MOOREBANK LOGISTICS PARK

MOOREBANK PRECINCT WEST - STAGE 2

URBAN DESIGN DEVELOPMENT REPORT

REVISION 6 / MARCH 2021

SIMTA

TACTICAL GROUP

REIDCAMPBELL

MOOREBANK

LOGISTICS PARK

MOOREBANK PRECINCT WEST
STAGE 2

URBAN DESIGN DEVELOPMENT REPORT

AUTHOR

[redacted]

APPROVER

[redacted]

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This Urban Design Development Report has been prepared by Reid Campbell (NSW) Pty Ltd.

REID CAMPBELL
Architecture, Interiors and Urban Design
www.reidcampbell.com

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GLOSSARY

1% AEP	**Annual Exceedance Probability**
ARI	**Average Reoccurrence Interval**
BITRE	**Bureau of Infrastructure, Transport and Regional Economics**
EIS	**Environmental Impact Statement** The Environmental Impact Statement titled Moorebank Precinct West – Stage 2 Proposal Environmental Impact Statement - (SSD16-7709), prepared by Arcadis, dated October 2016
EMSP	**Environment Management System's Plan**
ESD	**Ecologically Sustainable Development**
GANSW	**Government Architect of New South Wales**
GPT	**Gross Pollutant Trap**
IMT	**Intermodal Terminal** a location for the interchange of freight between one mode of transport and another
MPE	**Moorebank Precinct East** Refers to the following developments: • Moorebank Intermodal Precinct East - Stage 1 (SSD 6766) • Moorebank Intermodal Precinct East - Stage 2 (SSD 7628)
MPW	**Moorebank Precinct West** Refers to the following developments: • Moorebank Intermodal Precinct West - Concept Proposal & Stage 1 Early Works (SSD 5066) • Moorebank Intermodal Precinct West - Stage 2 (SSD 7709) • any subsequent modifications associated with the above developments
NCC	**National Construction Code**
OSD	**On-Site Detention**
SIMTA	**Sydney Intermodal Terminal Alliance**
SDDR	**Stormwater Development Design Report**
SSD	**State Significant Development**
tCO2e	**Tonnes of Carbon Dioxide equivalent**
TEU	**Twenty-foot Equivalent Units** Twenty-foot equivalent unit container
UHIMS	**Urban Heat Island Mitigation Strategy**
WSUD	**Water Sensitive Urban Design**

01

URBAN DESIGN DEVELOPMENT REPORT
INTRODUCTION

1.1 EXECUTIVE SUMMARY

The Moorebank Precinct West Stage 2 represents a milestone in the development of SIMTA's Moorebank Logistics Park, a logistics and warehousing facility which will act as a key component of the future of NSW logistics and freight transport, reducing demand for containerised freight via road, creating jobs and related economic benefits in South-West Sydney, and reducing industry carbon emissions.

This Urban Design Development Report aims to establish a set of detailed objectives and indicative design parameters, performance benchmarks and minimum standards for the development of the site, creating a facility which is efficient in its intended operations while responding to local and regional requirements, including the amenity of neighbouring residential areas. The development will integrate into surrounding land uses and existing developments through use of considered structures and design, the existing landform and vegetation, to create a facility that is not only a vital infrastructure link, but is also an employment generating, functional and environmentally sustainable amenity that serves the broader community.

These objectives will be achieved by, where possible, incorporating best practice ecologically sustainable design initiatives, water sensitive urban design including water storage and reuse, urban heat island mitigation strategies, landscape design sympathetic to the surrounding vegetation, as well as a range of passive and active measures employed in the design of buildings and logistics operations.

This report has been compiled to support the design in accordance with the Conditions of Consent, as set out in the approved Development Application (SSD 7709) issued by the Independent Planning Commission, as required under Condition B52. Compliance with the conditions will result in a development that will showcase industrial architecture and logistics design, coupled with leading technology and sustainable initiatives, unified by high quality urban and streetscape elements set around a considered and consistent framework of appropriately proportioned buildings, public domain and extensive landscaping.

FIGURE 1.1 - Regional Context Plan

1.2 BACKGROUND

Reid Campbell have been appointed by SIMTA to develop an Urban Design Development Report for the proposed Moorebank Intermodal Terminal Facility Development.

This report has been developed to address and provide detailed objectives for the design and operations of the development and define place specific Urban Design Principles, incorporating those outlined in the conditions of consent, specifically responding to the key issues:

- **B48 – Urban Heat Island Mitigation**
- **B49 – Ecologically Sustainable Development (ESD)**
- **B57 – Landscape Design**

The design documentation included as part of, and supporting, this report has been prepared at a concept stage, per Condition B54.

The Project site is centred on an approximately 220 hectare (ha) area of Commonwealth-owned land previously occupied by the Department of Defence School of Military Engineering (SME) and other minor Defence units. The Project site is adjacent to the Southern Sydney Freight Line (SSFL), the East Hills Rail Line, the M5 Motorway and Moorebank Avenue.

The Project involves the development of an intermodal freight terminal facility at Moorebank in south west Sydney, linked to the interstate rail network. The Project includes associated commercial infrastructure (warehousing), a rail link connecting the Project site to the (SSFL) and road entry via a connection point to Moorebank Avenue. The Project proponent is Sydney Intermodal Terminal Alliance (SIMTA).

An Intermodal Terminal (IMT) is a location for the interchange of freight between one mode of transport and another. The Project is intended to interchange freight between road and rail, and service freight movements to and from Sydney's west and south-west.

Sydney's need for additional interstate IMT infrastructure is driven by the following:

- Continued strong growth in containerised freight, with throughput at Port Botany, a critical gateway for the movement of national freight, forecast to increase by 72.4% by 2032-33 (BITRE, Containerised and non-containerised trade through Australian Ports to 2032-33, December 2014), creating a bottleneck. As a result, more freight needs to be moved to and from Port Botany by rail;
- Capacity constraints within the current and planned IMT network in Sydney as well as limited land zoned and service land available for the development of industrial facilities in the greater Sydney region;
- Heavy road congestion around Port Botany and on the M5 Motorway, which is projected to worsen with the anticipated growth in freight, creating high social and environmental costs for the state.

The above issues are expected to have significant economic and environmental impacts associated with road congestion in the Sydney GMA (Greater Metropolitan Area), and will add substantial costs to the national and regional freight supply chain. The Moorebank IMT would handle a significant proportion of the expected growth in containerised freight, including increased rail freight, thereby responding to and alleviating Sydney's increasing road congestion, particularly along the M4 and M5. The Project is well located, considering two-thirds of container freight from Port Botany is bound for Western Sydney.

The project includes development of warehousing facilities adjacent to the IMT site, enabling immediate packing and unpacking of containers, and loading onto road vehicles and interstate freight rail for dispersion, improving the efficiency of the logistics supply chain for locally destined goods, thereby supporting the cost competitiveness of rail transport against road.

Overall, it is envisaged the Project would boost the role of the national rail freight network's role in moving goods through the Sydney region, with potential

1.3 SOCIAL, ENVIRONMENTAL AND ECONOMIC BENEFITS

The Development is expected to act as a strategic contribution to the Greater Sydney metropolitan area, generating a number of economic, social and environmental benefits for the community and economy, of which the key strategic urban design benefits are:

1. The removal of heavy vehicles from the inner-urban area of Greater Sydney and a corresponding improvement in the urban environment.
2. The improved ecological biodiversity and water way health of a valuable Green Grid connection along the George's River.
3. Reduction in industry Greenhouse Gas emissions compared to a "No Build" scenario over a forty year period (Arcadis, MLP Sustainability Strategy Summary Report, 14 July 2017)

These key strategic urban design benefits are further aided by the following social, environmental and economic benefits which act as drivers for the development:

Social
- Reducing road traffic and associated noise along key road freight routes between Moorebank and Port Botany and interstate;
- Creation of jobs locally within the fast growing South-West Sydney district;
- Reduced costs associated with road damage, congestion and accidents;

Environmental
- Reduced road congestion: up to 3,000 fewer truck journeys every day once the terminal is operating at capacity, equating to 1.05 million less truck journeys per year, with an estimated annual abatement of more than 110,000 tCO2 in transport-related emissions, by moving freight by rail rather than road;
- Projected reduction in greenhouse gas emissions of over 2.4 million tCO^2-e over forty years (based on a comparison of a "No Build" and "Tier 2 Improved Efficiency" Scenario);
- The installation of a 12.30MW solar array to warehouse roofing (across both East and West precincts), reducing operational energy costs, as part of the Clean Energy Finance Corporation investment agreement;

Economic
- $11 billion in economic benefits over a 30-year operational period for the Project, including $120 million a year for the South-Western Sydney economy, through improved productivity; reduced operating costs and job creation;
- Enabling the efficient movement of freight around Australia, considering expected growth of interstate freight;
- 6,000 jobs created, between construction and long term operation of the facility.

The development of the Project is intended to increase intermodal capacity in Sydney, and would have a number of flow-on benefits across the freight sector and the NSW economy. By providing increased intermodal capacity in Sydney, it is envisaged the unit costs of transporting containers by rail for these markets would be reduced, and this would lead to an increase in the share of freight movements by rail.

The Project, by providing increased intermodal capacity in South-Western Sydney and increasing the share of freight movement by rail, creates a number of benefits and key contributions for the local community, freight sector and state economy. This Document aims to outline the Urban Design strategies the finer grain detail of integrating the human scale with the bulk and mass infrastructure. The following report therefore is written in the context of this relationship, striving to promote best practices where possible, with respect to the greater overarching objectives that must be met for the benefits above to be realised.

FIGURE 1.2 - SIMTA economic projections for Moorebank Logistics Park Public information available from SIMTA)

1.4 DEVELOPMENT VISION

The broad vision for SIMTA's project is to create a high quality IMT with associated warehousing, distribution and support facilities, taking advantage of the Site's strategic position and catchment relevance.

The development, through the implementation of the Urban Design Principles outlined in this document, will aim to integrate into surrounding land uses and existing developments, creating a high quality urban place through considered structures and a strong landscape character, whilst maintaining the flexibility required to accommodate the varying future tenant and market demands of a facility that is not only a vital infrastructure link, but also an employment generating, functional and environmentally sustainable hub servicing the broader community.

An integral part of SIMTA's vision is to integrate wherever possible, the design and planning principles of documents and concepts outlined in the GANSW Better Placed, Greener Spaces, and Green Grid documentation with that of the design. The intended high quality design practices and sustainable thinking aims to create a facility and places that are synonymous with these philosophies wherever achievable.

1.5 COMPLIANCE MATRIX

Refer to the Table of Compliance Matrix (Appendix 4.1) for conditions of consent and where these can be found in relation to relevant documentation.

FIGURE 1.3 - East precinct Display Suite landscape treatment

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URBAN DESIGN DEVELOPMENT REPORT
CORE DESIGN PHILOSOPHIES

2.1 CONCEPT MASTERPLAN

The vision for the SIMTA design is intended to shape the planning, design and management of the future development, including all components of the Intermodal Terminal Facility described in section 1.1. The broad vision of the SIMTA design is to:

- Develop an IMT that is a vital infrastructure component for Sydney's future economic and productivity growth, connected through a well-considered Rail Link to the Southern Sydney Freight Line (SSFL);
- Develop an intelligently designed built-environment, providing a high-quality employment zone to attract businesses and job creating industries, incorporating best practice design and sustainability measures, creating a strong integration with adjacent industry, land use, and the local community;
- Create an employment area with adjacent naturally vegetated areas that will respond to the *Sydney Green Grid*, that also has a strong urban character and sense of place;
- Encourage visual and access links to allow integration with existing local industrial areas and other land uses;
- Manage the water cycle and incorporate Water Sensitive Urban Design principles and practices where possible, to mitigate impact and improve amenity of Georges River as part of Sydney's Hydrological Grid;
- Incorporate best practice environmental planning and design, particularly techniques for conserving the consumption of energy and water in all buildings, ancillary facilities and operating structures, including the control and/or mitigation of noise and emissions;
- Provide visual connections between public domain and vegetation/drainage corridors;
- Provide a high level of safety and security to the development as well as the community populating surrounding lands;
- Create a well-connected and legible street network;
- Incorporate quality development where businesses enjoy high levels of accessibility and are supported by an attractive public domain and amenity that is functional, pedestrian friendly and efficient, and
- Encourage the provision of transport links.

FIGURE 2.1 - MPW Masterplan overlay on satellite image of site
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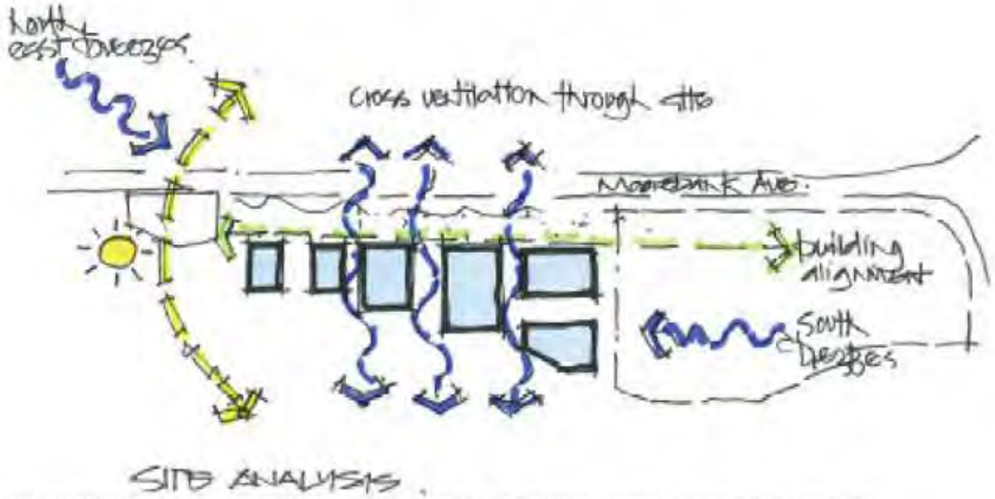

FIGURE 2.2 - MPW Site Analysis sketch displaying building siting, and ventilation corridors along warehouse frontages.
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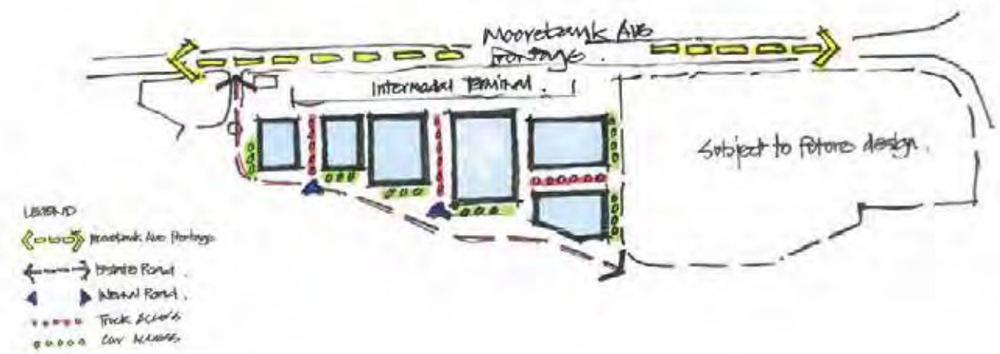

FIGURE 2.3 - MPW access strategy
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FIGURE 2.4 - Landscape and ecological corridor diagram
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2.2 (B48) URBAN HEAT ISLAND MITIGATION

The development will be designed and operated to assist in meeting Urban Heat Island Mitigation principles and achieve a decrease in overall site temperature in comparison to neighbouring industrial developments.

The Urban Heat Island (UHI) effect refers to heat generated from building materials absorbing the sun's heat and radiating this heat amongst the surrounding area.

SIMTA's Urban Heat Island Mitigation Strategy (UHIMS) has been developed for the entire MPW Stage 2 site. A more detailed UHIMS report has been prepared by Integral Group, dated 03.03.2021, which is available in Appendix 4.4

Design Vision

Through considered design initiatives the development aims to reduce overall site temperatures in comparison to neighbouring industrial developments, reducing electricity consumption and increasing worker and public amenity via environmentally efficient means. This Project aims to contribute to State-wide objectives of cooling the Western Sydney via a combination of landscaping design, cool building technologies and methodologies of design.

Design Principles

The general principles included in Integral Group's UHIMS report are:

- Ample shade tree planting and vegetation ground cover;
- Use of 'cool' building and paving materials with high albedo surfaces;
- Green spaces;
- Energy efficient building design (4-star Green Star equivalent);
- WSUD – Refer to Section 3.9

The Urban Heat Island Effect is a major concern for all significant developments, as it can drastically increase operating costs and reduce amenity. The Urban Heat Island Mitigations Strategies, as shown in Integral Group's UHIMS Report, will achieve a reduction in ground temperature of 4°C, compared to neighbouring industrial developments, complying with condition B48.

Flood Plot Data Interpretation (Refer Figure 2.6)

Flood plot charts have been used by Integral Group to display the comparison between air temperatures of two scenarios per chart (see Figure 2.6). The charts show the temperature at each hour of every day during the year of the first scenario, relative to the second scenario – acting as a control. When the hour is coloured blue, this represents a cooler temperature for the first scenario, while a red colour represents a warmer temperature. The more blue seen through the middle of the chart (6am-6pm) the cooler the first scenario (in this case, the MPW site) is in comparison to the second scenario.

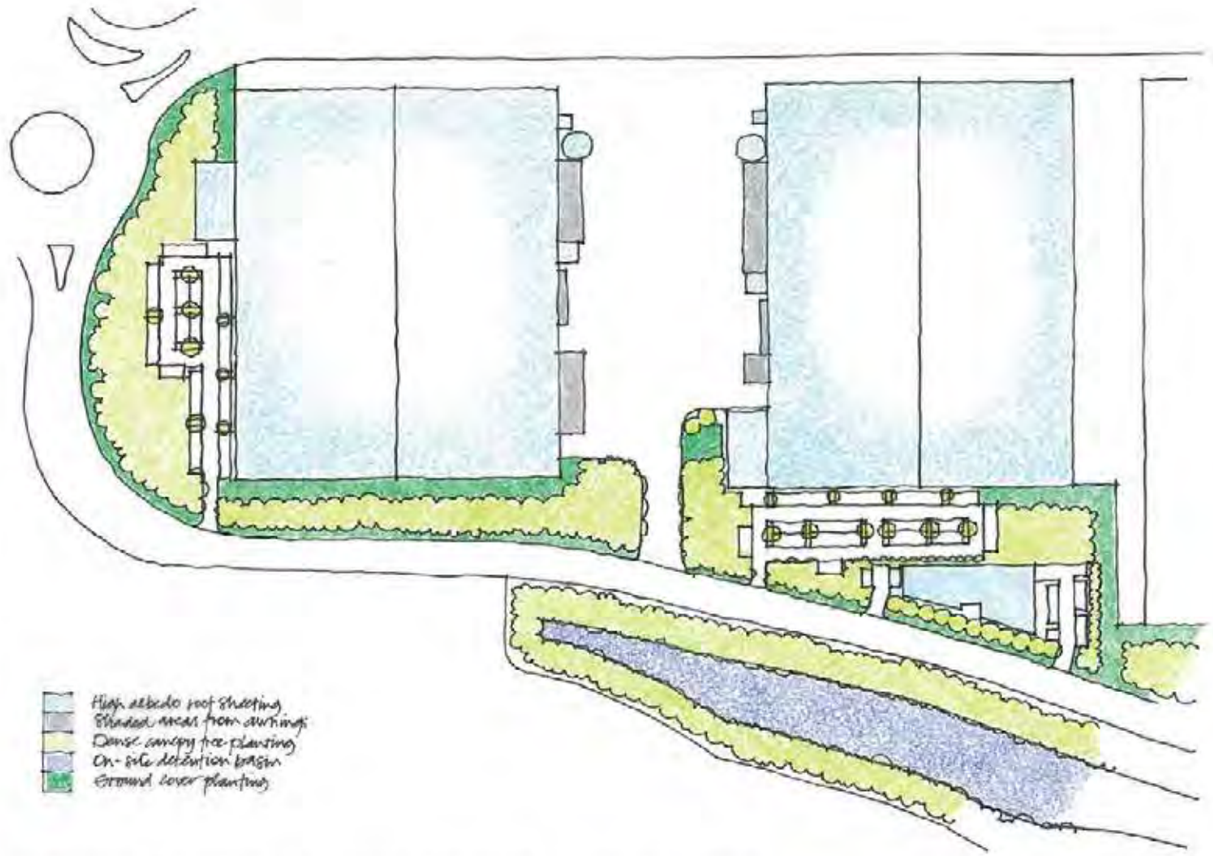

FIGURE 2.5 - Spatialised UHIMS diagram showing high albedo surfaces, landscaping and WSUD
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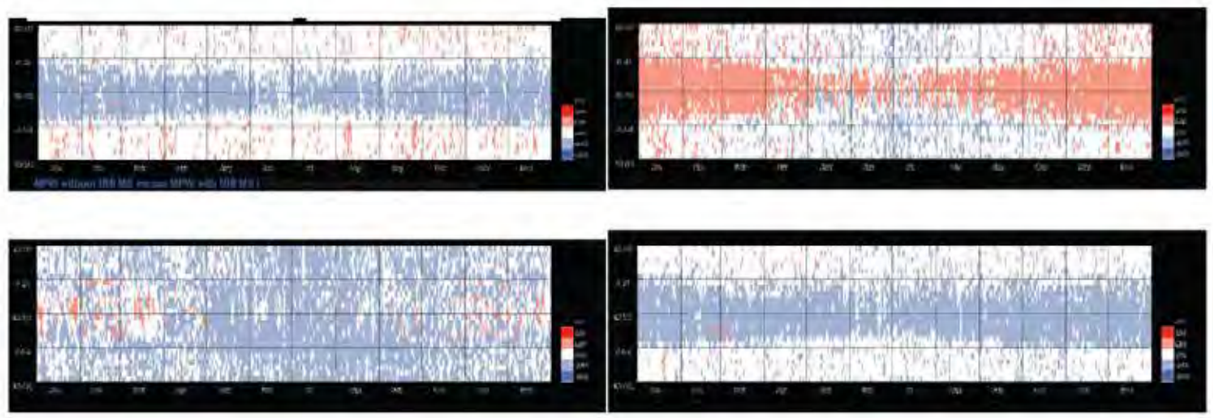


FIGURE 2.6 - Flood plot diagrams referenced from Integral Group's UHIMS Report (Integral Group)

2.3 (B49) ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Australia's National Strategy for Ecologically Sustainable Development (1992) defines ecologically sustainable development as 'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased'.

Design Vision
The Project will utilise ESD principles throughout the development life-cycle through integration of economic, environmental and social considerations in project decision making. Well designed and planned buildings, promotion of energy efficient equipment, sustainable practices and operations, and intelligent waste minimisation and recycling will combine to reduce energy and resource consumption within the development.

Design Principles

Passive solar design
- Where layout planning permits, building orientations have been designed to utilise considered solar access principles;
- Warehouses have been oriented where feasible with the overall development requirements to face internally, mitigating noise pollution, and with roofs oriented to support solar capture from the Northern sun;
- Office buildings will be designed and oriented where feasible and reasonably practicable to take advantage of Northern solar aspects;
- Building design will aim to incorporate overhanging eaves and awnings to reduce midday sun penetrating the building to reduce UV and heat absorption, whilst allowing the winter sun to and warm the building;
- Warehousing will utilise similar principles where feasible and reasonably practicable, via initiatives such as cooling through cross ventilation (as per below) and balancing of openings to promote air flow;
- Use of awnings for shading and cooling of working spaces and protection of openings from harsh weather. See Figure 2.9 for shading installed at the Moorebank Eastern Precinct.

Use of energy efficient plant and equipment
- To be compliant with SIMTA's internal Environment Management System's Plan;
- Will be addressed in more detail per tenant requirements.

Use of renewable energy sources
- Solar panels are to be installed for the warehouses where feasible and reasonably practical, with a minimum coverage of 30% of roof surface area being sought;
- The solar panels will be visually unobtrusive, likely to be installed on the available roof space of the warehouses;
- See Figure 2.8 for an example of these installations at the Moorebank Eastern Precinct.

Cross-ventilation
- Cross ventilation will be an objective of the site layout via promotion of open spaces between buildings, permeable facades (openings and vents) and select orientation considerate of overall site layout (see Figure 2.7).

Selection of materials with lower energy manufacturing requirements where feasible and reasonable, including recycled materials.
- Co-located concrete crushing plant to reuse demolished materials as aggregate;
- Consideration made to low embodied energy materials as part of the CEFC agreement;
- As part of the Sustainability Initiatives of the CEFC Agreement, material substitution and composition may result in savings of up to 500,000 tonnes of concrete and 55,000 tonnes of steel (Arcadis, MLP Sustainability Strategy Summary Report, 14 July 2017);
- Long span timber, as a structural material, was considered to replace steel in some instances, however was determined as not viable due to engineering deficiencies created at the scale of the development and the intensive operational requirements imposed by the industrial use.

Use of locally sourced materials to reduce impacts associated with transport where practicable.
- Importation of site fill from local sources as an environmentally sustainable initiative (e.g. Westconnex Projects circa 20km distance) is an improvement to the base case (e.g. quarry sourced fill, typically approximately 100km).

Rainwater capture and reuse
- All buildings are to be provided with water recycling and reuse tanks;
- Stormwater collection, on-site detention systems and overland flow paths to mitigate on-site and localised flooding as per engineer's specifications and requirements under the consent.

Water efficient fixtures and fittings promotion
- All tap fittings and irrigation systems to be fitted with efficient tap fittings to help minimise water use throughout the development where possible.

Waste minimisation and recycling
- Working with end users to promote and develop best practice in their operations.

Remediation
- The development reinstates previously contaminated Defence land, and reconstitutes it for industrial and commercial uses, generating employment and environmental benefits.

Green Star Certification
- Warehouse design, construction and operation to utilise energy efficient building design (4-star Green Star equivalent).

ISCA Certification
- The development will register for a 'design' and 'as-built' rating under the Infrastructure Council of Australia (ISCA) rating tool for development infrastructure.

Ecologically Sustainable Development is a key component of an efficient and sustainable development. The ESD principles outlined above will have a major impact on the future of the development, and will help it to perform as an example of sustainable industrial design through reduced energy and resource consumption during construction and operation.

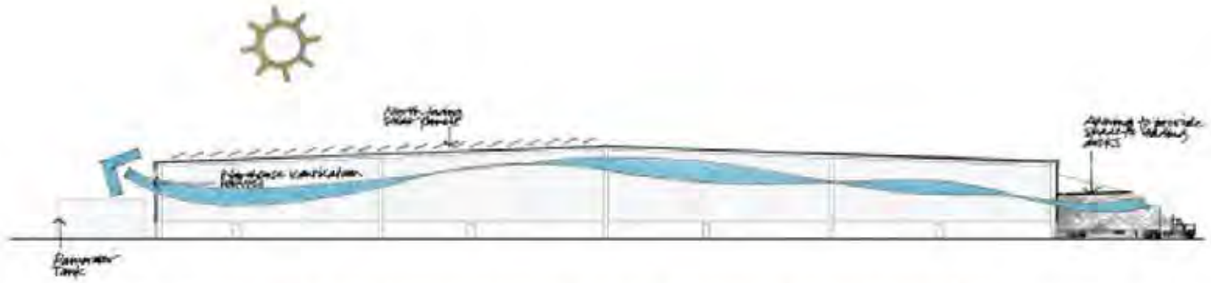


FIGURE 2.7 - Cross ventilation diagram showing passive ventilation and solar design, indicative solar panels and rainwater tank.

FIGURE 2.8 - Solar Panels installed at development East Warehouse 1. Alone, this installation generates 4,800MWh per year, or the equivalent of powering more than 7,300 homes.

FIGURE 2.9 - Example of a South facing dock and large awning for shading at development East Warehouse 1.

2.4 (B57) LANDSCAPE DESIGN

The landscape philosophies for the design have been developed by Groundlnk Landscape Architects in response to the Conditions of Consent, and this report should be read in conjunction with their design information. Detailed Landscape Drawings and Design Report at Appendix 4.3.

Design Vision

SIMTA's development recognises the existing natural landscape attributes of the site and surrounding area and seeks to integrate components of the development to improve and enhance these where possible.

The development seeks to recognise and incorporate the principles outlined in the following documents:
- *Better Placed* (NSW Government Architect, May 2017);
- *Greener Places* (NSW Government Architect, Draft, October 2017);
- *Green Grid* (Tyrell Studio and NSW Government Architect, March 2017) prepared for the Department of Planning and Environment;
- *Western Sydney District Plan* (Greater Sydney Commission, March 2018).

The key provisions of the Site's landscape design are:
- Provide for visitor and worker amenity;
- Visually integrate the built form with the existing waterways and bushland;
- Integrate the existing ecology with the stormwater system design set out in the revised stormwater design drawings (condition B4);
- Mitigate the visual impacts of buildings and infrastructure through urban tree canopy provision;
- Provide a working environment safe from projected flood levels.

Design Principles

Native Species
- Use of native species to blend proposed landscaping in the development with that of the existing area;
- Promote native fauna natural habitats;
- Blend the site into the surrounding bushland;
- The Southern fill area will be topsoiled and hydro-seeded with native grasses.

Interconnected Greenways
- Cycle paths and walkways connecting workplaces through public space to recreational areas and bushland.

Green Streets
- Tree planting and landscaping along roads, further detailed in Section 2.4;
- Linking landscape features to built-form creating a uniform development and considered urban environment that integrates with the landscaping.

Urban Tree Canopy
- Providing planting of canopy trees as per conditions B64 and B68(b);
- Utilising canopy trees to mitigate visual impacts of buildings and infrastructure.
- Landscaped areas, including canopy trees, between loading docks were considered as part of the design to further integrate the warehouses and landscaping. However due to the operational nature of the development, and industry standard tenant safety requirements for employees, assessments found this not to be a viable strategy and therefore have not been included. The project's expert landscape consultants have instead focused on implementing quality landscaping that avoids insularity and tokenistic approaches to integration, promoting quality and connectivity instead.

The development is located within Sydney's South-West Green Grid District, and though the site is not included as part of any priority precinct, the design is intended to support connection of the Eastern side of the George's River to the potential focus area of the Casula foreshore link, providing an improved amenity connection for the greater South-Western Sydney area.

The landscape design serves to integrate the development with the surrounding environment by using tree, shrub and groundcover species that are local to the area to create ecological opportunities and links to the surrounding context, and providing amenity for both users and neighbouring residences. The proposed tree planting has been designed with the intent of creating a uniform canopy cover throughout the area. Proposed plant species have been selected for their site suitability with many species selected from Liverpool City Council's recommended plant list.

Inclusion of OSDs

The design seeks support from the Independent Peer Review for condition **B68(a)** with regards to On-Site Detention basins, and their exclusion from landscape calculations. The design intends to include OSD-5 within these calculations given its proximity, adjacent the relevant warehousing area included in this application, and presents the following benefits as a result:

- Being included within landscape calculations, the OSD will have to adhere to the same conditions and requirements;
- Increased treatment in the form of trees and planting will improve visual amenity, allowing the OSDs to act as a visual buffer to neighbouring sensitive receivers;
- Integration of the biodiversity area ecological corridor with the development as a public amenity through quality landscape treatment.

OSD-3, 4, 6 and 8 do not contribute directly to the amenity and landscape integration of the MPW Stage 2 warehouse area, and as such shall be considered is subsequent stages of development, where co-located with areas relevant to urban amenity.

FIGURE 2.10 - Preliminary landscape concept design sketch - OSD and outlet in foreground.

FIGURE 2.11 - Selection of local plant species to be included in landscape treatment (Ground Ink).

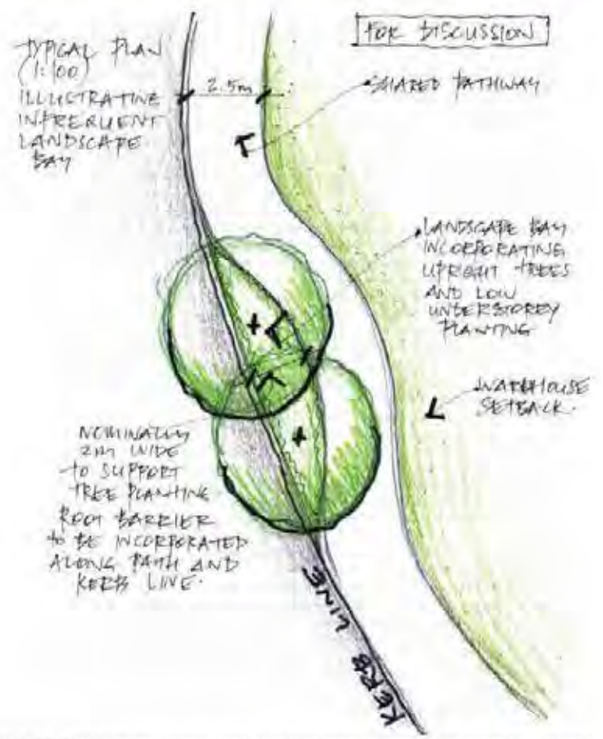


FIGURE 2.12 - Preliminary design sketch of landscape bays within meandering path.

03

URBAN DESIGN DEVELOPMENT REPORT
BUILDING AND ESTATE URBAN DESIGN PRINCIPLES

3.1 INDUSTRIAL DEVELOPMENT & INTERMODAL TERMINAL

The overarching purpose of the development is to produce an IMT with associated commercial infrastructure. The industrial developments will be reserved for tenants with high levels of import/export of goods. These warehouses will be serviced by separate access roads, reducing overflow to the precinct internal roads.

Design Vision
- An attractive site comprised of buildings with high level architectural treatment, creating a better place to work and utilise;
- Using intelligent design, reduce the bulk and massing of industrial buildings, thereby providing a high level of user and environmental amenity within the site;
- Reduce congestion inefficiencies on Sydney's arterial roads and motorways;
- An accessible, legible and connected industrial site.

Design Principles
The development is currently at a concept stage of design, and is subject to tenant refinements. The Design Principles listed throughout this document will guide the prospective design teams to realise the vision for the development.

Parking
The warehouse and office land uses have been designed to allow for the following parking requirements, which are outlined in the EIS and align with Roads and Maritime recommendations:
- Warehouse – 1/300m²
- Office – 1/40m²
- Retail – 1/20m²

Car parking will include landscape bays every 6-8 bays, or alternative carpark landscaping (such as linear planting between rows of car parking) to provide adequate shade, as required under Condition B68(c).

Parking is shown indicatively, and detailed design will include compliance with the relevant codes, as listed in Condition B86.

Truck Access
The warehouses, internal road, and access roads have been designed to allow for Super B-Doubles, A-Doubles and commercial vehicles related to the industrial function of the estate, increasing flexibility of use per tenant requirements, and planning for longevity of infrastructure.

Container Wash-Down Facility
The Container Wash-Down Facility has been indicatively located on the Architectural drawings. Detailed design will include compliance with the relevant conditions (B187).

3.2 FREIGHT VILLAGE

A range of ancillary support facilities to meet the needs of employees and visitors are proposed within SIMTA's site, in an 800m² building and associated parking/landscaping referred to as the 'Freight Village'.

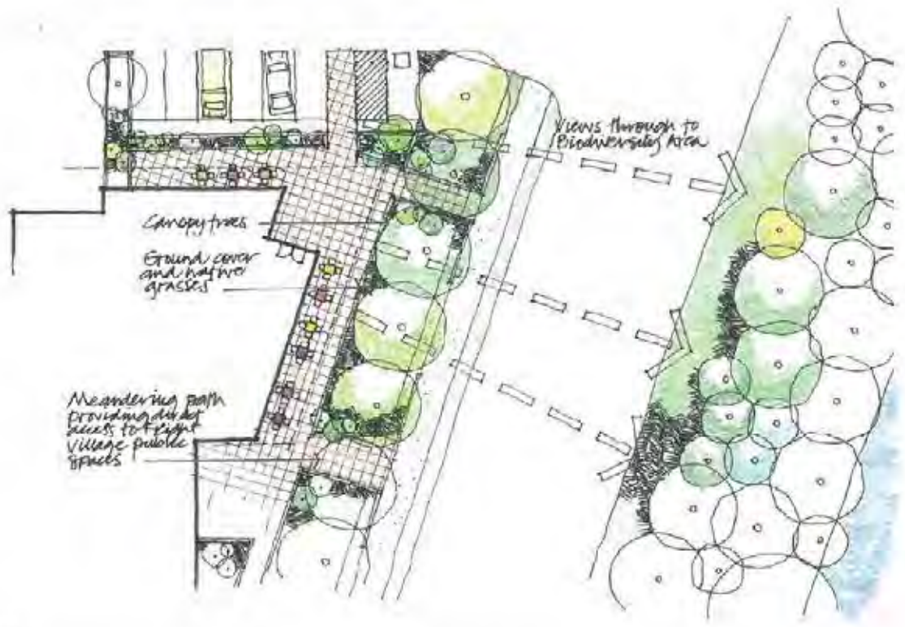
While these facilities will principally cater for staff and visitors to the intermodal facility, it is intended that they may also be accessible and available to the wider community.

The ancillary facilities are anticipated to include:
- Site management and security offices;
- Retail and business service centre, potentially including a convenience store, bank, and post office;
- Meeting rooms/conference facilities available for hire by individual tenants;
- Sleeping facilities for drivers;
- A café/restaurant.

The composition of these facilities will be based on demand and will be privately operated by individual tenants. The Freight Village will receive architectural treatment which will allow it to stand out as a significant place within the precinct, while also providing a relatable scale to the user, relative to the bulk of the surrounding industrial buildings.

Heritage Items
A selection of heritage items have been identified and recommended for adaptive re-use and reinterpretation on the site (Liberty Industrial, Moorebank Intermodal Terminal: Options for Mitigation Report, 8 December 2016). It is not yet possible to confirm the exact location, orientation or configuration of these items, examples including the STRARCH Hangar and CUST Hut, however it has been considered to re-use, display or reinterpret them in the Freight Village, where they will have maximum exposure to the majority of users of the site.

FIGURE 3.1 - Concept sketch of site landscaping at office entrance.



NTS

FIGURE 3.2 - Preliminary Freight Village sketch plan displaying potential landscape treatment and visual amenity to the ecological corridor.

