Modification Application Planning Report

Section 4.55(2) Modification to SSD 7709 – Proposed Moorebank Intermodal Precinct West – Stage 2 MOD 1

Moorebank Avenue, Moorebank
(Lot 1 DP 1197707)

Prepared by Willowtree Planning Pty Ltd on behalf of Sydney Intermodal Terminal Alliance (SIMTA)

July 2020

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PART A PRELIMINARY

1.1 INTRODUCTION

Willowtree Planning Pty Ltd (Willowtree Planning) has prepared this Planning Report on behalf of Sydney Intermodal Terminal Alliance (SIMTA) to support a modification to the Moorebank Precinct West (MPW) Stage 2 State Significant Development Consent pertaining to SSD 7709, to be submitted to the NSW Department of Planning, Industry and Environment (DPIE), to determine under Section 4.55(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Development Consent in relation to 7709 was granted by the Independent Planning Commission (IPC) on 11 November 2019 for Moorebank Precinct West Stage 2, which comprised of the following development particulars:

- Construction and 24/7 operation of an intermodal terminal (IMT) facility to support a container freight throughput volume of 500,000 twenty-foot equivalent units (TEUs) per annum, including:
    - A rail terminal with nine rail sidings and associated locomotive shifter;
    - A rail link connection from the sidings to the rail link constructed under MPE Stage 1 (SSD 6766) to the Southern Sydney Freight Line (SSFL);
    - Rail and truck container loading and unloading and container storage areas;
    - Truck waiting area and emergency truck storage area;
    - Container wash-down facilities and degassing area;
    - Mobile locomotive refueling station; and
    - Engineer's workshop, administration facility and associated car parking.

  Operation of the IMT facility includes operation of the rail link to the SSFL and container freight movements by truck to and from the Moorebank Precinct East (MPE) site.
- Construction and 24/7 operation of a warehousing estate on the northern part of the site servicing the IMT facility and including:
    - Six warehouses with a total gross floor area (GFA) of 215,000 m^2 and, for each warehouse, associated offices, staff amenities, hardstands and truck and light vehicle parking;
    - 800 m^2 freight village (operating from 7am to 6pm, 7 days / week) including staff / visitor amenities;
    - Internal roads, noise wall, landscaping, lighting and signage.
- Intersection upgrades on Moorebank Avenue at:
    - Anzac Road providing site access; and
    - Bapaume Road for left turn only out of the site.
- Construction and operation of on-site detention basins, bioretention / biofiltration systems and trunk stormwater drainage for the entire site.
- Construction works and temporary ancillary facilities, including:
    - Vegetation clearing, top soil stripping and stockpiling and site earthworks and temporary on site detention;
    - Importation of up to 1,600,000 m^3 of uncompacted fill, temporary stockpiling and placement over the entire site to raise existing ground levels by up to 3 m;
    - Materials screening, crushing and washing facilities;
    - Importation and placement of engineering fill and rail line ballast;
    - Installation and use of a concrete batching plant; and
    - Utilities installation / connection.

This Modification Application represents the **first** Modification Application which seeks to modify the existing SSD 7709 Development Consent for the following:

- Amendment to the MPW Stage 2 boundaries, with respect to indicative built form proposed under SSD 7709, via means of reconfiguration of the MPW Stage 2 boundaries. Noting, this would be consistent with the revised Development Layout Drawings provided to the NSW DPIE in relation to Condition B2 of SSD 7709;
    - It is noted, that there is no additional GFA proposed under this Modification Application, for which MPW Stage 2 would accrue a cumulative total of approximately 215,000 m^2 GFA (as approved under SSD 7709) once developed.
- Amendment to the maximum building height established across the Subject Site from approximately 21 m up to and including 45 m with respect to future built form under MPW Stage 2;
- Amendment to the noise criteria established under Condition B131 of SSD 7709; and
- Amendment to Condition B176 to allow for Dangerous Goods to be stored on-site.

Accordingly, the findings of this Planning Report identify that the proposed modifications can be accommodated without generating impacts that are considered unacceptable, in line with the relevant legislation applicable to the Subject Site; and that the proposed modifications would result in development that is materially and substantially the same as the development approved under SSD 7709. Furthermore, the proposed modifications to the Proposed Development (subject to approval) would remain consistent with the objectives outlined with the *Liverpool Local Environmental Plan 2008* (LLEP2008); *A Metropolis of Three Cities – Greater Sydney Region Plan*; the *Western City District Plan*; and remains consistent with the principles of Ecologically Sustainable Development (ESD), as part of the overall vision for the Site.

Based on the findings of this Planning Report, the modifications sought continue to support the future development of a State-of-the-Art Intermodal Facility, providing further employment-generating opportunities in the immediate locality, as well as the wider locale of the Sydney Metropolitan Area, particularly Western Sydney.

It is noted, that the modifications sought have been assessed against the SSD 7709 consent throughout this Modification Application to demonstrate that the Proposal remains substantially the same development as originally approved. As such, it is recommended, that the proposed modifications sought be approved by the NSW DPIE.

PART B SITE ANALYSIS

2.1 SITE LOCATION & EXISTING SITE CHARACTERISTICS

The identified land portion that is the subject of this Modification Application is legally defined as Moorebank Avenue, Moorebank. The Subject Site comprises one (1) allotment, as described in **Table 1** below.

Table 1: Site Identification	
Street Address	**Legal Description**
Moorebank Avenue, Moorebank	Lot 1 DP 1197707

The Subject Site comprises a total site area of approximately 220 ha (across Moorebank Logistics Park, comprising MPE and MPW) and is subject to applicable provisions outlined within the LLEP2008. Access to the Site is currently obtained via Moorebank Avenue along the eastern perimeter of the Subject Site, which contains a single entry / exit point at Chatham Road. Internal construction roads, and ultimately operation roads, include turning loops within the identified land portion to enable efficient movement and control of traffic .

The Site is situated approximately 28.20 km southwest of the Sydney CBD, 17.96 km south of Parramatta and 3.18 km south of Liverpool. It is within close proximity to transport infrastructure routes (including the bus and rail networks) along Moorebank Avenue and close by to Casula, Holsworthy and Liverpool Stations (maximum of 3 km), as well as sharing direct links within the wider regional road network, including Moorebank Avenue, the M5 Motorway, Hume Highway and Heathcote Road. All of which provide connectivity to the Subject Site and immediate vicinity, as well as the wider region. Additionally, the Subject Site is located within close proximity to active transport links, such as bicycle routes, providing an additional mode of accessible transport.

In its existing state, the Subject Site comprises a developing logistics park and terminal and is surrounded by similar industrial-related developments. Land surrounding the Site comprises the following zoning categories, including:

- IN1 General Industrial;
- SP2 Infrastructure;
- E1 National Parks and Nature Reserves;
- E3 Environmental Management;
- RE1 Public Recreation;
- W1 Natural Waterways;
- R2 Low Density Residential; and
- R3 Medium Density Residential.

The nearest sensitive land use is within the E3 Environmental Management and W1 Natural Waterways zones, located to the west of the Subject Site. Accordingly, mitigation and protection measures would be required as part of any future development proposed, in order to preserve the amenity of the Subject Site.

The Site is subject to the provisions outlined within LLEP2008, which the primary Environmental Planning Instrument (EPI) and categorises the Site within the IN1 General Industrial and E3 Environmental Management zones, as displayed in **Figure 1** below. The Site and surrounding context are illustrated in **Figures 2** & **3** below.

