- Details regarding acceptable recyclables;
- Recyclables are to be decanted loose (not bagged);
- *No standing* and *danger* warnings apply to the area surrounding the waste storage area;
- Contact details for arranging the disposal of bulky items; and
- The area is to be kept tidy.

Standard signage requirements and guidance for application apply (see Appendix C Standard Signage).

### **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), building management and the site cleaning staff will also be responsible for:

- Maintenance of open and common site areas;
- Ensuring waste areas are well maintained and kept clean;
- Securing the waste storage area from vandalism and the escape of litter;
- Identification and appropriate disposal of goods with hazardous material content (paints, e-waste, fluorescent tubes);
- Taking action 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.

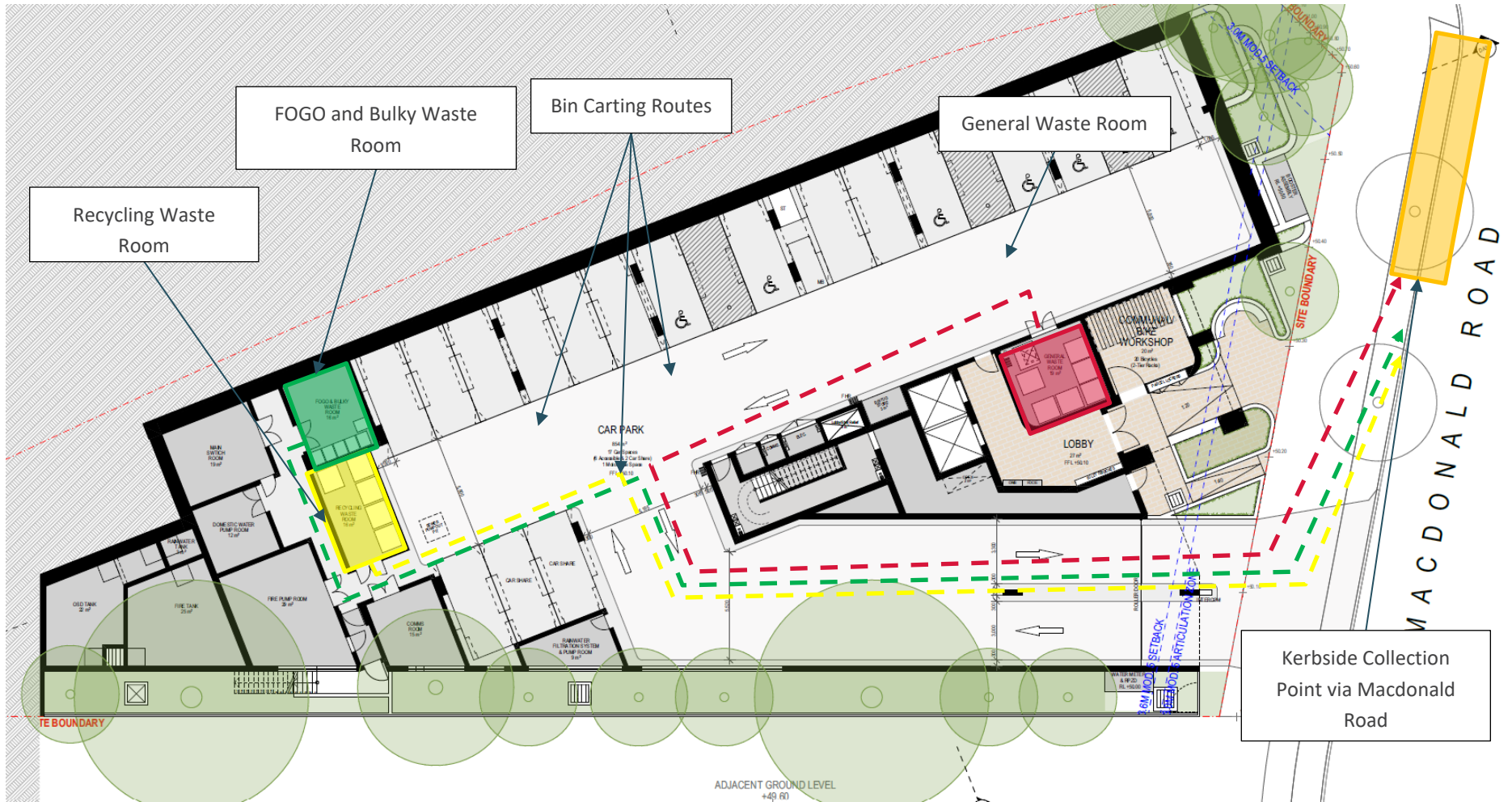
## 7 Conclusion

This Waste Management Plan has been prepared to support the proposed development of infill Affordable Housing at Lot 303 Croatia Avenue, Edmondson Park, in accordance with the Secretary's Environmental Assessment Requirements (SEARs) issued on 24 October 2024.