3.3 STREETSCAPE & PUBLIC INTERFACE

Streetscape design initiatives aim to ensure appropriate scale, placement and character of elements throughout primary interface areas. The streetscape architecture will be developed with a focus on areas of SIMTA's site that will have a positive impact on the presentation of the overall development. These areas will primarily include the Moorebank Avenue frontage, the main Estate Road, Internal roads, a number of bio-retention basins (where visible), and boundary and buffer zones. Building and built form architecture at key frontages will display high quality architectural treatments.

Design Vision

The streetscape and public interface have been designed in such a way that they align with the principles of the *Sydney Green Grid* and *Greener Places*, complemented by the Site's landscape design principles. The streetscape and public interfaces of the development will align with these principles by:

- Maintaining access to open spaces where practical and safe;
- Promoting active living, by providing landscaped cycle ways and walkways;
- Conservation and maintenance of existing natural environments; and
- Utilising OSD's as visual connectors for the development.

Design Principles

Moorebank Avenue Frontage

- Scale and visual screening, and a buffer zone along the IMT boundary will be a key design considerations which will be addressed primarily through the landscape concept for the Moorebank Avenue frontage as demonstrated in the EIS;
- The site entrance at Moorebank Avenue, for the purpose of facilitating the primary access driveway into the site, includes a variation to the 18m setback, to be agreed to by the Planning Secretary per Condition B63(a) (Refer Appendix 4.2 - PIWW-RCG-AR-DWG-0191 for details).
- The access road wrapping the locomotive traverser has setbacks at the North and South corners of approximately 3.1m and 9.2m respectively, with the traverser itself setback at least 7.2m and 13.2m (Refer to PIWW-RCG-AR-DWG-0191 in Appendix 4.2 for details);
- The locomotive traverser is in-ground infrastructure, which would have little visual impact on the streetscape. Vegetation screening within the landscape area detailed above would further mitigate any possible visual impact
- To compensate for loss of landscape setback at the Northern end of the IMT, increased landscaping has been applied along the extent of the Eastern boundary to maintain an 18m average, as specified in the *MPW Stage 2 - Response to Submissions Report* (Arcadis, July 2017)(Refer to PIWW-RCG-AR-DWG-0100/0101 in Appendix 4.2 for details),
- Key nodal points along Moorebank Avenue, specifically at vehicle entry zones will include feature planting to highlight the arrival experience and embellish the native planting character established elsewhere along the road frontage.

Internal Roads (Estate Road and Internal Roads)

- Consistent with the planting proposed to the Moorebank Avenue frontage and the boundary and buffer zones, the proposed landscape design to the internal access road will consist predominantly of endemic canopy trees of Eucalyptus species and uniform dense screen planting of native shrubs and ground covers at lower levels;
- Screening of buildings, shade provisions to pedestrian areas and visual diversity and interest will be paramount in species selection, placement and density.

Bio-retention Basins

- Whilst achieving the primary function for any requirement for water filtration and bio retention, the planting proposed to the basins are to remain consistent with the overarching site wide objectives of uniform species use, endemic planting character, native landscape language and a variety of experiences and visual amenity from sites across the George's River.

Boundary Treatment

- The landscape planting proposed to the development boundaries shall be consistent with the endemic surrounding bushland species, evident locally, and in doing so provide a strong and unifying tree canopy structure that links the site holistically and provides the essential scale of planting necessary to compliment the developments built form.

The streetscape and public interface has been designed to align with the *Sydney Green Grid* and *Greener Places* documents. Maintaining access to open spaces, promoting landscaped cycle/walkways and maintaining existing natural environments through intelligent architectural treatment and landscape

FIGURE 3.3 - Indicative sketch perspective of landscape treatment and amenity along Moorebank Avenue frontage (MPW IMT shown on right hand side of the road)

FIGURE 3.4 - Section and plan showing landscape treatment in warehouse lot boundary and along Estate Road corridor.

3.4 ACCESS STRATEGY & ROAD CONNECTIVITY

SIMTA's site has a frontage onto Moorebank Avenue, with primary access provided via an intersection at the location of the existing Anzac Road/Moorebank Avenue intersection.

SIMTA's design includes a road network that will support the various land uses on the site, including an Intermodal Terminal, Warehouse and Distribution Facilities, and supporting administration, amenity and other general uses in a zone known as the 'Freight Village'.

The following access strategy has been adopted:

- The Northern access point on Moorebank Avenue will be the key site access. A new signalled intersection is proposed with full access permitting all movements; and
- Access to buildings and facilities within the Western Precinct will be via this intersection and a series of internal roads as described below.

The main access points into SIMTA's site are proposed to comply with emergency services requirements.

The proposed road network comprises the following:

- **Moorebank Avenue Frontage:** The major connection to the SIMTA site for vehicular access as well as pedestrian and cyclist entry and exit;
- **Estate Road:** The major access road into the SIMTA site with a 22m road reserve, including a single carriageway of two dedicated 7m wide traffic lanes, integrated pedestrian and bicycle path and landscape buffer;
- **Internal Roads:** Service roads for heavy vehicles to access warehouse and distribution facilities with a 14m road reserve and a 3m integrated pedestrian and bicycle path and landscape strip on either side.

As indicated in the *Sydney Green Grid* and *Greener Places* documents, interconnecting open spaces and built environments is important for encouraging healthy living and improved working environments. A pedestrian and cycling network will be included in the detailed planning of the site and a provision for shared pedestrian and cycle paths within the Estate Road and Internal Road reserves. Additionally, provision for future connections to the Casula Railway Station via the Estate Road shared cycle path have been considered to promote connectivity to the local area.

The proposed internal road layout has been designed to provide maximum flexibility to lot layouts, simple and safe access to facilities and a coherent and considered hierarchy to integrate with the urban design philosophies of the precinct.

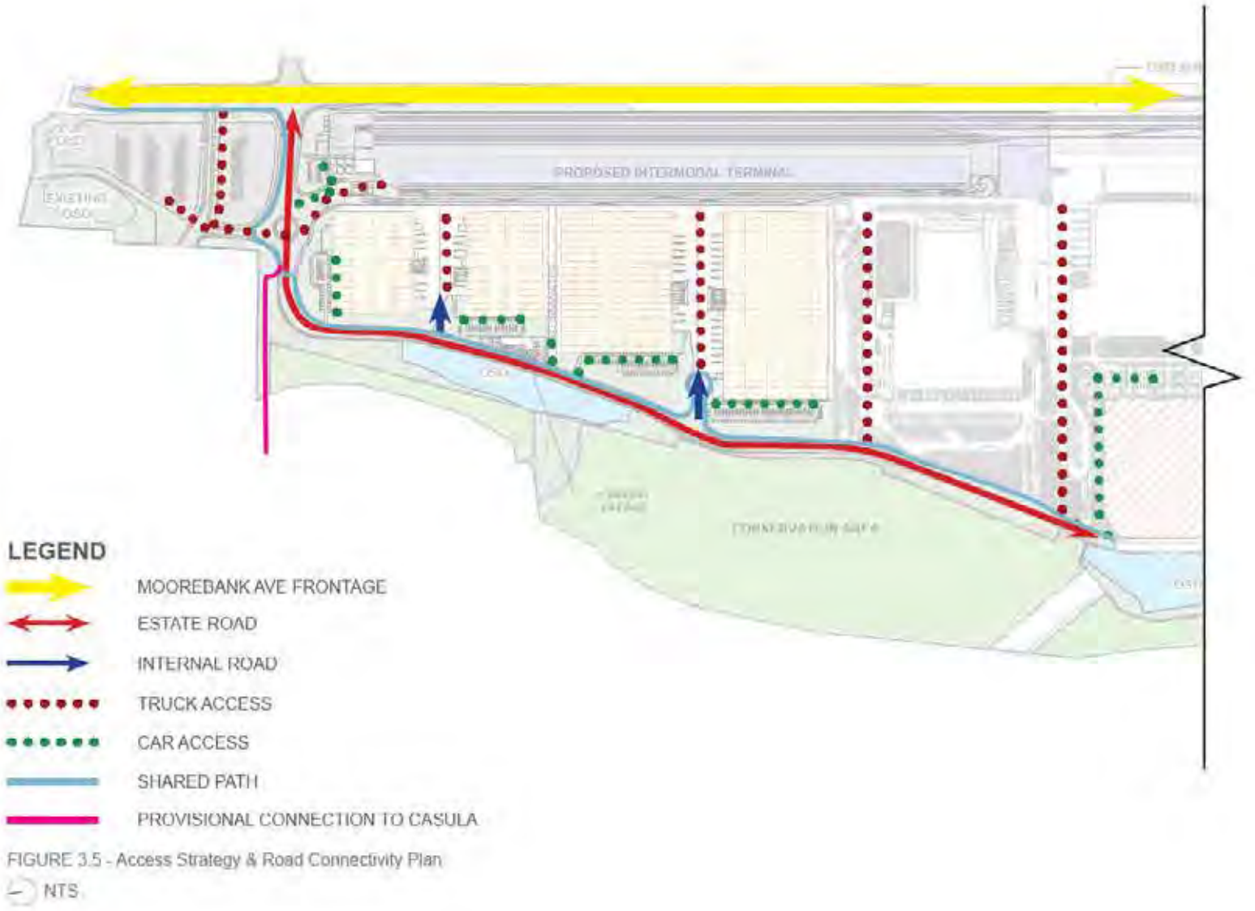


FIGURE 3.5 - Access Strategy & Road Connectivity Plan
NTS

3.5 BUILDING SITING & SETBACKS

A key element in maintaining visual character is the visibility of the development when viewed from the public domain. The streetscape is an important and prominent interface within the development between built form, landscaped areas, open space and the roads themselves. The proposed design principles for building siting and setback in this regards have been prepared in consideration of local planning policies and the intended varied nature of uses across the site.

Design Vision

- To define building envelopes within each land use type by specifying minimum setbacks consistent with local planning policy;
- Provide attractive streetscapes and quality landscaped settings around the built form;
- To permit where practical, setbacks to be integrated within landscaped areas, assuming the integration of environmentally sustainable measures and streetscape elements to achieve a satisfactory level of attractiveness from the view of the public domain;
- Provide an appropriate visual presentation of the built form with respect to bulk and scale; and
- Clearly define and reinforce public domain areas through the integration of sufficient amenity and landscaping with natural vegetation.

Design Principles

The following setbacks shall apply:

- 18m of the front property boundary to Moorebank Avenue, excluding at the Anzac Road/Moorebank Avenue interchange (see Section 3.3 for details);
- 5m of the front property boundary to the Estate Road;
- 2.5m of the front property boundary from Internal Roads; and
- Statutory setbacks as mandated by NCC shall apply where possible with non compliances addressed on a case by case basis.

Office Siting

- Offices have been sited to maximise a Northern aspect where achievable;
- To mitigate the bulk scale of warehouse built forms from the street frontage, offices have been sited adjacent to access routes, providing a "stepping stone" of scale.

Warehouse Siting

- Warehouses have been sited so they're primary operational functions are internally facing, to mitigate adverse effects on the amenity of the rest of the development and neighbouring sensitive receivers;
- Where achievable, docks have been located to face North or South which, when combined with appropriate shading, minimises direct sunlight to external operational areas;
- Warehouses have been sited away from the Estate Road where achievable, to minimise bulk and scale at the street frontage.

FIGURE 3.6 - Development setbacks
NTS

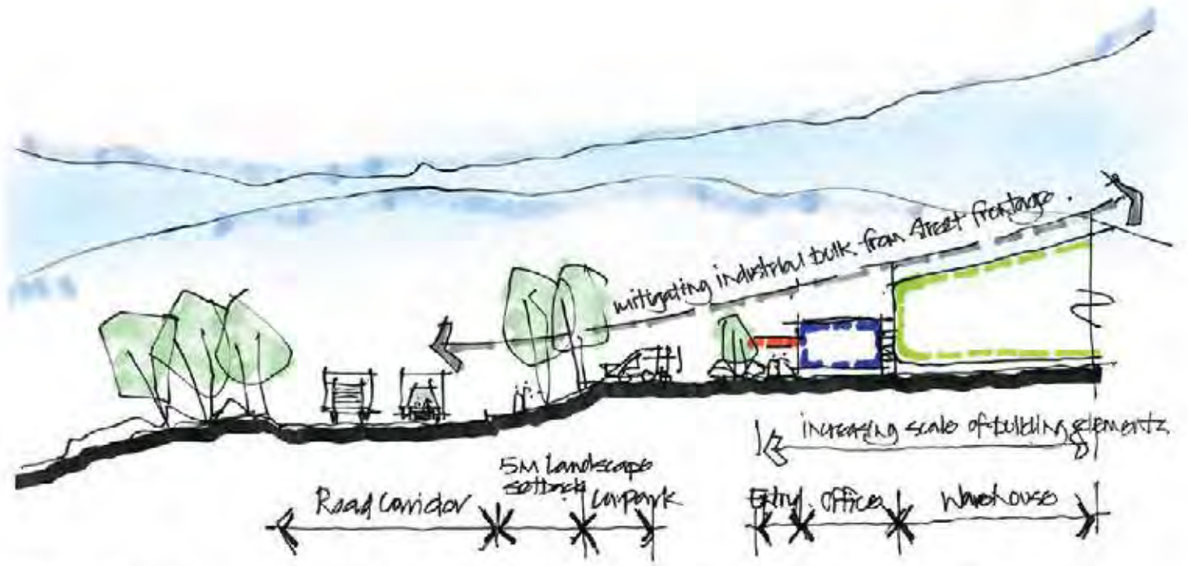


FIGURE 3.7 - Preliminary sketch displaying building setback strategy to mitigate the bulk form of industrial buildings at the street frontage.

3.6 BUILDING MATERIAL & DESIGN

Better Placed (May 2017) developed by GANSW covers a number of principles that focus on enhancing the urban environment to create better places, spaces and buildings. These, as well as industry standard and architect driven principles, aim to establish the precincts design vision.

Design Vision
- To establish a system for building quality and uniformity along major internal roads and public interfaces;
- To promote a whole-of-development consideration to visual attractiveness, quality, environment and safety;
- To encourage the use of various building materials that create visual appeal and interest through well considered facade articulation; and
- To establish a colour palette that is suitable for purpose and integrates with the existing site character and natural environment

Design Principles
All buildings on the site will receive similar high quality treatment in facades and finishes, including warehouses and adjacent offices and dock offices, terminal facilities and the Freight Village.

The warehouse planning provided in the Architectural drawings (appendix 4.2) are provided as an indicative guide. The precinct Design Vision will guide future design teams, and the designs will likely carry a degree of variation dependent on future tenant requirements. The exact size and layout will be finessed to align with market demand and any subsequent detail design will be covered in future applications.

Articulation
- Prominent building facades fronting public interface areas and main internal roads may consist of a variety of building materials and colours. Preliminary design includes facades which consist of a base structure of dado panel precast with metal cladding above, utilising alternating colours and cladding material orientation to visually break up the warehouse bulk;
- Provide visual relief in façade design and elemental articulation where there is significant visual exposure from adjoining sites and the public domain;
- Building forms are to be articulated using roofs and eaves, articulation to long walls and promoting an attractive public interface and reduction of bulk and scale.

Colour Selections
- Where possible, buildings will follow a development colour palette, unless tenant corporate colours can be used to highlight entries or building focal points without detracting from the stated objectives;
- The dominance of materials will be softened over time when landscaping is expected to be at full maturity;
- The use of precast paneling provides a neutrally coloured appearance to the development and a sense of balance, framing and bordering more irregular and varying patterns on the metal sheeting above. This neutralizing will be encouraged in building design using whites, greys and darker highlighting tones;
- Materials will be chosen to comply with the precinct UHIMS, and will be specified during Construction Certificate submissions.

Building Materials
- Building materials will reflect the robustness of industrial and business park developments, i.e. concrete and steel;
- Office area and Freight Village external facades will vary in material palette, but generally could include such combinations as precast concrete panels, fibre cement sheet wall cladding and prefinished aluminium cladding with performance glazing in aluminium framing;
- Highlight features sparingly introduced to either accentuate key aspects or blend corporate branding initiatives with architectural designs may include use of products such as natural timber, stones, bricks etc;
- As noted in 2.3 – Ecologically Sustainable Design, long span timber has been considered for warehouse design, however it has been determined as not being a viable option.

Focal Points
- High quality materials should be used at building entry or focal points to create better visual amenity and promote user wayfinding; and

Recycled Materials
- Materials that are recycled or considered of high environmental sustainability standard are encouraged to be used where practical and possible;
- Refer to 2.3 – Ecologically Sustainable Design for further information on principles guiding recycled materials.

Shading
- Buildings should provide effective sun shading to windows, wall surfaces and building entries through the use of design elements such as overhang eaves and awnings;

Access
- Office and staff parking are given separate entrances from warehouse loading docks where possible to create a safe working environment and help reduce and breakdown the visual impact to the site. These will be complemented with landscape treatments and will be facilitated by ancillary staff amenities;
- Pedestrian and vehicle access points shall be well lit;
- Office entrances should face, or be visible from, the Estate Road.
- Documentation will be provided to the Certifying Authority to confirm compliance, in regards to access, with the Disability Discrimination Act 1992, and relevant Australian Standards and the Building Code of Australia (BCA/NCC) - to be detailed during detailed design.

SIMTA will seek to maintain a high quality of architecture when developing each individual tenancy, using articulation, materiality colour, focal points, shading and access. The aim will be to create a high quality environment for the precinct with uniform design presence, not only with the built form, but via the landscaped elements and how the built form and landscaping are read in conjunction with one another.

Documentation will be provided to the Certifying Authority to confirm that all buildings will be designed and constructed, including external walls, in accordance with the relevant requirements of the BCA/NCC - to be detailed during detailed design.

FIGURE 3.8 - Industrial building design displaying the outlined design principles.

3.7 SCREENING & FENCING

The design includes a vision to create a visual flow of spaces and land use, however, there is a responsibility to create a safe space for all users of the facility, through separation of spaces via fencing and screening. 'Safer by design' principles have also contributed to the design of fencing and screening in the public domain. Refer to 3.10 for further details.

Design Vision

- Creating a separation between public use domain and private commercial space using lightweight and unobtrusive fencing and screening;
- Providing an audio-visual break from the bulk infrastructure and warehousing for public amenities and adjacent residential zones.

Design Principles

Site Fencing
- Light weight palisade fencing to create a physical, but not visual, barrier between public domain and the industrial activities on tenant lots;
- Palisade fencing should be selected to be visually unobtrusive, yet create the required barrier, refer Figure 3.8 for examples.
- Perimeter and OSD basin fences higher than 1.2m, as part of detailed design, are to be trasnparent and dark in colour, but not constructed of chain wire, to provide visual amenity per Condition B69.

Lightweight Screens
- Visual barriers comprising of lightweight louvre screening, or slat fencing, will be used to separate visually obtrusive areas (such as waste holding and plant equipment) from the rest of the development. Refer Figure 3.8 for examples.

Retaining Walls
- Materials and colours must be of a natural appearance, and incorporate landscaping, per Condition B73

The proposed screening and fencing will create separation between public and private use within the precinct, and an audio-visual break between the industrial zones, and public amenities and neighbouring residences, while remaining unobtrusive through intelligent material selection and design, and maintaining a safe space for users of the facility.

Noise Wall

Condition B129 (and B74) requires the development to include a 5m high noise wall along the Western boundary of the Estate Road. This report has received qualified endorsement from the Independent Peer Review Report to exclude this requirement, citing the following.
- The noise wall forms a solid barrier between the areas of visual and urban amenity and nodal points of the development with that of the bio-diversity area and the landscaped detention basins, effectively eradicating these potential benefits;
- The treatment of the OSDs, if included as part of landscape area, will include canopy trees and medium ground cover, which will provide visual amenity in place of the wall;
- Refer to the Independent Peer Review Report (Appendix 4.5) for further details.

From an urban design perspective, it is recommended that the design not include a noise wall, as required by the Conditions of Consent.

FIGURE 3.9 - Industrial design fencing, retaining and noise wall examples.

3.8 SIGNAGE & WAYFINDING

Signage and lighting throughout the entire development will be a critical component of achieving a consistent identity and address, but will also be paramount to ensure safety, security and efficient way finding at all hours of operations.

Design Vision

- To provide adequate signage and lighting throughout the development to enhance the quality and experience of the occupants and users, particularly with regard to open space, public domain and general amenity;
- Develop a uniquely identifiable, marketable and appropriate character for SIMTA's site through the creation of signage packages both precinct-wide and by land use;
- Use of signage that promotes and enhances safety, security and efficient way-finding for pedestrians, cyclists and vehicles at all hours of operation;
- Use of signage that actively contributes to the safety and amenity of the entire estate, and is sympathetic to any natural and modified landscape and vegetation during the day time and night time; and
- Use of signage that is of a high quality of design and construction, and considers longevity and environmental sustainability where possible.

Design Principles

- Operational Lighting and Signage will comply with Conditions B76, B77 and B78, and will be detailed during Construction Certificate;
- Built forms such as offices and warehouses will act as wayfinding nodes through the use of distinct colour and design, see Figure 3.11;
- Signage within each land use precinct will be designed to integrate with building scale and relevant access and egress areas;
- Freestanding signage will be integrated within landscape where possible;
- Lighting is to be designed and managed to mitigate light spill impacts on fauna, habitat and any adjoining developments or residences, but must be maintained to a level sufficient for operational standards and site safety;
- Design and lux of any internal or spot lighting shall be designed to avoid off-site or traffic safety impacts such as reflection and glare; and
- Signage fronting Moorebank Avenue is to be designed to complement the architectural character of the built form, the landscape treatments, the sites natural character, and to provide a unique SIMTA identity.

The design includes uniquely identifiable signage and wayfinding, to achieve a consistent identity for the precinct, and ensuring safe, secure and efficient wayfinding at all hours of operation. Integrated and managed signage and lighting will mitigate light spill and increase the amenity for all users of the development, and neighbouring residences, through considered sustainable design.

FIGURE 3.10 - Indicative signage elevations. Refer to Appendix 4.2 for Signage Location Plan

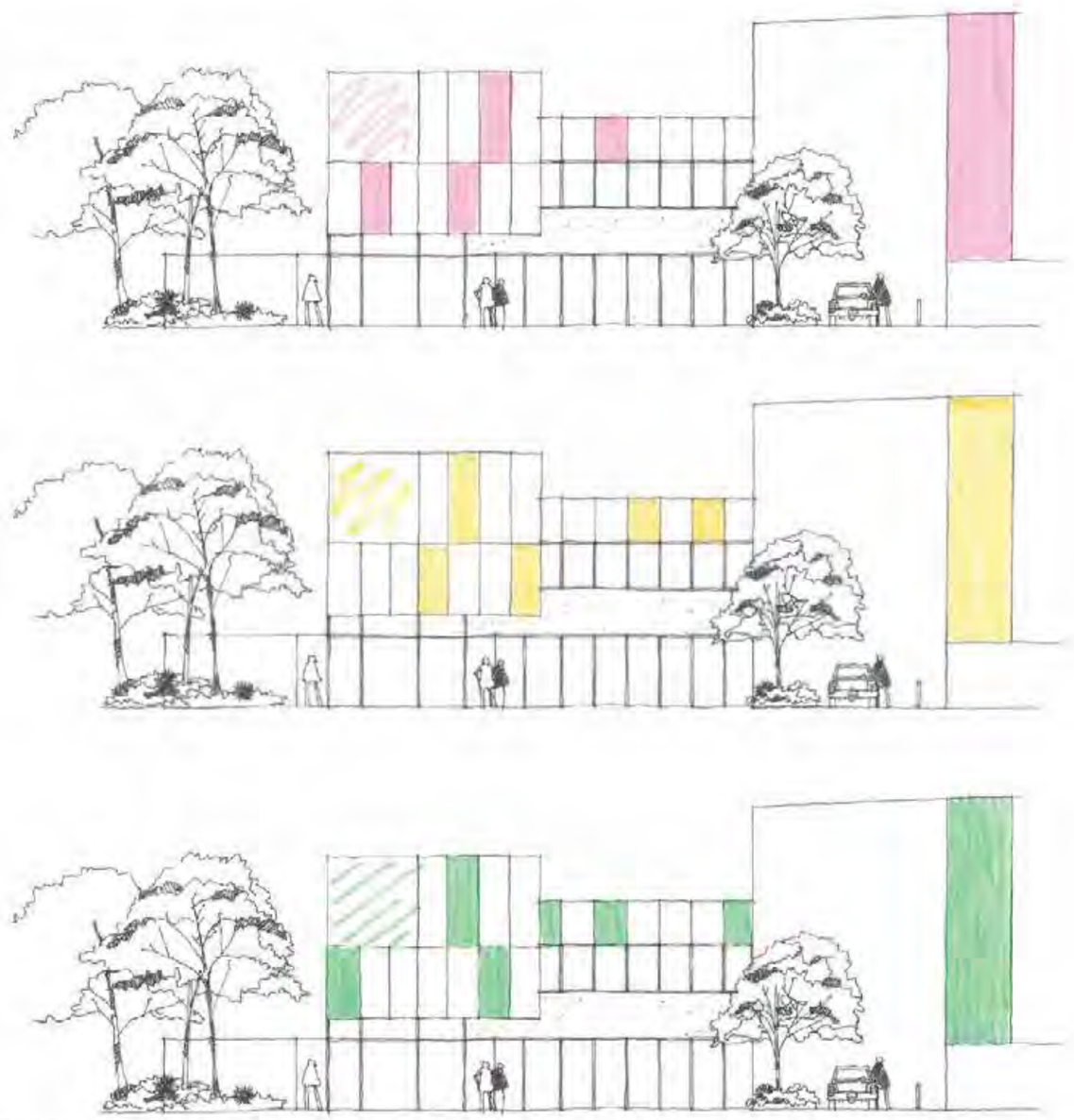


FIGURE 3.11 - Sketch images of indicative wayfinding strategy, using offices and tenant colours as wayfinding nodes.

3.9 WATER SENSITIVE URBAN DESIGN

A number of water sensitive urban design initiatives are proposed to be implemented as part of SIMTA's development to ensure that any set treatment targets are met.

Design Vision

The design aims to, as much as possible, mitigate water consumption, run-off and pollution commonly associated with large developments. The design includes proposals to meet the following:

- Reduced water consumption;
- Minimising run-off pollution into the George's River;
- Extended on site detention to deal with 1:100 year rainfall.

Refer to the relevent sections of the Stormwater Development Design Report by Costin Roe for detailed Stormwater Management Objectives and technical details.

Design Principles

Stormwater Quantity Management (Refer to SDDR Section 4)

- Mitigating the impact of urban development on existing drainage system by limiting post-development discharge within the receiving waters to the pre-development peak, and to ensure no affectation of upstream, downstream or adjacent properties, as per the consent conditions;
- Attenuation of stormwater runoff from the development is proposed to be managed via a series of measures including detention tanks and open basins provided in strategic locations for each of the development catchments;
- Sizing of the basin systems has been completed using DRAINS modelling software in accordance with the Liverpool City Council Policy for the 1 in 1 year ARI to 1 in 100 year ARI storms for various durations.

Stormwater Quality Management (Refer to SDDR Section 5)

- Water quality and pollution reduction are achieved through a treatment train of proprietary gross pollutant traps and natural bio-retention systems (see Figure 3.13);
- Gross Pollutant Traps serve as pre-treatment for removal of course/medium solids;
- GPT's have been included as part of the Stormwater design at the inlet to each OSD. Refer Figure 3.12 and Civil Engineers design for further details;
- Bio-retention cells will be included in each On-Site Detention Basin, allowing water to receive nutrient treatment via a filtration media.

Frequent Flow Management

- Targeting post development duration of stream forming flows between 3.5-5.0 times the pre-development duration using a Stream Erosion Index.

Flood Management and Large Rainfall Events

- All buildings are sited 500mm above the 1% AEP design flood level of the Georges River;
- Flood storage compensation has been provided where filling in localised pre-developed flood affected areas occurs;
- Stormwater detention measures have been included to manage pre and post development runoff (Refer SDDR Section 4);
- Overland flow paths to manage runoff in large storm events have been made including achieving at least 150mm freeboard to building levels from the flow paths.

Rainwater Re-use

- Rainwater tanks will be included in the design for each warehouse, the freight village, and the IMT;
- Rainwater tanks may be used to collect roof water from the site's warehouses and stored to meet demand for irrigation, internal non-potable uses and the container wash down facility;
- Rainwater tanks also provide stormwater treatment through settling and harvesting in addition to their main purpose of providing alternative source of water for non-potable water uses.

Integrated Landscaping

- The landscape design will integrate with the stormwater systems and drainage infrastructure to maximise visual amenity.

The stormwater infrastructure has been designed to target pollutants and mitigate potential adverse impacts on the natural water cycle and receiving waters of the developments stormwater design, as well to maximise rainwater re-use, through a myriad of intelligent design decisions. Refer to Costin Roe's Stormwater Development Design Report and design drawings for further information on compliance with conditions and detailed design.

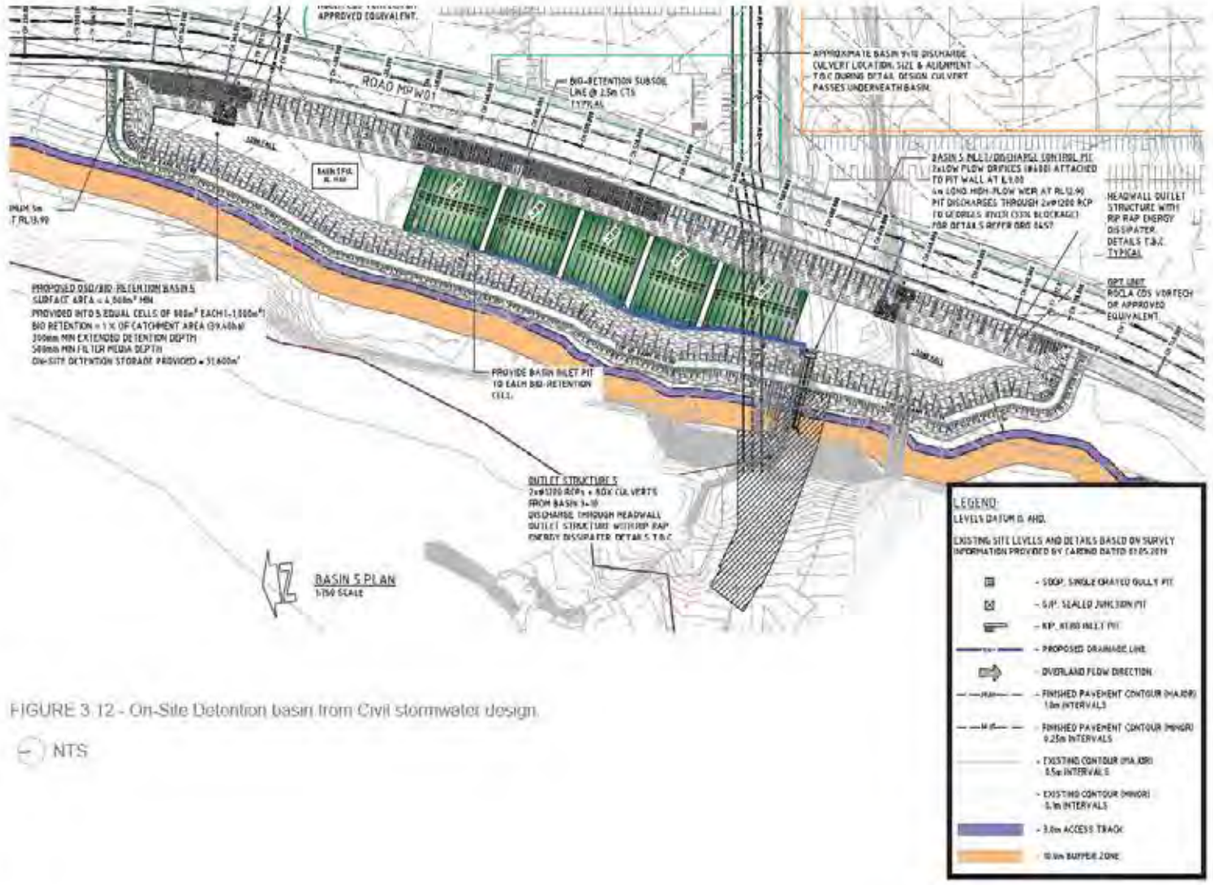


FIGURE 3.12 - On-Site Detention basin from Civil stormwater design.

NTS

Rocla CDS GPT

Bio-retention System

FIGURE 3.13 - Typical treatment measures as detailed in SIMTA's SDDR, Section 5.3.

3.10 OPEN SPACE AND PUBLIC DOMAIN

In consideration of the scale of the proposed development, an important element will be the quality of open space and public domain areas and their integration with other land uses.

Although the detailed layout and design of open space and public domain areas will be the subject of any future application, this section is intended to describe the vision for public spaces to ensure appropriateness of the future design and integration with operational facilities on SIMTA's site.

Design Vision

- To provide high quality public open space and public domain areas in and around prominent internal developments;
- To emphasise clear road networks and the interface between land uses;
- To integrate public open spaces and landscape with natural vegetation and water sensitive urban design;
- To create a 'business park' or 'campus' experience throughout the site, while maintaining the security provisions of a bonded site;
- Develop a framework that is flexible whilst controlling consistency of quality and scale of public spaces as the development evolves in the future;
- Provide safe and efficient circulation for pedestrian, cyclists and vehicles;
- Promote a high quality landscape corridor along streetscapes

Design Principles

- High quality landscape treatments should be applied to Moorebank Avenue and all internal roads;
- Water sensitive urban design principles should be integrated within landscape zones where possible;
- Consider where appropriate the use of acoustic buffers between built form and public/open spaces;
- Separate all heavy traffic from main employee parking zones for developments on the site;
- Provide safe and secure public access through the development, integrating with the Green and Hydrological Grids;
- Utilise the OSD's as a form of landscaping to improve the amenity of the site;
- Utilise 'safer by design' principles in line with NSW Police 'Crime Prevention Through Environmental Design' strategies to minimise the likelihood of crime and increase user safety.

The quality of public domain and open space within the development will be managed through future applications, to be integrated with the operational facilities of the site while providing a high quality and safe environment. The design principles outlined provide an appropriate guideline for the development of a safe, efficient and high quality industrial precinct

FIGURE 3.14 - Development East Display Suite outdoor space, an example of the integration of public domain

FIGURE 3.15 - Sketch design of MPW Freight Village with outdoor public domain amenity and visual connection to the Bio-diversity Area.

3.11 SUSTAINABILITY

The development will use a large amount of resources during construction, as well as energy during operation. It is therefore imperative that intelligent sustainable practices are utilised to minimise that resource usage, and mitigate its effects.

The design principles outlined in 2.2 Urban Heat Island Mitigation and 2.3 Ecological Sustainable Design will be adhered to throughout building and estate design.

Warehouse 1 in the Moorebank East Precinct, tenanted by Target, can be used as an example of the high level of renewable energy inclusion in the design. The 3MW project is among the largest roof-mounted solar arrays in the world, and is expected to deliver 4800MWh of energy per year, the equivalent of powering more than 7300 homes. Warehouses on the East and West precinct together will have installed on them the equivalent of a 12-30MW solar array.

Design Vision

- Achieve the completion of the development, minimising resource input where possible;
- Reduce operational resource costs through intelligent design and decision making.

Design Principles

Energy
- As recommended by the UHIMS, solar panels will be installed for the warehouses, where practicable. The solar panels will be visually unobtrusive, installed only on the available North facing roof space of the warehouses and within the approved building height restrictions;
- Warehouses will be designed as to give maximum access to the Northern sun, maximising solar panel efficiency.

Water
- All principles outlined in 2.3 Ecologically Sustainable Design, and 3.9 Water Sensitive Urban Design in regards to water are to be adhered to;
- OSDs have been designed and sited as part of the Stormwater Management Plan to maintain the volume of site water entering the George's River, while controlling its intensity;
- Rainwater tanks are required to meet the water conservation controls set by Liverpool Council's Liverpool Development Control Plan (2008) for development in Moorebank Defence Lands and also to satisfy sustainability building requirements.

Waste
- The development will work with end users to develop strategies of best practice to minimise waste;
- Each facet of the facility should be effectively designed to minimise construction waste during staging;
- Tenancies will be encouraged to promote efficient and sustainable waste segregation practices, in line with corporate initiatives implemented in modern industry;
- As noted in 2.3 - Ecologically Sustainable Development, resource waste will be minimised during construction by recycling demolished material as aggregate, and utilising fill from local sources.

The design includes a variety of principles with the aim of minimising resource input during both construction and operation. These principles outlined tie in with the core design philosophies of the Conditions of Consent - UHIMS, ESD and Landscape Design, and will reduce energy consumption during construction, and produce energy for the precinct through the usage of solar panels, reduce water usage through recycling, and reduce waste through sustainable practice and operation. These sustainable principles align with the objectives of the Conditions of Consent.