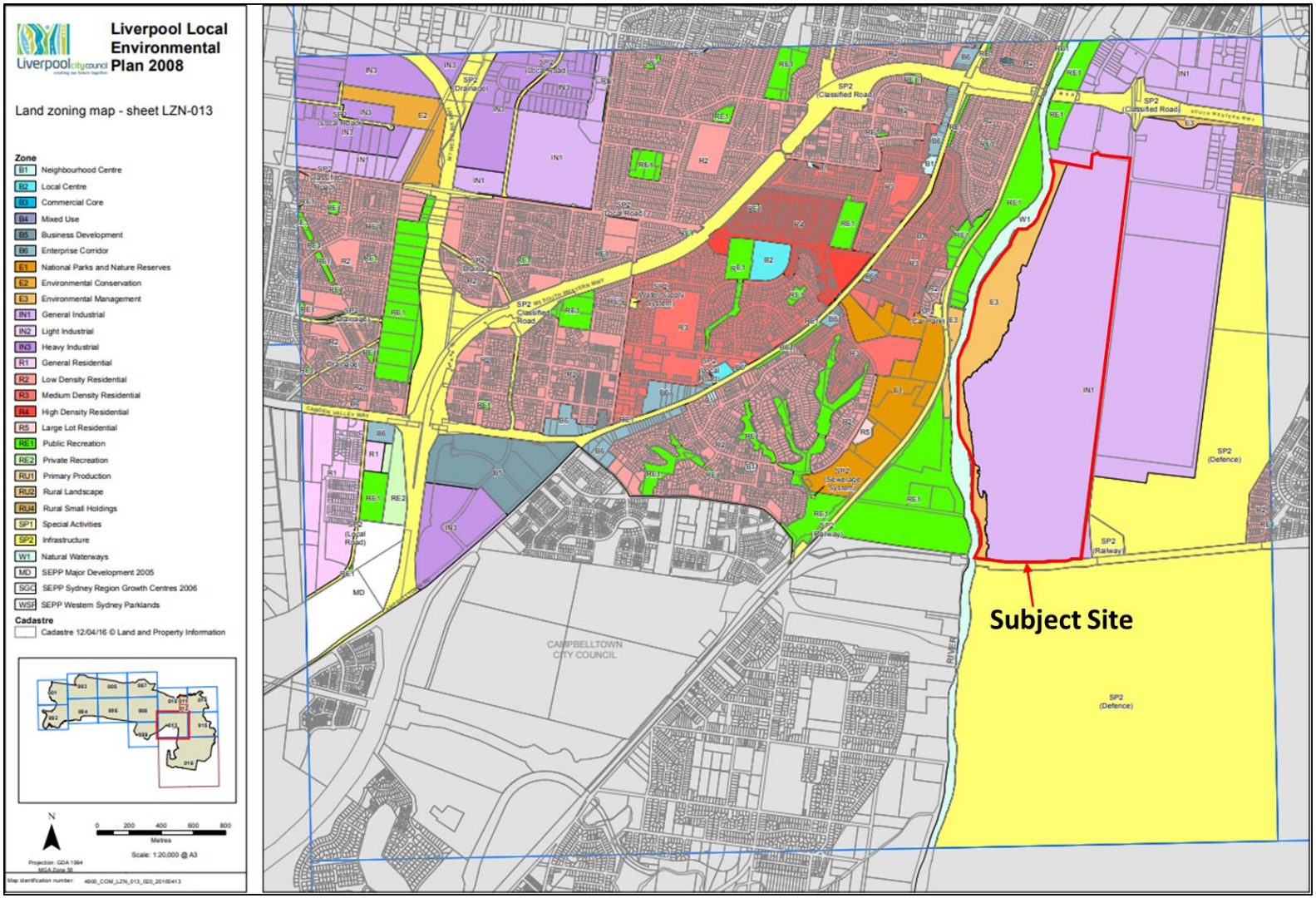

Figure 1 Land Zoning Applicable to the Subject Site under *Lane Cove Local Environmental Plan 2009* (Source: NSW Legislation, 2020)

Figure 2 Existing Site Context and Surrounding Area (Source: NearMaps, 2020)

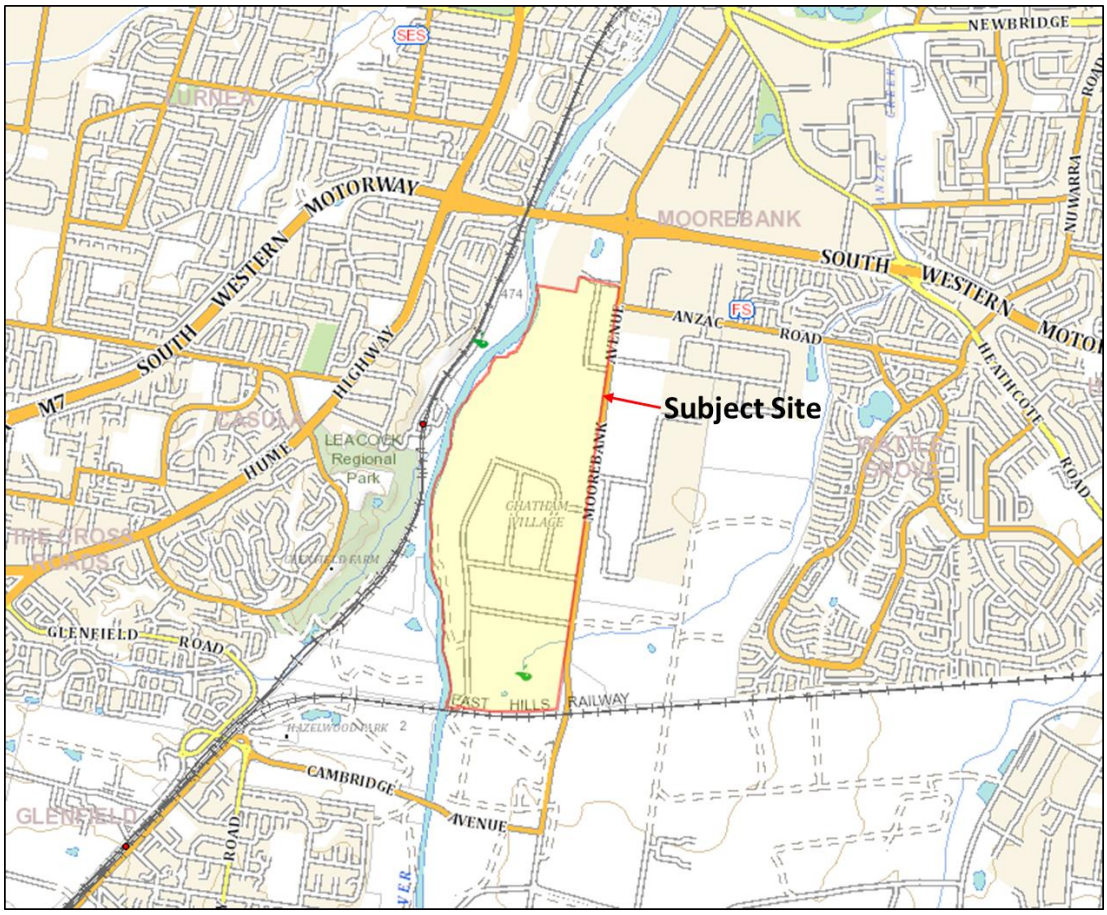

Figure 3 Cadastral Image of Subject Site and Surrounding Context (Source: SIX Maps, 2019)

2.2 LAND OWNERSHIP

The Commonwealth of Australia is the owner of the Subject Site pertaining to the land portion legally described as Lot 1 DP 1197707. Formal owner's consent for the Subject Site is located in **Appendix 19** of this Modification Application.

2.3 SITE CONTEXT

Key contextual attributes of the Subject Site are noted as follows:

- The Site is situated approximately 28.20 km southwest of the Sydney CBD, 17.96 km south of Parramatta and 3.18 km south of Liverpool.
- Moorebank Avenue adjoins the Subject Site to the east, linking to the wider Moorebank Logistics Park and the wider regional road network;
- Georges River adjoins the Site to the west;
- The Subject Site is wholly located within the Liverpool LGA;
- LLEP2008 remains the primary EPI applicable to the Subject Site;
- Given the strategic location of the Subject Site being identified within the Moorebank Logistics Park, which is designated for such industrial-related uses, the proposed modifications represent a logical outcome that would provide employment-generating opportunities (with respect to future built form proposed) close to where people live and nearby to available transport infrastructure routes consistent with SSD 7709; and
- The surrounding regional road network is located in close proximity to the Subject Site, which includes the M5 Motorway, Moorebank Avenue, the Hume Highway and Heathcote Road, providing enhanced connectivity to the Subject Site and surrounding area.

2.4 STRATEGIC CONTEXT

As mentioned above, the Site is included within the Land Application for the Liverpool LGA (refer to **Figure 4** below) and is zoned under LLEP2008 (refer to **Figure 1** above). Despite being located wholly within the Liverpool LGA, the relevant Consent Authority for the subject Modification Application will be the NSW DPIE; however, during the notification period, Liverpool City Council will have the opportunity to comment on the proposed. MPW Stage 2 SSD 7709 responds accordingly to the strategic context and direction intended for the Subject Site and surrounding area, as its seeks to provide an advanced State-of-the-Art intermodal precinct to support the growth and development of industrial warehousing and freight logistics across the wider Sydney Metropolitan Area. Progressive development on the Subject Site would continue to provide employment-generating opportunities that would ultimately contribute to the overall growth and development of the wider Sydney Metropolitan Area, particularly Western Sydney.