The plan outlines sustainable waste management strategies, including the efficient collection of residential waste via a kerbside collection method conducted by Council services once per week via Macdonald Road. This approach ensures effective handling and minimisation of waste generated by the development while aligning with local regulations and best practices.

Based on the assessment and requirements outlined by Liverpool City Council, the proposed development aligns with the provided guidance and criteria and is considered suitable. By integrating these requirements, the development demonstrates a commitment to sustainable construction and operational waste management strategies.

Appendix A Proposed Site Plans



Source: DKO, 2025

# Tug Compact POWERED TUG



A nimble powered tug that allows a user to tow up to 500 kg safely. It is the ideal tug for towing document, stock, bin, linen and medical trolleys in and around tight spaces and aisles with ease.

Using the tiller handle to tow the tug, the operator is in front of the load, increasing visibility and reducing the risk of collisions.

Powered towing can eliminate push/pull injuries caused by manually moving heavy trolleys or repetitive movements.



## Typical applications

Suitable for warehouses, hospitals, linen service, casinos, hospitality, universities.

## Features

<b>Tow capacity</b>	500 kg on flat ground.
<b>Max. speed</b>	Up to 5 km/hour
<b>Speed mode</b>	Three speed control with forward, reverse and emergency stop.
<b>Usability</b>	<ul style="list-style-type: none"> <li>• Grey non-marking tyres.</li> <li>• No driver's licence required.</li> <li>• Simple to use.</li> <li>• Quiet, smooth operation.</li> <li>• Zero emissions.</li> </ul>
<b>Hitching</b>	<ul style="list-style-type: none"> <li>• Supplied with a pin hitch.</li> <li>• Wide variety of hitches available for easy attachment to trolleys.</li> </ul>
<b>Dimensions (L/W/H)</b>	1100/609/891 mm (handle down)
<b>Battery</b>	Two 12V 33Ah MK-gel batteries with 24V smart charger

## Safety features

- Intuitive control with standard automatic safety brake, forward and reverse drive.
- Emergency stop button.
- Emergency back-off button.

### ORDER CODES

Tug Compact 500 kg	TUGCOM500NH
Pin hitch (16 mm)	EDHT1810-002
Pin hitch (19 mm)	EDHT1810-043
Clamp hitch*	EDHTCLAMP001
Self-centering hitch	EDHT1810-006

\* Each clamp hitch must be supplied with EDHT1810-006 (self-centering hitch) for the Tug Compact.



**movexx**  
smart electric tugs

## MOVEXX T1000-D BIN MOVER / BATTERY ELECTRIC

The Movexx T1000D takes away the manual effort required to push / pull wheeled bins. It has both variable speed and an overriding dual speed button. A built-in smart control unit is programmable for speed, acceleration and braking, plus numerous other fine-tune adjustments. These units are fitted with an electromagnetic brake system for use on ramps and slopes.

A fast and easy-to-remove lithium battery system accepts opportunity charging; additional batteries are available allowing for constant usage of the Movexx T1000D in high demand applications.

Additional batteries can be kept on an external charger, so they are ready for use once the battery indicator changes to red. Many other options are also available on request. Towing hitches are not included and can be ordered separately.



### SPECIFICATION

MODEL	DIMENSIONS (MM)	OPTIONS	PULL - PUSH CAPACITY (KG)	BATTERY
T1000-D	445 (w) x 1176 (h)	* Centre mount 2x 240ltr. wheeled bin attachment	1000	Quick Change Lithium



\*Optional centre mount 2x 240ltr. bin attachment.  
Part number - 5371347.1



## Appendix C Standard Signage

### Waste Signage

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the NSW EPA. 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 5: 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 6: Example and layout of safety signage



(d) Horizontal

FIGURE D5 TYPICAL ARRANGEMENTS OF DANGER SIGNS