FIGURE 3.16 - Solar Panels installed at Development East Warehouse 1

SIMTA

TACTICAL GROUP

REIDCAMPBELL

REID CAMPBELL
Architecture, Interiors and Urban Design
www.reidcampbell.com

MOOREBANK LOGISTICS PARK

MOOREBANK PRECINCT WEST - STAGE 2
URBAN DESIGN DEVELOPMENT REPORT

REVISION 17/ JUNE 2021

APPENDIX

SIMTA

TACTICAL GROUP

REIDCAMPBELL

MOOREBANK

LOGISTICS PARK

MOOREBANK PRECINCT WEST
STAGE 2

URBAN DESIGN DEVELOPMENT REPORT

APPENDIX

AUTHOR

[redacted]

APPROVER

[redacted]

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AUTHORSHIP DETAILS
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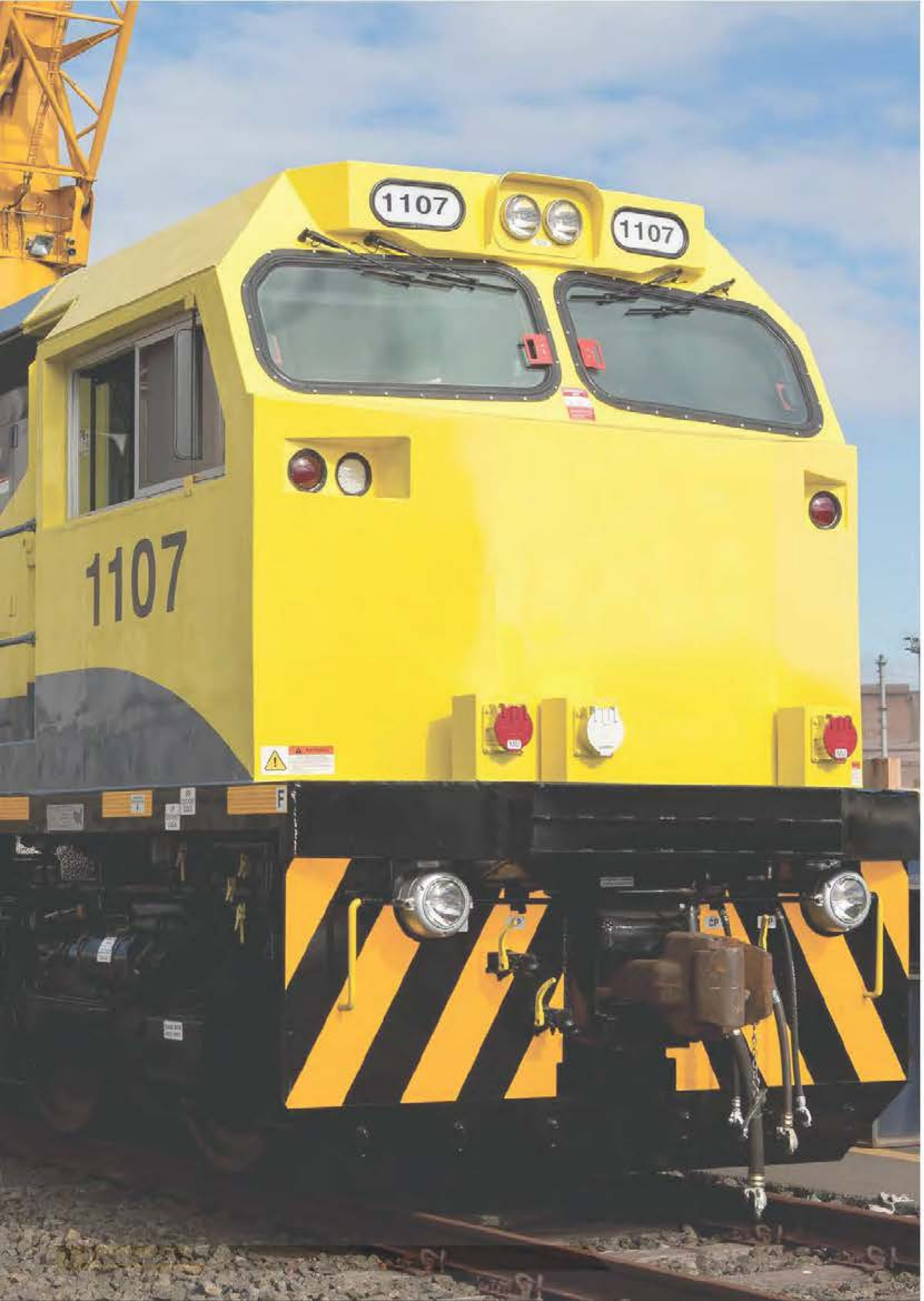
REID CAMPBELL
Architecture, Interiors and Urban Design
www.reidcampbell.com



CONTENTS

4.1 COMPLIANCE MATRIX

Ref		Requirement	Document Reference
A16		The maximum GFAs for the following uses apply:	
	(a)	215,000m² for the warehousing and distribution facilities; and	PIWW-RCG-AR-DWG-0100
	(b)	800m² for the freight village.	PIWW-RCG-AR-DWG-0100
A21		The siting, design and construction of premises available to the public are to ensure an appropriate level of accessibility so that all people can enter and use these premises. Access is to meet the requirements of the *Disability Discrimination Act 1992*, relevant Australian Standards and Building Code of Australia (BCA).	Section 3.6 - To be detailed during detailed design. N/A at this stage.
A23		All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be designed and constructed in accordance with the relevant requirements of the BCA.	Section 3.6 - To be detailed during detailed design. N/A at this stage.
A24		The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA.	Section 3.6 - To be detailed during detailed design. N/A at this stage.
A28		Where conditions of this consent require consultation with an identified party, the Applicant must:	UDDR Appendix 4 6
	(a)	Consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and	
	(b)	Provide details of the consultation undertaken in the document submitted to the Planning Secretary including: (i) The outcome of that consultation, matters resolved and unresolved (and the justification for matters remaining unresolved); and (ii) Details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.	
A55		All detailed design drawings required to be submitted under this consent must be at or above 50% design completion, with the percentage design stated on the drawings.	UDDR requires concept level of design. N/A at this stage.
B2		Prior to commencement of construction, the Applicant must submit revised **Development Layout Drawings** to the Planning Secretary for approval. The revised Development Layout Drawings must be at a scale of approximately 1:2000 at A1 showing the key development elements including but not limited to estate infrastructure, internal roads, warehouse and associated carpark footprints, the freight village, intermodal terminal facility including the truck waiting area and emergency truck storage area, rail line and rail line vehicle access roads . The revised **Development Layout Drawings** must show the site, construction and operational boundaries and demonstrate:	
	(a)	Provision of a riparian corridor, comprising the following:	
		(i) A buffer zone to the most inland of: 40 metres from the top of bank, as surveyed by a registered surveyor The 1% AEP flood extent, excluding the localised depression at the existing major east-west drainage channel (ii) An additional 10 metre extension to the buffer zone established in (i) above, where native vegetation is located on or within 10 metres east of the buffer.	PIWW-RCG-AR-DWG-0100 PIWW-RCG-AR-DWG-0101
	(b)	The siting of biofiltration/ bioretention areas and OSD basins (with the exception of outlets to the Georges River and associated maintenance access) are outside the riparian corridor and outside the warehouse footprints;	PIWW-RCG-AR-DWG-0100 PIWW-RCG-AR-DWG-0101
	(c)	No construction or operation works would take place inside biodiversity offset areas;	PIWW-RCG-AR-DWG-0100 PIWW-RCG-AR-DWG-0101
	(d)	Compliance with the landscaped setbacks specified in **Condition B63**;	PIWW-RCG-AR-DWG-0100 PIWW-RCG-AR-DWG-0101
	(e)	Compliance with the percentage of landscaped area specified in **Condition B68(a)** within the warehouse and freight village area and truck waiting area and emergency truck storage area to be developed under MPW Stage 2;	PIWW-RCG-AR-DWG-0100 PIWW-RCG-AR-DWG-0101 PIWW-GNK-LN-DWG-200
	(f)	A setback of 8 to 12 m has been provided around the north, south and western perimeters of the development area to accommodate fill batter slopes of a maximum of 1V in 4H;	PIWW-RCG-AR-DWG-0100 PIWW-RCG-AR-DWG-0101
	(g)	A minimum 3 m wide maintenance access has been provided between the fill slopes and the riparian corridor, the ABB site and at the southern end of the development area, for ongoing maintenance works;	PIWW-RCG-AR-DWG-100-101
	(h)	Provision of a controlled overland flow path through the MPW Stage 2 site as required under **Condition B11** for conveyance of the major stormwater discharge from the MPE site to the Georges River;	PIWW-COS-CV-DWG-0461 and -0465
			Note: MPE stormwater discharge is captured within the East/West Culvert Refer Costin Roe Stormwater Development Design Report Section 1.3

	(i)	Identify habitat corridor/s, of adequate dimensions to provide an adequate Koala habitat corridor as supported by a Koala specialist, to provide connectivity both within the Intermodal Precinct area and with other core koala habitat areas, as required under **Condition B152**. The drawings are to show any required connectivity structures and fencing;	Refer to Draft Koala Management Plan No. 18194RP1 (Cumberland Ecology, 26/09/19)
	(j)	Provision of a corridor between Moorebank Avenue and the Georges River for a possible future pedestrian connection across the Georges River to Casula Railway Station, of a width that would allow the future construction of a shared path that complies with the relevant suggested width set out in the *Guide to Road Design Part 6A: Paths for Walking and Cycling* (Austroads, 2017);	PIWW-RCG-AR-DWG-0100
	(k)	The bushfire asset protection requirements are within the development area;	Refer to Construction Bushfire Management Plan No. SS2-QPMS-EN-APP-00032 Revision 4 (Arcadis/Australian Bushfire Protection Planners, 27/09/18)
	(l)	Setbacks from the surveyed boundary of Lot 2 DP 32998, Lot 3 DP 32998, and Lot 2 DP 547293.	PIWW-RCG-AR-DWG-0100
B13		OSD basins must:	
	(a)	Be visually unobtrusive and sit within the final landform and landscaping;	PIWW-RCG-AR-DWG-0130-0131
	(b)	Ensure public safety by incorporation of 'safer by design' principles; and	PIWW-GNK-LN-DWG-100 – Landscape design statement
	(c)	Have all sides with a maximum batter slope of 1V:4H.	PIWW-COS-CV-DWG-0436 – 0438 (Basin Sections)
B40		The applicant must:	
	(a)	Keep accurate records of the source, volume and type of fill imported to, and material removed from, the site;	N/A
	(b)	Make these records available to the Department or EPA upon request.	N/A
B48		The Development must be designed and operated to meet Urban Heat Island Mitigation principles and to achieve a 4°C degree decrease in temperature compared to neighbouring industrial developments by including measures such as:	Refer UHIMS Report by Integral Group – UDDR Appendix 4.4 UDDR Section 2.2
	(a)	WSUD elements such as wetlands	UDDR Section 3.9.
	(b)	Shade tree planting	
	(c)	Vegetation ground cover	
	(d)	Use of 'cool' building and pavement materials (i.e. those with high reflectivity in the infrared spectrum)	
	(e)	Green roofs	
B49		The Development must be designed and operated to meet ESD principles and include measures such as the following:	UDDR Section 2.3.
	(a)	Passive solar design	
	(b)	Use of energy efficient plant and equipment	
	(c)	Use of renewable energy sources	
	(d)	Cross-ventilation	
	(e)	Selection of materials with lower energy manufacturing requirements	
	(f)	Use of locally sourced materials to reduce impacts associate with transport	
	(g)	Rainwater capture and reuse	
	(h)	Water efficient fixtures and fittings	
	(i)	Waste minimisation	
B50		The Development must register for a 'design' and 'as built' rating under the Infrastructure Council of Australia (ISCA) rating tool for development infrastructure.	To be addressed in detailed design. See UDDR Section 2.3.
B51		The Development must be designed and operated to meet minimum 4 star Green Star certification by the Green Building Council of Australia for warehouse design, construction and operation.	To be addressed in detailed design. See UDDR Section 2.3.
B52		Prior to commencement of permanent built surface works and/ or landscaping, an **Urban Design Development Report**, **Revised Landscape Design Drawings** and **Revised Architectural Drawings** including plans, sections and details and supporting documentation must be submitted to the Planning Secretary for approval.	To be submitted.
B53		The **Urban Design Development Report** must be developed in consultation with the Government Architect NSW (GANSW) and provide detailed objectives for design and operation of the development and define place specific urban design principles incorporating those outlined in **Conditions B48**, **B49** and **B57**. Details of the consultation are to be submitted as part of the **Urban Design Development Report.**	UDDR Appendix 4.6
B54		The revised landscape and architectural drawings and design details must be at a suitable scale (minimum plan view scale of 1:1000 at A1 with sections and details at a minimum scale of 1:200 at A1) to demonstrate:	UDDR Appendix 4.2 - 4.3 – Architectural/Landscape Drawings
	(a)	How the objectives and principles developed in the **Urban Design Development Report** required under **Condition B53** have been incorporated into the design	
	(b)	The revised warehouse layout in accordance with **Condition B2**	
	(c)	Compliance with the criteria specified in **Conditions B59** to **B74**	

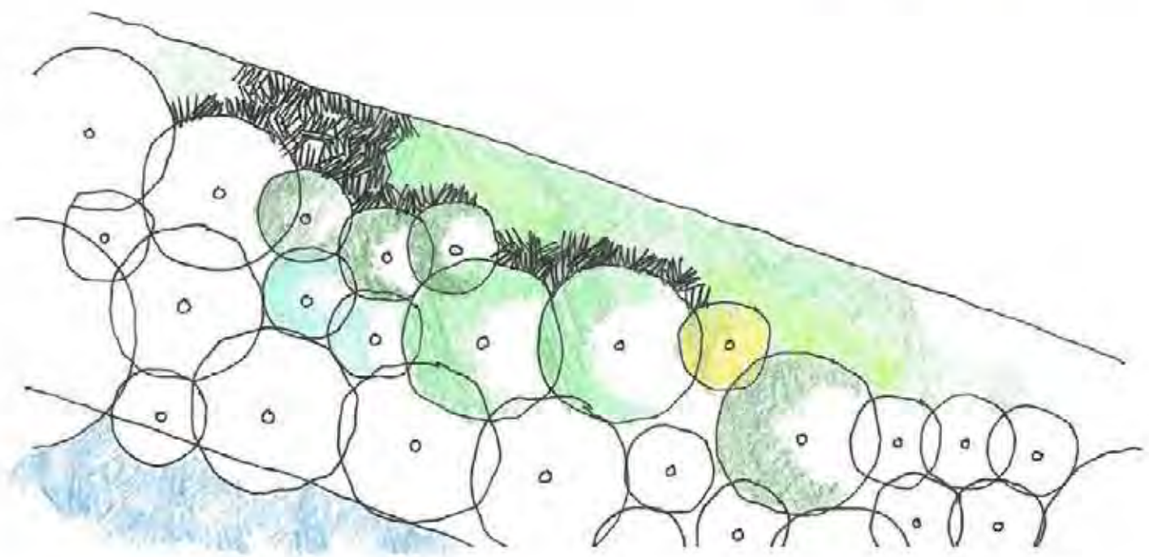
B55		An independent peer review report must be submitted with the **Urban Design Development Report** and **Revised Landscape Design Drawings** and **Revised Architectural Drawings** and supporting documentation.	See Appendix 4.5
B57		The **Revised Landscape Design Drawings** must demonstrate a design that generally incorporates the principles outlined in *Better Placed, Greener Places* and the *Green Grid* documents by the NSW Government Architect and the *Western Sydney District Plan* (March 2018) by the Greater Sydney Commission	UDDR Appendix 4.3 – Landscape Drawings.
	(a)	Provide for visitor and worker amenity	
	(b)	Incorporate 'safer by design' principles	
	(c)	Use locally indigenous species	
	(d)	Be integrated with the stormwater system design set out in the **Revised Stormwater Design Drawings** required under **Condition B4**	
	(e)	Mitigate the visual impacts of buildings and infrastructure particularly when viewed from Casula.	
B59		Pedestrian and cycle paths must:	
	(a)	Be provided through the site to provide connections to Moorebank Avenue, the rail terminal office and between warehouses and the freight village	UDDR Section 3.4 PIWW-RCG-AR-DWG-0100-0101, 0110-0112, 0130
	(b)	Integrate with existing and planned footpaths or cycleways in the locality.	UDDR Section 3.4 PIWW-RCG-AR-DWG-0100
B60		Paths must be integrated with landscaping and include meanders to allow for canopy tree clusters and a more varied walking/ riding experience.	PIWW-GNK-LN-DWG-101-102
B61		The rail terminal office, freight village and each warehouse must include an outdoor meal break area with shade, seating, lighting and landscaping including shrubs and groundcover and canopy trees where reasonable. In addition, the freight village outdoor area(s) must include a water fountain(s) or other fresh drinking water provision	PIWW-RCG-AR-DWG-0100 and 0110-0112 JR-SK-A-9200 PIWW-GNK-LN-DWG-106
B62		Secure bicycle parking and end-of-trip facilities must provide:	
	(a)	A minimum 1 staff bicycle parking per 10 staff (or 1 per 10 car spaces if staff numbers are undetermined)	PIWW-RCG-AR-DWG-0100
	(b)	Compliance with the minimum requirements of AS 2890.3:2015 Parking facilities - Bicycle parking for the layout, design and security of bicycle facilities, and be located in easy to access, well-lit areas that incorporate passive surveillance.	PIWW-RCG-AR-DWG-0190
	(c)	Under cover bike storage, showers and change facilities at each warehouse sufficient to accommodate the needs of the forecast number of employees.	PIWW-RCG-AR-DWG-0190
B63		The following minimum setbacks apply:	
	(a)	18 m from Moorebank Avenue with minimum soft landscaped width of 10 m, subject to any variation agreed to by the Planning Secretary at the site entrance for the purpose of facilitating the primary access driveway into the site;	PIWW-RCG-AR-DWG-0100; UDDR Section 3.3 PIWW-RCG-AR-DWG-0191 PIWW-GNK-LN-DWG-100-102, 106
	(b)	5 m setback from the western internal road to warehouse carparks.	PIWW-RCG-AR-DWG-0100
		Note: See also Condition B2.	
B64		Canopy tree planting must be provided around the perimeter of the site, including the southern fill area where future warehousing is proposed.	UDDR Appendix 4.3 – PIWW-GNK-LN-DWG-101, 102, 104, 108-108
B65		The southern fill area where future warehousing is proposed must be topsoiled and hydroseeded with native grasses.	UDDR Appendix 4.3 – Landscape Drawings
B66		Perimeter fill batters must be stabilised with vegetation.	UDDR Appendix 4.3 – Landscape Drawings
B67		Landscaping within the warehouse area must include dense canopy tree planting, shrubs, sedges, herbs, ground covers and tufted native grasses primarily derived from OEH lists of Cumberland Plain Woodland. The canopy tree mix must include some or all of the following species. *Eucalyptus crebra, Eucalyptus moluccana Eucalyptus amplifolia, Eucalyptus bosistoana, Eucalyptus eugenioides, Eucalyptus tereticornis, Eucalyptus punctate, Eucalyptus baueriana, Corymbia maculata, Angophora floribunda* and *Angophora bakeri*.	UDDR Appendix 4.3 – Landscape Drawings
B68		The following minimum landscaping requirements apply:	
	(a)	15% of the warehouse area landscaped at ground level, 10% of which must be soft landscaping, excluding the OSD basins unless they are accepted as contributing to soft landscaping in the peer review report required under **Condition B55**;	PIWW-GNK-LN-DWG-200/PIWW-RCG-AR-DWG-100-101
	(b)	1 canopy tree per 30 m2 of landscaped area	UDDR Appendix 4.3 – PIWW-GNK-LN-DWG-100, 101, 102, 104-108
	(c)	A 2.5 m wide landscaped bay every 6-8 car spaces to provide shade within carpark areas or alternative carpark landscaping accepted as providing adequate shade in the peer review report required under **Condition B55**.	PIWW-RCG-AR-DWG-0100 0101, 0110-0112 JR-SK-A-9200 UDDR Section 3.1

B69		Perimeter and on-site detention and biofiltration/ bioretention basin fences higher than 1.2m must be transparent and dark in colour but not constructed of chain wire, to provide visual amenity	UDDR Section 3.7, to be addressed in detailed design
B70		Boundary fencing design must allow for fauna movement where required under **Condition B152(b)**.	Refer to Koala Management Plan No. 18194RP1 (Cumberland Ecology, 03/03/2020)
B71		Screen fencing and planting must be provided around waste bins or other outside storage areas.	PIWW-RCG-AR-DWG-0110-12 JR-SK-A-9200 + 9204
B72		Screen planting must be provided on both sides of noise walls.	PIWW-GNK-LN-DWG-101, 102, 104, 106-108
B73		Retaining wall materials and colours must be of a natural appearance and incorporate landscaping.	UDDR Section 3.7, to be addressed in detailed design.
B74		Noise barriers must minimise visual and amenity impacts and be designed in accordance with the *Noise wall design guideline – Design guideline to improve the appearance of noise walls in NSW* (RMS, March 2016).	PIWW-RCG-AR-DWG-0100-0112 + 0130 PIWW-GNK-LN-DWG-101, 102, 104, 106-108
B75		The following must be included on, or provided with the Revised Landscape Design Drawings required under Condition B52:	
	(a)	Irrigation systems;	PIWW-GNK-LN-DWG-400
	(b)	Planting schedule including tree and shrub species, expected mature height, planting densities and pot sizes;	PIWW-GNK-LN-DWG-001
	(c)	Soil specification and depth for landscaped areas in relation to pot sizes and species to ensure the viability of shrubs and trees;	PIWW-GNK-LN-DWG-400
	(d)	Landscaping around the Southern and Northern boundaries of the site; and	PIWW-GNK-LN-DWG-101, 102
	(e)	Noise wall, retaining wall and fencing graphics and material details.	UDDR Section 3.7
B76		Operational lighting must:	
	(a)	Comply with the latest version of AS 4282:19997 – *Control of the obtrusive effects of outdoor lighting* (Standards Australia, 1997); and	UDDR Section 3.8
	(b)	Be designed to reduce light spill and be mounted, screened and directed in such a manner that it does not create a nuisance and minimises visual impacts to surrounding properties, the public road network, the Georges River riparian corridor and the Boot Land.	UDDR Section 3.8
B77		The following signage is not permitted:	
	(a)	General advertising or moving or flashing signs;	PIWW-RCG-AR-DWG-0190
	(b)	West facing illuminated building signage visible from residences; and	PIWW-RCG-AR-DWG-0190
	(c)	Internally illuminated signs that are visible form residences.	PIWW-RCG-AR-DWG-0190
B78		Signage must not occupy more than 10% of any façade or wall of a building.	PIWW-RCG-AR-DWG-0190
B79		Building floor levels must be a minimum of 150mm above the maximum design stormwater overland flow path levels. Building floor levels and associated maximum design stormwater overland flow path levels to AHD must be indicated on the architectural cross section drawings.	Stormwater Development Design Report – Costin Roe
B80		A rainwater tank(s) must be included on each warehouse, the freight village and rail terminal buildings.	PIWW-RCG-AR-DWG-0110-0112 JR-SK-A-9200
B81		Rainwater must be used for irrigation, all internal non-potable uses, the container wash-down facility and be considered for cooling towers; heating, ventilation, and air conditioning; and ground source heat exchange.	UDDR Section 3.9 PIWW-GNK-LN-DWG-400
B86		The layout of the proposed car parking areas associated with the subject development (including driveways, grades, turn paths, sight distance requirements in relation to landscaping and/or fencing, aisle widths, aisle lengths, and parking bay dimensions) must be in accordance with *AS2890.1-2004 Parking facilities Off-street car parking*, *AS2890.6-2009 Parking facilities Off-street parking for people with disabilities* and *AS2890.2-2002 Parking facilities Off-street commercial vehicle facilities for heavy vehicle usage*.	UDDR Section 3.1
B129		Prior to the commencement of operation of any part of the development, the Applicant must construct a 5m high noise wall along the entire length of the western internal road as shown in **Appendix 1** (as detailed in the EIS and RtS Noise and Vibration Impact Assessment modelling)	UDDR Section 3.7 – PIWW-RCG-AR-DWG-0100-0112 + 0130
B187		The container wash down facility must:	UDDR Section 3.1
	(a)	Include bunding to exclude wash area waste from the stormwater system;	
	(b)	Be designed and operated to avoid overspray from foams, detergents, mud or fugitive emissions outside wash down bays;	
	(c)	Include oily water separation, water treatment and recycling; and	
	(d)	Comply with Sydney Water trade waste requirements for discharge to the sewer.	

RELEVANT FINAL COMPILATION OF MITIGATION MEASURES (FCMMs)

Ref		Approach	Phase
1E		Consultation with TfNSW would be conducted regarding the provision for active transport to/from the Proposal site and along the internal perimeter road, as part of detailed design for the Proposal.	Operation
4N		Opportunities for planting of detention basins with native aquatic emergent plants and fringing trees would be explored in the detailed design of the Proposal and, if practicable, implemented so that they would provide similar habitat in the medium term to that lost through the removal of existing basins.	Detailed Design and Construction
4Q		The detailed design process would consider the potential groundwater impacts on groundwater-dependent ecosystems. In most cases, these impacts, if evident, would be mitigated at the design phase.	Detailed Design and Construction
4T		The proposed stormwater basin outlets would be designed to minimise biodiversity impacts by incorporating native revegetation and fauna habitat features as far as possible.	Detailed Design
8C		The following initiatives would be implemented for mitigation of light spill: • Lighting would be designed to minimise impacts on surrounding existing and future residents and the proposed conservation zone • The use of shields on luminaire lighting to minimise brightness effects would be considered • Asymmetric light distribution-type floodlights would be selected as part of the proposed lighting design (i.e. the light is directed specifically to the task with minimal direct light spill to the surrounding area) • Low reflection pavement surfaces would be considered to reduce brightness. • The quantity of light and energy consumption in parts of the Proposal site that are not active would be minimised, while retaining safe operation	Detailed Design and Operation
10A		Naming of roads would consider previous School of Military Engineering (SME) street names	Detailed Design
11A		The following mitigation measures would be implemented, where reasonable and feasible, for management of GHG emissions as part the operation of the Proposal: • Energy efficiency design aspects would be incorporated wherever practicable to reduce energy demand • Fuel efficiency of the operation plant/equipment would be assessed prior to selection, and where practical, equipment with the highest fuel efficiency and which uses lower GHG intensive fuel (e.g. biodiesel) would be used • Energy-efficient guidelines for operational work would be considered and implemented where appropriate and regular maintenance of equipment would be undertaken to maintain fuel efficiency. -Methods to reduce losses from industrial processes (refrigerants and SF6) would be investigated during detailed design • Consideration would be given to undertake further investigation and implementation of cost negative abatement opportunities • Investigate and, where possible, implement key performance indicators (KPIs) for plant efficiency and GHG intensity. The mitigation measures, management strategies and abatement opportunities presented in this report would be reviewed and considered where appropriate for incorporation into the OEM	Detailed Design
15A		In addition to features included in the current design, the following mitigation measures (where feasible and reasonable) would be implemented to reduce the potential for urban heat island effects: • Solar panels on roofs of warehousing • Cool roofs (selection of materials higher albedo ratings (ratio of irradiance reflected to the irradiance received))	Operation

4.2 REVISED ARCHITECTURAL DRAWINGS



MOOREBANK PRECINCT WEST STAGE 2

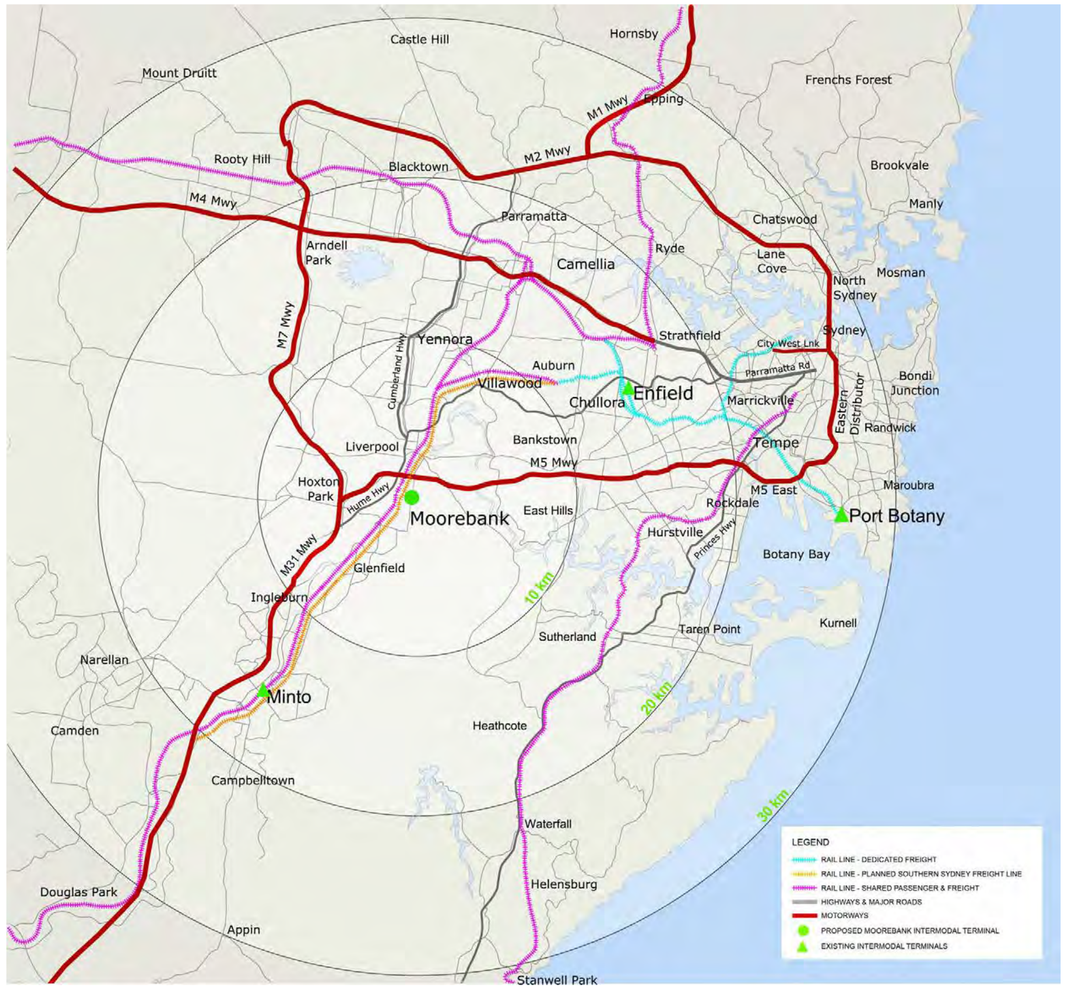
MOOREBANK AVENUE, MOOREBANK, NSW

POST APPROVALS

ARCHITECTURAL DRAWING SCHEDULE

DRAWING NO.	DRAWING NAME	REVISION	ISSUE DATE
0000	POST APPROVALS - COVER SHEET	Q	07/07/2021
0100	POST APPROVALS - MPW MASTERPLAN - PART 1	O	07/07/2021
0101	POST APPROVALS - MPW MASTERPLAN - PART 2	M	07/07/2021
0110	POST APPROVALS - 1A/B SITE PLAN	J	07/07/2021
0111	POST APPROVALS - 2A SITE PLAN	I	07/07/2021
0112	POST APPROVALS - 2B SITE PLAN	K	07/07/2021
0130	POST APPROVALS - ROAD SECTION 01	H	23/06/2020
0131	POST APPROVALS - ROAD SECTION 02	D	12/11/2019
0190	POST APPROVALS - TYPICAL DETAILS 1	D	09/07/2020
0191	POST APPROVALS - SIGNAGE LOCATION AND TERMINAL SETBACK PLAN	F	27/05/2021

CONTEXT PLAN



Notes

-This drawing and design is subject to Reid Campbell (NSW) Pty Ltd copyright and may not be reproduced without prior written consent.
-Contractor to verify all dimensions on site before commencing work.
-Report all discrepancies to project manager prior to construction.
-Figured dimensions to be taken in preference to scaled drawings.
-All work is to conform to relevant Australian Standards and other Codes as applicable, together with other Authorities' requirements and regulations.

Carl Anthony Guevarra NSWARB No. 11053

Issue	Description	Date	DR	CH
H	UPDATED AS RESPONSE TO DPIE RFI	27/04/2020	AM	MF
I	UPDATE FOR DPIE RFI	18/06/2020	AM	MF
J	UPDATE FOR DPIE RFI	23/06/2020	AM	MF
K	UPDATED FOR DPIE RFI	09/07/2020	AM	MF
L	UPDATED FOR DPIE RFI	13/07/2020	AM	MF
M	UPDATE FOR UDDR	04/03/2021	AM	MF
N	UPDATE FOR UDDR	05/03/2021	AM	MF
O	UPDATE FOR UDDR	11/03/2021	AM	MF
P	UPDATE FOR UDDR	27/05/2021	AM	MF
Q	UPDATE FOR UDDR	07/07/2021	AM	MF

North: **N/A**

Notes: ALL DIMENSIONS ARE APPROXIMATE AND ARE TO BE VERIFIED BY A REGISTERED LAND SURVEYOR.

Project: **MOOREBANK PRECINCT WEST STAGE 2**

Project Address: MOOREBANK AVENUE, MOOREBANK, NSW

Owner / Developer: SIMTA SYDNEY INTERMODAL TERMINAL ALLIANCE

Project Manager: TACTICAL GROUP

Architect: REIDCAMPBELL
Architecture, Interiors, Project Management
ACN 002 033 801 ABN 28 317 605 875
Level 15, 124 Walker Street
North Sydney NSW 2060 Australia
Tel: 61 02 9954 5011 Email: sydney@reidcampbell.com
Fax: 61 02 9954 4946 Web: www.reidcampbell.com

Drawing Title: **POST APPROVALS - COVER SHEET**

Drawn: AM | Checked: MF | Print Date: 7/07/2021 10:46:41 AM | Scale @ A1

Project Number: 115123 | Issue: Q

Drawing Number: PIWW-RCG-AR-DWG-0000

BIM 360://115123_Moorebank Intermodal Masterplan/115123_Moorebank Intermodal_MPW STAGE 2_Post Consent_R21.rvt

POST APPROVALS

TERMINAL OFFICE TO INCLUDE OUTDOOR MEAL BREAK AREA

SHARED CYCLE/FOOT PATH CONNECTION TO MOOREBANK AVENUE

SITE ENTRANCE FOR THE PURPOSE OF FACILITATING THE PRIMARY ACCESS DRIVEWAY INTO THE SITE. VARIATION TO 18m SETBACK TO BE AGREED TO BY PLANNING SECRETARY PER B63(a)

PROPOSED INDICATIVE LOCATION AND SIZING OF CONTAINER WASH DOWN FACILITY, SHOWN DASHED. TO BE CONFIRMED DURING DETAILED DESIGN.

18m SETBACK

MOOREBANK AVENUE

SUBJECT TO SEPARATE APPROVAL

PROPOSED INTERMODAL TERMINAL

IMT VEHICLE ACCESS ROADS

OSD-4

EMERGENCY TRUCK HOLDING AREA

TRUCK QUEUE

TERMINAL OFFICE

WORK SHOP

(1:4 BATTER INDICATIVE)

EXISTING OSD

LOT 2 DP 547293

3m SETBACK AND ACCESS TRACK

LOT 2 DP 32998

LOT 3 DP 32998

ELECTRICAL SUBSTATION

EASEMENT

CONSTRAINTS DETERMINED BY CONDITIONS B2 (a), (f) AND (g)

OFFICE 1,300m²

WAREHOUSE 1A
21,000m²
FSL 16.00
(± 500mm)

OFFICE 1,000m²

WAREHOUSE 1B
20,600m²
FSL 16.00
(± 500mm)

STORMWATER CHANNEL

WAREHOUSE 2A
40,300m²
FSL 16.50
(± 500mm)

OFFICE 1,000m²

WAREHOUSE 2B
52,827m²
FSL 16.50
(± 500mm)

FREIGHT VILLAGE

ESTATE ROAD

INTERNAL ACCESS ROAD

OFFICE 1,000m²

5m NOISE WALL

MPW SERVICES AREA

3m ACCESS TRACK

MEANDERING SHARED CYCLE AND FOOT PATH, SEE LANDSCAPE ARCHITECTS DETAILS

LINE OF TOP OF BANK, SHOWN DASHED

OSD-5

CONSTRAINTS DETERMINED BY CONDITION B2. LINE REPRESENTS APPROXIMATE EXTENT OF 1V:4H BATTER

FENCES AND GATES/GRIDS PER CONDITION B2(i) TO BE INSTALLED PER *CUMBERLAND ECOLOGY KMP, FIGURE 9* (MARCH, 2020) ALONG BIO-DIVERSITY BOUNDARY, WITH LOCATION DETERMINED ON SITE AS PRACTICALLY ACHIEVABLE AND AS REQUIRED

PROVISION FOR PEDESTRIAN/CYCLE CONNECTION TO CASULA RAILWAY STATION, ALLOWING FOR REQUIRED WIDTH SET OUT IN THE *GUIDE TO ROAD DESIGN PART 6A: PATHS FOR WALKING AND CYCLING* (AUSTROADS, 2017)

LOCALIZED DEPRESSION TO BE EXCLUDED

OSD OUTLET DESIGN BY OTHERS

RIPARIAN CORRIDOR WEST OF 3m ACCESS TRACK, REFER DWG-0130 FOR DETAIL

5m LANDSCAPE SETBACK

MOOREBANK BIODIVERSITY OFFSET AREA

CONSERVATION AREA

GEORGES RIVER

LEGEND:

- MPW SITE BOUNDARY
- MPW STAGE 2 OPERATIONAL BOUNDARY (SSD 5066)
- CONSTRUCTION BOUNDARY DETERMINED BY A COMBINATION OF B2 (a) (iii), THE BIODIVERSITY OFFSET AREA
- SITE BOUNDARY
- PART CONDITION B2 SETBACK
- TOP OF BANK
- LIMIT OF 1:100 YEAR FLOOD EXTENT
- ASSET PROTECTION ZONE SETBACK
- RIPARIAN BUFFER ZONE 10m EXTENSION

NOTES:
1. ALL LEVELS ARE INDICATIVE & SHOULD BE READ IN CONJUNCTION WITH CIVIL ENG. DWGS FOR FINAL LEVELS OF ALL EARTH WORKS
2. ALL SERVICES RELOCATION TO BE CONFIRMED BY ENG.