In addition to the above, the Site is identified within the Western Parkland City under the *Western City District Plan* (issued by the Greater Sydney Commission (GSC), 2018), whom the GSC sets out its strategic planning priorities, for which the following are considered to apply to the Subject Site:

- *Planning Priority W1 – Planning for a city supported by infrastructure;*
- *Planning Priority W7 – Establishing the land use and transport structure to deliver a liveable, productive and sustainable Western Parkland City;*
- *Planning Priority W8 – Leveraging industry opportunities from the Western Sydney Airport and Badgerys Creek Aerotropolis;*
- *Planning Priority W9 – Growing and strengthening the metropolitan cluster;*
- *Planning Priority W10 – Maximising freight and logistics opportunities and planning and managing industrial and urban services land; and,*
- *Planning Priority W11 – Growing investment, business opportunities and jobs in strategic centres.*

The proposed modification sought, is considered consistent and responsive to the above priorities, making a valuable contribution to the Western Parkland City, which is earmarked for development and higher and better uses with regard to the orderly and economic development of the Subject Site.

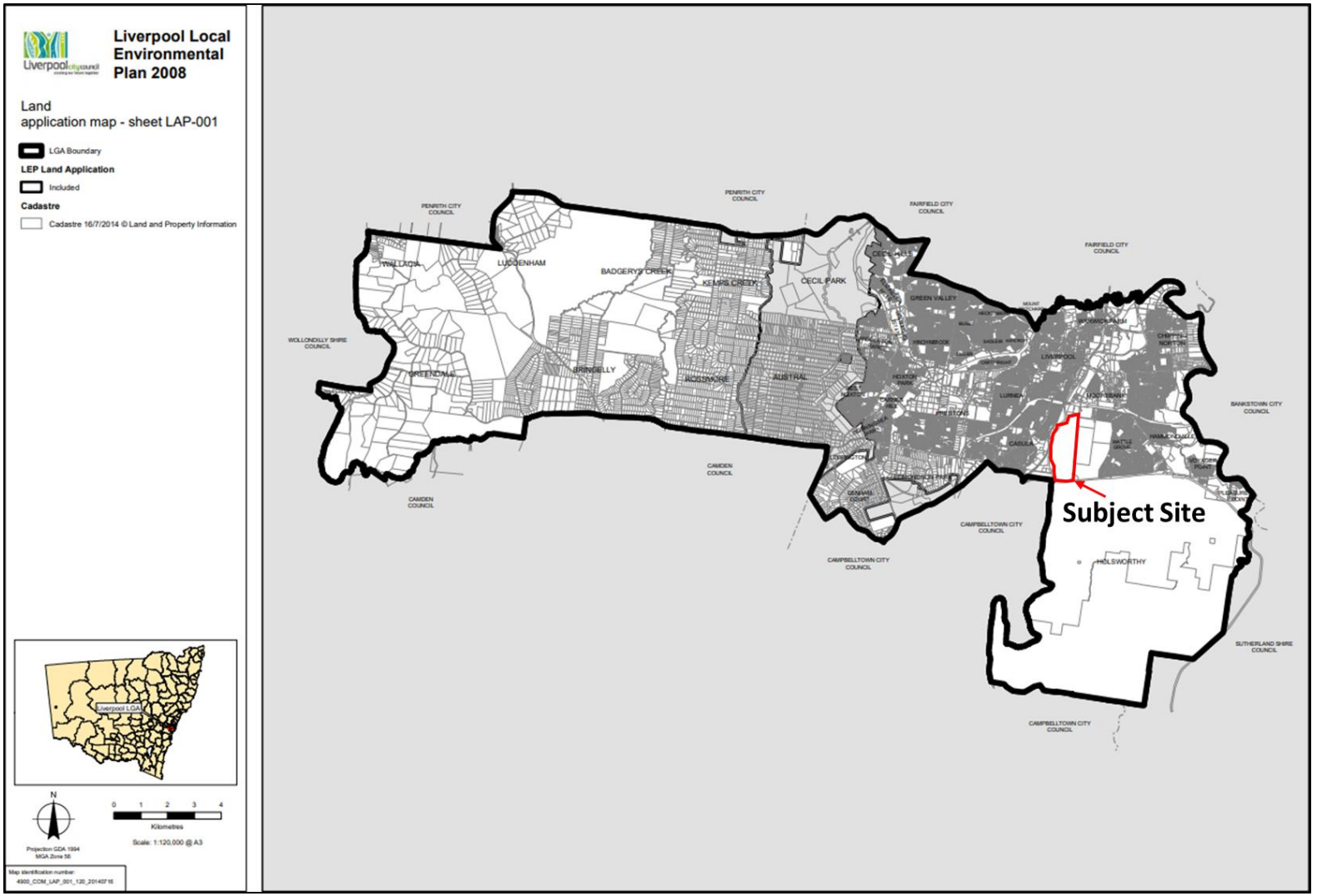

Figure 4 Land Application Under *Liverpool Local Environmental Plan 2008* (Source: NSW Legislation, 2020)

2.5 DEVELOPMENT AND PLANNING HISTORY

As mentioned in **Section 1.1** above, approval to SSD 7709 was granted by the IPC on 11 November 2019 for MPW Stage 2 across the Subject Site, which comprised of the following development particulars:

- Construction and 24/7 operation of an intermodal terminal (IMT) facility to support a container freight throughput volume of 500,000 twenty-foot equivalent units (TEUs) per annum, including:
    - A rail terminal with nine rail sidings and associated locomotive shifter;
    - A rail link connection from the sidings to the rail link constructed under MPE Stage 1 (SSD 6766) to the Southern Sydney Freight Line (SSFL);
    - Rail and truck container loading and unloading and container storage areas;
    - Truck waiting area and emergency truck storage area;
    - Container wash-down facilities and degassing area;
    - Mobile locomotive refueling station;
    - Engineer's workshop, administration facility and associated car parking.

  Operation of the IMT facility includes operation of the rail link to the SSFL and container freight movements by truck to and from the Moorebank Precinct East (MPE) site.
- Construction and 24/7 operation of a warehousing estate on the northern part of the site servicing the IMT facility and including:
    - Six warehouses with a total gross floor area (GFA) of 215,000 m^2 and, for each warehouse, associated offices, staff amenities, hardstands and truck and light vehicle parking;
    - 800 m^2 freight village (operating from 7am to 6pm, 7 days / week) including staff / visitor amenities;
    - Internal roads, noise wall, landscaping, lighting and signage.
- Intersection upgrades on Moorebank Avenue at:
    - Anzac Road providing site access; and
    - Bapaume Road for left turn only out of the site.
- Construction and operation of on-site detention basins, bioretention / biofiltration systems and trunk stormwater drainage for the entire site.
- Construction works and temporary ancillary facilities, including:
    - Vegetation clearing, top soil stripping and stockpiling and site earthworks and temporary on site detention;
    - Importation of up to 1,600,000 m^3 of uncompacted fill, temporary stockpiling and placement over the entire site to raise existing ground levels by up to 3 m;
    - Materials screening, crushing and washing facilities;
    - Importation and placement of engineering fill and rail line ballast;
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This Modification Application represents the **first** Modification Application which seeks to modify the existing SSD 7709 Development Consent for the following:

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- Amendment to the maximum building height established across the Subject Site from approximately 21 m up to and including 45 m with respect to future built form under MPW Stage 2;
- Amendment to the noise criteria established under Condition B131 of SSD 7709; and

- Modification to Condition B176 to allow for Dangerous Goods to be stored on-site at relevant portions of the Site pertaining to Warehouse areas 5 & 6.

PART C PROJECT SUMMARY

3.1 PROPOSED MODIFICATION OBJECTIVES

The aim of the proposed development (SSD 7709) is to provide warehousing and terminal development, for the purposes of an Intermodal Facility. Accordingly, the proposed modifications seek to achieve and maintain the following objectives applicable to SSD 7709, including:

- Appropriate access;
- Compatibility with surrounding developments and the local context;
- Promotes an employment-generating development;
- Results in minimal impact on the environment;
- Results in minimal impacts on the visual amenity of adjoining receivers; and
- Allows for the implementation of suitable mitigation measures where required.

The proposed modifications are considered to be the best means of achieving these objectives.

3.2 DESCRIPTION OF THE PROPOSED MODIFICATION

MPW Stage 2 Operational Layout and Height Amendment

The proposed modifications are made in relation to SSD 7709, which was granted by the IPC on 11 November 2019 for MPW Stage 2, for the purposes of an Intermodal Facility at Moorebank Avenue, Moorebank (Lot 1 DP 1197707).

Accordingly, the Proposed Development would facilitate the proposed modifications of the Site layout pertaining to the operational boundaries of MPW Stage 2; and the maximum building height to allow for the future built form on the Site, for the purposes of two (2) High Bay Warehouses, for which the Proposed Development particulars are outlined as follows:

Table 2: State Significant Development Particulars – SSD 7709 MOD 1

Project Element	Development Particular	Consistent with SSD 7709 (Y/N?)
Site Area	- 220 ha across Moorebank Logistics Park.	Y
Building Height	- 21 m approved under SSD 5066 and SSD 7709. - 45 m maximum building height proposed under SSD 5066 MOD 2 and the subject Modification Application across the relevant portions (Warehouse areas 5 & 6) of the MPW Stage 2 footprint.	N - The height approved under SSD 5066 and SSD 7709 (21 m) would require to be amended under this subject Modification Application to approximately 45 m across relevant portions (Warehouse areas 5 & 6) of the Site, for which a Clause 4.6 Variation is proposed to be submitted as part of this Modification Application (refer to **Appendix 17**). It is noted, that a Clause 4.6 Variation is not a statutory requirement under a Modification Application; however, has been prepared for consistency and completeness to provide additional justification in relation to the proposed modifications.

Primary Land Use	- Freight Transport Facilities; and Warehousing, Logistics and Industrial Facilities as approved under SSD 5066 and corresponding SSD 7709. - The proposed modifications include provisions for two (2) Warehouse and Distribution Facilities (High Bay Warehouses) to store and distribute palletised goods to consumers throughout Australia. - By enabling built form of this stature (inclusive of the proposed equipment and racking layouts) (inclusive of the proposed equipment and racking layouts), would allow goods to be stored and retrieved with greater operational and spatial efficiencies.	Y
Bulk Earthworks	- Minor earthworks are required to the existing pad to accommodate the proposed Warehouse and Distribution Facilities. - All bulk earthworks have been previously approved and carried out under SSD 5066 and SSD 7709.	Y
Stormwater	- Stormwater would be collected and disposed of to the MPW detention and bioretention basins approved under SSD 5066 and SSD 7709. The Estate basins will perform the runoff attenuation and pollution treatment as approved under SSD 7709, which considers the proposal site's – Warehouses 5 & 6.	Y
Site Access	- Access to the Site would be obtained via Moorebank Avenue via the proposed entry / exit points accompanied by turning loops within the Subject Site, as approved under the Concept Plan for SSD 5066 and corresponding SSD 7709.	Y
Infrastructure and Services	- Services to the Site are able to be successfully augmented where necessary, including potable water, electricity, gas,	Y

	wastewater and telecommunications, as approved under SSD 5066 and corresponding SSD 7709.	
Subdivision	- No subdivision is proposed.	Y
Hours of Operation	- 24/7 operational basis.	Y

It is noted, that there is no additional GFA proposed under this Modification Application, for which MPW Stage 2 would accrue a cumulative total of approximately 215,000 m^2 GFA (as approved under SSD 7709) once developed.

Figures 5-7 demonstrate the modifications proposed to MPW as a result of this Modification Application. A complete set of Architectural Plans are provided in **Appendix 3 & 4**.

Amendments to the Acoustic Criteria under Condition B131

*The Applicant must ensure that the noise generated by the overall precinct operations (defined as all activities approved for MPW and MPE) does not exceed the noise limits in **Table 4**.*

Table 4: Operational Noise Limits dB(A)

Location (residential receivers)	Day $L_{Aeq,15\ minute}$	Evening $L_{Aeq,15\ minute}$	Night $L_{Aeq,15\ minute}$	Night $L_{A1,\ 1\ minute)}$
Casula	39 dB	35 dB	35 dB	52 dB
Glenfield	35 dB	35 dB	35 dB	52 dB
Wattle Grove	36 dB	35 dB	35 dB	52 dB

Notes: *To determine compliance with the $L_{Aeq,15\ minute}$ noise limits, noise from the development is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 m of a dwelling where the dwelling is more than 30 m from the boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, the EPA may accept alternative means of determining compliance (see Chapter 7 of the NPI). The modification factors in Fact Sheet C of NPI must also be applied to the measured noise levels where applicable.*

To determine compliance with the $L_{A1,1\ minute}$ noise limits, noise from the project is to be measured at 1 m from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the project is impractical, the EPA may accept alternative means of determining compliance (see Chapter 7 of the NPI).

The noise emission limits identified above apply under meteorological conditions of:

(i) wind speeds of up to 3 m/s at 10 m above ground level; or

(ii) 'F' atmospheric stability class.

Proposed Modifications

A supplementary report has been prepared by Renzo Tonin (2020), which provides support to increase the noise limit from 35 dB(A) to approximately 39 dB(A) in Casula for all noise sources across MPW and MPE. Additional noise limits are proposed to be modified at other receiver locations for completeness, which would include noise from the operational use of the Western Access Road traversing MPW (refer to **Appendix 10** & **11**). Further clarification of the amendments proposed are outlined within **Part F** of this Planning Report.

Amendment to Condition B176

The total quantities of dangerous goods present at any time within the development and transport movements to and from the development must be kept below the screening threshold quantities and movements listed in the Department's Hazardous and Offensive Development Guidelines Applying SEPP 33 (January 2011).

Proposed Modifications

It is noted, that the Applicant would like to amend Condition B176 to the following:

> "Should the total quantities of dangerous goods present at any time within the development and transport movements to and from the development exceed the screening threshold quantities and movements listed in the Department's Hazardous and Offensive Development guidelines Applying SEPP 33 (January 2011), a Preliminary Hazard Analysis must be provided to demonstrate compliance can be achieved with the requirements of SEPP 33."

Condition B176 restricts the proper application of SEPP 33 (with particular focus made in relation to the proposed Warehouse and Distribution Facilities), for which the SEPP 33 Report prepared by Mendham Consultants satisfactorily addresses SEPP 33; and the proposed modification to Condition B176 (refer to **Appendix 15**). **Parts E** & **F** of this Planning Report contain further consideration of the modification proposed in relation to Condition B176.