REFERENCE INFORMATION:

- MAAI DESIGN: ARCADIS - xcmic2de-aa003760-DesignBase; DATED 27/04/2017
- CIVIL DESIGN (ESTATE ROAD) - COSTIN ROE: X-DESIGN-ROADS-13455.07-SKR01; DATED 22/08/2019
- BIODIVERSITY OFFSET AREA - ARCADIS - SIMTA_BiobankSite; DATED 06/08/2019
- CIVIL DESIGN - ARCADIS - mpw2-arc-cv-mod-de-DesignBaseRoad; DATED 05/08/2019
- OSD BASIN DESIGN - COSTIN ROE - PIWW-COS-CV-DWG-0481-C; DATED 29/11/2019
- MPW EARTHWORKS DESIGN - COSTIN ROE - PIWW-COS-CV-DWG-0300-B; DATED 04/10/2019
- TRUCK TURN PATHS - TRANSURBAN - 19104-BASE-Rev 1-TO TACTICAL GROUP-24.10.19; DATED 24/10/2019
- LANDSCAPE AREAS - GROUND INK - PIWW-GNK-LN-DWG-200(G); DATED 26/05/2021
- MPWS2 OPERATIONAL BOUNDARY - WATSON YOUNG: Stage 02 Operational Boundary Overlay; RECEIVED 19/02/2021
- SERVICES AREA AND CONSTRUCTION BOUNDARY - WATSON YOUNG: PIWW-RCG-AR-DWG-0100-pdf(O)_POST APPROVALS - MPW MASTERPLAN - PART 1; DATED 28/06/2021
- JR/JN SITE PLAN - BELL ARCHITECTS: BAS190054 JR-WD-A-0-1000 T2.1 MASTER PLAN; DATED 04/07/2021

1 MPW NORTH WAREHOUSING PLAN
SCALE: 1 : 2000

OSD-3	2,910m²
OSD-4	1,480m²
OSD-5	17,130m²
OSD-6	22,910m²
OSD-8	12,770m²
WAREHOUSE SITE AREA (INCL. OSD-5 TOTAL AREA)	**514,687m²**
WAREHOUSE AREA SOFT LANDSCAPING	54,202m²
WAREHOUSE AREA HARD LANDSCAPING	8,896m²
OSD-5 LANDSCAPE AREA	17,075m²
TOTAL LANDSCAPING PERCENTAGE	**15.58%**

DEVELOPMENT SCHEDULE

SITE 1A	
WAREHOUSE AREA	42,280m²
BUILDING AREA (GFA)	
WAREHOUSE	21,000m²
OFFICE (2 LEVEL)	1,000m²
SOFT LANDSCAPING	8,690m²
HARD LANDSCAPING	760m²
PROPOSED CAR PARKING	97 SPACES
PROPOSED BICYCLE PARKING	10 SPACES
SITE 1B	
WAREHOUSE AREA	38,890m²
BUILDING AREA (GFA)	
WAREHOUSE	20,600m²
OFFICE (2 LEVEL)	1,000m²
SOFT LANDSCAPING	3,590m²
HARD LANDSCAPING	270m²
PROPOSED CAR PARKING	94 SPACES
PROPOSED BICYCLE PARKING	10 SPACES
SITE 2A	
WAREHOUSE AREA	68,350m²
BUILDING AREA (GFA)	
WAREHOUSE	40,300m²
OFFICE (2 LEVEL)	1,000m²
SOFT LANDSCAPING	10,140m²
HARD LANDSCAPING	800m²
PROPOSED CAR PARKING	164 SPACES
PROPOSED BICYCLE PARKING	16 SPACES
SITE 2B	
WAREHOUSE AREA	80,330m²
BUILDING AREA (GFA)	
WAREHOUSE	52,827m²
OFFICE (2 LEVEL)	1,000m²
SOFT LANDSCAPING	5,593m²
HARD LANDSCAPING	1,035m²
PROPOSED CAR PARKING	205 SPACES
PROPOSED BICYCLE PARKING	23 SPACES
SITE 3A (JR)	
WAREHOUSE AREA	150,848m²
BUILDING AREA (GFA)	
WAREHOUSE	39,384m2
SOFT LANDSCAPING	13,997m2
HARD LANDSCAPING	540m2
PROPOSED CAR PARKING	10 SPACES
PROPOSED BICYCLE PARKING	20 SPACES
SITE 3B (JN)	
WAREHOUSE AREA	115,679m²
BUILDING AREA (GFA)	
WAREHOUSE	40,889m2
SOFT LANDSCAPING	11,292m2
HARD LANDSCAPING	5,051m2
PROPOSED CAR PARKING	725 SPACES
PROPOSED BICYCLE PARKING	40 SPACES
FREIGHT VILLAGE	
SITE AREA	3180m²
BUILDING AREA (GFA)	800m²
SOFT LANDSCAPING	900m²
HARD LANDSCAPING	440m²
PROPOSED CAR PARKING	23 SPACES
PROPOSED BICYCLE PARKING	3 SPACES

BUILDER TO CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

FIGURED DIMENSIONS TAKE PRECEDENCE. DO NOT SCALE FROM THE DRAWING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS, SCHEDULES AND PROJECT ENGINEERS DRAWINGS

THE MASTERPLAN ARCHITECT IS TO BE CONSULTED REGARDING ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

ALL WORK IS TO CONFORM TO RELEVANT CURRENT AUSTRALIAN STANDARDS AND ALL OTHER APPLICABLE CODES ALONG WITH ANY LOCAL AUTHORITIES REQUIREMENTS & REGULATIONS

Issue	Description	Date	DR	CH
C	ISSUED BY REID CAMPBELL	-	-	-
D	ISSUED BY REID CAMPBELL	-	-	-
E	ISSUED BY REID CAMPBELL	-	-	-
F	ISSUED BY REID CAMPBELL	-	-	-
G	ISSUED BY REID CAMPBELL	-	-	-
H	ISSUED BY REID CAMPBELL	-	-	-
I	ISSUED BY REID CAMPBELL	-	-	-
J	ISSUED BY REID CAMPBELL	-	-	-
K	ISSUED BY REID CAMPBELL	-	-	-
L	ISSUED BY REID CAMPBELL	-	-	-
M	ISSUED BY REID CAMPBELL	-	-	-
N	UPDATE FOR DPIE RFI	04.03.2021	JF	AG
O	Woolworths SSD 7709 MA1.01 update and minor adjustment to APZ	11.06.2021	JF	AG

North

Notes
ALL AREAS & DIMENSIONS ARE APPROXIMATE AND ARE TO BE VERIFIED BY A REGISTERED LAND SURVEYOR

Project
MOOREBANK LOGISTICS PARK

Project Address
MOOREBANK AVENUE, MOOREBANK NSW

Owner / Developer
SIMTA

Client
QUBE

Architect
watson young
Watson Young Architects Pty. Melbourne | Perth | Sydney 03 9516 8555 ACN: 111398700
8 Gratton Street Prahran VIC 3181 info@watsonyoung.com.au watsonyoung.com.au

Drawing Title
POST APPROVALS - MPW MASTERPLAN - PART 1

Drawn	Checked	Print Date	Scale @ A1
AG	JF	11/08/2021 5.15.19 PM	1:2000

Project Number: 19311
Issue: O
Drawing Number: PIWW-RCG-AR-DWG-0100

POST APPROVALS

MOOREBANK AVENUE

SUBJECT TO SEPARATE APPROVAL

OSD-3

15m SETBACK

EXISTING CANOPY TREES

1:4 BATTER INDICATIVE

PROPOSED RAIL LINK CONNECTION

WAREHOUSE 3A (JR)
39,384m²

WAREHOUSE 3B (JN)
40,889m²

SUBJECT TO FUTURE APPLICATION

PROVISION BOUNDARY LANDSCAPE TREATMENT AND CANOPY TREES WITHIN RAIL CORRIDOR, TO BE CONFIRMED BY RAIL ENGINEERS AND EXTENT OF BOUNDARY BATTER. PERIMITER BATTERS MUST BE STABILISED WITH VEGETATION - REFER LANDSCAPE DESIGN DRAWINGS.

EXISTING SSFL CONNECTION

FOR DETAILS ON THE JR/JN SITE, REFER TO DRAWINGS:
-JR-SK-A-9200
-JR-SK-A-9201
-JR-SK-A-9193

TIE IN ACCESS TRACK TO EXISTING TRACK ALONG RAIL CORRIDOR, INDICATIVELY SHOWN DASHED

OSD-8

CONSTRAINT DETERMINED BY CONDITIONS B2 (a), (f) AND (g)

OSD OUTLET DESIGN BY OTHERS

KOALA MOVEMENT CORRIDOR INDICATED BY WHITE ARROWS. REFER CUMBERLAND ECOLOGY KMP, FIGURE 9 (MARCH, 2020) FOR DETAILS

FENCES AND GATES/GRIDS PER CONDITION B2(i) TO BE INSTALLED PER *CUMBERLAND ECOLOGY KMP, FIGURE 9* (MARCH, 2020) ALONG BIO-DIVERSITY BOUNDARY, WITH LOCATION DETERMINED ON SITE AS PRACTICALLY ACHIEVABLE AND AS REQUIRED

ESTATE ROAD

MEANDERING SHARED CYCLE AND FOOT PATH, SEE LANDSCAPE ARCHITECTS DETAILS

CONSERVATION AREA

RIPARIAN CORRIDOR WEST OF 3m ACCESS TRACK, REFER DWG-0130 FOR DETAIL

5m NOISE WALL

5m LANDSCAPE SETBACK

MOOREBANK BIODIVERSITY OFFSET AREA

OSD OUTLET DESIGN BY OTHERS

OSD-6

3m ACCESS TRACK

GEORGES RIVER

LEGEND:

- MPW SITE BOUNDARY
- MPW STAGE 2 OPERATIONAL BOUNDARY (SSD 5066)
- CONSTRUCTION BOUNDARY DETERMINED BY A COMBINATION OF B2 (a) (i,ii), THE BIODIVERSITY OFFSET AREA
- SITE BOUNDARY
- PART CONDITION B2 SETBACK
- TOP OF BANK
- LIMIT OF 1:100 YEAR FLOOD EXTENT
- ASSET PROTECTION ZONE SETBACK
- RIPARIAN BUFFER ZONE 10m EXTENSION

NOTES:
1. ALL LEVELS ARE INDICATIVE & SHOULD BE READ IN CONJUNCTION WITH CIVIL ENG. DWGS FOR FINAL LEVELS OF ALL EARTH WORKS
2. ALL SERVICES RELOCATION TO BE CONFIRMED BY ENG.

REFERENCE INFORMATION:

- OSD-8 DESIGN - COSTIN ROE: LPWPIW-COS-CV-DWG-0435-2; RECEIVED 25/06/2020
- MAAI DESIGN: ARCADIS - xcmic2de-aa003760-DesignBase; DATED 27/04/2017
- CIVIL DESIGN (ESTATE ROAD) - COSTIN ROE: X-DESIGN-ROADS-13455.07-SKR01; DATED 22/08/2019
- BIODIVERSITY OFFSET AREA - ARCADIS - SIMTA_BiobankSite; DATED 06/08/2019
- CIVIL DESIGN - ARCADIS - mpw2-arc-cv-mod-de-DesignBaseRoad; DATED 05/08/2019
- OSD BASIN DESIGN - COSTIN ROE - PIWW-COS-CV-DWG-0481-C; DATED 29/11/2019
- MPW EARTHWORKS DESIGN - COSTIN ROE - PIWW-COS-CV-DWG-0300-B; DATED 04/10/2019
- TRUCK TURN PATHS - TRANSURBAN - 19104-BASE-Rev 1-TO TACTICAL GROUP-24.10.19; DATED 24/10/2019
- LANDSCAPE AREAS - GROUND INK - PIWW-GNK-LN-DWG-200(G); DATED 26/05/2021
- MPWS2 OPERATIONAL BOUNDARY - WATSON YOUNG: Stage 02 Operational Boundary Overlay; RECEIVED 19/02/2021
- SERVICES AREA AND CONSTRUCTION BOUNDARY - WATSON YOUNG: PIWW-RCG-AR-DWG-0100-pdf(O)_POST APPROVALS - MPW MASTERPLAN - PART 1; DATED 28/06/2021
- JR/JN SITE PLAN - BELL ARCHITECTS: BAS190054 JR-WD-A-0-1000 T2.1 MASTER PLAN; DATED 04/07/2021

Issue	Description	Date	DR	CH
A	ISSUED BY REID CAMPBELL	-	-	-
B	ISSUED BY REID CAMPBELL	-	-	-
C	ISSUED BY REID CAMPBELL	-	-	-
D	ISSUED BY REID CAMPBELL	-	-	-
E	ISSUED BY REID CAMPBELL	-	-	-
F	ISSUED BY REID CAMPBELL	-	-	-
G	ISSUED BY REID CAMPBELL	-	-	-
H	ISSUED BY REID CAMPBELL	-	-	-
I	ISSUED BY REID CAMPBELL	-	-	-
J	ISSUED BY REID CAMPBELL	-	-	-
K	ISSUED BY REID CAMPBELL	-	-	-
L	UPDATE FOR REVIEW, NOT ISSUED	04.03.2021	JF	AG
M	Woolworths SSD 7709 Mod 01 update	11.08.2021	JF	AG

North

Notes
ALL DIMENSIONS ARE APPROXIMATE AND ARE TO BE VERIFIED BY A REGISTERED LAND SURVEYOR

Project
MOOREBANK LOGISTICS PARK

Project Address
MOOREBANK AVENUE, MOOREBANK NSW

Owner / Developer
SIMTA

Client
QUBE

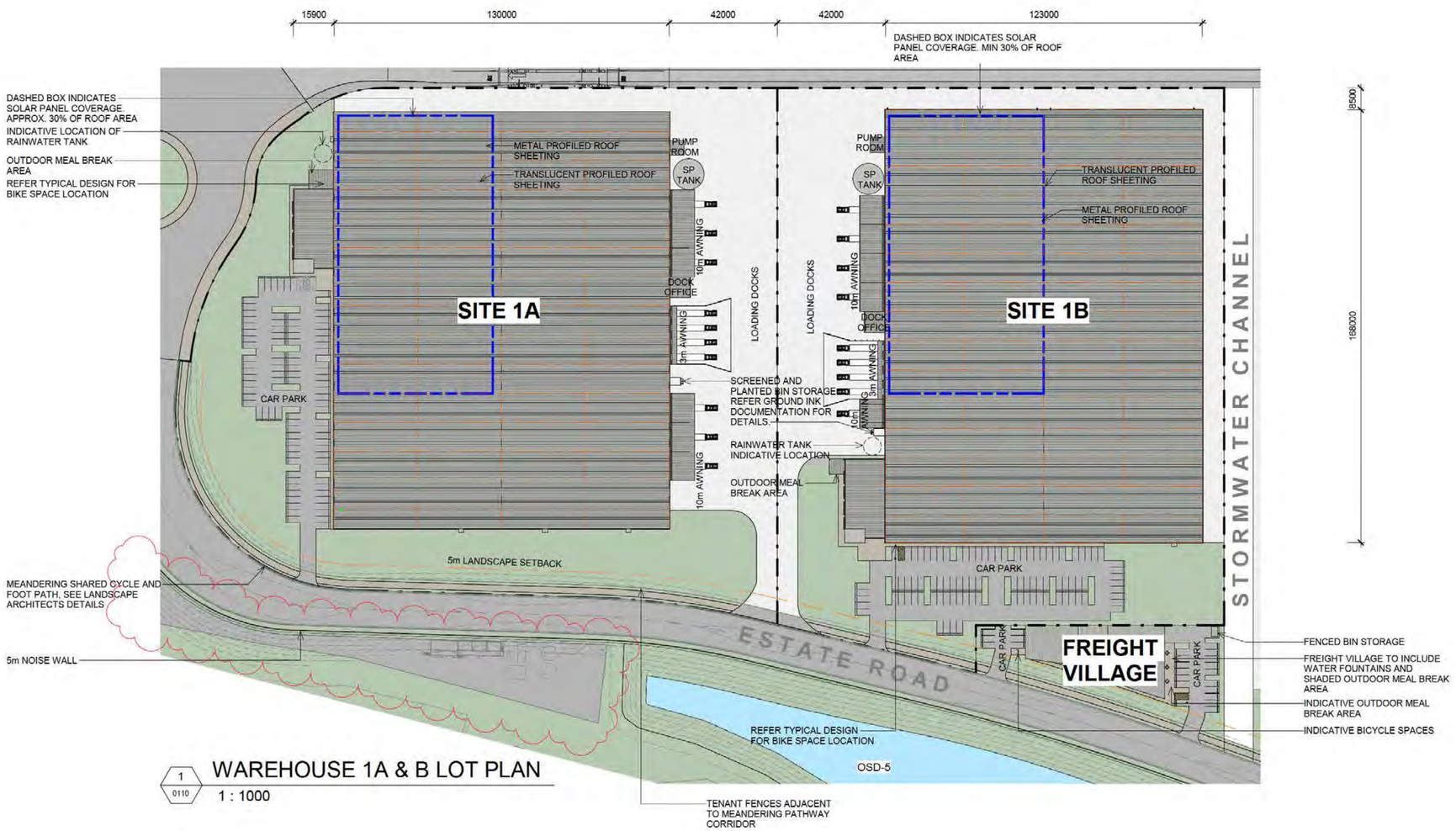
Architect
watson young
Watson Young Architects Pty. Melbourne | Perth | Sydney 03 9516 8555 ACN: 111398700
8 Grafton Street Prahran VIC 3181 info@watsonyoung.com.au watsonyoung.com.au

Drawing Title
POST APPROVALS - MPW MASTERPLAN - PART 2

Drawn	Checked	Print Date	Scale @ A1
AG	JF	11/08/2021 5:15:44 PM	2000

Project Number: 19311
Issue: M
Drawing Number: PIWW-RCG-AR-DWG-0101

POST APPROVALS



1 / 0110 WAREHOUSE 1A & B LOT PLAN

1 : 1000

LEGEND:

- MPW SITE BOUNDARY
- MPW STAGE 2 OPERATIONAL BOUNDARY (SSD 5066)
- MPW STAGE 2 CONSTRUCTION BOUNDARY
- SITE BOUNDARY
- PART CONDITION B2 SETBACK
- TOP OF BANK
- LIMIT OF 1:100 YEAR FLOOD EXTENT
- ASSET PROTECTION ZONE SETBACK
- RIPARIAN BUFFER ZONE 10m EXTENSION

NOTES:
1. ALL LEVELS ARE INDICATIVE & SHOULD BE READ IN CONJUNCTION WITH CIVIL ENG. DWGS FOR FINAL LEVELS OF ALL EARTH WORKS
2. ALL SERVICES RELOCATION TO BE CONFIRMED BY ENG.

Issue	Description	Date	DR	CH
A	FOR REVIEW	05/09/2019	AM	MF
B	FOR REVIEW	23/09/2019	AM	MF
C	ISSUE FOR INFORMATION	15/10/2019	AM	MF
D	ISSUE FOR INFORMATION	26/10/2019	AM	MF
E	ISSUE FOR INFORMATION	12/11/2019	AM	MF
F	ISSUE FOR INFORMATION	13/12/2019	AM	MF
G	ISSUE FOR INFORMATION	06/03/2020	AM	MF
H	UPDATE FOR DPIE RFI	18/06/2020	AM	MF
I	UPDATE FOR DPIE RFI	23/06/2020	AM	MF
J	UPDATE FOR UDDR	07/07/2021	AM	MF

North

Notes
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Project
MOOREBANK PRECINCT WEST STAGE 2

Project Address
MOOREBANK AVENUE, MOOREBANK, NSW

Owner / Developer
SIMTA

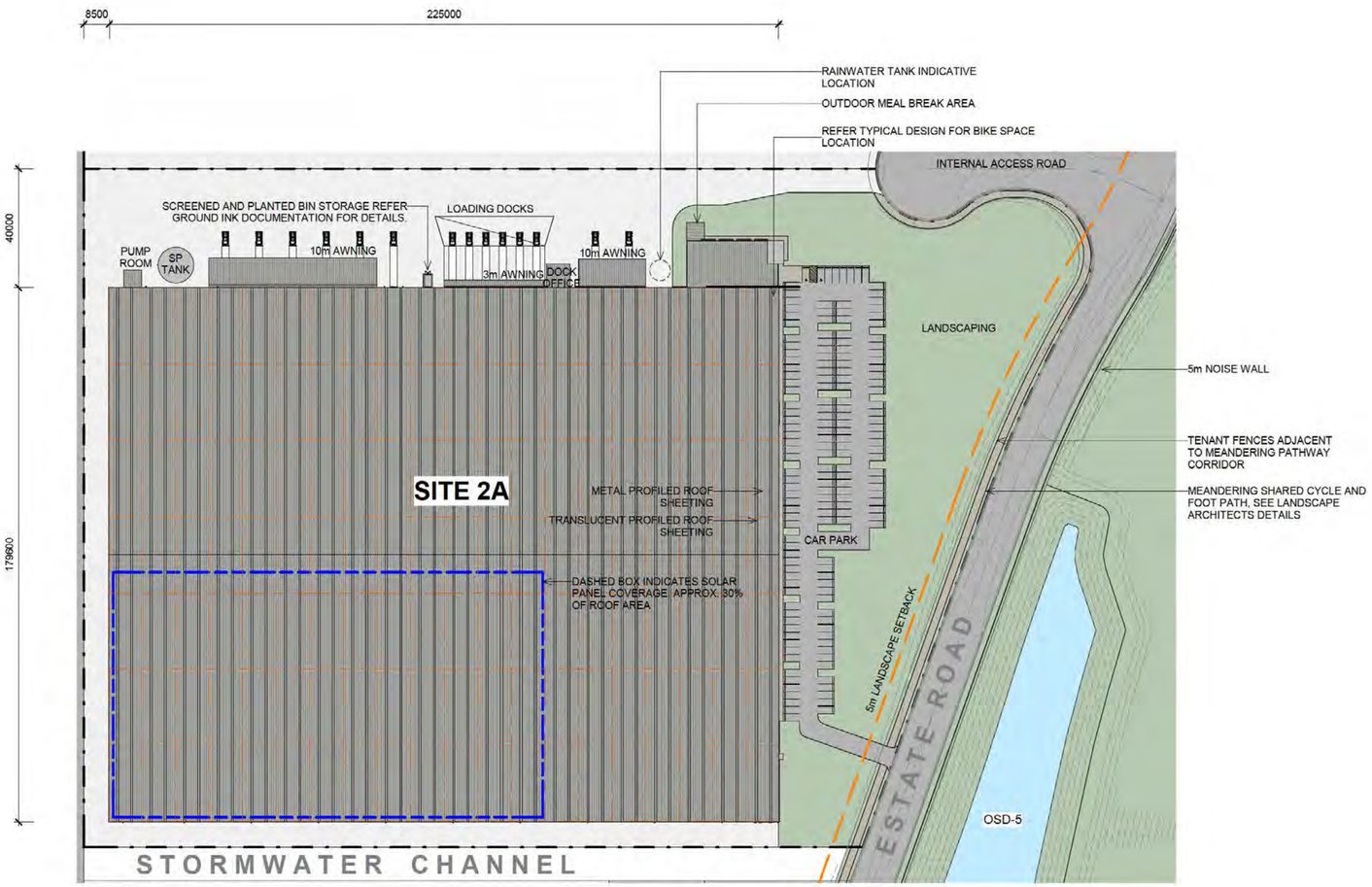
Project Manager
TACTICAL GROUP

Architect
REIDCAMPBELL
Architecture, Interiors, Planning
ACN 002 033 601 ABN 28 317 605 675
Level 15, 124 Walker Street
North Sydney NSW 2060 Australia
Tel: 61 02 9954 5011 Email: sydney@reidcampbell.com
Fax: 61 02 9954 4946 Web: www.reidcampbell.com

Drawing Title
POST APPROVALS - 1A/B SITE PLAN

Drawn	Checked	Print Date	Scale @ A1
AM,SS	MF,GD	7/07/2021 10:47:14 AM	As Indicated

Project Number: 115123
Issue: J
Drawing Number: PIWW-RCG-AR-DWG-0110



POST APPROVALS

LEGEND:

- MPW SITE BOUNDARY
- MPW STAGE 2 OPERATIONAL BOUNDARY (SSD 5066)
- MPW STAGE 2 CONSTRUCTION BOUNDARY
- SITE BOUNDARY
- PART CONDITION B2 SETBACK
- TOP OF BANK
- LIMIT OF 1:100 YEAR FLOOD EXTENT
- ASSET PROTECTION ZONE SETBACK
- RIPARIAN BUFFER ZONE 10m EXTENSION

NOTES:
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2. ALL SERVICES RELOCATION TO BE CONFIRMED BY ENG.

Issue	Description	Date	DR	CH
A	FOR REVIEW	05/09/2019	AM	MF
B	FOR REVIEW	23/09/2019	AM	MF
C	ISSUE FOR INFORMATION	15/10/2019	AM	MF
D	ISSUE FOR INFORMATION	25/10/2019	AM	MF
E	ISSUE FOR INFORMATION	12/11/2019	AM	MF
F	ISSUE FOR INFORMATION	13/12/2019	AM	MF
G	UPDATE FOR DPE RFI	18/06/2020	AM	MF
H	UPDATE FOR DPE RFI	23/06/2020	AM	MF
I	UPDATE FOR UDDR	07/07/2021	AM	MF

North

Notes
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Project
MOOREBANK PRECINCT WEST STAGE 2
Project Address
MOOREBANK AVENUE, MOOREBANK, NSW

Owner / Developer
SIMTA

Project Manager
TACTICAL GROUP

Architect
REIDCAMPBELL
Architecture, Interiors, Planning
ACN 002 033 801 ABN 26 317 605 675
Level 15, 124 Walker Street
North Sydney NSW 2060 Australia
Tel: 61 02 9954 5011 Email: sydney@reidcampbell.com
Fax: 61 02 9954 4946 Web: www.reidcampbell.com

Drawing Title
POST APPROVALS - 2A SITE PLAN

Drawn Checked Print Date Scale @ A1
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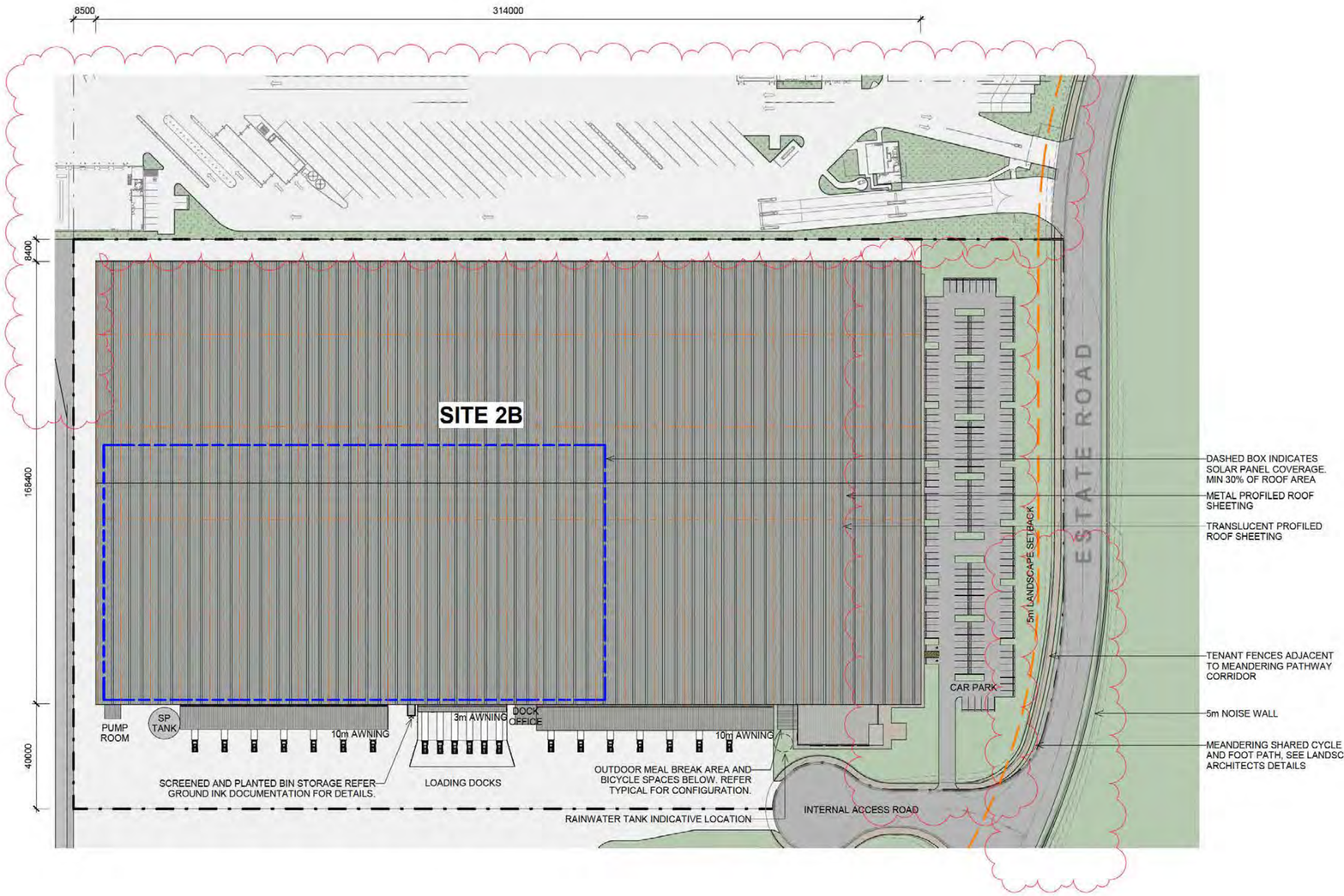
Project Number 115123
Issue I
Drawing Number
PIWW-RCG-AR-DWG-0111

POST APPROVALS



LEGEND:

- MPW SITE BOUNDARY
- MPW STAGE 2 OPERATIONAL BOUNDARY (SSD 5066)
- MPW STAGE 2 CONSTRUCTION BOUNDARY
- SITE BOUNDARY
- PART CONDITION B2 SETBACK
- TOP OF BANK
- LIMIT OF 1:100 YEAR FLOOD EXTENT
- ASSET PROTECTION ZONE SETBACK
- RIPARIAN BUFFER ZONE 10m EXTENSION

NOTES:
1. ALL LEVELS ARE INDICATIVE & SHOULD BE READ IN CONJUNCTION WITH CIVIL ENG. DWGS FOR FINAL LEVELS OF ALL EARTHWORKS
2. ALL SERVICES RELOCATION TO BE CONFIRMED BY ENG.

Issue	Description	Date	DR	CH
A	FOR REVIEW	05/09/2019	AM	MF
B	FOR REVIEW	23/09/2019	AM	MF
C	ISSUE FOR INFORMATION	15/10/2019	AM	MF
D	ISSUE FOR INFORMATION	25/10/2019	AM	MF
E	ISSUE FOR INFORMATION	12/11/2019	AM	MF
F	ISSUE FOR INFORMATION	13/12/2019	AM	MF
G	UPDATE FOR DPE RFI	18/06/2020	AM	MF
H	UPDATE FOR DPE RFI	23/06/2020	AM	MF
I	UPDATE FOR UDDR	04/03/2021	AM	MF
J	UPDATE FOR UDDR	27/05/2021	AM	MF
K	UPDATE FOR UDDR	07/07/2021	AM	MF

North

Notes
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Project
MOOREBANK PRECINCT WEST STAGE 2

Project Address
MOOREBANK AVENUE, MOOREBANK, NSW

Owner / Developer
SIMTA

Project Manager
TACTICAL GROUP

Architect
REIDCAMPBELL
Architecture, Interiors, Planning
ACN 002 033 601 ABN 28 317 605 875
Level 15, 124 Walker Street
North Sydney NSW 2060 Australia
Tel: 61 02 9954 5011 Email: sydney@reidcampbell.com
Fax: 61 02 9954 4946 Web: www.reidcampbell.com

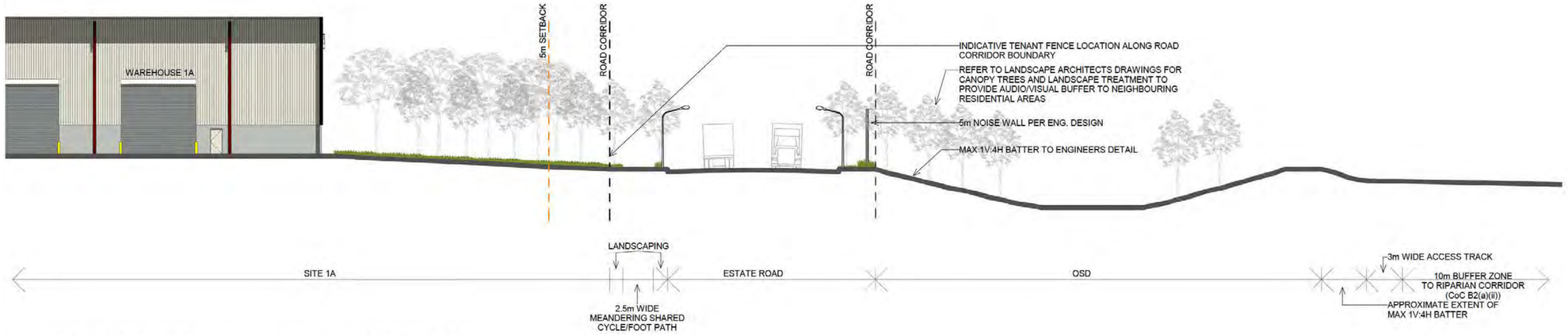
Drawing Title
POST APPROVALS - 2B SITE PLAN

Drawn Checked Print Date Scale @ A1
AM,SS MF,GD7/07/2021 10:47:21 AM As Indicated

Project Number 115123

Issue K

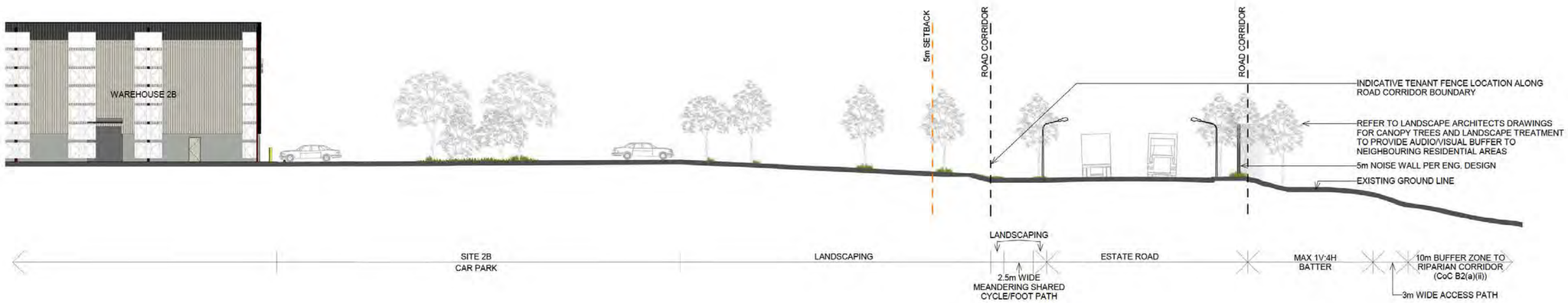
Drawing Number
PIWW-RCG-AR-DWG-0112



1 / 0130 ROAD SECTION 01 - WAREHOUSE TO OSD

1 : 200

POST APPROVALS



2 / 0130 ROAD SECTION 02 - WAREHOUSE TO ROAD

1 : 200

NOTES

1.REFER TO CIVIL ENGINEERS DETAIL FOR SURFACE LEVELS

Issue	Description	Date	DR	CH
A	FOR REVIEW	05/09/2019	AM	MF
B	FOR REVIEW	23/09/2019	AM	MF
C	ISSUE FOR INFORMATION	15/10/2019	AM	MF
D	ISSUE FOR INFORMATION	25/10/2019	AM	MF
E	ISSUE FOR INFORMATION	12/11/2019	AM	MF
F	ISSUE FOR INFORMATION	06/03/2020	AM	MF
G	UPDATE FOR DPE RFI	18/06/2020	AM	MF
H	UPDATE FOR DPE RFI	23/06/2020	AM	MF

North: N/A

Notes: ALL DIMENSIONS ARE APPROXIMATE AND ARE TO BE VERIFIED BY A REGISTERED LAND SURVEYOR.

Project: **MOOREBANK PRECINCT WEST STAGE 2**

Project Address: MOOREBANK AVENUE, MOOREBANK, NSW

Owner / Developer: SIMTA

Project Manager: TACTICAL GROUP

Architect: REIDCAMPBELL
Architecture, Interiors, Planning
ACN 002 033 801 ABN 28 317 605 875
Level 15, 124 Walker Street
North Sydney NSW 2060 Australia
Tel: 61 02 9954 5011 Email: sydney@reidcampbell.com
Fax: 61 02 9954 4946 Web: www.reidcampbell.com

Drawing Title: **POST APPROVALS - ROAD SECTION 01**

Drawn	Checked	Print Date	Scale @ A1
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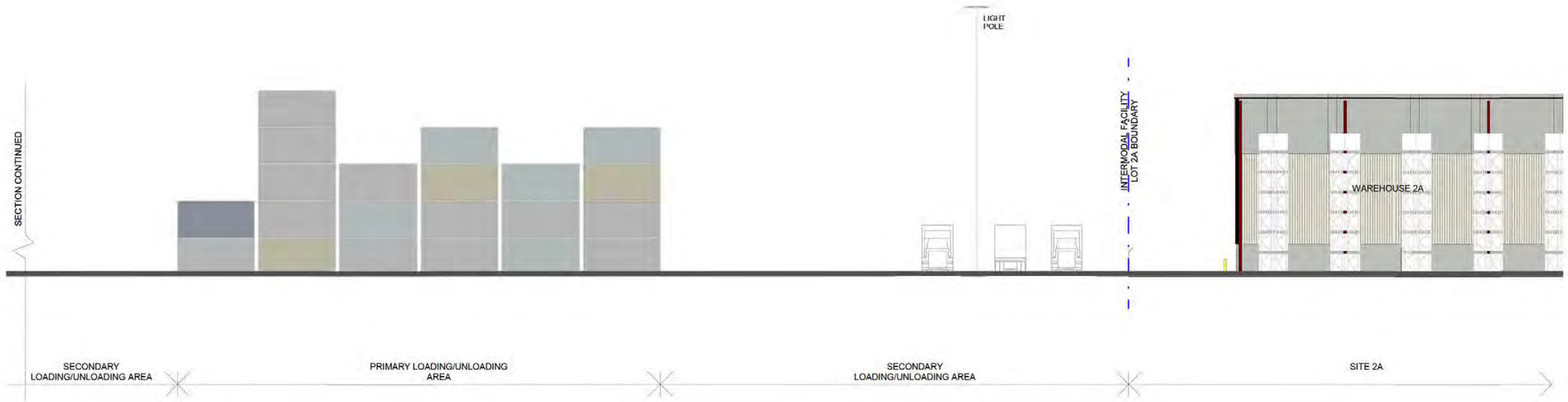
Project Number: 115123

Issue: H

Drawing Number: PIWW-RCG-AR-DWG-0130



1 / 0131 ROAD SECTION 03 - MOOREBANK AVE TO TERMINAL

1 : 200

POST APPROVALS

Issue	Description	Date	DR	CH
A	FOR REVIEW	05/09/2019	AM	MF
B	FOR REVIEW	23/09/2019	AM	MF
C	ISSUE FOR INFORMATION	25/10/2019	AM	MF
D	ISSUE FOR INFORMATION	12/11/2019	AM	MF

North: N/A

Notes: ALL DIMENSIONS ARE APPROXIMATE AND ARE TO BE VERIFIED BY A REGISTERED LAND SURVEYOR.

Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: MOOREBANK AVENUE, MOOREBANK, NSW

Owner / Developer: SIMTA

Project Manager: TACTICAL GROUP

Architect: REIDCAMPBELL
Architecture, Interiors, Planning
ACN 002 033 801 ABN 26 317 605 875
Level 15, 124 Walker Street
North Sydney NSW 2060 Australia
Tel: 61 02 9954 5011 Email: sydney@reidcampbell.com
Fax: 61 02 9954 4946 Web: www.reidcampbell.com

Drawing Title: POST APPROVALS - ROAD SECTION 02

Drawn: AM.SS Checked: MF.GD4/03/2021 Print Date: 5:55:23 PM Scale @ A1: 1 : 200

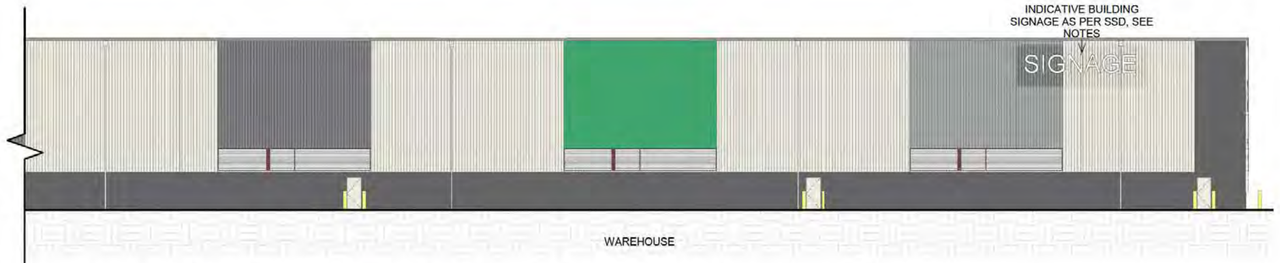
Project Number: 115123 Issue: D

Drawing Number: PIWW-RCG-AR-DWG-0131

POST APPROVALS

1 / 0190 WAREHOUSE 1B NORTH - TYPICAL SIGNAGE - PART 1

1 : 200

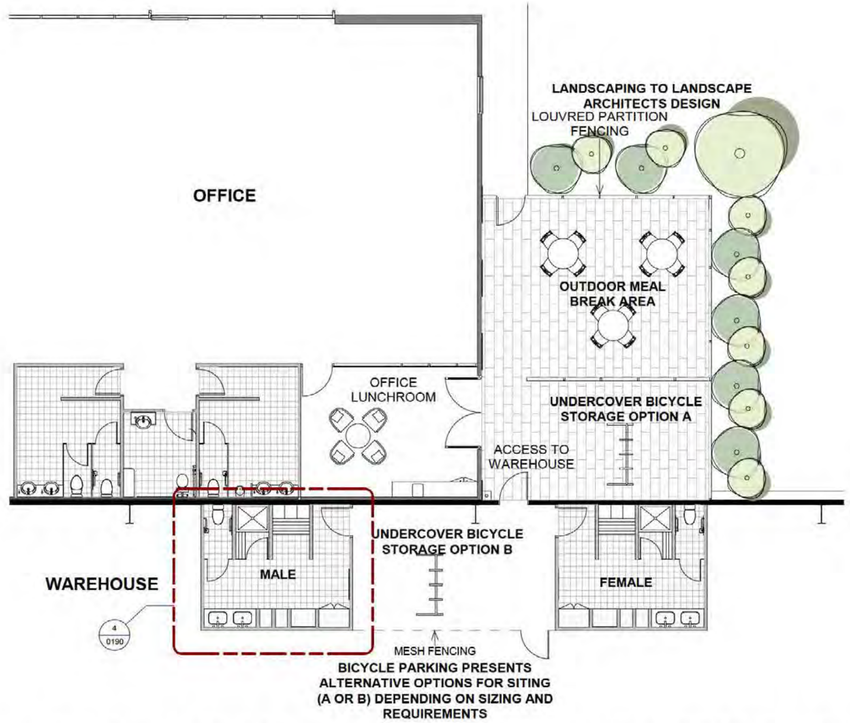


2 / 0190 WAREHOUSE 1B NORTH - TYPICAL SIGNAGE PART 2

1 : 200

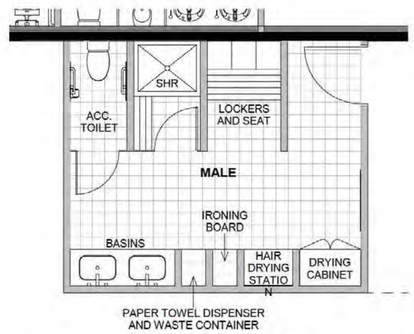
NOTES:

- SIGNAGE NOT TO INCLUDE ANY GENERAL ADVERTISING OR MOVING/FLASHING SIGNS
- NO WEST FACING BUILDING SIGNAGE VISIBLE FROM RESIDENCES TO BE ILLUMINATED
- NO INTERNAL SIGNAGE VISIBLE FROM RESIDENCES TO BE ILLUMINATED
- TO OCCUPY NO MORE THAN 10% OF A FACADE OR WALL OF A BUILDING



3 / 0190 TYPICAL OUTDOOR MEAL BREAK AREA AND END OF TRIP FACILITY

1 : 100



4 / 0190 TYPICAL END OF TRIP FACILITY

1 : 50

NOTES

1. BIKE PARKING TO COMPLY WITH AS2890.3:2015 PARKING FACILITIES AND ALL OTHER RELEVANT STANDARDS AND CODES.

2. UNDER COVER BIKE STORAGE, CHANGE FACILITIES AND SHOWERS AT EACH WAREHOUSE TO BE DESIGNED SUFFICIENTLY TO ACCOMODATE THE NEEDS OF FORECAST EMPLOYEES DURING DETAILED DESIGN (MINIMUM 1 STAFF BICYCLE PARKING PER 10 STAFF, OR 1 PER 10 SPACES IF STAFF NUMBERS UNDETERMINED).

NSW Registered Architect Mark David Roach, 10332

Issue	Description	Date	DR	CH
A	FOR REVIEW	05/09/2019	AM	MF
B	ISSUE FOR INFORMATION	12/11/2019	AM	MF
C	UPDATE FOR DPE RFI	15/05/2020	AM	MF
D	UPDATED FOR DPIE RFI	09/07/2020	AM	MF

North

Notes
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Project
MOOREBANK PRECINCT WEST STAGE 2

Project Address
MOOREBANK AVENUE, MOOREBANK, NSW

Owner / Developer
SIMTA

Project Manager
TACTICAL GROUP

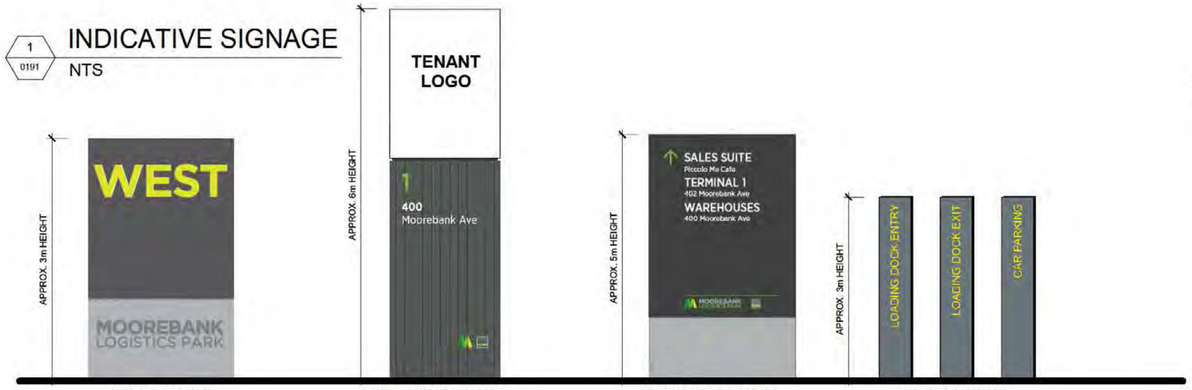
Architect
REIDCAMPBELL
Architecture, Interiors, Planning
ACN 002 033 601 ABN 28 317 605 875
Level 15, 124 Walker Street
North Sydney NSW 2060 Australia
Tel: 61 02 9954 5011 Email: sydney@reidcampbell.com
Fax: 61 02 9954 4946 Web: www.reidcampbell.com

Drawing Title
POST APPROVALS - TYPICAL DETAILS 1

Drawn Checked Print Date: AM,SS GD.MF 4/03/2021 5:56:02 PM
Scale @ A1: As Indicated
Project Number: 115123
Issue: D
Drawing Number: PIWW-RCG-AR-DWG-0190

1 / 0191 INDICATIVE SIGNAGE

NTS

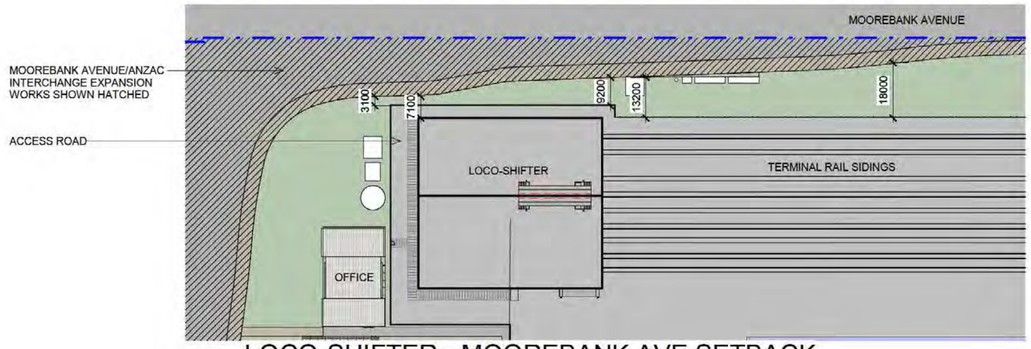


TYPE 1 STREET ESTATE SIGNAGE

TYPE 2 WAREHOUSE IDENTIFICATION SIGNAGE

TYPE 3 DIRECTIONAL SIGNAGE

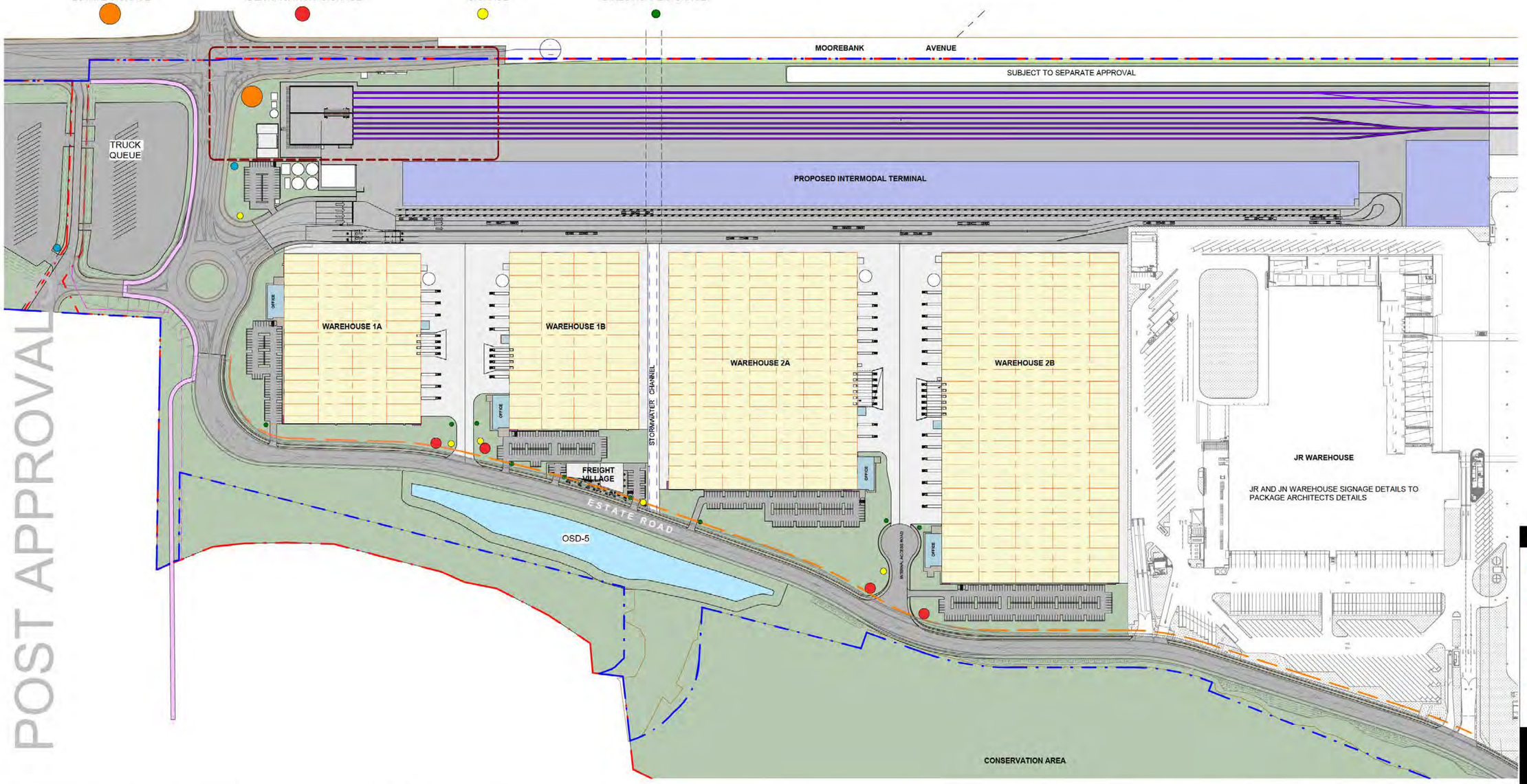
TYPE 4 TENANT DIRECTIONAL SIGNAGE



2 / 0191 LOCO-SHIFTER - MOOREBANK AVE SETBACK

1 : 1000

POST APPROVAL



LEGEND:

- TYPE 1 ESTATE SIGNAGE
- TYPE 2 STREET SIGNAGE
- TYPE 3 TENANT IDENTIFICATION SIGNAGE
- TYPE 4 DIRECTION SIGNAGE
- TYPE 5 CORPORATE SIGNAGE
- TYPE 6 VARIABLE SIGNAGE PANEL

NOTES:
1. ALL LEVELS AND EXTENTS ARE INDICATIVE & SHOULD BE READ IN CONJUNCTION WITH CIVIL ENG. DWGS FOR FINAL LEVELS OF ALL EARTH WORKS AND EXCAVATION.
2. ALL SERVICES RELOCATION TO BE CONFIRMED BY ENG.

Issue	Description	Date	DR	CH
A	ISSUE FOR INFORMATION	25/10/2019	AM	MF
B	ISSUE FOR INFORMATION	12/11/2019	AM	MF
C	ISSUE FOR INFORMATION	13/12/2019	AM	MF
D	LOCO SHIFTER CALLOUT ADDED, DRAWING TITLE ADJUSTED	26/03/2020	AM	MF
E	UPDATE FOR UDOR	04/03/2021	AM	MF
F	UPDATE FOR UDOR	27/05/2021	AM	MF

North

Notes
ALL DIMENSIONS ARE APPROXIMATE AND ARE TO BE VERIFIED BY A REGISTERED LAND SURVEYOR.

Project
MOOREBANK PRECINCT WEST STAGE 2

Project Address
MOOREBANK AVENUE, MOOREBANK, NSW

Owner / Developer
SIMTA

Project Manager
TACTICAL GROUP

Architect
REIDCAMPBELL
Architecture, Interiors, Planning
ACN 002 033 801 ABN 28 317 605 675
Level 15, 124 Walker Street
North Sydney NSW 2060 Australia
Tel: 61 02 9954 5011 Email: sydney@reidcampbell.com
Fax: 61 02 9954 4946 Web: www.reidcampbell.com

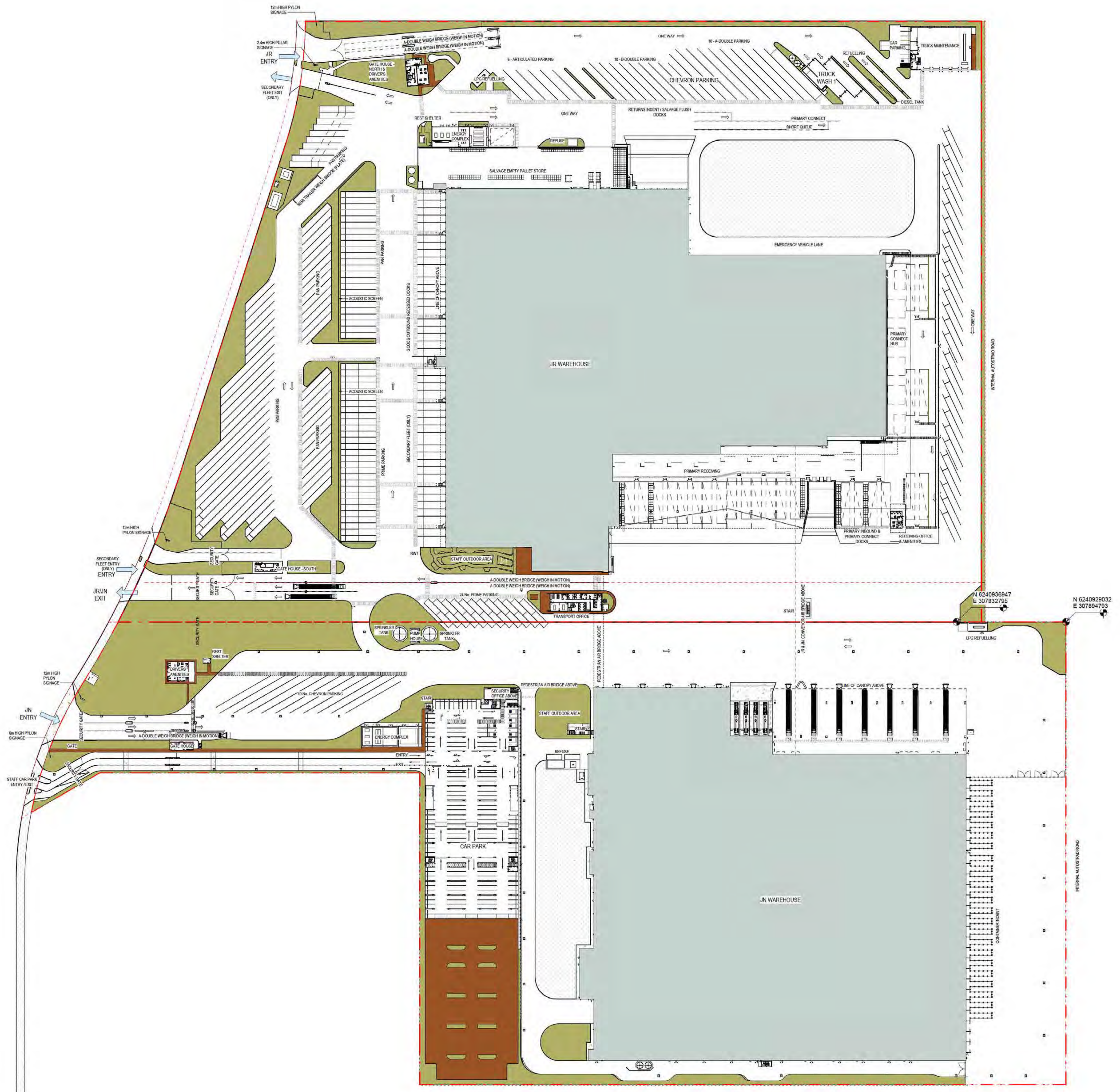
Drawing Title
POST APPROVALS - SIGNAGE LOCATION AND TERMINAL SETBACK PLAN

Drawn Checked Print Date Scale @ A1
AM.SS MF.GD 27/05/2021 10:00:04 AM As indicated

Project Number 115123

Issue F

Drawing Number
PIWW-RCG-AR-DWG-0191



JR LANDSCAPING EXTENT

SOFT LANDSCAPE AREA:	13,997m²
HARD LANDSCAPE AREA:	540m²

JN LANDSCAPING EXTENT

SOFT LANDSCAPE AREA:	11,292m²
HARD LANDSCAPE AREA:	5,051m²

1 MASTER PLAN WITH LANDSCAPE EXTENT
1 : 1000@A0

PRELIMINARY

T1.1	26.05.2021	ISSUED FOR INFORMATION	JH
ISSUE	DATE	DESCRIPTION	ISSUED BY

CLIENT
Woolworths Group
1 Woolworths Way Bella Vista NSW 2153
P 02 8885 0000

ARCHITECT
BELL Architecture
Matt Bell Nominated Architect NSW 9666. Suite 209, 25-29 Berry Street North Sydney NSW 2060. PO Box 1037 North Sydney NSW 2059. P 02 8904 1650

Woolworths

BELL

SHEET SERIES CODE - ARCHITECTURAL
0000-GENERAL
1000-SITE
2000-PLANS
2100-CONC. PROFILED PLAN
2300-CEILING PLANS
2400-ROOF PLANS
2500-FFE & FINISHES
3100-ELEVATIONS
3200-DOOR&WINDOW
4000-SECTIONS
5000-DETAILS
6000-WET AREAS
7000-JOINERY
9000-GENERAL NOTES

BUILDING CODES
00-0000 INDEX & NOTES
0 - SITE WORKS
A - DC WAREHOUSE INC. ADMIN. & OPERATION OFFICE
B - AIRBRIDGE
C - TRANSPORT OFFICE
D - DRIVER AMENITIES
E - ENERGY COMPLEX
F - FIRE TANK AND PUMP HOUSE
G - GATEHOUSE
H - TRUCK WASH & TRUCK MAINTENANCE

KEY PLAN

ORIENTATION
TRUE NORTH

JOB TITLE
WOOLWORTHS DC PROPOSED JR, MOOREBANK AVE, MOOREBANK, NSW

SCALE BAR 0m 20m 40m 60m 80m 100m

JOB NO	DRAWING SCALE @ A0	DRAWN BY	CHK BY
BAS190054	1 : 1000	MT	DO'D

DRAWING TITLE
MASTER PLAN WITH LANDSCAPE EXTENT

DRAWING NO	STATUS	REVISION
JR-SK-A-9193	P	T1.1

LEGEND

- REFUSE AREA
- RAIN WATER TANK
  - JR: TWO TANKS 170KL TOTAL
  - JN:TWO TANKS 80KL TOTAL
- ACOUSTIC FENCE,8m HIGH NOISE BARRIER PRECAST CONCRETE PANEL WITH STEEL COLUMNS, PAINT FINISH.
- 2,100mm HIGH PALISADE FENCE IN ACCORDANCE WITH LOCAL AUTHORITY AND PRECINCT REQUIREMENTS.
- 1,800mm HIGH PERIMETER FENCE WITH BLACK PVC COATED CHAINWIRE ON BLACK POWDER COATED POSTS. WITH 3 ROWS OF BARBED WIRE TO AN OVERALL HEIGHT OF 2,100mm.
- CONCRETE PAVEMENT: HEAVY DUTY. REFER TO SHEET 2 FOR DETAILS
- CAR PARK PAVEMENT: BITUMINOUS CONCRETE PAVEMENT, REFER TO SHEET 2 FOR DETAILS
- UNIT PAVERS, PERMEABLE: REFER TO SHEET 2 FOR DETAILS
- LANDSCAPING EXTENT.
- OUTDOOR STAFF AREAS- DETAIL DESIGN TO LANDSCAPE ARCHITECT'S DETAILS
- ROOF: PROFILED METAL SHEET. FINISH COLORBOND SURFMIST. (ROOF AREA INCLUDES SOLAR PANEL EXTENT)
  - JR DC ROOF AREA: 55,049m²
  - JR ANCILLARY ROOF AREA: 1,771m²
  - JN DC ROOF AREA: 45,383m²
  - JN ANCILLARY ROOF AREA: 570m²
- JR SOLAR PANEL COVERAGE: 19,412m² (35%)
- JN SOLAR PANEL COVERAGE: 12,429m² (27%)

MASTER PLAN LEASE AREAS

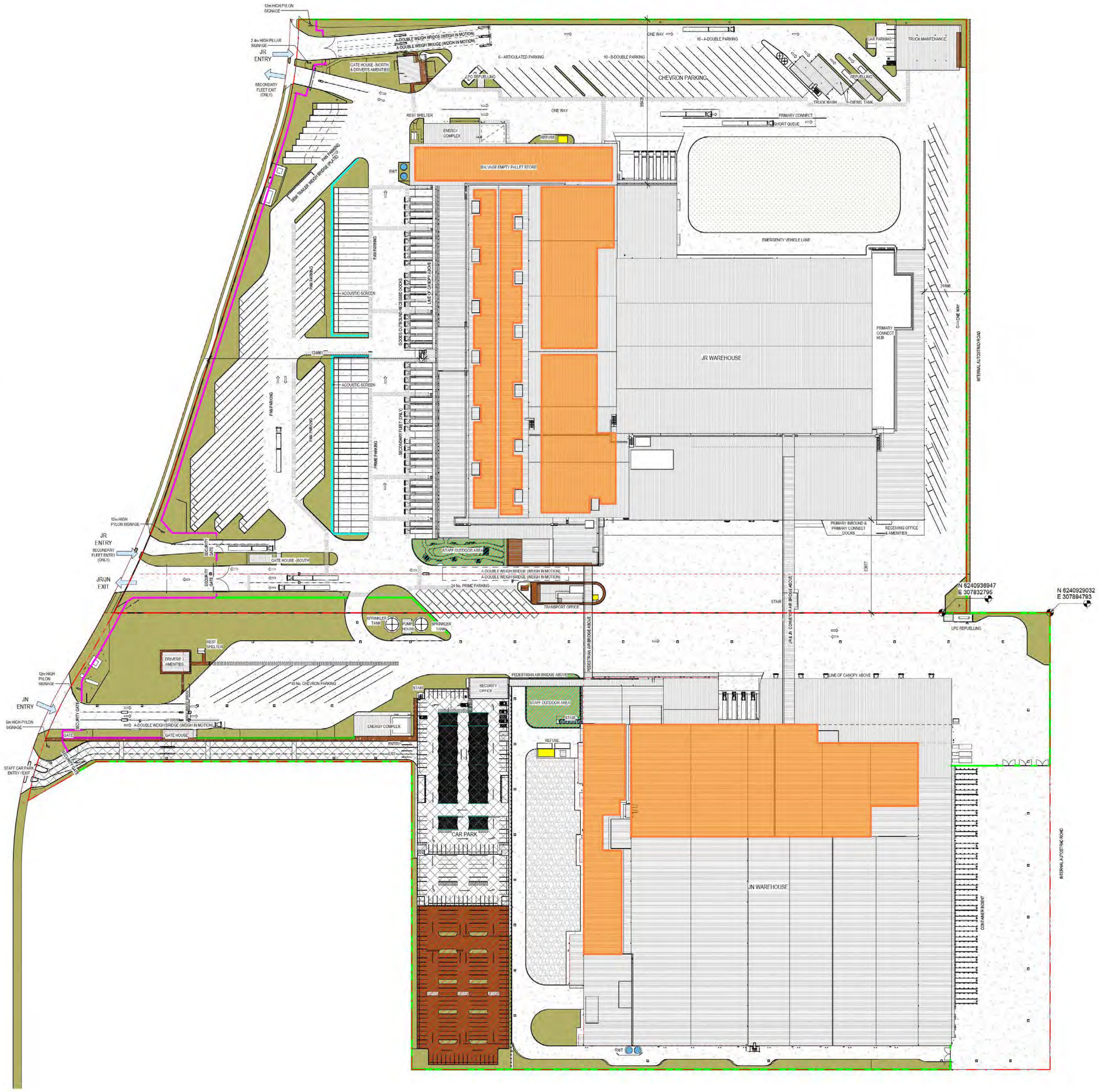
JR LEASE BOUNDARY	150848 m²	15.08 hectare
JN LEASE BOUNDARY	115679 m²	11.57 hectare

JR - LIGHT VEHICLE PARKING

BICYCLE (INTERNAL)	20
CAR PARKING	9
CAR PARKING DISABLED PERSON	1

JN - LIGHT VEHICLE PARKING

BICYCLE	40
CAR PARKING	717
CAR PARKING DISABLED PERSON	8
MOTORBIKE	6



1 MASTER PLAN SKETCH
1 : 1000@A0

PRELIMINARY

ISSUE	DATE	DESCRIPTION	ISSUED BY
T1.1	26.05.2021	ISSUED FOR INFORMATION	JH

CLIENT
Woolworths Group
1 Woolworths Way Bella Vista NSW 2153
P 02 8885 0000

ARCHITECT
BELL Architecture
Matt Bell Nominated Architect NSW 9666. Suite 209, 25-29 Berry Street North Sydney NSW 2060. PO Box 1037 North Sydney NSW 2059. P 02 8904 1650

ORIENTATION: TRUE NORTH

JOB TITLE: WOOLWORTHS DC PROPOSED JR, MOOREBANK AVE, MOOREBANK, NSW

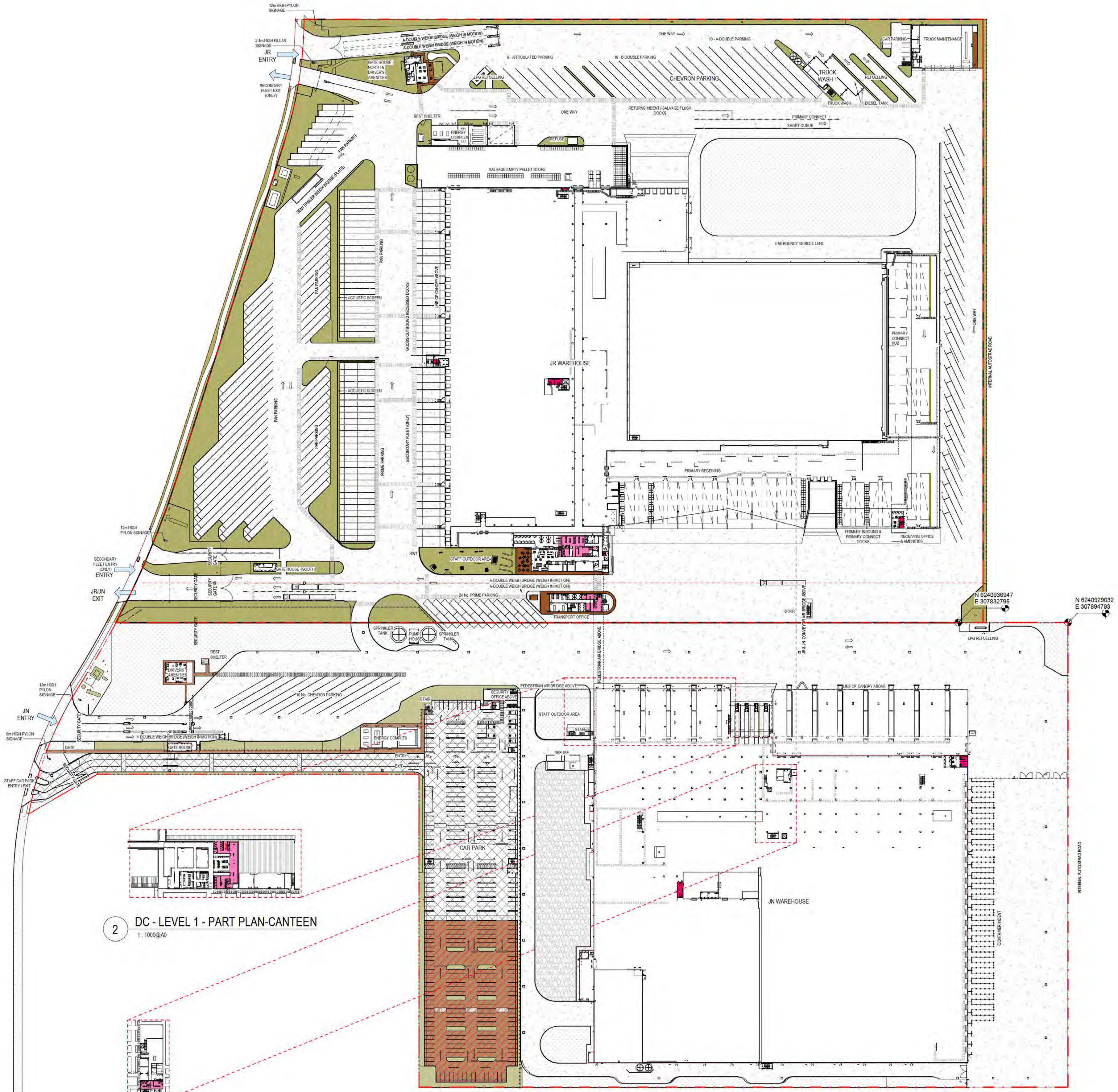
SCALE BAR: 0m 20m 40m 60m 80m 100m

DRAWING TITLE: MASTER PLAN SKETCH (UDDR) SHEET 1

JOB NO	DRAWING SCALE @ A0	DRAWN BY	CHK BY	DRAWING NO	STATUS	REVISION
BAS190054	1 : 1000	MT	DO'D	JR-SK-A-9200	P	T1.1

LEGEND AND AREA SCHEDULE

DC AMENITIES		
DC END OF TRIP FACILITIES: (INCLUDING TOILETS, SHOWERS, LOCKERS)		
JR SOFT LANDSCAPE AREA:	13,997m²	
JR HARD LANDSCAPE AREA:	540m²	
JN SOFT LANDSCAPE AREA:	11,292m²	
JN HARD LANDSCAPE AREA:	5,051m²	
JR EXPANSION ZONE:	6,788m²	
JN EXPANSION ZONE:	3,730m²	
CONCRETE PAVEMENT: HEAVY DUTY. REINFORCED CONCRETE SLAB, AS PER THE STRUCTURAL AND CIVIL ENGINEER'S DESIGN.		
- JR HARDSTAND EXTENT:	71,524m²	
- JN HARDSTAND EXTENT:	38,188m²	
CAR PARK PAVEMENT: BITUMINOUS CONCRETE PAVEMENT, AS PER THE CIVIL ENGINEER'S DETAILS.		
- JN DRIVEWAY EXTENT:		2,405m²
- JN CARPARK MID LEVEL (EXPOSED AREA):		1,573m²
- JN CARPARK LEVEL 1:		4,947m²
UNIT PAVERS, PERMEABLE: SELECTION: BEST BRICKS AND PAVERS - BIO PAVER 60 COLOUR CHARCOAL		
- UNIT PAVERS:		5,051m²



2 DC - LEVEL 1 - PART PLAN-CANTEEN
1 : 1000@A0

3 DC - LEVEL 1 - PART PLAN-OFFICE
1 : 1000@A0

1 MASTER PLAN SKETCH
1 : 1000@A0

PRELIMINARY

BIM 360://Woolworths Distribution Centre - Janus Regional (JR)/JR-Woolworths DC-A-BA-DD.rvt 26/05/2021 7:22:07 PM

ISSUE	DATE	DESCRIPTION	ISSUED BY
T1.1	26.05.2021	ISSUED FOR INFORMATION	JH

CLIENT
Woolworths Group
1 Woolworths Way Bella Vista NSW 2153
P 02 8885 0000

ARCHITECT
BELL Architecture
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SHEET SERIES CODE - ARCHITECTURAL
0000-GENERAL
1000-SITE
2200-PLANS
2100-CONC. PROFILED PLAN
2300-CEILING PLANS
2400-ROOF PLANS
2500-FFE & FINISHES
3100-ELEVATIONS
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00-0000 INDEX & NOTES
0 - SITE WORKS
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B - AIRBRIDGE
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D - DRIVER AMENITIES
E - ENERGY COMPLEX
F - FIRE TANK AND PUMP HOUSE
G - GATEHOUSE
H - TRUCK WASH & TRUCK MAINTENANCE

KEY PLAN

ORIENTATION
TRUE NORTH

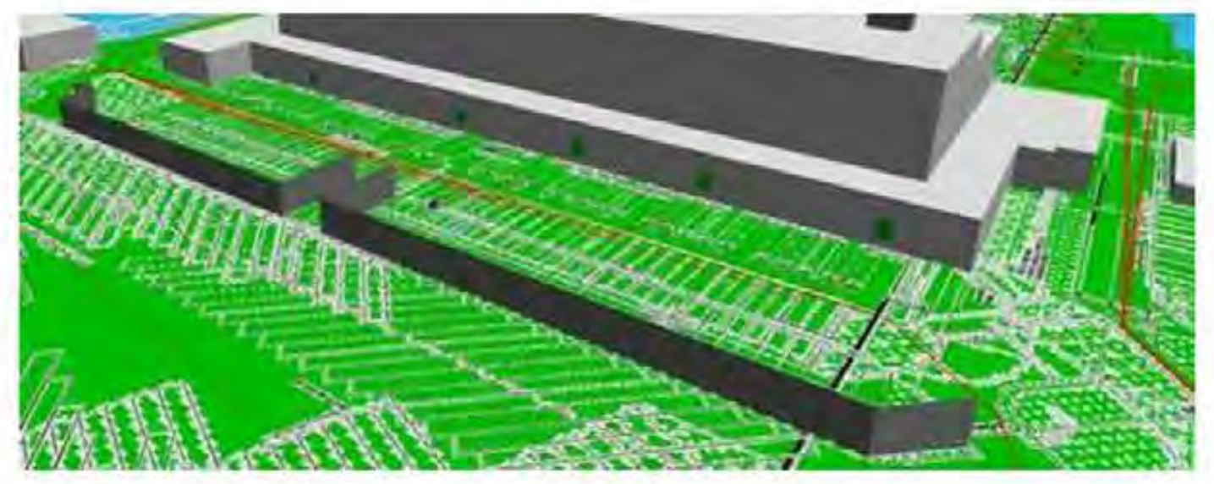
JOB TITLE
WOOLWORTHS DC PROPOSED JR, MOOREBANK AVE, MOOREBANK, NSW

SCALE BAR 0m 20m 40m 60m 80m 100m

DRAWING TITLE
MASTER PLAN SKETCH (UDDR) SHEET 2

JOB NO	DRAWING SCALE @ A0	DRAWN BY	CHK BY	DRAWING NO	STATUS	REVISION
BAS190054	1 : 1000	MT	DO'D	JR-SK-A-9201	P	T1.1

ACOUSTIC FENCE



ACOUSTIC FENCE ALIGNMENT IN ACCORDANCE WITH SECTION 5.3.1 OF THE ACOUSTIC REPORT. NO FURTHER NOTICE MITIGATION REQUIREMENTS ARE ANTICIPATED BY WOOLWORTHS WHEN MAKING THIS SUBMISSION.

8m HIGH NOISE BARRIER:
PRECAST CONCRETE PANEL WITH STEEL COLUMNS, PAINT FINISH AND GRAPHICS TO MATCH THE WAREHOUSE

BUILDING SIGNAGE

SIGNAGE / ELEVATION PERCENTAGE	
JR SIGNAGE / ELEVATION NORTH	0.006%
JR SIGNAGE / ELEVATION EAST	0%
JR SIGNAGE / ELEVATION SOUTH	0.009%
JR SIGNAGE / ELEVATION WEST	0.01%
JN SIGNAGE / ELEVATION NORTH	0.013%
JN SIGNAGE / ELEVATION EAST	0%
JN SIGNAGE / ELEVATION SOUTH	0.014%
JN SIGNAGE / ELEVATION WEST	0.01%
JN SECURITY OFFICE SIGNAGE / ELEVATION WEST	0.04%
JR TRANSPORT OFFICE SIGNAGE / ELEVATION SOUTH	0.02%

REFUSE AREA

LOUVRE SCREENS:
1,800mm-2100mm HIGH, TYPICALLY
POWDERCOAT FINISH COLOUR: MID GREY

PALISADE FENCE

2,100mm HIGH PALISADE FENCING

PLANT ROOMS

LOUVRE SCREEN:
REFER TO ACOUSTIC CONSULTANT'S ADVICE FOR HEIGHTS

PRELIMINARY

ISSUE	DATE	DESCRIPTION	ISSUED BY
T1.1	26.05.2021	ISSUED FOR INFORMATION	JH

CLIENT
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P 02 8885 0000

ARCHITECT
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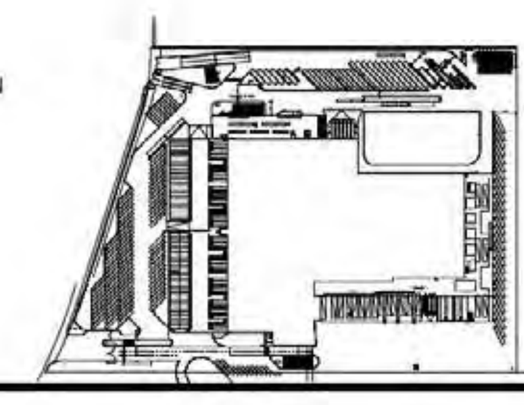


ORIENTATION
TRUE NORTH

JOB TITLE
WOOLWORTHS DC PROPOSED JR, MOOREBANK AVE, MOOREBANK, NSW

DRAWING TITLE
MASTER PLAN DATA & DIAGRAMS(UDDR) SHEET 3

JOB NO	DRAWING SCALE @ A0	DRAWN BY	CHK BY	DRAWING NO	STATUS	REVISION
BAS190054	1 : 1000	MT	DO'D	JR-SK-A-9204	P	T1.1

4.3 REVISED LANDSCAPE DESIGN DRAWINGS

MOOREBANK PRECINCT WEST STAGE 2

LANDSCAPE PLAN

DRAWING LIST

PIWW-GNK-LN-DWG-000	LANDSCAPE COVER SHEET
PIWW-GNK-LN-DWG-001	LANDSCAPE PLANT SCHEDULE
PIWW-GNK-LN-DWG-100	OVERALL LANDSCAPE PLAN
PIWW-GNK-LN-DWG-101	LANDSCAPE PLAN 1
PIWW-GNK-LN-DWG-102	LANDSCAPE PLAN 2
PIWW-GNK-LN-DWG-103	MOOREBANK AVENUE LANDSCAPE PLAN
PIWW-GNK-LN-DWG-104	OSD 5 LANDSCAPE PLAN
PIWW-GNK-LN-DWG-105	INTERNAL ROAD LANDSCAPE PLAN
PIWW-GNK-LN-DWG-106	LANDSCAPE PLAN WAREHOUSE 1A & 1B
PIWW-GNK-LN-DWG-107	LANDSCAPE PLAN WAREHOUSE 2A & 2B
PIWW-GNK-LN-DWG-108	LANDSCAPE PLAN JR WAREHOUSE
PIWW-GNK-LN-DWG-109	LANDSCAPE PLAN JN WAREHOUSE
PIWW-GNK-LN-DWG-200	LANDSCAPE AREAS PLAN 1
PIWW-GNK-LN-DWG-201	LANDSCAPE AREAS PLAN 2
PIWW-GNK-LN-DWG-300	LANDSCAPE SECTIONS 1
PIWW-GNK-LN-DWG-301	LANDSCAPE SECTIONS 2
PIWW-GNK-LN-DWG-400	LANDSCAPE DETAILS
PIWW-GNK-LN-DWG-500	LANDSCAPE SHADE DIAGRAM 1
PIWW-GNK-LN-DWG-501	LANDSCAPE SHADE DIAGRAM 2

LEGEND

- MPW Site Boundary
- MPW Stage 2 Operational Boundary
- Landscape Setback as per Condition B2 (a), (f), (g) and B63 (a), (b) SSD 7708
- Moorebank Biodiversity Offset Area
- Limit of 1:100 Year Flood Extent
- Asset protection Zone Setback
- Top of Bank
- Conservation Area (Refer to Biodiversity Assessment Report)
- 10m Buffer Zone
- Existing Riparian Corridor

Client: SIMTA SYDNEY INTERMODAL TERMINAL ALLIANCE

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
E	22.04.20	FOR APPROVAL	KF	RL
F	28.04.20	FOR APPROVAL	KF	RL
G	15.06.20	FOR APPROVAL	KF	RL
H	01.07.20	FOR APPROVAL	KF	RL
I	14.07.20	FOR APPROVAL	KF	RL
J	05.03.21	FOR APPROVAL	KF	RL
K	26.05.21	FOR APPROVAL	KF	RL
L	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND iNK
LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: Moorebank Avenue, Moorebank, NSW

Date: 25-08-21 | Job Number: 20150728 | Drawing Number: PIWW-GNK-LN-DWG-000

Scale: 1:4000 @ A1 (1:8000 @ A3) | 0 20 40 60 80 100m | 200m | North

Drawing Name: LANDSCAPE COVER SHEET | Revision: L

PROPOSED PLANT SCHEDULE

BOTANICAL NAME	COMMON NAME	NATIVE	EXPECTED CANOPY SPREAD	EXPECTED MATURE HEIGHT	INSTALL SIZE	DENSITY
Trees						
Acacia decurrens	Black Wattle	✓	3-7m	8-10m	140mm-100L	5m centres
Acacia parramattensis	Parramatta Green Wattle	✓	3-7m	8-10m	140mm-100L	5m centres
Acer truncatum x platanoides	Keithsform Norwegian Sunset		6m	8-10m	140mm-100L	5m centres
Allocasuarina littoralis	Black She-Oak	✓	5-10m	8-10m	140mm-100L	5m centres
Angophora bakeri	Narrow Leafed Apple	✓	8-13m	8-10m	140mm-100L	5m centres
Angophora floribunda	Rough-barked Apple	✓	10-15m	15m	140mm-100L	6m centres
Corymbia ficifolia	Flowering Gum	✓	3-7m	8-10m	140mm-100L	6m centres
Corymbia maculata	Spotted Gum	✓	6-10m	>15m	140mm-100L	6m centres
Callistemon salignus	White Bottlebrush, Pink-tips	✓	3-7m	9m	140mm-100L	5m centres
Eucalyptus amplifolia	Cabbage Gum	✓	5-10m	>15m	140mm-100L	6m centres
Eucalyptus baueriana	Blue Box	✓	8-13m	>15m	140mm-100L	6m centres
Eucalyptus bosistoana	Coast Grey Box	✓	8-13m	>15m	140mm-100L	6m centres
Eucalyptus eugenioides	Thin-leaved stringybark	✓	8-13m	>15m	140mm-100L	6m centres
Eucalyptus crebra	Narrow-leafed Ironbark	✓	3-7m	10-15m	140mm-100L	6m centres
Eucalyptus moluccana	Grey Box	✓	13-18m	>15m	140mm-100L	6m centres
Eucalyptus racemosa	Snappy Gum, Scribbly Gum	✓	5-10m	10-15m	140mm-100L	6m centres
Eucalyptus sideroxylon	Mugga, Red Ironbark	✓	3-6m	>15m	140mm-100L	6m centres
Eucalyptus punctata	Grey Gum	✓	6-9m	>15m	140mm-100L	6m centres
Eucalyptus tereticornis	Forest Red Gum	✓	3-6m	>15m	140mm-100L	6m centres
Melaleuca decora	White Cloud Tree	✓	6-10m	6-10m	140mm-100L	6m centres
Melaleuca linariifolia	Flax-leaved Paperbark	✓	3-7m	10m	140mm-100L	5m centres
Pittosporum undulatum	Pittosporum	✓	3-7m	10m	140mm-100L	5m centres
Shrubs						
Acacia brownii	Golden Prickly Moses	✓	N/A	1m	140-200mm	2m centres
Acacia floribunda	White Sally	✓	N/A	3.5m	140-200mm	2m centres
Acacia falcata	Sickle Wattle	✓	N/A	4m	140-200mm	2m centres
Banksa spinulosa 'Birthday Candles'	Birthday Candles	✓	N/A	0.5m	140-200mm	0.5m centres
Bursaria spinosa	Sweet Bursaria	✓	N/A	1.5-3m	140-200mm	2m centres
Callistemon citrinus 'White Anzac'	Bottlebrush	✓	N/A	1m	140-200mm	2m centres
Callistemon linearis	Narrow-leaved Bottlebrush	✓	N/A	3m	140-200mm	2m centres
Callistemon viminalis' 'Macarthur'	Red Bottlebrush	✓	N/A	1.8m	140-200mm	2m centres
Crowea exalata	Small Crowea	✓	N/A	0.5m	140-200mm	0.5m centres
Crowea saligna	Willow-leaved Crowea	✓	N/A	1m	140-200mm	0.5m centres
Dillwynia sieberi	Prickly Parrot Pea	✓	N/A	0.5-2m	140-200mm	2m centres
Eriostemon australasius	Pink Wax Flower	✓	N/A	1.5m	140-200mm	1m centres
Kunzea ambigua	Tick-bush	✓	N/A	2.5m	140-200mm	1m centres
Leptospermum polygalifolium	Tantoon	✓	N/A	0.5-3m	140-200mm	1m centres
Melaleuca nodosa	Ball Honey-myrtle	✓	N/A	4m	140-200mm	2m centres
Philotheca buxifolius	Box-leaf Waxflower	✓	N/A	0.5m	140-200mm	1m centres

BOTANICAL NAME	COMMON NAME	NATIVE	EXPECTED CANOPY SPREAD	EXPECTED MATURE HEIGHT	INSTALL SIZE	DENSITY
Grasses and Groundcovers						
Anigozanthos 'Bush Gold'	Kangaroo Paw	✓	N/A	1m	150mm	6/m²
Arthropodium milleflorum	Pale Vanilla Lily	✓	N/A	0.3-1m	150mm	6/m²
Austrodanthonia fulva	Wallaby Grass	✓	N/A	0.7m	150mm	6/m²
Austrodanthonia racemosa	Clustered Wallaby Grass	✓	N/A	0.6m	150mm	6/m²
Dianella caerulea	Blue Flax-lily	✓	N/A	0.6m	150mm	6/m²
Dianella revoluta	Blue Flax-lily, Spreading Flax-lily	✓	N/A	0.8m	150mm	6/m²
Dichondra repens	Kidney-weed, Mercury Bay Weed	✓	N/A	0.3m	150mm	4/m²
Grevillea juniperina 'Prostrate Gold'	Juniper-leaf grevillea	✓	N/A	0.15m	150mm	3/m²
Hardenbergia violacea	False Sarsaparilla	✓	N/A	Creeper	150mm	3/m²
Hibbertia diffusa	Wedge Guinea Flower	✓	N/A	0.3m	150mm	4/m²
Lomandra longifolia	Spiky-headed Mat-rush	✓	N/A	0.7m	150mm	6/m²
Lomandra longifolia 'Lime Tuff'	Spiky-headed Mat-rush	✓	N/A	0.8m	150mm	6/m²
Lomandra longifolia 'Tanika'	Spiky-headed Mat-rush	✓	N/A	0.5m	150mm	6/m²
Lomandra hystrix	Spiny-headed Mat-rush	✓	N/A	1m	150mm	6/m²
Microlaena stipoides	Weeping Grass, Meadow Rice-grass	✓	N/A	0.7m	150mm	6/m²
Myoporum parvifolium 'Yareena'	Myoporum	✓	N/A	0.1m	150mm	3/m²
Poa labillardieri	Tussock Grass		N/A	0.8m	150mm	4/m²
Themeda australis	Kangaroo Grass	✓	N/A	0.8m	150mm	6/m²
Wahlenbergia gracilis	Australian Bluebell	✓	N/A	0.2m	150mm	9/m²

BIO-RETENTION SPECIES LIST				
BOTANICAL NAME	NATIVE	EXPECTED MATURE HEIGHT	INSTALLATION SIZE	DENSITY
Baumea articulata (Jointed Twig-rush)	✓	1-2m	150mm	4/m²
Bolboschoenus fluviatilis (Marsh Club-rush)	✓	1m	150mm	4/m²
Carex appressa (Tall Sedge)	✓	0.8m	150mm	4/m²
Dichondra repens (Kidney-weed, Mercury Bay Weed)	✓	0.3m	150mm	4/m²
Gahnia clarkei (Tall Saw-sedge)	✓	1.5m	150mm	4/m²
Goodenia hederacea (Ivy Goodenia)	✓	0.5m	150mm	4/m²
Imperata cylindrica (Blady grass)	✓	1.5m	150mm	4/m²
Isolepis (Ficinia) nodosa (Knobbly Club-rush)	✓	1m	150mm	4/m²

HYDROSEED GRASS MIX		
BOTANICAL NAME	NATIVE	EXPECTED MATURE HEIGHT
Imperata cylindrica (Blady grass)	✓	1.5m
Isolepis (Ficinia) nodosa (Knobbly Club-rush)	✓	1m
Lomandra hystrix (Green Mat-rush)	✓	1m
Lomandra longifoilia (Spiny-headed Mat-rush)	✓	1.2m
Microlaena stipoides (Weeping Grass, Meadow Rice-grass)	✓	0.7m
Poa labillardieri (Common Tussock Grass)	✓	1.2m
Rhynchospora corymbosa (Matamat)	✓	1.2m
Themeda australis (Kangaroo grass)	✓	1.5m

Client: SIMTA SYDNEY INTERMODAL TERMINAL ALLIANCE

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
A	04.10.19	FOR APPROVAL	KF	RL
B	01.11.19	FOR APPROVAL	KF	RL
C	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND INK LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: Moorebank Avenue, Moorebank, NSW

Date: 25-08-21 | Job Number: 20150728 | Drawing Number: PIWW-GNK-LN-DWG-001

Scale: Not Applicable | North

Drawing Name: LANDSCAPE PLANT SCHEDULE | Revision: C

LANDSCAPE DESIGN STATEMENT

The Moorebank Precinct West Stage 2 Proposal involves the development of an intermodal terminal facility including warehouses and distribution facilities, stormwater, landscaping, servicing and associated works west of Moorebank Avenue. The Proposal also includes a Rail link connection. The Proposal interfaces with a vegetation conservation area.

The focus of the proposed landscape works includes:

- The integration of the Moorebank Avenue frontage,
- Landscape works associated with internal roads,
- Landscape works associated with proposed warehouses,
- Landscape works interface with the vegetation conservation areas.

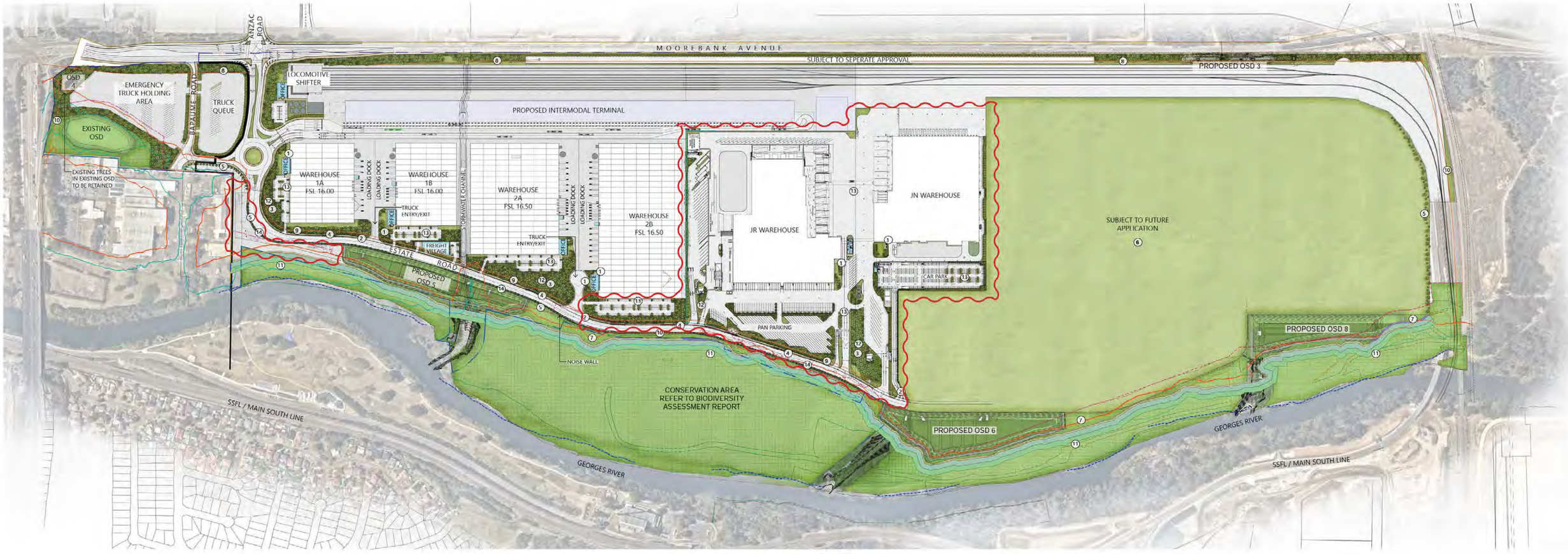
Given that the site is bounded to the south with existing vegetation communities, the landscape design serves to integrate the development with the surrounding environment by using tree, shrub and groundcover species that are local to the area to create habitat opportunities and links to the surrounding context. The proposed tree planting has been designed with the intent of creating a uniform canopy cover throughout the area. Proposed plant species have been selected for their site-suitability with many species selected from Liverpool City Council's recommended plant list.

The positioning of the built forms has maximised planting opportunities along the western side of the site. Large trees planted within this area will serve to minimise visual impacts from the surrounding urban landscape.

LEGEND

- Proposed Canopy Tree Planting in accordance with Cumberland Plain Woodland (Refer to Plant Schedules on drawing PIWW-GNK-LN-DWG-001)
- MPW Site Boundary
- MPW Stage 2 Operational Boundary
- Landscape Setback as per Condition B2 (a), (f), (g) and B63 (a), (b) SSD 7708
- Moorebank Biodiversity Offset Area
- Limit of 1:100 Year Flood Extent
- Asset protection Zone Setback
- Top of Bank
- Conservation Area (Refer to Biodiversity Assessment Report)
- 10m Buffer Zone
- Existing Riparian Corridor
- Noise Wall

1. Screen planting around office providing vistor and worker amenity as per Condition B57 (a) and B61 as per SSD 7709
2. Proposed secure sight lines through planting to incorporate 'Safety by Design' principles as per Condition B57 (b) SSD 7709
3. Proposed Canopy Planting providing necessary screening from Casula as per Condition B57 (e) SSD 7709
4. Meandering pathways for recreational and varied walking experiences as per Condition B60 SSD 7709
5. Canopy tree planting around perimeter of site for visual mitigation as per Condition B64 SSD 7709
6. Proposed hydroseeding with mix of native grasses to Southern fill area as per Condition B65 SSD 7709
7. Existing trees to be retained where feasible and practical to do so. Supplementary tree planting to be implemented as indicated to reinforce the existing ecological community present in the Conservation Area.
8. 18m Landscape setback from Moorebank with minimum soft landscaped width of 10m as per Condition B63 (a) SSD 7709
9. 5m Landscape setback from the ESTATE ROAD to warehouse carparks as per Condition B63 (b) SSD 7709
10. Perimeter fill batters must be stabilised with vegetation as per Condition B2(f) and B66
11. Existing native vegetation – including canopy trees and understorey planting – is to be retained where feasible to do so in the 10m extension of the buffer zone. The existing planting will be supplemented with new trees and understorey planting commensurate with the local plant communities present in the conservation area. These will include plants consistent with the Cumberland Plain Woodland such as Eucalyptus tereticornis and Eucalyptus punctata.
12. Canopy tree planting density at 1 canopy tree per 30m² of landscape area as per B68(b) SSD 7709
13. 2.5m wide landscaped bay every 6-8 car spaces to provide shade as per B68(c) SSD 7709
14. Screen planting is provided on both sides of the noise wall to minimise visual and amenity impacts as per B72 and B74 SSD 7709. Extent of planting is to be addressed in further detail at Detailed Documentation stage.



Client: SIMTA

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
F	28.04.20	FOR APPROVAL	KF	RL
G	15.06.20	FOR APPROVAL	KF	RL
H	01.07.20	FOR APPROVAL	KF	RL
I	07.07.20	FOR APPROVAL	KF	RL
J	14.07.20	FOR APPROVAL	KF	RL
K	05.03.21	FOR APPROVAL	KF	RL
L	26.05.21	FOR APPROVAL	KF	RL
M	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND iNK
LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: Moorebank Avenue, Moorebank, NSW

Date: 25-08-21 | Job Number: 20150728 | Drawing Number: PIWW-GNK-LN-DWG-100

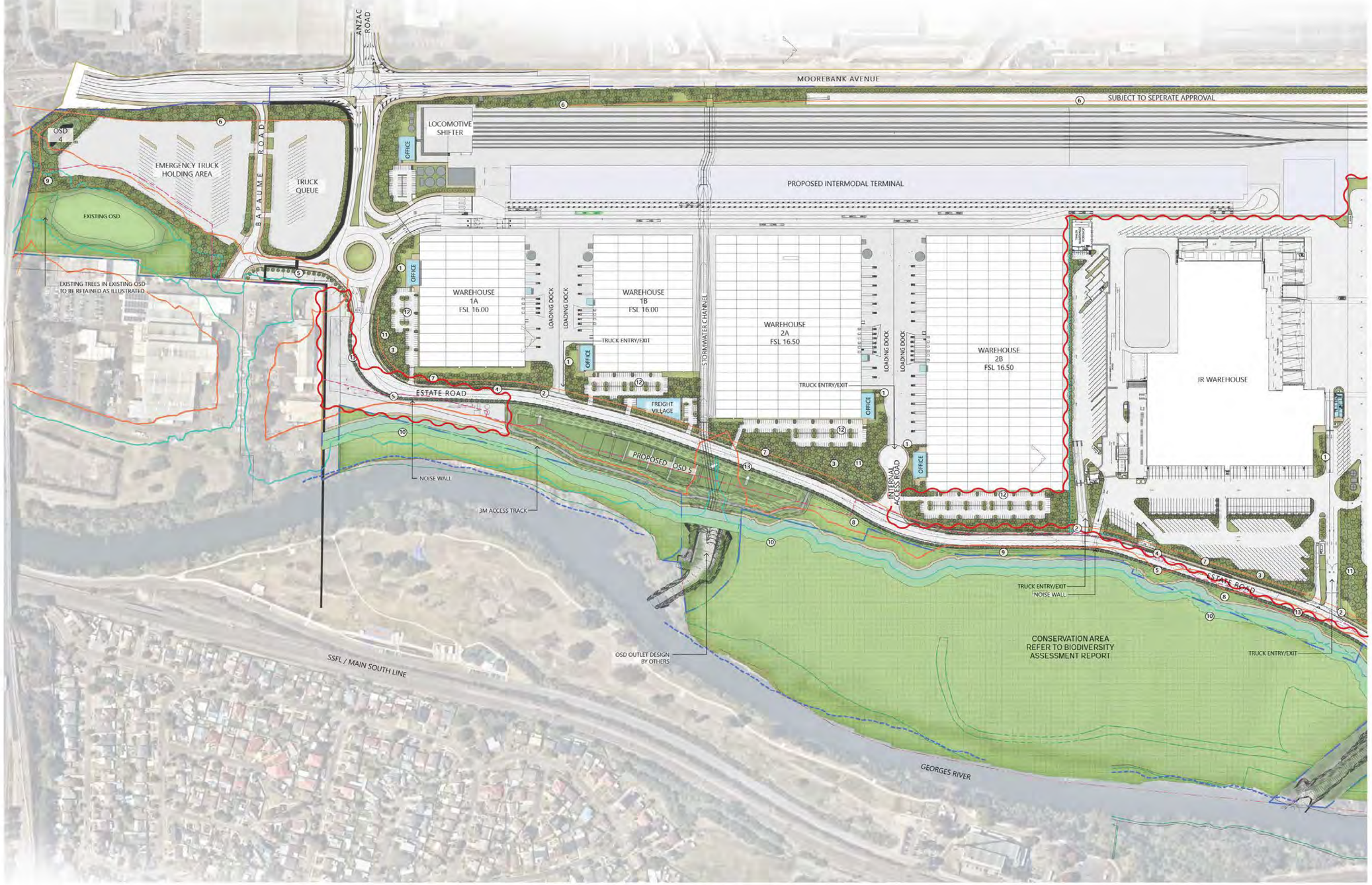
Scale: 1:4000 @ A1 (1:8000 @ A3)

0 20 40 60 80 100m 200m

North

Drawing Name: OVERALL LANDSCAPE PLAN

Revision: M



LEGEND

- Proposed Canopy Tree Planting in accordance with Cumberland Plain Woodland (Refer to Plant Schedules on drawing PIWW-GNK-LN-DWG-001)
- MPW Site Boundary
- MPW Stage 2 Operational Boundary
- Landscape Setback as per Condition B2 (a), (f), (g) and B63 (a), (b) SSD 7708
- Moorebank Biodiversity Offset Area
- Limit of 1:100 Year Flood Extent
- Asset protection Zone Setback
- Top of Bank
- Conservation Area (Refer to Biodiversity Assessment Report)
- 10m Buffer Zone
- Existing Riparian Corridor
- Noise Wall

1. Screen planting around office providing vistor and worker amenity as per Condition B57 (a) and B61 as per SSD 7709
2. Proposed secure sight lines through planting to incorporate 'Safety by Design' principles as per Condition B57 (b) SSD 7709
3. Proposed Canopy Planting providing necessary screening from Casula as per Condition B57 (e) SSD 7709
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6. 18m Landscape setback from Moorebank with minimum soft landscaped width of 10m as per Condition B63 (a) SSD 7709
7. 5m Landscape setback from the ESTATE ROAD to warehouse carparks as per Condition B63 (b) SSD 7709
8. Existing trees to be retained where feasible and practical to do so. Supplementary tree planting to be implemented as indicated to reinforce the existing ecological community present in the Conservation Area
9. Perimeter fill batters must be stabilised with vegetation as per Condition B2(f) and B66
10. Existing native vegetation – including canopy trees and understorey planting – is to be retained where feasible to do so in the 10m extension of the buffer zone. The existing planting will be supplemented with new trees and understorey planting commensurate with the local plant communities present in the conservation area. These will include plants consistent with the Cumberland Plain Woodland such as Eucalyptus tereticornis and Eucalyptus punctata.
11. Canopy tree planting density at 1 canopy tree per 30m² of landscape area as per B68(b) SSD 7709
12. 2.5m wide landscaped bay every 6-8 car spaces to provide shade as per B68(c) SSD 7709
13. Screen planting is provided on both sides of the noise wall to minimise visual and amenity impacts as per B72 and B74 SSD 7709. Extent of planting is to be addressed in further detail at Detailed Documentation stage.

LANDSCAPE DESIGN STATEMENT

The Moorebank Precinct West Stage 2 Proposal involves the development of an intermodal terminal facility including warehouses and distribution facilities, stormwater, landscaping, servicing and associated works west of Moorebank Avenue. The Proposal also includes a Rail link connection. The Proposal interfaces with a vegetation conservation area.

The focus of the proposed landscape works includes:
- The integration of the Moorebank Avenue frontage,
- Landscape works associated with internal roads,
- Landscape works associated with proposed warehouses,
- Landscape works interface with the vegetation conservation areas.

Given that the site is bounded to the south with existing vegetation communities, the landscape design serves to integrate the development with the surrounding environment by using tree, shrub and groundcover species that are local to the area to create habitat opportunities and links to the surrounding context. The proposed tree planting has been designed with the intent of creating a uniform canopy cover throughout the area. Proposed plant species have been selected for their site-suitability with many species selected from Liverpool City Council's recommended plant list.

The positioning of the built forms has maximised planting opportunities along the western side of the site. Large trees planted within this area will serve to minimise visual impacts from the surrounding urban landscape.

Client: SIMTA

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
F	28.04.20	FOR APPROVAL	KF	RL
G	15.06.20	FOR APPROVAL	KF	RL
H	01.07.20	FOR APPROVAL	KF	RL
I	07.07.20	FOR APPROVAL	KF	RL
J	14.07.20	FOR APPROVAL	KF	RL
K	05.03.21	FOR APPROVAL	KF	RL
L	26.05.21	FOR APPROVAL	KF	RL
M	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND INK
LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: Moorebank Avenue, Moorebank, NSW

Date	Job Number	Drawing Number
25-08-21	20150728	PIWW-GNK-LN-DWG-101

Scale: 1:2500 @ A1 (1:5000 @ A3)

0 50 100m

North

Drawing Name: LANDSCAPE PLAN 1

Revision: M

LEGEND

- Proposed Canopy Tree Planting in accordance with Cumberland Plain Woodland (Refer to Plant Schedules on drawing PIWW-GNK-LN-DWG-001)
- MPW Site Boundary
- MPW Stage 2 Operational Boundary
- Landscape Setback as per Condition B2 (a), (f), (g) and B63 (a), (b) SSD 7708
- Moorebank Biodiversity Offset Area
- Limit of 1:100 Year Flood Extent
- Asset protection Zone Setback
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1. Screen planting around office providing vistor and worker amenity as per Condition B57 (a) and B61 as per SSD 7709
2. Proposed secure sight lines through planting to incorporate 'Safety by Design' principles as per Condition B57 (b) SSD 7709
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4. Meandering pathways for recreational and varied walking experiences as per Condition B60 SSD 7709
5. Canopy tree planting around perimeter of site for visual mitigation as per Condition B64 SSD 7709
6. Proposed hydroseeding with mix of native grasses to Southern fill area as per Condition B65 SSD 7709
7. Existing trees to be retained where feasible and practical to do so. Supplementary tree planting to be implemented as indicated to reinforce the existing ecological community present in the Conservation Area
8. 18m Landscape setback from Moorebank with minimum soft landscaped width of 10m as per Condition B63 (a) SSD 7709
9. 5m Landscape setback from the ESTATE ROAD to warehouse carparks as per Condition B63 (b) SSD 7709
10. Perimeter fill batters must be stabilised with vegetation as per Condition B2(f) and B66
11. Existing native vegetation – including canopy trees and understorey planting – is to be retained where feasible to do so in the 10m extension of the buffer zone. The existing planting will be supplemented with new trees and understorey planting commensurate with the local plant communities present in the conservation area. These will include plants consistent with the Cumberland Plain Woodland such as Eucalyptus tereticornis and Eucalyptus punctata.
12. Canopy tree planting density at 1 canopy tree per 30m² of landscape area as per B68(b) SSD 7709
13. 2.5m wide landscaped bay every 6-8 car spaces to provide shade as per B68(c) SSD 7709
14. Screen planting is provided on both sides of the noise wall to minimise visual and amenity impacts as per B72 and B74 SSD 7709. Extent of planting is to be addressed in further detail at Detailed Documentation stage.

LANDSCAPE DESIGN STATEMENT

The Moorebank Precinct West Stage 2 Proposal involves the development of an intermodal terminal facility including warehouses and distribution facilities, stormwater, landscaping, servicing and associated works west of Moorebank Avenue. The Proposal also includes a Rail link connection. The Proposal interfaces with a vegetation conservation area.