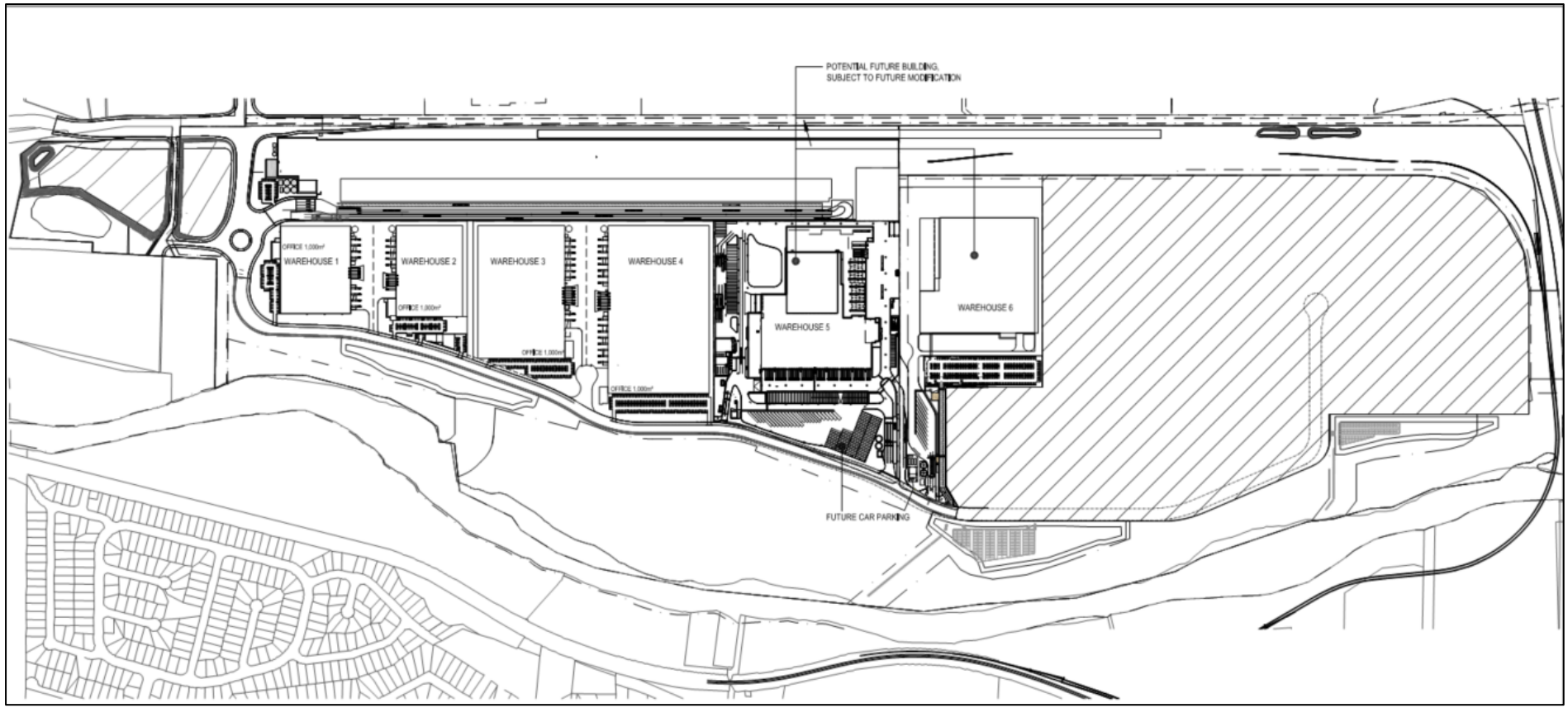


Figure 5 Amendment Proposed to Concept Approval Operational Boundaries under SSD 5066 MOD 2 and the Subject Modification Application to the MPW Stage 2 Operational Boundaries (Source: Bell Architecture, 2020)

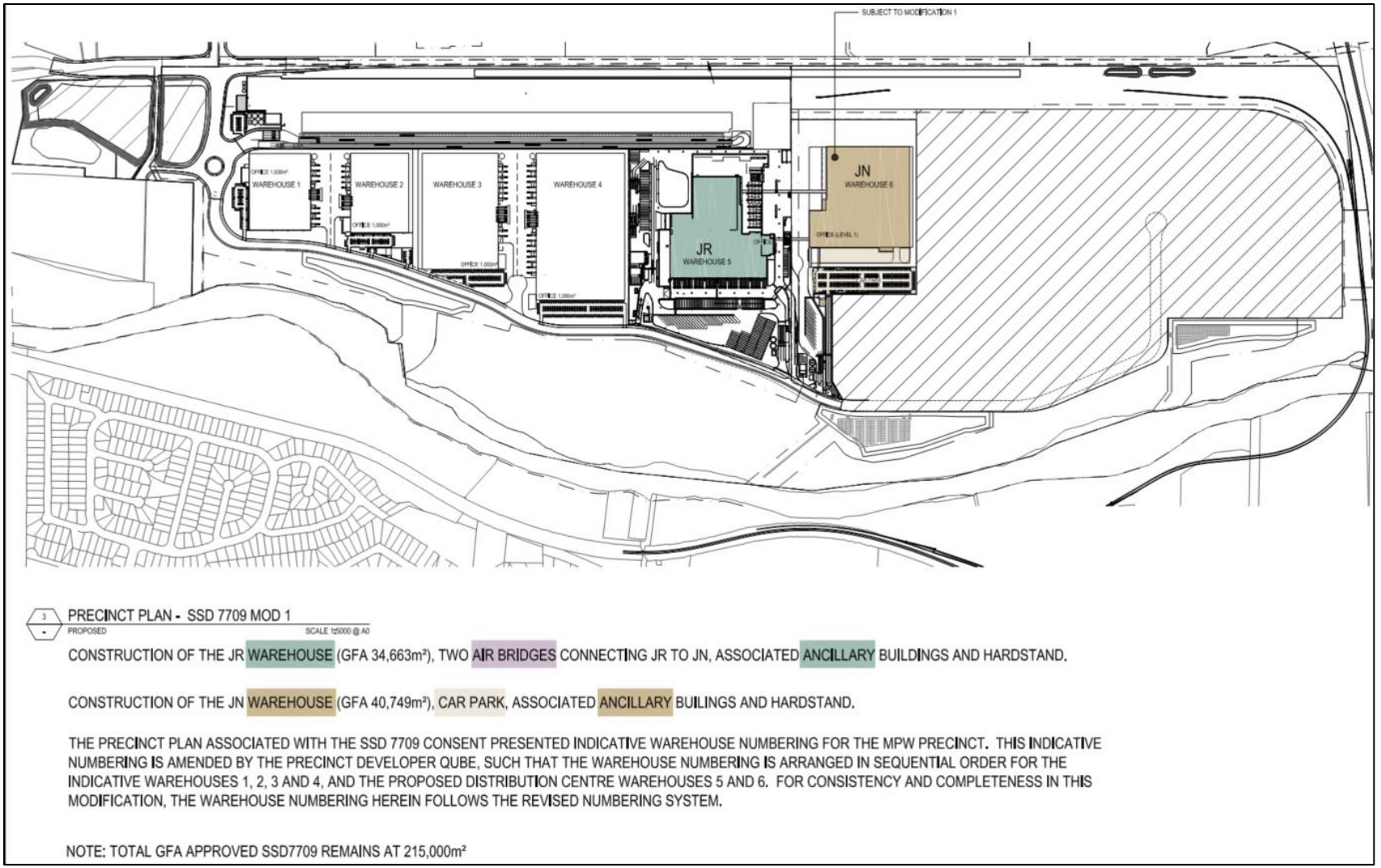


Figure 6 Proposed Precinct Plan across MPW Stage 2 as a Result of the Proposed Modifications (Source: Bell Architecture, 2020)

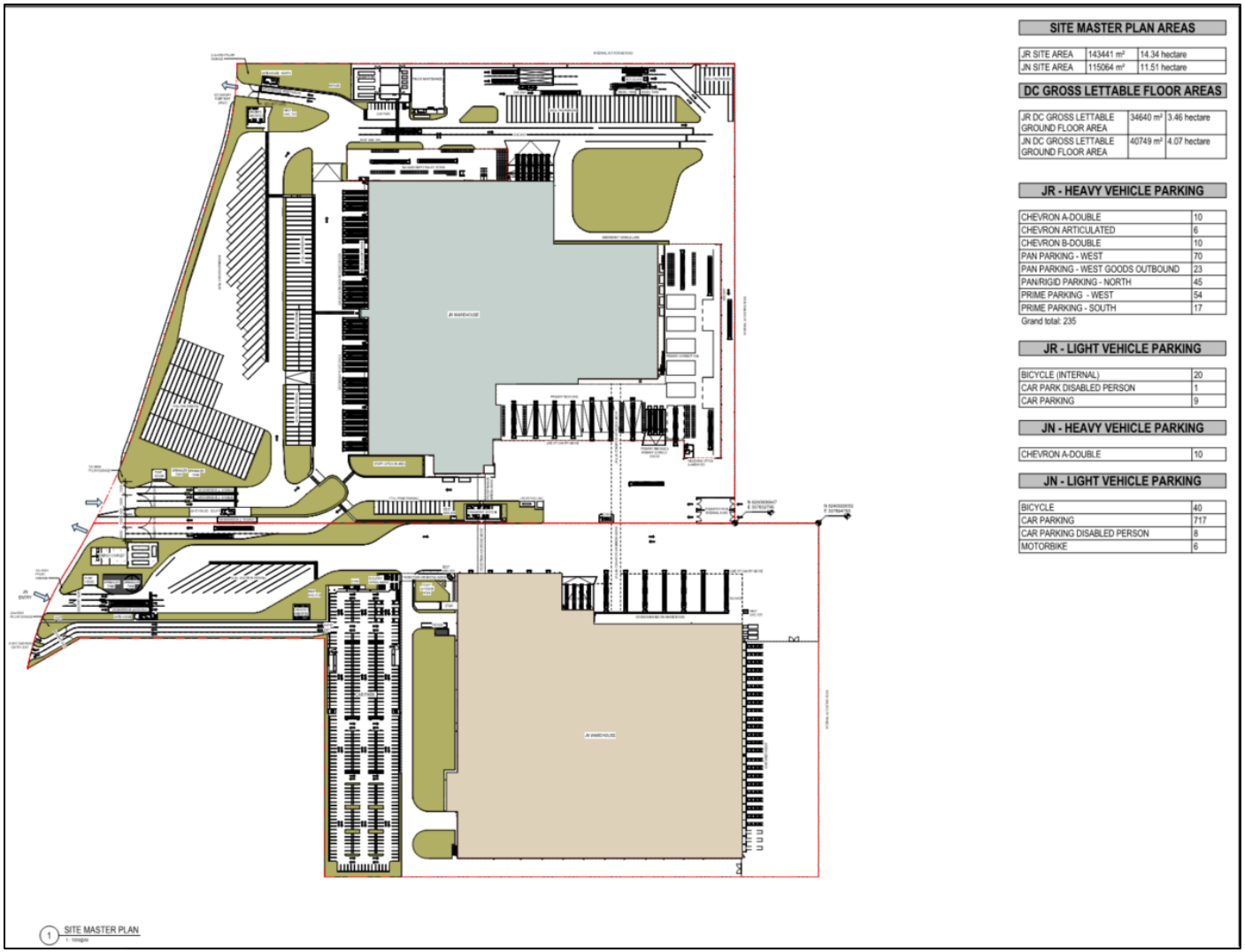


Figure 7 Proposed Site Plan in accordance with the Modifications Proposed Pertaining to Warehouses 5 (JR) and 6 (JN) (Source: Bell Architecture, 2020)

PART D JUSTIFICATION

4.1 MODIFICATION NEED

The proposed modification fulfills a significant role in satisfying market needs, as well as improving the operational efficiencies currently experienced within transport, freight and logistics businesses within NSW. Additionally, the proposed modification for a proposed height increase across Warehouse areas 5 & 6 (to allow for High Bay Warehousing) appropriately responds to the following:

- Increased need for employment opportunities in the Sydney Metropolitan Area, particularly Western Sydney;
- Increased need for availability to attain increased heights, due to limited land supply and increase land value across Western Sydney with respect to available industrial land supply; and
- Is considered to be consistent with State, Regional and Local Government objectives intended for the region and the immediate locality.

The proposed modifications would assist in providing new employment opportunities and promoting industry diversification within the industrial sector, through promotion of modernised industrial high bay warehouses. Additionally, the proposed modifications would not alter the quantity or configuration of land currently zoned for industrial-related development on the Subject Site.

The way in which palletised goods are stored and distributed throughout Warehouse and Distribution Facilities is continually evolving due to increase market needs and demands, improved technology (including automated retrieval systems); the lack of suitably zoned industrial land supply close to infrastructure services; and increased value of available land. Accordingly, the industrial sector, including development such as Intermodal Facilities (e.g. SSD 7709) and Warehouse and Distribution Facilities (relevant to the proposed modifications) are considered to be a critical developmental component, that not only provide employment-generating opportunities to the Industrial and Intermodal Sector's, but also support the operation of an end-to-end business model, comprising business to business and business to consumer services.

The proposed modifications, for the purposes of two (2) Warehouse and Distribution Facilities (High Bay Warehouses) is considered consistent with the strategic direction of both *A Metropolis of Three Cities* and the *Western City District Plan*. It is noted, that the proposed modifications will further contribute to the growth of knowledge and professional service jobs within the Western Parkland City; hence, contributing to the Western City District's economic growth.

Further, the proposed modifications sought could support the existing Moorebank Intermodal Facility, by maintaining industrial land stocks and employment objectives, whilst promoting industry diversification (and generate new employment sources); and can generate more employment throughout the planning, construction and maintenance stages.

Additionally, the proposed modifications to SSD 7709, for the purposes of two (2) Warehouse and Distribution Facilities (High Bay Warehouses) would generate a range of community need drivers, including the following considerations:

- Reduced travel distances, leading to savings in time and fuel for local working residents, due to a much better access to the MPW site. It is noted, that a reduction in travel times and distances generates related benefits, including reduced vehicle wear and tear, reduced fuel costs, reduced pollution, reduced traffic congestion, reduced

risks of car accidents, and more time which can be spent either working, socialising or undertaking activities;
- New employment opportunities from other industries, such as warehousing and distribution business to operate within the MPW site; and
- Providing jobs near people's homes and available alternate transport modes, which would entail positive economic multiplier impacts, which will enhance the local economy within the Liverpool LGA.

4.2 CONSIDERATION OF ALTERNATIVES

The intention of the proposed modifications is to construct and operate two (2) Warehouse and Distribution Facilities, which would serve to provide the future end user with a modernised State-of-the-Art automated facility, for warehousing and distribution of palletised goods across Australia. After several scenarios of development were investigated, the proposed modifications were deemed to be the most suitable for the Subject Site for the following reasons:

- LLEP2008 permits the proposed modifications, for the purposes of two (2) Warehouse and Distribution Facilities with Development Consent in accordance with Section 4.55(2) of the EP&A Act.
- Access to the regional road network is provided, namely the M4 and M7 Motorways.
- Compatibility with surrounding development and local context is achieved.
- The Site represents orderly and sequential development having regard to the proximity to the adjoining Moorebank Intermodal Precinct East (MPE), comprising the remainder of the Moorebank Logistics Park.
- Minimal impact on the environment would result.
- Implementation of suitable mitigation measures where required can be achieved.

The Subject Site is commensurate with the objectives of the proposed modifications as it allows industry-based activities, whilst minimising the impact on the surrounding environment. The Site layout proposed demonstrates a strong connection to maintain consistency with the objectives of the IN1 General Industrial zone and adjoining E3 Environmental Management zone set out within LLEP2008 and enhances the underlying employment character intended for the immediate and wider localities. Accordingly, the resultant built form reinforces the nature of the employment-generating land use within the Liverpool LGA and the wider industrial-zoned land within Western Sydney, whilst remaining sensitive to the broader surrounding environment.

In determining the most appropriate outcomes for the Site, several options were considered, and subsequently dismissed, in arriving at the current proposal. These included:

(a) The 'Do Nothing' Option

This option did not meet the commercial timing or employment objectives for the Site and was therefore dismissed. If the proposal was not to proceed, the Subject Site would remain vacant and not fulfill both its employment-generating potential and built form potential for High Bay Warehousing as a result of the proposed modification.

(b) Development on an Alternative Site

Due consideration was also given to developing alternative sites. The analysis undertaken showed that the Subject Site offered clearly superior outcomes for the intended development. It was also superior to other sites in terms of community and public benefit to the State, the Region and Local community groups, as it allowed for employment-generating opportunities in close proximity to residential communities. Some of the positive attributes of the Site were:

- It is located with the Liverpool LGA and is surrounded by existing and future industrial-related development, including warehousing and freight logistics developments;
- Proximity to the wider regional road network, services and away from sensitive land activities, such as residential development;
- Relatively free of constraints and therefore able to deliver employment and commercial outcomes;
- Immediate access to the regional road network giving the Site increased economic benefits;
- Low exposure to possible heritage affectations or impact on possible archaeological sites. Any impacts were assessed to be manageable through suitable mitigation measures pursuant to SSD 5066 and SSD 7709; and
- Excellent siting and context, thereby allowing a high quality, environmentally sensitive finished product, with appropriate visual amenity, given its surrounding context.

(c) Different Site Configuration

Many site configurations were also tested before arriving at the final design. The current configuration was chosen for the following reasons:

- Maximised the use of the employment-generating land within the Site boundaries off Moorebank Avenue and the adjoining M5 Motorway;
- Takes advantage of the configuration of the Intermodal Facility, for which the proposed Warehouse and Distribution Facilities would adjoin; and
- Makes a positive contribution towards improving associated environmental parameters, including future air quality, as well as minimising noise and vibration impacts. The implementation of a Water Sensitive Urban Design (WSUD) Strategy and energy efficiency measures for the Site will also greatly improve the overall emissions and potential environmental impacts imposed by the proposal, all of which would further reinforce Ecologically Sustainable Development.

The proposed modifications are thus able to be justified on the basis that, it is compatible with the locality in which it is proposed, whilst having an obvious positive economic, environmental and social impact on its surrounding region. The proposal has obvious strategic and planning merit and demand; supports the economic and strategic vision for Western Sydney and the Western Parkland City and is complementary to freight and logistics services traversing the Site providing leverage from other freight terminals in NSW.

The proposal is also totally aligned with the State, Regional and District Plan objectives.

4.3 PROPOSED HIGH BAY WAREHOUSES

From a locational perspective, MPW, particularly the Subject Site was chosen, as it would be able to accommodate the proposed modifications, particularly the provisions for two (2) Warehouse and Distribution Facilities, comprising High Bay Warehouses. The Site's locality is considered satisfactory from a geotechnical standpoint concerning the potential to house two (2) High Bay Warehouses, which require very precise levels. This would enable indicative automated retrieval (including corresponding racking), to be located within the High Bay Warehouses to ultimately operate to its optimum potential, delivery high quality outputs, whilst maintaining an efficient operation. Additionally, the Site's locality is reinforced by its close proximity to nearby regional road networks such as the M5 & M7 Motorways and the Intermodal Terminal, all of which assist in reducing freight costs associated with local interstate distribution to customers.