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Client: SIMTA SYDNEY INTERMODAL TERMINAL ALLIANCE

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
E	22.04.20	FOR APPROVAL	KF	RL
F	28.04.20	FOR APPROVAL	KF	RL
G	15.06.20	FOR APPROVAL	KF	RL
H	01.07.20	FOR APPROVAL	KF	RL
I	07.07.20	FOR APPROVAL	KF	RL
J	05.03.21	FOR APPROVAL	KF	RL
K	26.05.21	FOR APPROVAL	KF	RL
L	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND iNK
LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: Moorebank Avenue, Moorebank, NSW

Date: 25-08-21 | Job Number: 20150728 | Drawing Number: PIWW-GNK-LN-DWG-102

Scale: 1:2500 @ A1 (1:5000 @ A3) | North

0 50 100m

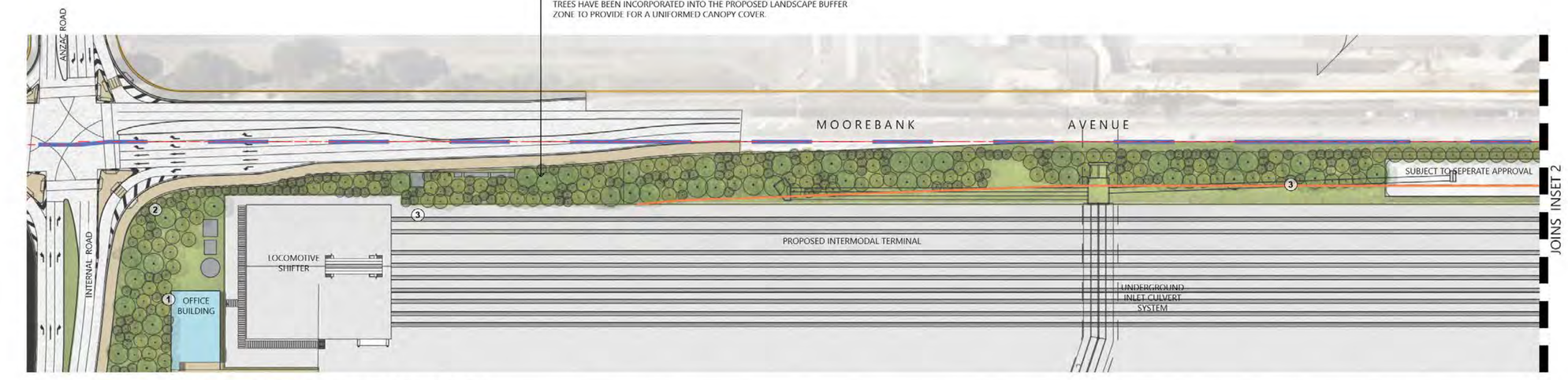
Drawing Name: LANDSCAPE PLAN 2 | Revision: L

KEY PLAN

LEGEND

- Proposed Canopy Tree Planting in accordance with Cumberland Plain Woodland (Refer to Plant Schedules on drawing PIWW-GNK-LN-DWG-001)
- MPW Site Boundary
- MPW Stage 2 Operational Boundary
- Landscape Setback as per Condition B2 (a), (f), (g) and B63 (a), (b) SSD 7708
- Proposed Landscape Area

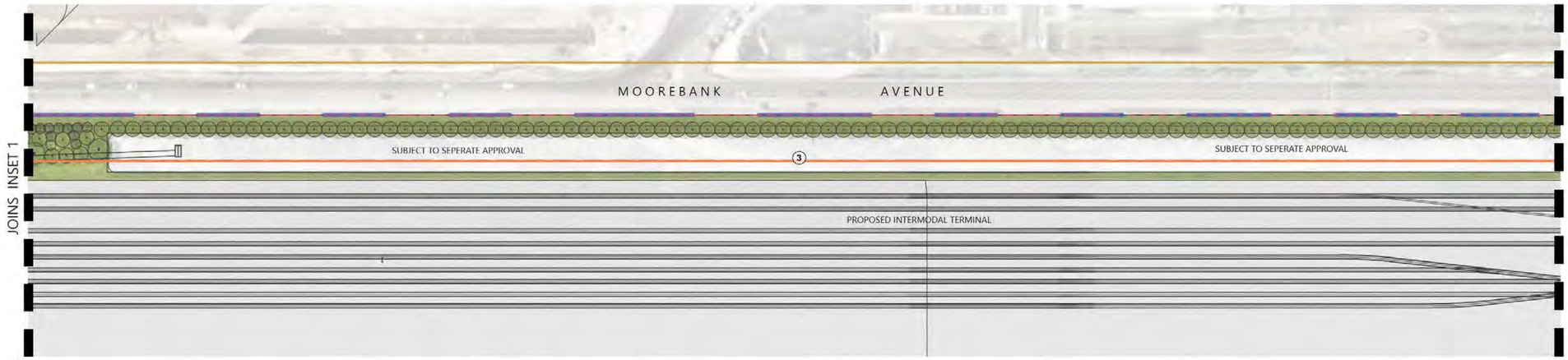
1. Screen planting around office providing vistor and worker amenity as per Condition B57 (a) and B61 as per SSD 7709
2. Proposed secure sight lines through planting to incorporate 'Safety by Design' principles as per Condition B57 (b) SSD 7709
3. 18m Landscape setback from Moorebank with minimum soft landscaped width of 10m as per Condition B63 (a) SSD 7709



MOOREBANK AVENUE LANDSCAPE PLAN - INSET 1

SCALE: 1:1000 @ A1 (1:2000 @ A3)

0 5 10 20 30 40 50m



MOOREBANK AVENUE LANDSCAPE PLAN - INSET 2

SCALE: 1:1000 @ A1 (1:2000 @ A3)

0 5 10 20 30 40 50m

PLANT IMAGES


Eucalyptus sideroxylon


Callistemon citrinus


Acacia parramattensis


Kunzea ambigua


Dianella caerulea


Dichondra repens

Client: SIMTA (Sydney Intermodal Terminal Alliance)

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
E	22.04.20	FOR APPROVAL	KF	RL
F	28.04.20	FOR APPROVAL	KF	RL
G	15.06.20	FOR APPROVAL	KF	RL
H	01.07.20	FOR APPROVAL	KF	RL
I	14.07.20	FOR APPROVAL	KF	RL
J	05.03.21	FOR APPROVAL	KF	RL
K	26.05.21	FOR APPROVAL	KF	RL
L	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND INK LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: Moorebank Avenue, Moorebank, NSW

Date: 25-08-21 | Job Number: 20150728 | Drawing Number: PIWW-GNK-LN-DWG-103

Scale: 1:1000 @ A1 (1:2000 @ A3) | North

0 10 20 30 40 50m

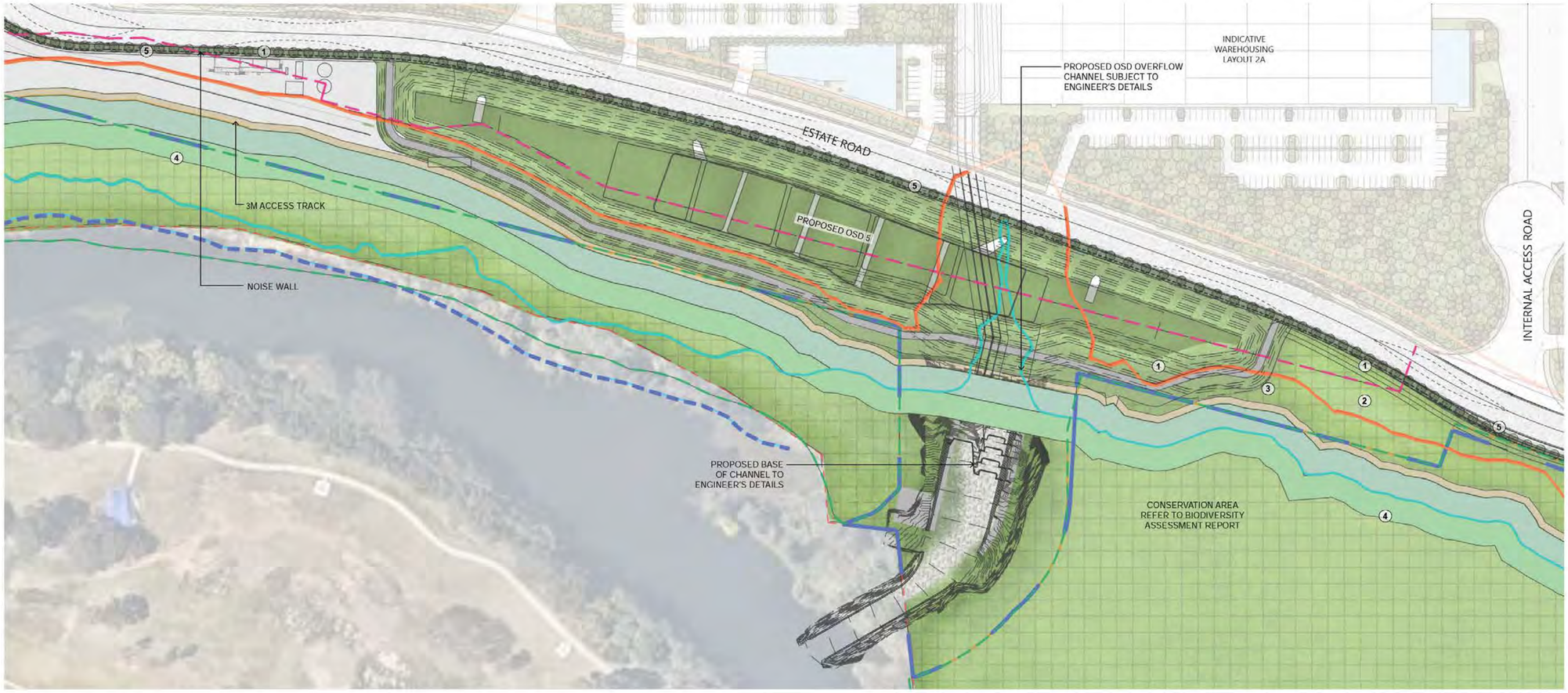
Drawing Name: MOOREBANK AVENUE LANDSCAPE PLAN | Revision: L

DESIGN STATEMENT

Planting within the conservation area is restricted to areas disturbed during the construction of the OSD overflow channel illustrated on this drawing.

Planting within the overflow channel is limited to the embankments as shown in the indicative section on this drawing. The proposed plant selections are local species which will integrate the infrastructure with the existing landscape. The selected species are also appropriate for the fluctuating hydrology of the channel. This will create biological connections in the landscape.

Proposed plant species have been selected for their site-suitability with many species selected from Liverpool City Council's recommended plant list.



KEY PLAN

LEGEND

- Proposed Canopy Tree Planting in accordance with Cumberland Plain Woodland (Refer to Plant Schedules on drawing PIWW-GNK-LN-DWG-001)
- MPW Site Boundary
- MPW Stage 2 Operational Boundary
- Landscape Setback as per Condition B2 (a), (f), (g) and B63 (a), (b) SSD 7708
- Moorebank Biodiversity Offset Area
- Limit of 1:100 Year Flood Extent
- Asset protection Zone Setback
- Conservation Area (Refer to Biodiversity Assessment Report)
- 10m Buffer Zone
- Existing Riparian Corridor
- Noise Wall

1. Canopy tree planting around perimeter of site for visual mitigation as per Condition B64 SSD 7709
2. Existing trees to be retained where feasible and practical to do so. Supplementary tree planting to be implemented as indicated to reinforce the existing ecological community present in the Conservation Area
3. Perimeter fill batters must be stabilised with vegetation as per Condition B2(f) and B66
4. Existing native vegetation – including canopy trees and understorey planting – is to be retained where feasible to do so in the 10m extension of the buffer zone. The existing planting will be supplemented with new trees and understorey planting commensurate with the local plant communities present in the conservation area. These will include plants consistent with the Cumberland Plain Woodland such as Eucalyptus tereticornis and Eucalyptus punctata.
5. Screen planting is provided on both sides of the noise wall to minimise visual and amenity impacts as per B72 and B74 SSD 7709. Extent of planting is to be addressed in further detail at Detailed Documentation stage.

OSD 5 LANDSCAPE PLAN

SCALE: 1:1000 @ A1 (1:2000 @ A3)

0 5 10 20 30 40 50m

PLANT IMAGES


Carex appressa


Dampiera stricta


Gahnia clarkei


Isolepis inundata


Juncus usitatus


Microlaena stipoides

Client: SIMTA (Sydney Intermodal Terminal Alliance)

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
E	22.04.20	FOR APPROVAL	KF	RL
F	28.04.20	FOR APPROVAL	KF	RL
G	15.06.20	FOR APPROVAL	KF	RL
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I	07.07.20	FOR APPROVAL	KF	RL
J	05.03.21	FOR APPROVAL	KF	RL
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Landscape Architect
GROUND iNK
LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
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Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: Moorebank Avenue, Moorebank, NSW

Date: 25-08-21 | Job Number: 20150728 | Drawing Number: PIWW-GNK-LN-DWG-104

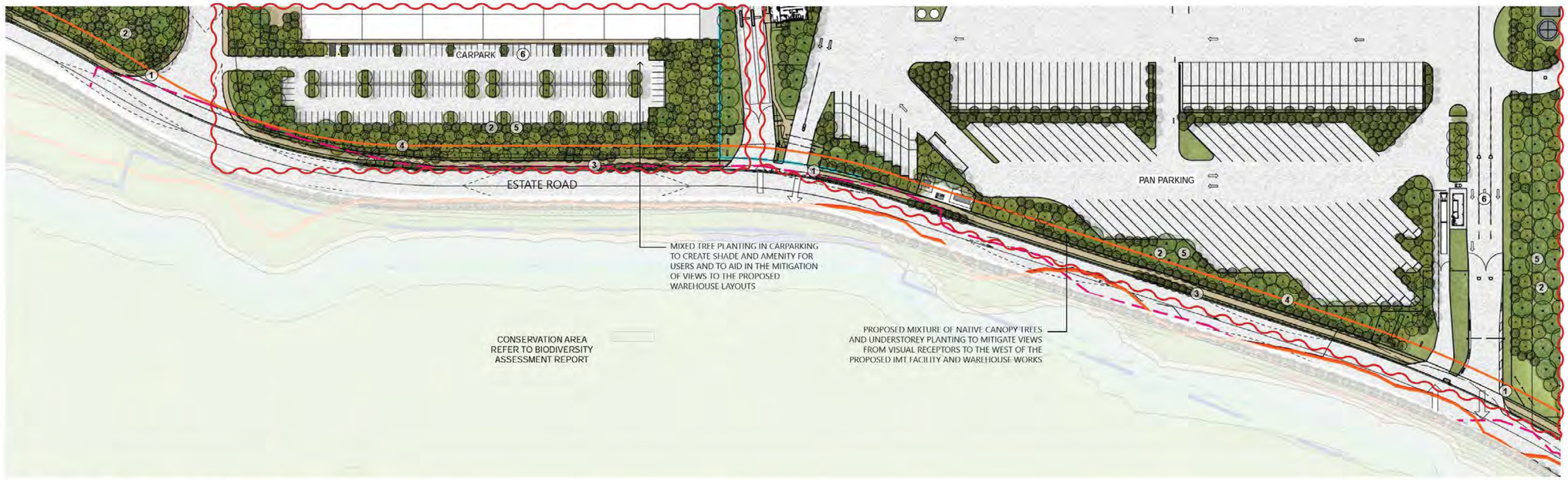
Scale: 1:1000 @ A1 (1:2000 @ A3) | North

0 10 20 30 40 50m

Drawing Name: OSD 5 LANDSCAPE PLAN | Revision: L

DESIGN STATEMENT

Areas of existing vegetation within the conservation area are, where possible, retained. In areas that are clear of vegetation, embankments are created linking the new levels of the internal road to the conservation area.
Embankments are to be planted with species that are found within the conservation area. This serves to enhance the habitat of the conservation area with species common to vegetation found within the area.
Proposed plant species have been selected for their site-suitability with many species selected from Liverpool City Council's recommended plant list



INTERNAL ROAD LANDSCAPE PLAN

SCALE: 1:1000 @ A1 (1:2000 @ A3)

0 5 10 20 30 40 50m

KEY PLAN

LEGEND

- Proposed Canopy Tree Planting in accordance with Cumberland Plain Woodland (Refer to Plant Schedules on drawing PIWW-GNK-LN-DWG-001)
- MPW Site Boundary
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- Proposed Landscape Area

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2. Proposed Canopy Planting providing necessary screening from Casula as per Condition B57 (e) SSD 7709
3. Meandering pathways for recreational and varied walking experiences as per Condition B60 SSD 7709
4. 5m Landscape setback from the ESTATE ROAD to warehouse carparks as per Condition B63 (b) SSD 7709
5. Canopy tree planting density at 1 canopy tree per 30m² of landscape area as per B68(b) SSD 7709
6. 2.5m wide landscaped bay every 6-8 car spaces to provide shade as per B68(c) SSD 7709

PLANT IMAGES


Eucalyptus sideroxylon


Callistemon salignus


Corymbia maculata


Eucalyptus tereticornis


Dianella caerulea


Dichondra repens

Client: SIMTA

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
E	22.04.20	FOR APPROVAL	KF	RL
F	28.04.20	FOR APPROVAL	KF	RL
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I	07.07.20	FOR APPROVAL	KF	RL
J	05.03.21	FOR APPROVAL	KF	RL
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L	25.08.21	FOR APPROVAL	ML	RL

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Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: Moorebank Avenue, Moorebank, NSW

Date	Job Number	Drawing Number
25-08-21	20150728	PIWW-GNK-LN-DWG-105

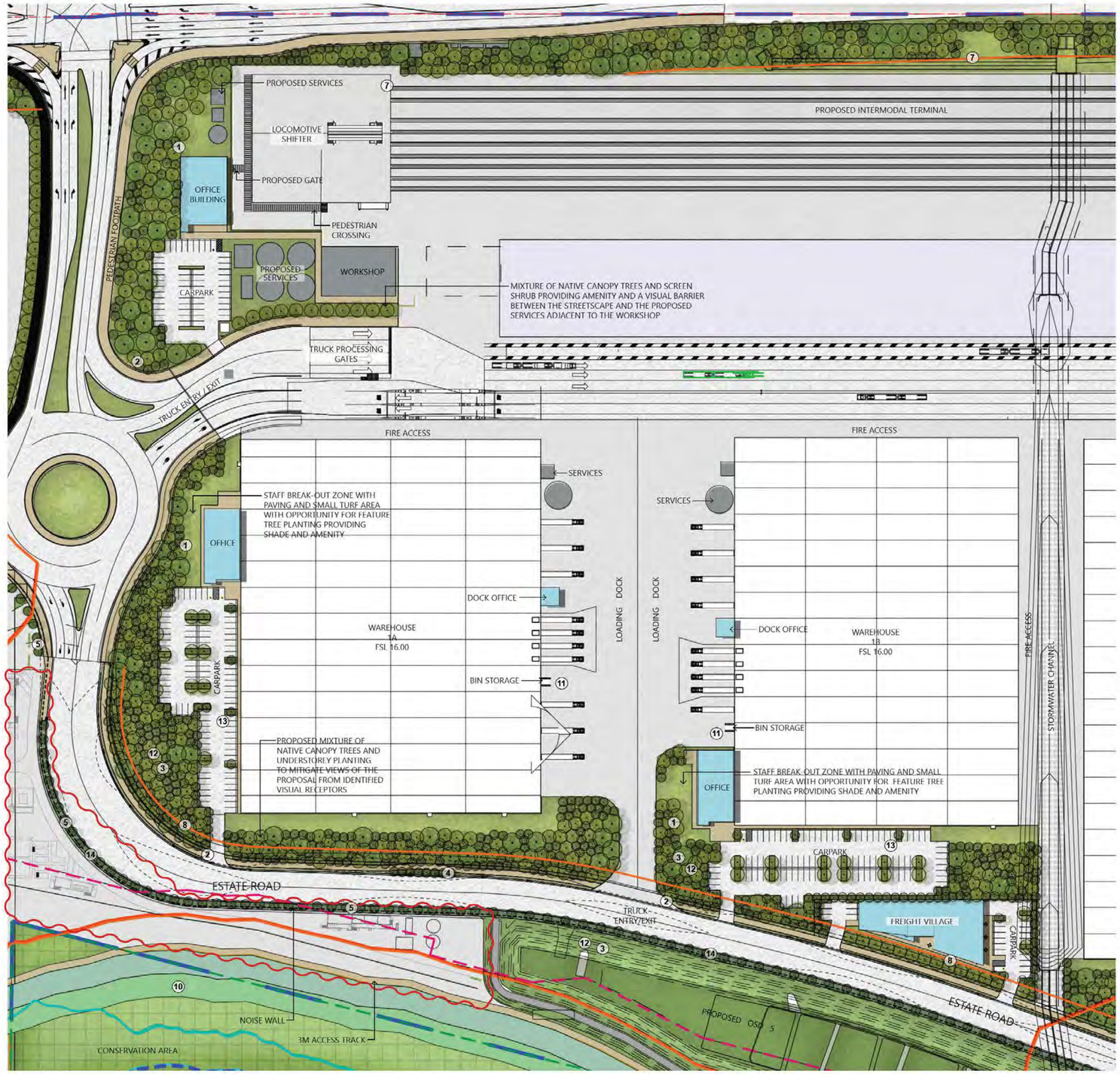
Scale: 1:1000 @ A1 (1:2000 @ A3)

0 10 20 30 40 50m

North

Drawing Name: INTERNAL ROAD LANDSCAPE PLAN

Revision: L



LANDSCAPE PLAN - WAREHOUSES 1A & 1B

SCALE: 1:1000 @ A1 (1:2000 @ A3)

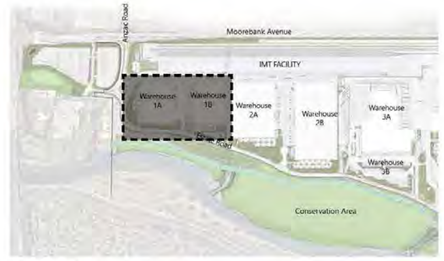
0 5 10 20 30 40 50m

DESIGN STATEMENT

The warehouses have been located to provide opportunities for landscaping and screen planting along the western edges of the facade, responding to visual receptors to the west of the development. This arrangement allows for maximum planting along the western side of the internal road. This strategy provides opportunities for screening built forms from the surrounding urban context. The proposed carparking areas include a mixture of large canopy trees providing shade and amenity to the hard-stand area and reducing the heat island effect in these zones.

A variety of tree forms - both small and large - are proposed to create a hierarchy in the proposed landscape works.

KEY PLAN



LEGEND

- Proposed Canopy Tree Planting in accordance with Cumberland Plain Woodland (Refer to Plant Schedules on drawing PIWW-GNK-LN-DWG-001)
- MPW Site Boundary
- MPW Stage 2 Operational Boundary
- Landscape Setback as per Condition B2 (a), (f), (g) and B63 (a), (b) SSD 7708
- Moorebank Biodiversity Offset Area
- Limit of 1:100 Year Flood Extent
- Asset protection Zone Setback
- Conservation Area (Refer to Biodiversity Assessment Report)
- 10m Buffer Zone
- Existing Riparian Corridor
- Proposed Landscape Area
- Noise Wall

1. Screen planting around office providing vistor and worker amenity as per Condition B57 (a) and B61 as per SSD 7709
2. Proposed secure sight lines through planting to incorporate 'Safety by Design' principles as per Condition B57 (b) SSD 7709
3. Proposed Canopy Planting providing necessary screening from Casula as per Condition B57 (e) SSD 7709
4. Meandering pathways for recreational and varied walking experiences as per Condition B60 SSD 7709
5. Canopy tree planting around perimeter of site for visual mitigation as per Condition B64 SSD 7709
6. Existing trees to be retained where feasible and practical to do so. Supplementary tree planting to be implemented as indicated to reinforce the existing ecological community present in the Conservation Area
7. 18m Landscape setback from Moorebank with minimum soft landscaped width of 10m as per Condition B63 (a) SSD 7709
8. 5m Landscape setback from the ESTATE ROAD to warehouse carparks as per Condition B63 (b) SSD 7709
9. Perimeter fill batters must be stabilised with vegetation as per Condition B2(f) and B66
10. Existing native vegetation – including canopy trees and understorey planting – is to be retained where feasible to do so in the 10m extension of the buffer zone. The existing planting will be supplemented with new trees and understorey planting commensurate with the local plant communities present in the conservation area. These will include plants consistent with the Cumberland Plain Woodland such as Eucalyptus tereticornis and Eucalyptus punctata.
11. Proposed planter box provided around bin storage as per Condition B71
12. Canopy tree planting density at 1 canopy tree per 30m² of landscape area as per B68(b) SSD 7709
13. 2.5m wide landscaped bay every 6-8 car spaces to provide shade as per B68(c) SSD 7709
14. Screen planting is provided on both sides of the noise wall to minimise visual and amenity impacts as per B72 and B74 SSD 7709. Extent of planting is to be addressed in further detail at Detailed Documentation stage.

PLANT IMAGES


Eucalyptus sideroxylon


Eucalyptus tereticornis


Corymbia maculata


Melaleuca decora


Melaleuca linariifolia

Client: SIMTA

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
E	22.04.20	FOR APPROVAL	KF	RL
F	28.04.20	FOR APPROVAL	KF	RL
G	15.06.20	FOR APPROVAL	KF	RL
H	01.07.20	FOR APPROVAL	KF	RL
I	07.07.20	FOR APPROVAL	KF	RL
J	14.07.20	FOR APPROVAL	KF	RL
K	05.03.21	FOR APPROVAL	KF	RL
L	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND iNK
LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: Moorebank Avenue, Moorebank, NSW

Date: 25-08-21 | Job Number: 20150728 | Drawing Number: PIWW-GNK-LN-DWG-106

Scale: 1:1000 @ A1 (1:2000 @ A3) | North

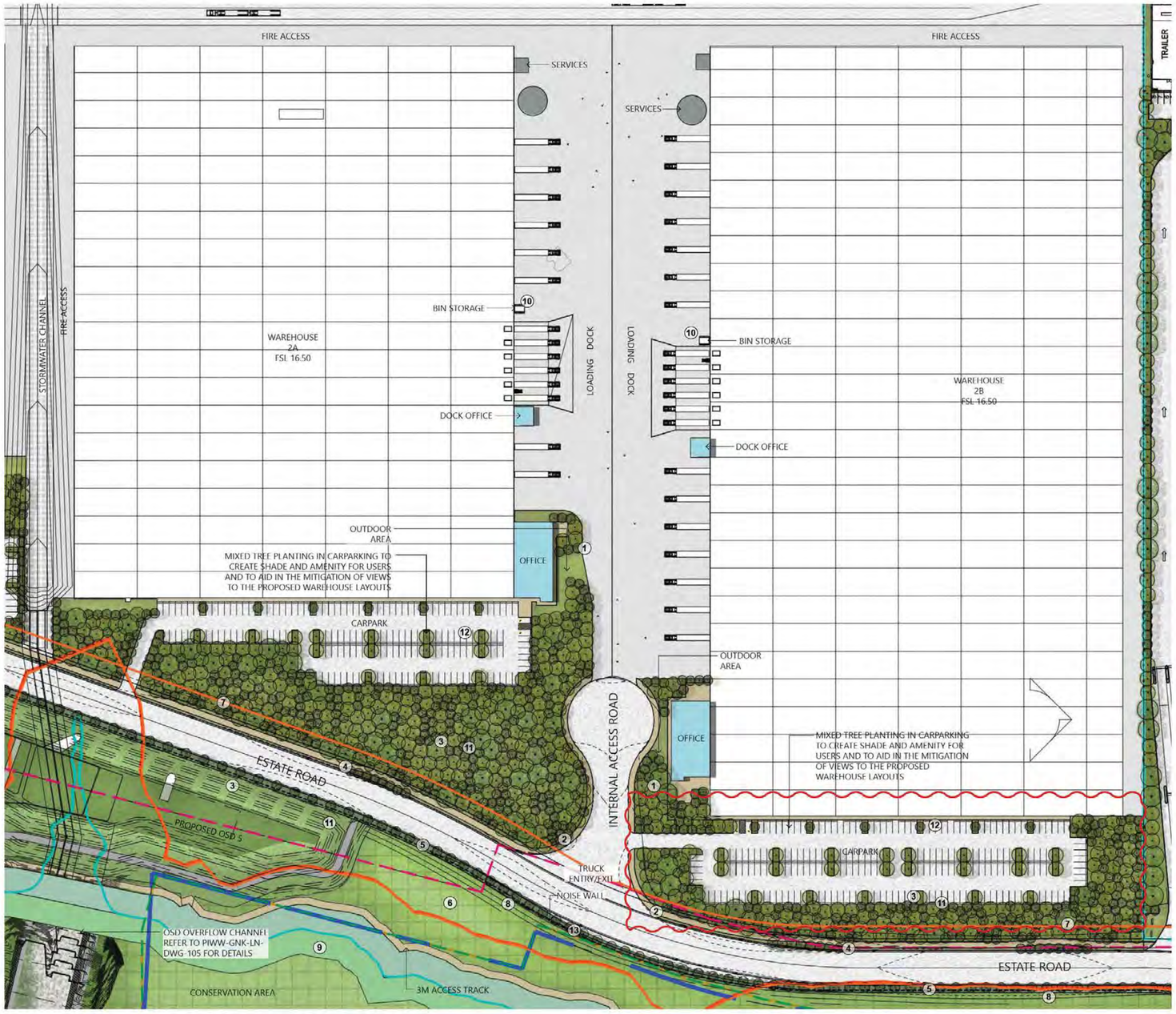
0 10 20 30 40 50m

Drawing Name: LANDSCAPE PLAN - WAREHOUSES 1A & 2A | Revision: L

DESIGN STATEMENT

The warehouses have been located to provide opportunities for landscaping and screen planting along the western edges of the facade, responding to visual receptors to the west of the development. This arrangement allows for maximum planting along the western side of the internal road. This strategy provides opportunities for screening built forms from the surrounding urban context. The proposed carparking areas include a mixture of large canopy trees providing **shade and amenity to the hard-stand area and reducing the heat island effect in these zones.**

A variety of tree forms - both small and large - are proposed to create a hierarchy in the proposed landscape works.



LANDSCAPE PLAN - WAREHOUSES 2A & 2B

SCALE: 1:1000 @ A1 (1:2000 @ A3)

0 5 10 20 30 40 50m

KEY PLAN

LEGEND

- Proposed Canopy Tree Planting in accordance with Cumberland Plain Woodland (Refer to Plant Schedules on drawing PIWW-GNK-LN-DWG-001)
- MPW Stage 2 Operational Boundary
- Landscape Setback as per Condition B2 (a), (f), (g) and B63 (a), (b) SSD 7708
- Moorebank Biodiversity Offset Area
- Limit of 1:100 Year Flood Extent
- Asset protection Zone Setback
- Conservation Area (Refer to Biodiversity Assessment Report)
- 10m Buffer Zone
- Existing Riparian Corridor
- Proposed Landscape Area
- Noise Wall

1. Screen planting around office providing vistor and worker amenity as per Condition B57 (a) and B61 as per SSD 7709
2. Proposed secure sight lines through planting to incorporate 'Safety by Design' principles as per Condition B57 (b) SSD 7709
3. Proposed Canopy Planting providing necessary screening from Casula as per Condition B57 (e) SSD 7709
4. Meandering pathways for recreational and varied walking experiences as per Condition B60 SSD 7709
5. Canopy tree planting around perimeter of site for visual mitigation as per Condition B64 SSD 7709
6. Existing trees to be retained where feasible and practical to do so. Supplementary tree planting to be implemented as indicated to reinforce the existing ecological community present in the Conservation Area
7. 5m Landscape setback from the ESTATE ROAD to warehouse carparks as per Condition B63 (b) SSD 7709
8. Perimeter fill batters must be stabilised with vegetation as per Condition B2(f) and B66
9. Existing native vegetation – including canopy trees and understorey planting – is to be retained where feasible to do so in the 10m extension of the buffer zone. The existing planting will be supplemented with new trees and understorey planting commensurate with the local plant communities present in the conservation area. These will include plants consistent with the Cumberland Plain Woodland such as Eucalyptus tereticornis and Eucalyptus punctata.
10. Proposed planter box provided around bin storage as per Condition B71
11. Canopy tree planting density at 1 canopy tree per 30m² of landscape area as per B68(b) SSD 7709
12. 2.5m wide landscaped bay every 6-8 car spaces to provide shade as per B68(c) SSD 7709
13. Screen planting is provided on both sides of the noise wall to minimise visual and amenity impacts as per B72 and B74 SSD 7709. Extent of planting is to be addressed in further detail at Detailed Documentation stage.

PLANT IMAGES


Eucalyptus sideroxylon


Eucalyptus tereticornis


Corymbia maculata


Melaleuca decora


Melaleuca linariifolia

Client: SIMTA

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
E	22.04.20	FOR APPROVAL	KF	RL
F	28.04.20	FOR APPROVAL	KF	RL
G	15.06.20	FOR APPROVAL	KF	RL
H	01.07.20	FOR APPROVAL	KF	RL
I	07.07.20	FOR APPROVAL	KF	RL
J	05.03.21	FOR APPROVAL	KF	RL
K	26.05.21	FOR APPROVAL	KF	RL
L	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND iNK
LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project: MOOREBANK PRECINCT WEST STAGE 2

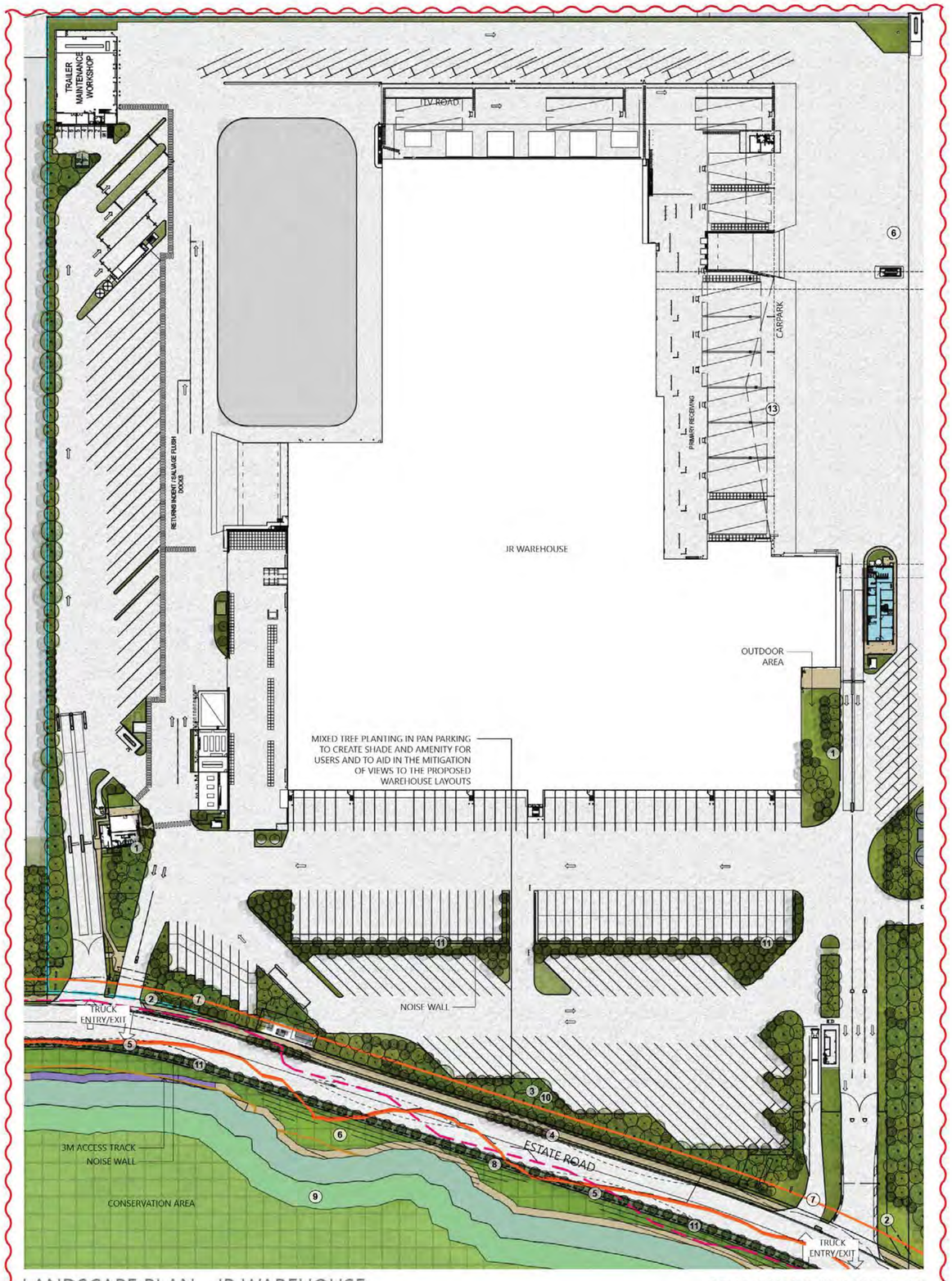
Project Address: Moorebank Avenue, Moorebank, NSW

Date: 25-08-21 | Job Number: 20150728 | Drawing Number: PIWW-GNK-LN-DWG-107

Scale: 1:1000 @ A1 (1:2000 @ A3) | North

0 10 20 30 40 50m

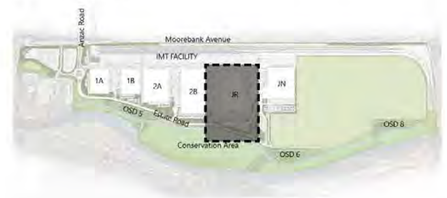
Drawing Name: LANDSCAPE PLAN - WAREHOUSES 2A & 2B | Revision: L



LANDSCAPE PLAN - JR WAREHOUSE

SCALE: 1:1000 @ A1 (1:2000 @ A3)

KEY PLAN



LEGEND

- Proposed Canopy Tree Planting in accordance with Cumberland Plain Woodland (Refer to Plant Schedules on drawing PIWW-GNK-LN-DWG-001)
- MPW Stage 2 Operational Boundary
- Landscape Setback as per Condition B2 (a), (f), (g) and B63 (a), (b) SSD 7708
- Moorebank Biodiversity Offset Area
- Limit of 1:100 Year Flood Extent
- Asset protection Zone Setback
- Conservation Area (Refer to Biodiversity Assessment Report)
- 10m Buffer Zone
- Existing Riparian Corridor
- Proposed Landscape Area
- Noise Wall

1. Screen planting around office providing vistor and worker amenity as per Condition B57 (a) and B61 as per SSD 7709
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3. Proposed Canopy Planting providing necessary screening from Casula as per Condition B57 (e) SSD 7709
4. Meandering pathways for recreational and varied walking experiences as per Condition B60 SSD 7709
5. Canopy tree planting around perimeter of site for visual mitigation as per Condition B64 SSD 7709
6. Existing trees to be retained where feasible and practical to do so. Supplementary tree planting to be implemented as indicated to reinforce the existing ecological community present in the Conservation Area
7. 5m Landscape setback from the ESTATE ROAD to warehouse carparks as per Condition B63 (b) SSD 7709
8. Perimeter fill batters must be stabilised with vegetation as per Condition B2(f) and B66
9. Existing native vegetation – including canopy trees and understorey planting – is to be retained where feasible to do so in the 10m extension of the buffer zone. The existing planting will be supplemented with new trees and understorey planting commensurate with the local plant communities present in the conservation area. These will include plants consistent with the Cumberland Plain Woodland such as Eucalyptus tereticornis and Eucalyptus punctata.
10. Canopy tree planting density at 1 canopy tree per 30m² of landscape area as per B68(b) SSD 7709
11. Screen planting is provided on both sides of the noise wall to minimise visual and amenity impacts as per B72 and B74 SSD 7709. Extent of planting is to be addressed in further detail at Detailed Documentation stage.

DESIGN STATEMENT

The warehouses have been located to provide opportunities for landscaping and screen planting along the western edges of the facade, responding to visual receptors to the west of the development. This arrangement allows for maximum planting along the western side of the internal road. This strategy provides opportunities for screening built forms from the surrounding urban context. The proposed pan parking areas include a mixture of large canopy trees providing shade and amenity and reducing the heat island effect in these zones.

A variety of tree forms - both small and large - are proposed to create a hierarchy in the proposed landscape works.