The proposed High Bay Warehouses would house operational machinery, such as automated retrieval systems, as stated above. Implementing automated retrieval systems into the desired operational business model provides high-density storage as required by the end user, whilst

maintaining a cost effective and efficient logistics operation. Enabling a high density racking area, which works in parallel with the automated retrieval system, would maximise the overall capacity for palletised goods storage over a given footprint (above that achieved in a standardised low bay warehouse).

It is important to note, that automated retrieval systems are widely used in Europe, Japan and throughout the USA. Limited examples in Australia have implemented such systems due to the relative costs of such machinery; however, recent years have seen a reduction in costs, making the option for the identified machinery to be perceived as a suitable operational option for large scale businesses throughout Australia.

PART E LEGISLATIVE AND POLICY FRAMEWORK

This Part of the Planning Report assesses and responds to the legislative and policy requirements for the proposed development in accordance with the EP&A Act.

The following current and draft Commonwealth, State, Regional and Local planning controls and policies have been considered in the preparation of this Application:

Commonwealth Planning Context

- *Environment Protection and Biodiversity Conservation Act 1999*
- *EPBC Approval 2011/6086 approved 1 July 2014 and variations 2 February 2016 and 27 September 2016*

State Planning Context

- *Environmental Planning and Assessment Act 1979*
- *Environmental Planning and Assessment Regulation 2000*
- *Protection of the Environment Operations Act 1979 – EPL 21054*
- *Biodiversity Conservation Act 2016*
- *State Environmental Planning Policy (State and Regional Development) 2011*
- *State Environmental Planning Policy (Infrastructure) 2007*
- *State Environmental Planning Policy No 33 – Hazardous and Offensive Development*
- *State Environmental Planning Policy No 55 – Remediation of Land*

Regional Planning Context

- *A Metropolis of Three Cities – Greater Sydney Region Plan*
- *Western City District Plan*

Local Planning Context

- *Liverpool Local Environmental Plan 2008*
- *Liverpool Development Control Plan 2008*

This planning framework is considered in detail within the following sections:

5.1 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

Under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), any action (which includes a development, project or activity) that is considered likely to have a significant impact on Matters of National Environmental Significance (MNES) (including nationally threatened ecological communities and species and listed migratory species) must be referred to the Commonwealth Minister for the Environment. The purpose of the referral is to allow a decision to be made about whether an action requires approval on a Commonwealth level. If an action is considered likely to have significant impact on MNES, or an action by the Commonwealth – or an action likely to have an impact on the environment on Commonwealth Land, it is declared a "controlled action" and formal Commonwealth approval is required.

In a letter of support prepared by Arcadis, dated 3 December 2019 (refer to **Appendix 12**), they note, that the EPBC Act approval for the MPW Concept was granted by the Department of the Environment and Energy (DotEE) in September 2016 (No. 2011/6086). Accordingly, the approval provided was in relation to the impacts anticipated on listed threatened species and

communities (as prescribed under Sections 18 and 18A of the EPBC Act) and Commonwealth action (Section 28 of the EPBC Act).

Notwithstanding, all potential ecological impacts with respect to the Subject Site have been previously considered under SSD 5066, as confirmed by Arcadis (refer to **Appendix 12**), for which further consideration pursuant to SSD 7709 is not considered to be required.

5.2 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Section 4.55(2) of the EP&A Act makes provisions to modify a Development Consent that has been granted pursuant to Part 4 of the EP&A Act. The proposal (proposed modifications to Moorebank Intermodal Terminal) as submitted to the NSW DPIE is considered to satisfy the provisions of Section 4.55(2) of the EP&A Act, as changes proposed would result in minimal environmental impact and be considered substantially the same development.

The relevant provisions are addressed as follows:

> *"A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if—*
>
> *(a) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which consent was originally granted and before that consent as originally granted was modified (if at all), and*

Comment: In the Legal Advice prepared by Mills Oakley (dated 21 February 2020), Mills Oakley provide their informed legal opinion as to whether the proposed modifications could lawfully be approved by way of Section 4.55(2) of the EP&A Act (refer to **Appendix 16**). Specifically, the Legal Advice considers whether the proposed modifications would still be deemed '*substantially the same'* development as the development originally approved pursuant to SSD 5066.

With respect to the Legal Advice prepared, SSD 7709 is given due consideration, which formulate the overall opinion provided. Mills and Oakley note, that in applying the '*substantially the same'* test, the focus is on 'the development' as a whole. Accordingly, a comparison must be made between the development as modified and the development that was originally approved (*Scrap Realty v Botany Bay City Council* [2008] NSWLEC 333 at [16]).

Further precedence confirms, that to pass the test, the result of the comparison must include a finding that the modified development is 'essentially' or 'materially' the same as the approved development (*Moto Developments (No 2) v North Sydney Council* [1999] NSWLEC 280 at [55]; *Vacik v Penrith City Council* [1992] NSWLEC 8).

Both a qualitative and quantitative assessment of the Modification Application is required. It is noted, that differences in qualitative and quantitative effects do not necessarily mean that the character of a development is changed in a material respect (*Davi Development v Leichardt Council* (2007) NSWLEC 106). Accordingly, even if each of the changes / modifications proposed to be made are significant in their own right, the proposed modifications may still be considered substantially the same as a whole (*Tyagrah Holdings v Byron Bay Shire Council* [2008] NSWLEC 1420 at [12]).

Quantitative Assessment

With respect to the abovementioned legal interpretation, Mills Oakley provide their assessment from a quantitative perspective with regard to SSD 5066, which confirms:

- Total warehousing GFA will remain unchanged across the Site (215,000 m^2);
- There will be a change with respect to the future built form outcomes and site layout, including:
    - An increase in the maximum building height from approximately 21 m up to and including 45 m; and
    - Reconfiguration of the concept approval boundaries for MPW.
- Access to MPW will remain unchanged.

Mills Oakley suggest, that if comparable review of the 'before' (SSD 5066) and 'after' (subject Modification Application) site layout plans identified in **Figure 8** below and **Figure 5** above were undertaken, the proposed modifications do not materially alter the Site layout of the approved development (SSD 5066) (*Gordon & Valich Pty Ltd v City of Sydney Council* [2007] NSWLEC 780). It is noted, that Condition B2 of SSD 7709 would be required to be updated to reflect the modified layout (subject to approval).