PLANT IMAGES


Eucalyptus sideroxylon


Eucalyptus tereticornis


Corymbia maculata


Melaleuca decora


Melaleuca linariifolia

Client: SIMTA

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
E	22.04.20	FOR APPROVAL	KF	RL
F	28.04.20	FOR APPROVAL	KF	RL
G	15.06.20	FOR APPROVAL	KF	RL
H	01.07.20	FOR APPROVAL	KF	RL
I	07.07.20	FOR APPROVAL	KF	RL
J	05.03.21	FOR APPROVAL	KF	RL
K	26.05.21	FOR APPROVAL	KF	RL
L	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND INK LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: Moorebank Avenue, Moorebank, NSW

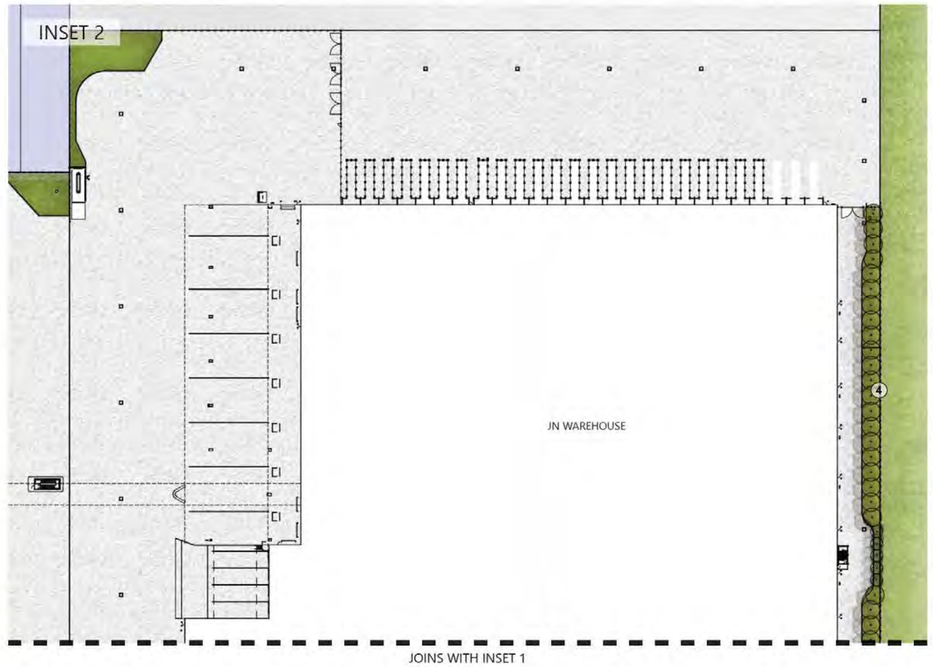
Date	Job Number	Drawing Number
25-08-21	20150728	PIWW-GNK-LN-DWG-108

Scale: 1:1000 @ A1 (1:2000 @ A3) North

0 10 20 30 40 50m

Drawing Name: LANDSCAPE PLAN - WAREHOUSES 3A & 3B

Revision: L

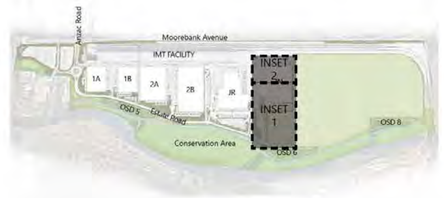


LANDSCAPE PLAN - JN WAREHOUSE

SCALE: 1:1000 @ A1 (1:2000 @ A3)

0 5 10 20 30 40 50m

KEY PLAN



LEGEND

- Proposed Canopy Tree Planting in accordance with Cumberland Plain Woodland (Refer to Plant Schedules on drawing PIWW-GNK-LN-DWG-001)
- MPW Stage 2 Operational Boundary
- Landscape Setback as per Condition B2 (a), (f), (g) and B63 (a), (b) SSD 7708
- Moorebank Biodiversity Offset Area
- Limit of 1:100 Year Flood Extent
- Asset protection Zone Setback
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3. Proposed Canopy Planting providing necessary screening from Casula as per Condition B57 (c) SSD 7709
4. Canopy tree planting around perimeter of site for visual mitigation as per Condition B64 SSD 7709
5. Existing trees to be retained where feasible and practical to do so. Supplementary tree planting to be implemented as indicated to reinforce the existing ecological community present in the Conservation Area
6. 5m Landscape setback from the ESTATE ROAD to warehouse carparks as per Condition B63 (b) SSD 7709
7. Perimeter fill batters must be stabilised with vegetation as per Condition B2(f) and B66
8. Existing native vegetation – including canopy trees and understorey planting – is to be retained where feasible to do so in the 10m extension of the buffer zone. The existing planting will be supplemented with new trees and understorey planting commensurate with the local plant communities present in the conservation area. These will include plants consistent with the Cumberland Plain Woodland such as Eucalyptus tereticornis and Eucalyptus punctata.
9. Canopy tree planting density at 1 canopy tree per 30m² of landscape area as per B68(b) SSD 7709
10. Screen planting is provided on both sides of the noise wall to minimise visual and amenity impacts as per B72 and B74 SSD 7709. Extent of planting is to be addressed in further detail at Detailed Documentation stage.
11. Proposed hydroseeding with mix of native grasses to Southern fill area as per Condition B65 SSD 7709

DESIGN STATEMENT

The warehouses have been located to provide opportunities for landscaping and screen planting along the western edges of the facade, responding to visual receptors to the west of the development. This arrangement allows for maximum planting along the western side of the internal road. This strategy provides opportunities for screening built forms from the surrounding urban context. The proposed pan parking areas include a mixture of large canopy trees providing shade and amenity and reducing the heat island effect in these zones.

A variety of tree forms - both small and large - are proposed to create a hierarchy in the proposed landscape works.

PLANT IMAGES


Eucalyptus sideroxylon


Eucalyptus tereticornis


Corymbia maculata


Melaleuca decora


Melaleuca linariifolia

Client: SIMTA

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
A	05.03.21	FOR APPROVAL	KF	RL
B	26.05.21	FOR APPROVAL	KF	RL
C	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND INK
LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project: MOOREBANK PRECINCT WEST STAGE 2

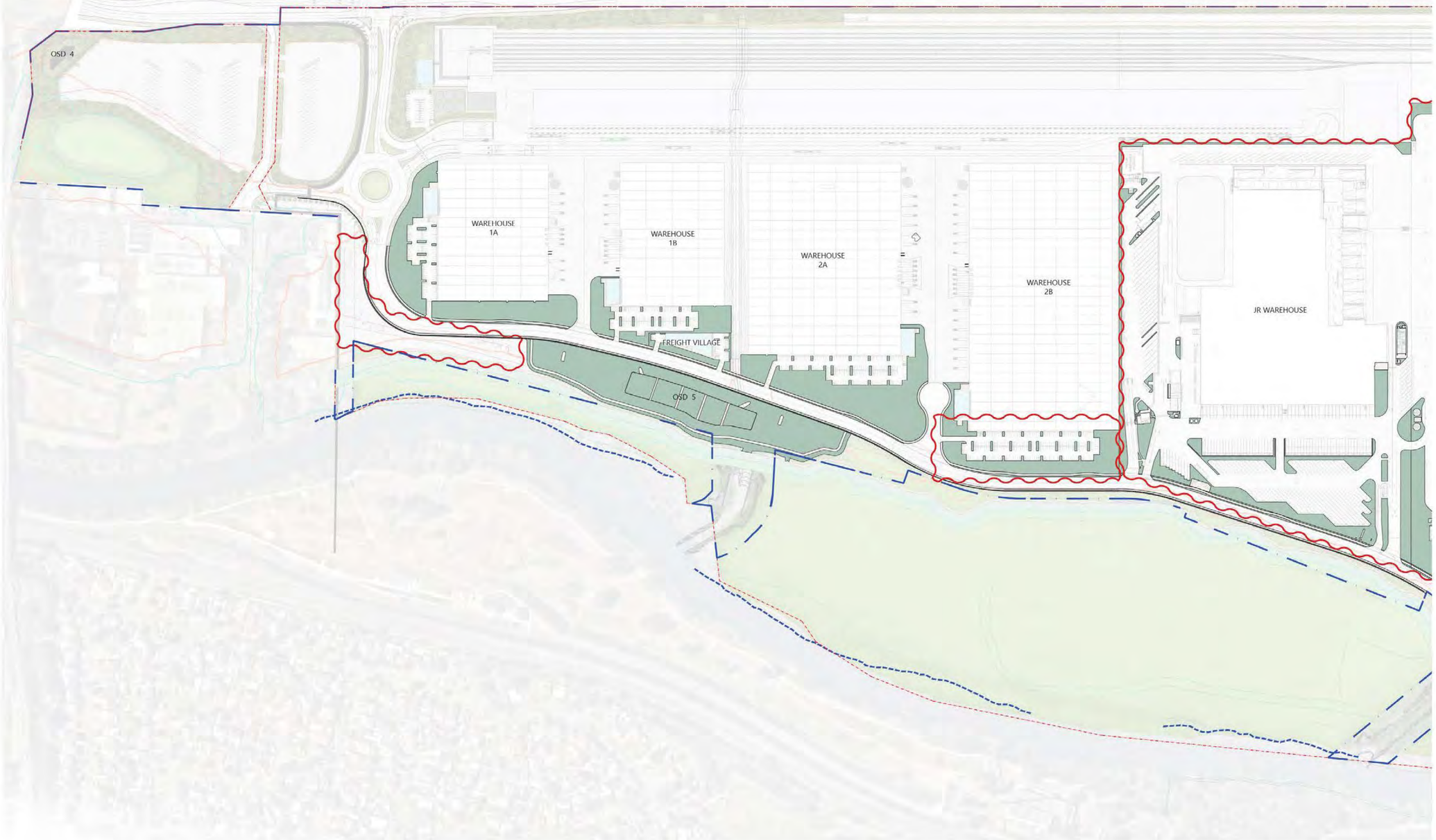
Project Address: Moorebank Avenue, Moorebank, NSW

Date: 25-08-21 | Job Number: 20150728 | Drawing Number: PIWW-GNK-LN-DWG-109

Scale: 1:1000 @ A1 (1:2000 @ A3) | North

0 10 20 30 40 50m

Drawing Name: LANDSCAPE PLAN - JN WAREHOUSE | Revision: C



LEGEND

- MPW Site Boundary
- MPW Stage 2 Operational Boundary
- Warehouse and OSD 5 Landscape Area

Client: SIMTA | SYDNEY INTERMODAL TERMINAL ALLIANCE

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
A	04.10.19	FOR APPROVAL	KF	RL
B	01.11.19	FOR APPROVAL	KF	RL
C	14.11.19	FOR APPROVAL	KF	RL
D	20.04.20	FOR APPROVAL	KF	RL
E	16.06.20	FOR APPROVAL	KF	RL
F	05.03.21	FOR APPROVAL	KF	RL
G	26.05.21	FOR APPROVAL	KF	RL
H	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND iNK LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project
MOOREBANK PRECINCT WEST STAGE 2

Project Address
Moorebank Avenue, Moorebank, NSW

Date: 25-08-21
Job Number: 20150728
Drawing Number: PIWW-GNK-LN-DWG-200
Scale: 1:2500 @ A1 (1:5000 @ A3)
0 50 100m
North
Drawing Name: LANDSCAPE AREAS PLAN 1
Revision: H

LEGEND

- MPW Site Boundary
- MPW Stage 2 Operational Boundary
- Warehouse and OSD 5 Landscape Area

Client: SIMTA Sydney International Terminal Alliance

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
A	01.11.19	FOR APPROVAL	KF	RL
B	14.11.19	FOR APPROVAL	KF	RL
C	20.04.20	FOR APPROVAL	KF	RL
D	16.06.20	FOR APPROVAL	KF	RL
F	05.03.21	FOR APPROVAL	KF	RL
F	26.05.21	FOR APPROVAL	KF	RL
G	25.08.21	FOR APPROVAL	ML	RL

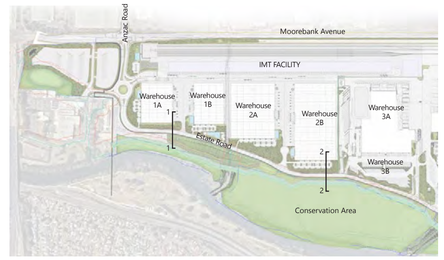
Landscape Architect
GROUND iNK LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

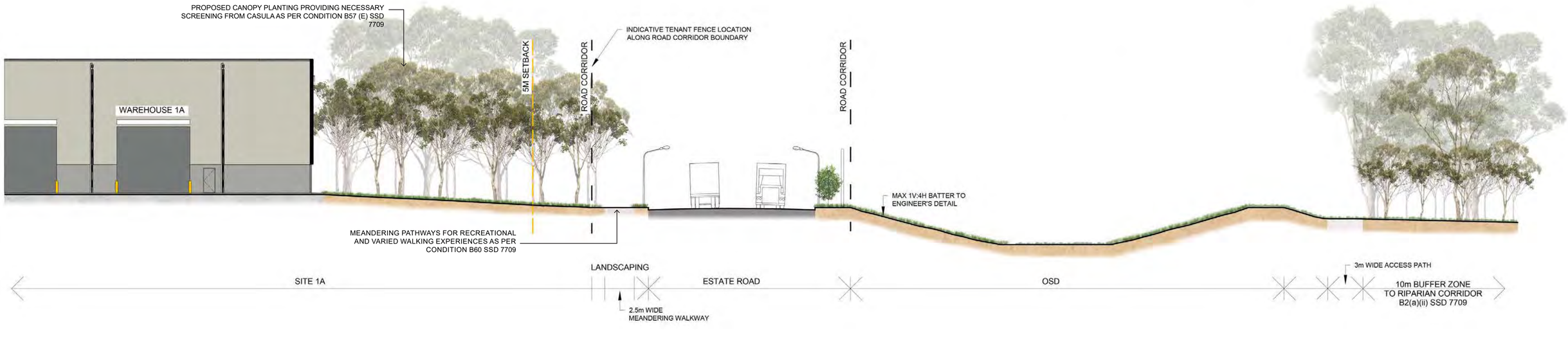
Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: Moorebank Avenue, Moorebank, NSW

Date: 25-08-21
Job Number: 20150728
Drawing Number: PIWW-GNK-LN-DWG-201
Scale: 1:2500 @ A1 (1:5000 @ A3)
North
0 50 100m
Drawing Name: LANDSCAPE AREAS PLAN 2
Revision: G

KEY PLAN





ROAD SECTION 01 - WAREHOUSE TO OSD

SCALE: 1:200 @ A1 (1:400 @ A3)

0 2 4 6 8 10 12 14 16 18 20M

ROAD SECTION 02 - WAREHOUSE TO ROAD

SCALE: 1:200 @ A1 (1:400 @ A3)

0 2 4 6 8 10 12 14 16 18 20M

Client: SIMTA SYDNEY INTERMODAL TERMINAL ALLIANCE

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
A	04.10.19	FOR APPROVAL	KF	RL
B	14.10.19	FOR APPROVAL	KF	RL
C	16.06.20	FOR APPROVAL	KF	RL
D	05.03.21	FOR APPROVAL	KF	RL
E	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND iNK
LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
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Project
MOOREBANK PRECINCT WEST STAGE 2

Project Address
Moorebank Avenue, Moorebank, NSW

Date	Job Number	Drawing Number
25-08-21	20150728	PIWW-GNK-LN-DWG-300

Scale: 1:200 @ A1 (1:400 @ A3)

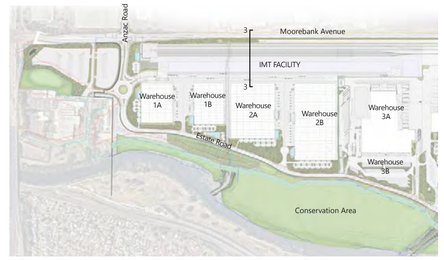
0 1 2 3 4 5m

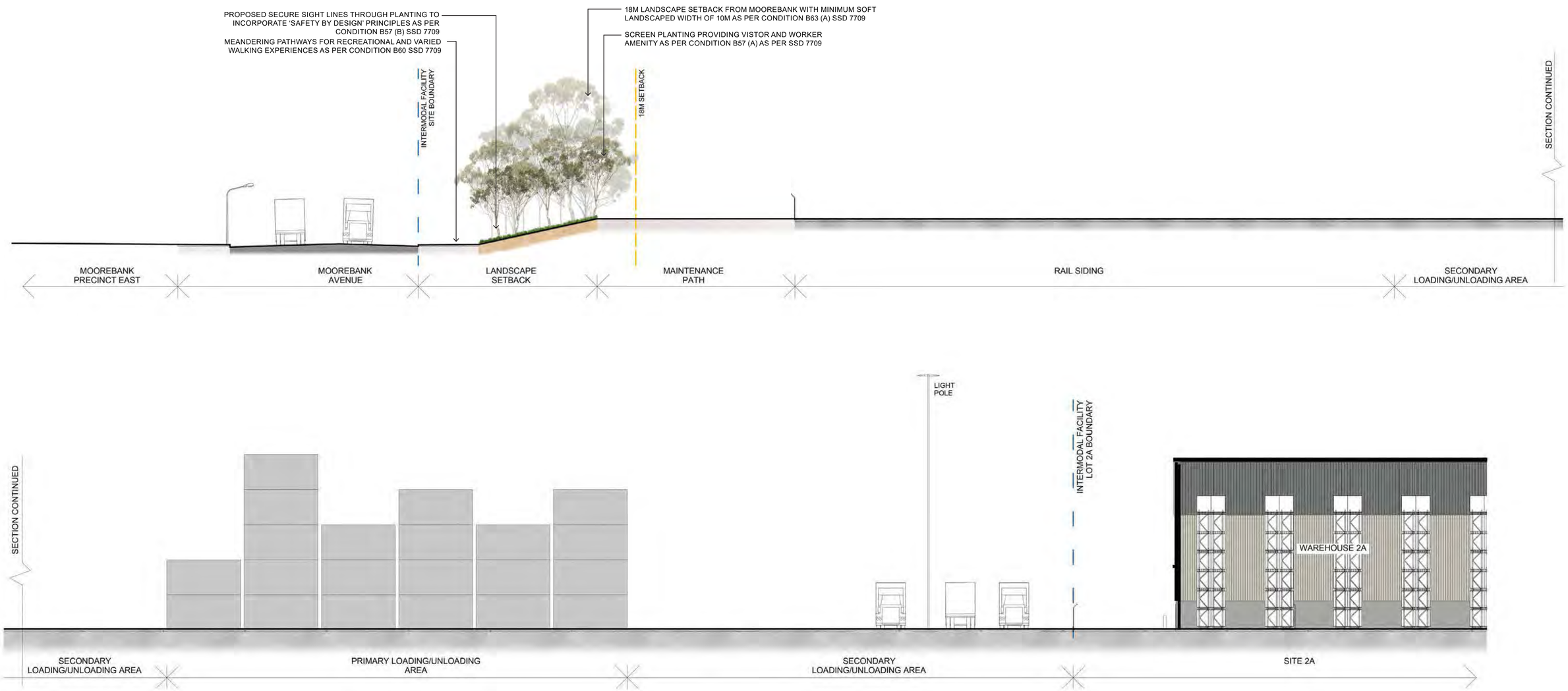
North

Drawing Name: LANDSCAPE SECTIONS 1

Revision: E

KEY PLAN





ROAD SECTION 03 - MOOREBANK AVE TO TERMINAL

SCALE: 1:200 @ A1 (1:400 @ A3)

0 2 4 6 8 10 12 14 16 18 20M

Client: SIMTA SYDNEY INTERMODAL TERMINAL ALLIANCE

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
A	04.10.19	FOR APPROVAL	KF	RL
B	14.10.19	FOR APPROVAL	KF	RL
C	16.06.20	FOR APPROVAL	KF	RL
D	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND INK LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

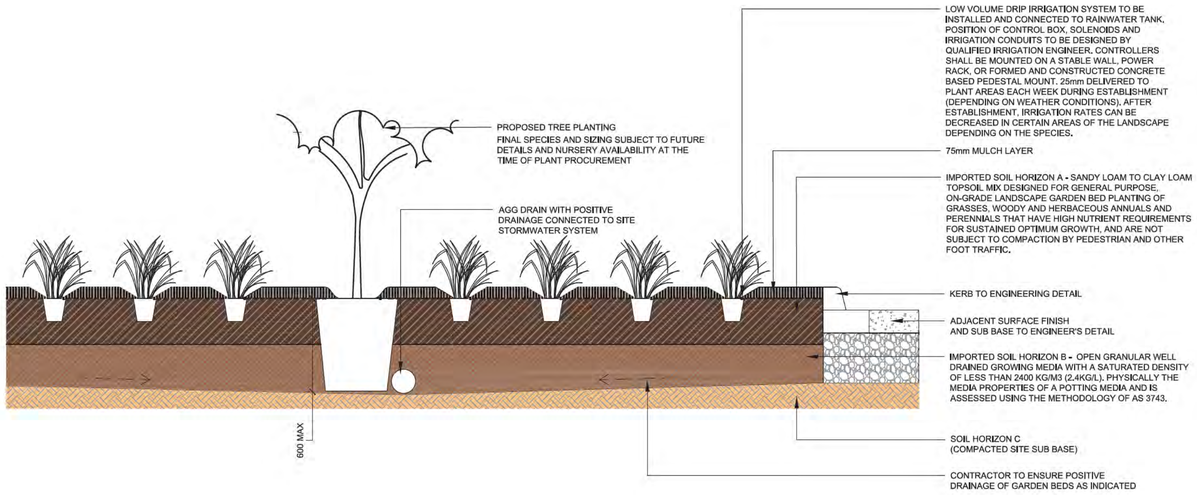
Project: MOOREBANK PRECINCT WEST STAGE 2

Project Address: Moorebank Avenue, Moorebank, NSW

Date: 25-08-21 | Job Number: 20150728 | Drawing Number: PIWW-GNK-LN-DWG-301

Scale: 1:200 @ A1 (1:400 @ A3) 0 1 2 3 4 5m | North

Drawing Name: LANDSCAPE SECTIONS 2 | Revision: D



PLANTING TYPICAL DETAIL

SCALE: 1:20 @ A1 (1:40 @ A3)

0 1M 2M

OUTLINE LANDSCAPE SPECIFICATION

General
Maintenance shall mean the care and maintenance of the landscape works by accepted horticultural practice as rectifying any defects that become apparent in the landscape works under normal use. The landscape contractor shall attend the site on a weekly basis to maintain the landscape works for the full term approved at CC stage of the maintenance period (commencing from practical completion).

Rubbish Removal
During the term of the maintenance period the Landscape Contractor shall undertake rubbish removal from the site on a weekly basis to ensure the site remains in tidy condition.

Weed Eradication
Weed growth that may occur in, planted or mulched areas is to be removed using environmentally acceptable methods i.e. non-residual glyphosate herbicide, (e.g. 'Round up', applied in accordance with the manufacturer's directions) or hand weeding.

Tree Replacement
Trees shall show signs of healthy vigorous growth and be free from disease and not exhibit signs of stress prior to handover to the client. Any trees or plant that die or fail to thrive, or are damaged or stolen will be replaced. Replacement material shall have the maintenance period extended in accordance with the landscape contract conditions. Trees and plant materials shall be equal to the minimum requirements of species specified and approved material delivered to site. Should the condition decline from the approved sample the Superintendent reserves the right to reject the tree / plants.
Frequency: as required.

Pruning
Selective pruning may be required during the establishment period to promote a balanced canopy structure. These activities shall be carried out to the best horticultural and industry practice. All pruned material is to be removed from site.

Irrigation
A low volume drip irrigation system may be installed at the discretion of the Developer. Position of control box, solenoids and irrigation conduits to be designed by qualified irrigation engineer at CC stage. Controllers shall be mounted on a stable wall, power rack, or formed and constructed concrete based pedestal mount. Performance specification to be provided by landscape architect, nominally 25mm delivered to plant areas each week during establishment (depending on weather conditions). After establishment, irrigation rates can be decreased in certain areas of the landscape depending on the species.

Watering
Implement an appropriate hand watering regime in areas not irrigated in association with current watering programme to maintain plant health and vigour. The program shall reflect seasonal conditions and plant species.
Frequency: Weekly or as required.

Drainage
All landscape areas are to have positive drainage to SW systems. If areas of poor drainage are identified on site then this should be brought to the site superintendents attention. Install agg lines if required.

Soils
Horizon A - Garden beds on natural ground
A sandy loam to clay loam topsoil mix designed for general purpose, on-grade landscape garden bed planting of grasses, woody and herbaceous annuals and perennials that have high nutrient requirement for sustained optimum growth, and are not subject to compaction by pedestrian and other foot traffic. Heavier textured soils in this specification may require engineered solutions where excessive wetness is anticipated. Note that organic soil variant should not be chosen for low P plantings and should not be used below 300mm.

Horizon B - Garden beds on slab
This specification describes the formulation of an open granular well drained growing media with a saturated density of less than 2400 kg/m3 (2.4kg/L) for use in on-slab applications, including green roofs with an expectation of longevity. It is a topsoil formulation to be used in the surface 300mm of all on-slab installations including planter boxes, containers and garden beds. In order to maintain structure and porosity over extended periods, and to avoid slumping and volume loss over time, the formulation must employ low density mineral components such as ash, perlite, scoria, pumice and diatomaceous earth, or artificial components such as urea formaldehyde and styrofoam. Physically the media properties of a potting media and is assessed using the methodology of AS 3743.

Cultivation
All garden beds to be cultivated to a minimum depth of 150mm and tree pits to the depth of the root ball only. If additives such as gypsum are required conduct this after cultivation into the top 100mm of soil.

Planting
All planting to be grown to NATSPEC specifications. Contractor to prepare site for planting including watering, handling, setting out and excavation. Excavate a hole for each plant large enough to provide not less than 100mm all around the root system of the plant. For tree planting each hole shall be dug with a shovel, backhoe or similar tool. Individual holes shall be excavated to allow root system to sit flat on the excavated hole and 400mm to each side of the root system. Backfill planting holes with existing site soil and topsoil as described in section 'Soil', plant / Tree shall be set plumb, with the root ball set slightly below the final soil level.

Mulching
The Landscape Contractor shall supply and install 10mm Pine Bark Mulch to all garden beds shown on the landscape plans, to a minimum depth of 75mm. All mulch is to be free of deleterious matter such as soil, weeds and sticks. Mulched surfaces are to be kept clean and tidy and free of any deleterious material and foreign matter. Reinstate depths to a uniform level of 75mm with mulch as specified, mulch to be free of any wood material impregnated with CCA or similar toxic treatment. Maintain watering rings around trees. Top up mulch levels prior to handover to client.

Turfing
Requires a sandy loam 'turf underlay' topsoil mix designed to provide moderate resistance to compaction in public and other amenity turf areas subject to moderate levels of pedestrian traffic. The blend provides superior water holding capacity but is not suited for active recreational or sports field use.

Pest and Disease Control
The Landscape Contractor shall spray for pests and disease infestations when the pest and fungal attack has been positively identified and when their populations have increased to a point that will become detrimental to plant growth. Apply all pesticides to manufacturer's directions.
Frequency: weekly inspection

Fertilising
Pellets shall be in the form intended to uniformly release plant food elements for a period of approximately nine months equal to Shirleys KOKEI pellets, analysis 6.3:1.8:2.9 or similar approved. KOKEI pellets shall be placed at the time of planting to the base of the plant, 50mm minimum from the root ball at a rate of two pellets per 300mm of top growth to a maximum of 8 pellets per tree. Generally check for signs of nutrient deficiencies (yellowing of leaves, failure to thrive), and adapt fertiliser regime to suit. Fertiliser should be applied at the beginning and the end of the (summer) growing season.

Client: SIMTA

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
A	04.10.19	FOR APPROVAL	KF	RL
B	14.11.19	FOR APPROVAL	KF	RL
C	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND iNK
LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project
MOOREBANK PRECINCT WEST STAGE 2

Project Address
Moorebank Avenue, Moorebank, NSW

Date	Job Number	Drawing Number
25-08-21	20150728	PIWW-GNK-LN-DWG-400

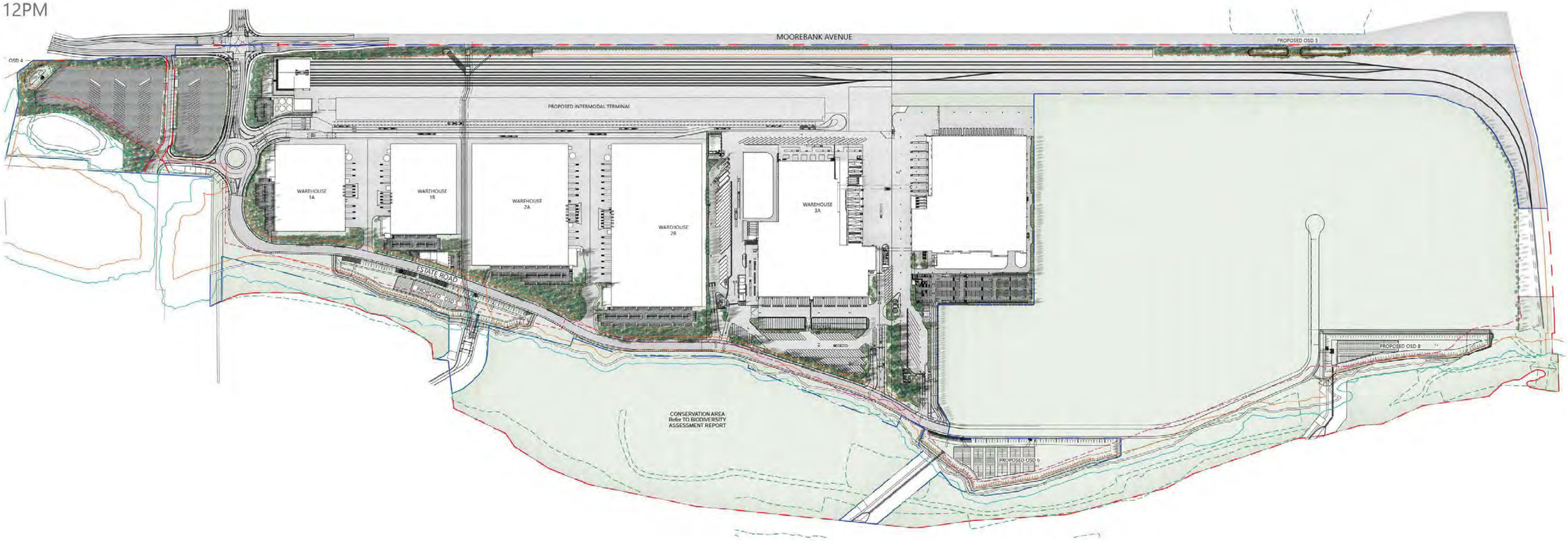
Scale: As Shown

North

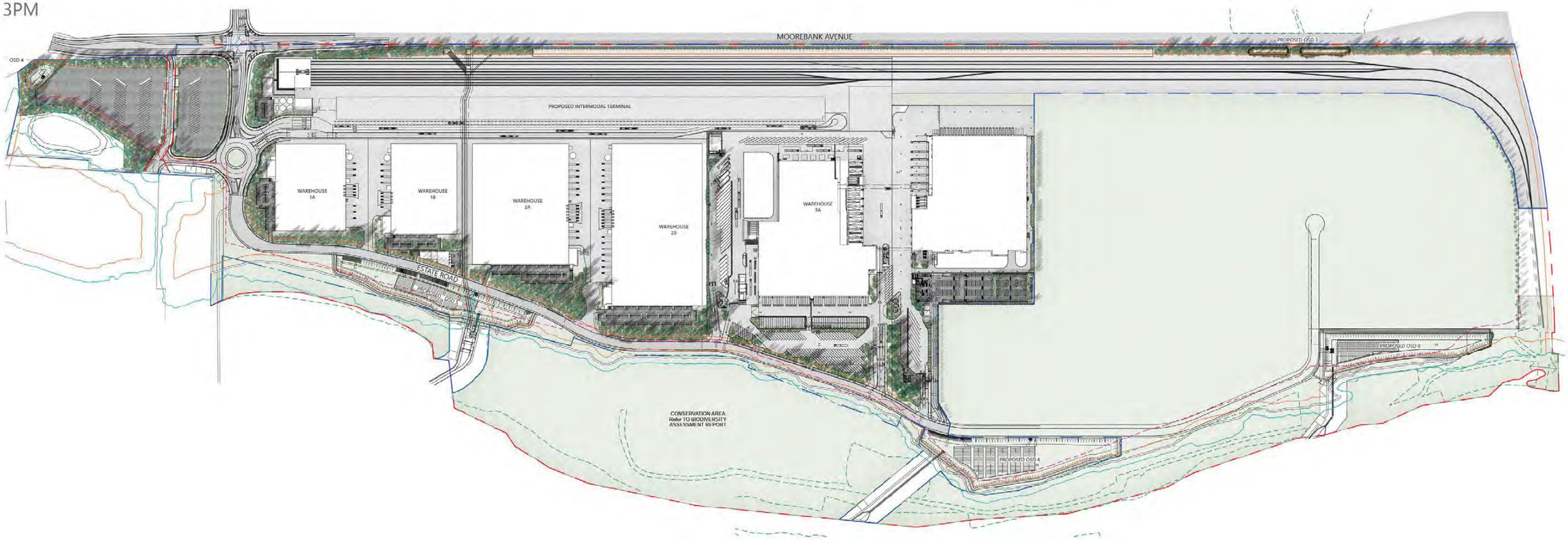
Drawing Name: LANDSCAPE DETAILS

Revision: C

JUNE @ 12PM



JUNE @ 3PM



Client: SIMTA

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
A	14.11.19	FOR APPROVAL	KF	RL
B	27.11.19	FOR APPROVAL	KF	RL
C	22.04.20	FOR APPROVAL	KF	RL
D	05.03.21	FOR APPROVAL	KF	RL
E	25.08.21	FOR APPROVAL	ML	RL

Landscape Architect
GROUND INK
LANDSCAPE ARCHITECTS
ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project
MOOREBANK PRECINCT WEST STAGE 2

Project Address
Moorebank Avenue, Moorebank, NSW

Date	Job Number	Drawing Number
25-08-21	20150728	PIWW-GNK-LN-DWG-500

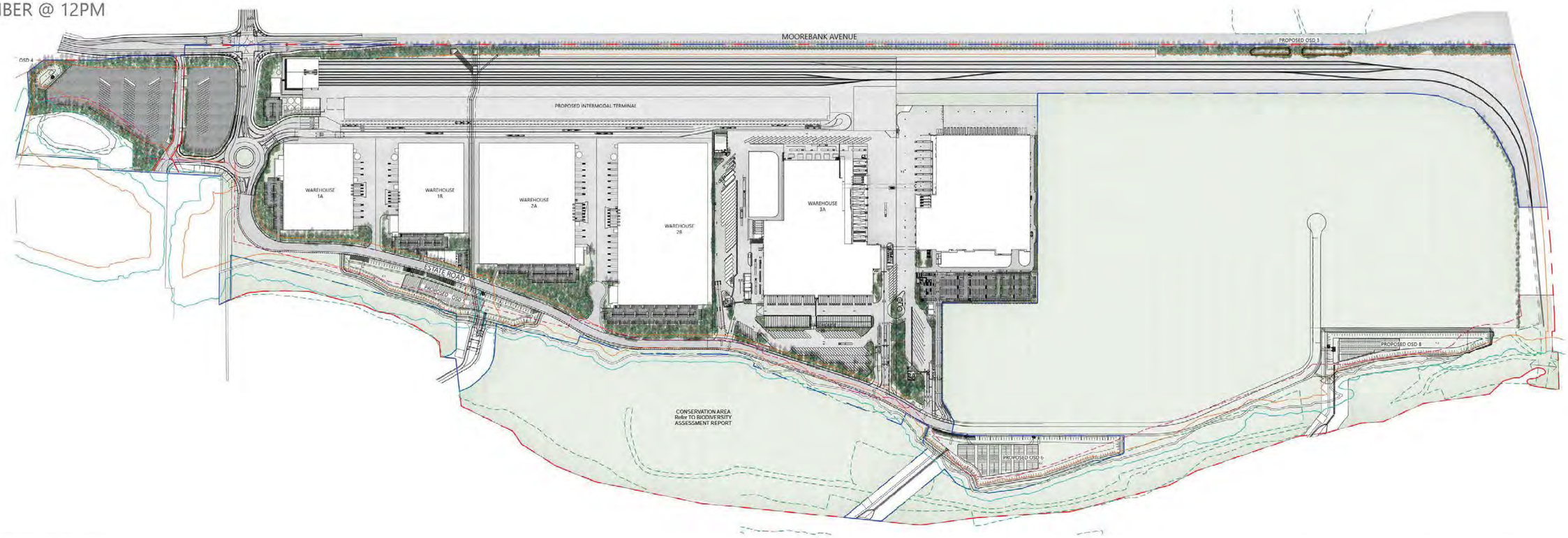
Scale: Not Applicable

North

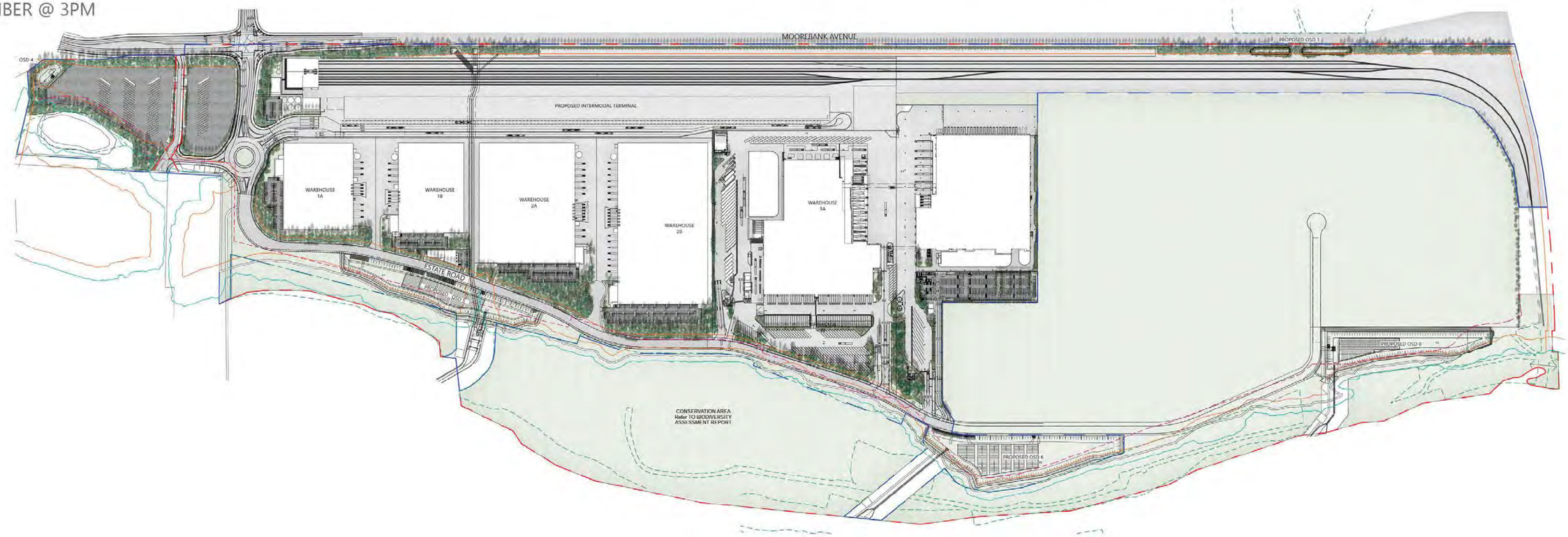
Drawing Name: LANDSCAPE SHADE DIAGRAM 1

Revision: E

DECEMBER @ 12PM



DECEMBER @ 3PM



Client: SIMTA

Architect: REIDCAMPBELL

Project Manager: TACTICAL GROUP

Issue	Date	Description	Drawn	Checked
A	27.11.19	FOR APPROVAL	KF	RL
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Landscape Architect
GROUND iNK
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ABN 55 163 025 45 ACN 163 025 456
Suite 201, 75 Archer St, Chatswood NSW 2067
Ph (02) 9411 3279 www.groundink.com.au

Project
MOOREBANK PRECINCT WEST STAGE 2

Project Address
Moorebank Avenue, Moorebank, NSW

Date 25-08-21 | Job Number 20150728 | Drawing Number PIWW-GNK-LN-DWG-501

Scale: Not Applicable | North

Drawing Name: LANDSCAPE SHADE DIAGRAM 2 | Revision: D

4.4 URBAN HEAT ISLAND MITIGATION STRATEGIES MODELLING