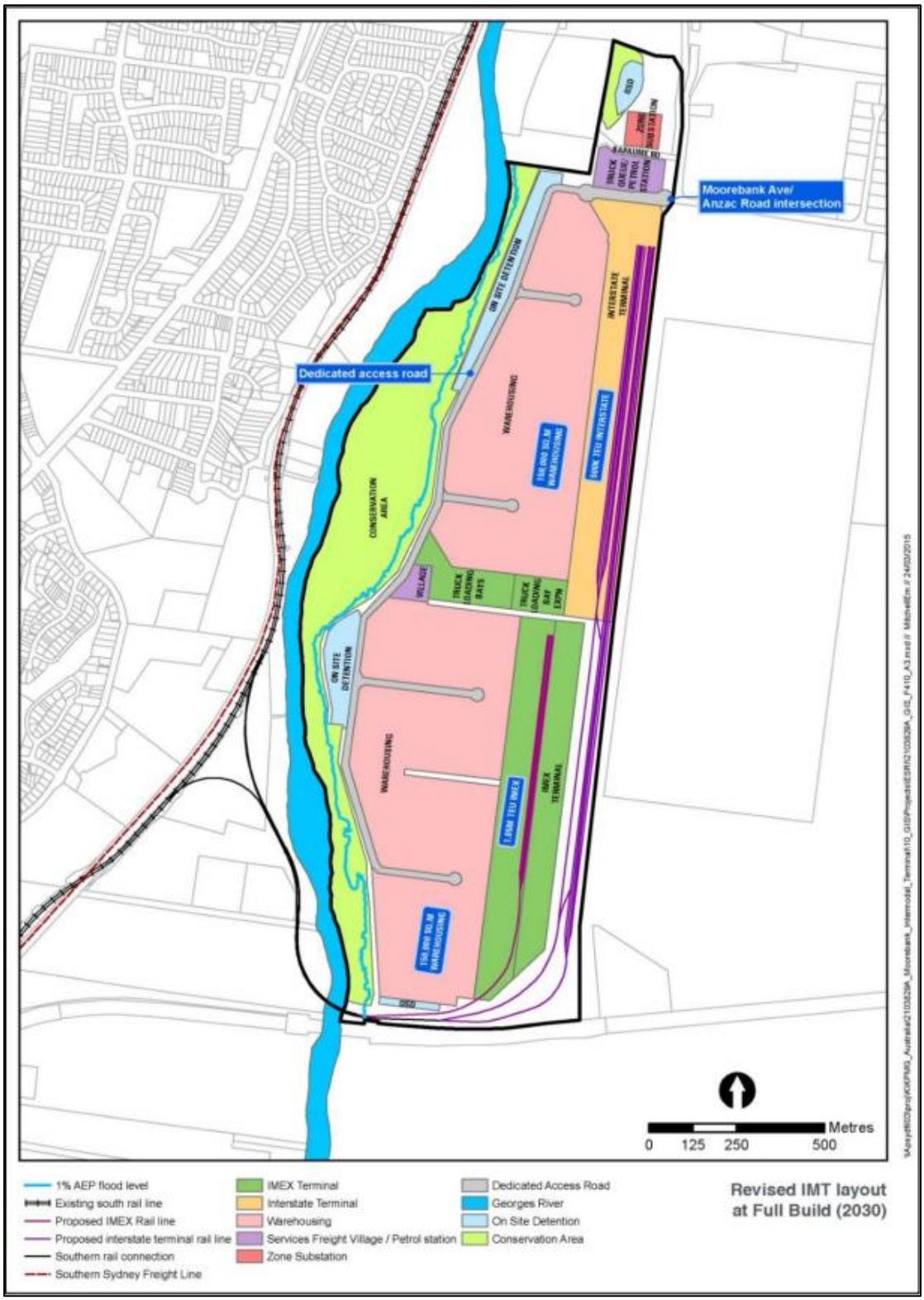


Figure 8 MPW Concept Approval – SSD 5066 (Source: Arcadis, 2016)

Additionally, in relation to the proposed reconfiguration of the MPW boundary, Mills Oakley note, that the power under Section 4.55(2) of the EP&A Act extends to permit the carrying out of development approved by the original consent on land additional to the land to which the consent as originally granted applied (*Scrap Realty Pty Ltd v Botany Bay City Council* [2008] NSWLEC 333 at [20]). This is also consistent with the update required with Condition B2 of SSD 7709 in relation to the development design layout.

An increase in building height from approximately 21 m to 45 m represents an increase of 214% with respect to maximum building heights for the Site under Clause 4.3 of LLEP2008 and the terms of consent (SSD 7709 CoC A3(c). Notwithstanding, and as stated above, the proposed modification is considered to be 'substantially the same' development.

Roberts Day considered the potential visual impacts resulting from the proposed future built form, with heights up to and including 45 m across identified portions of the Subject Site within their Visual Assessment Report (refer to **Appendix 5** & **6**):

- The significance of impact on the landscape is low / negligible due to the highly industrial nature of surrounding areas; future character of the precinct as an IMT facility, with associated warehousing; and introduction of native trees / landscape buffers compatible with the existing vegetative characteristics and planting.
- Overall, the visual impacts assessed from multiple viewpoints surrounding the Site result in impacts considered to be in the none / negligible to moderate ranges.
- Provisions for heights up to and including 45 m on specified portions of the Subject Site will constitute only minor additional built form components compared to the remainder of the wider Moorebank Logistics Park.

Accordingly, Mills Oakley do not consider the significant increase in height across relevant portions of the Site a 'radical transformation' of the original Development Consent (SSD 5066 nor SSD 7709).

Qualitative Assessment

From a qualitative perspective with regard to SSD 5066 and SSD 7709, the assessment confirms:

- The character and purpose of the original development is a 24/7 operational warehousing and distribution facility; and
- The essential feature of the original development (SSD 5066) is to achieve a throughput volume of up to 500,000 TEUs.

The proposed modifications would not materially change either of the abovementioned items, for which Mills Oakley confirm, that the modifications sought are 'substantially the same' development as the development originally approved under SSD 5066 and SSD 7709.

This assessment is consistent with the NSW DPIEs earlier conclusions with respect to SSD 5066 MOD 1 being determined as 'substantially the same' development, which included that the proposed modifications *"would not alter the purpose of the proposal for an IMT facility and associated warehouse estate."*

In summary, Mills Oakley confirm that the proposed modifications are capable of being approved pursuant to Section 4.55(2) of the EP&A Act. Whilst the proposed increase in building height from 21 m to 45 m for the two (2) Warehouses and Distribution Facilities appears significant when considered in isolation, the character and purpose of the original development (SSD 7709) as a whole will remain unchanged (i.e. a 24/7 operational Warehousing and Distribution Facility), as will the essential feature of the original development (i.e. achievement of a throughput volume of up to 500,000 TEUs).

> *(b) it has consulted with the relevant Minister, public authority or approval body (within the meaning of Division 4.8) in respect of a condition imposed as a requirement of a concurrence to the consent or in accordance with the general terms of an approval proposed to be granted by the approval body and that Minister, authority or body has not, within 21 days after being consulted, objected to the modification of that consent, and*

Comment: Following a meeting held on 29 November 2019 and further correspondence on 11 December 2019, the NSW DPIE confirmed the potential to undertake a Modification Application with regards to the proposal.

Further concurrence has been managed accordingly with both the NSW DPIE and Liverpool City Council with respect to the proposed Modification Application. It is considered that additional consultation will be undertaken by the NSW DPIE to inform the relevant State Agencies of the proposed modifications, for which any Submissions would be considered by the Proponent following the Modification Application being exhibited to the relevant State Agencies whom require to be consulted with.

> *(c) it has notified the application in accordance with—*
> *i. the regulations, if the regulations so require, or*
> *ii. a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and*
> *(d) it has considered any submissions made concerning the proposed modification within the period prescribed by the regulations or provided by the development control plan, as the case may be.*

Comment: For the purpose of this Modification Application and the provisions set out in the *Environmental Planning & Assessment Regulation 2000* (EP&A Regulation), notification of the Modification Application is not required to neighbouring properties. Any Submissions received will be formally responded to following the Modification Application being exhibited to the relevant State Agencies.

5.3 BIODIVERSITY CONSERVATION ACT 2016

The *Biodiversity Conservation Act 2016* (BC Act, 2016) is the key legislation in NSW relating to the protection and management of biodiversity and threatened species. The purpose of the BC Act 2016 is to "maintain a healthy, productive and resilient environment, for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development". The BC Act 2016 is supported by a number of regulations, including the *Biodiversity Conservation Regulation 2017* (BC Regulation 2017).

In a letter of support prepared by Arcadis, dated 3 December 2019 (refer to **Appendix 12**), they note, that SSD 7709 previously considered the potential ecological impacts of both the construction and operational footprints within the Biodiversity Assessment Report (BAR) previously prepared and undertaken for the Subject Site. It is noted, that any ecological impacts originally anticipated as a result of the scope of works approved under SSD 5066 have been subsequently offset through the retirement of Biodiversity Offset Credits in accordance with MPW Stage 2 SSD 7709 – Condition B157, which was approved in November 2019 by the IPC.

In summary, the BAR established the following observations:

- The MPW project would remove a total of 42.89 hectares of native vegetation comprising three (3) Plant Community Types (PCTs), including:
  - Hard-leaved Scribbly Gum – Parramatta Red Gum healthy woodland of the Cumberland Plain, Sydney Basin;
  - Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin; and
  - Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney.

Arcadis confirm, that all three (3) of the PCTs identified are equivalent to Threatened Ecological Communities (TECs) listed under both Commonwealth and / or State legislation.

Additionally, a total of 13 threatened flora species were identified in the Framework for Biodiversity Assessment (FBA, 2014) credit calculator as predicted flora species credit species. Three (3) of the threatened flora species credit species identified by the credit calculator were recorded within the amended proposal site, which included:

1. *Hibbertia puberula subsp. puberula*;
2. *Persoonia nutans*; and
3. *Grevillea parviflora subsp. parviflora.*

Furthermore, a total of 24 threatened fauna species were derived from the PCTs identified on the amended proposal site as predicted ecosystem credit species. However, it is noted, none of the predicted threatened fauna ecosystem credit species were recorded on the amended proposal site. It is important to note, that eight (8) threatened fauna species were identified in the credit calculator as predicted fauna species credit species. Evidence of occurrence of Koala species has been recorded, for which the relevant management plans approved under SSD 5066 and SSD 7709 would be implemented accordingly. The location of threatened flora, fauna and ecological communities is depicted in **Figure 9** below.

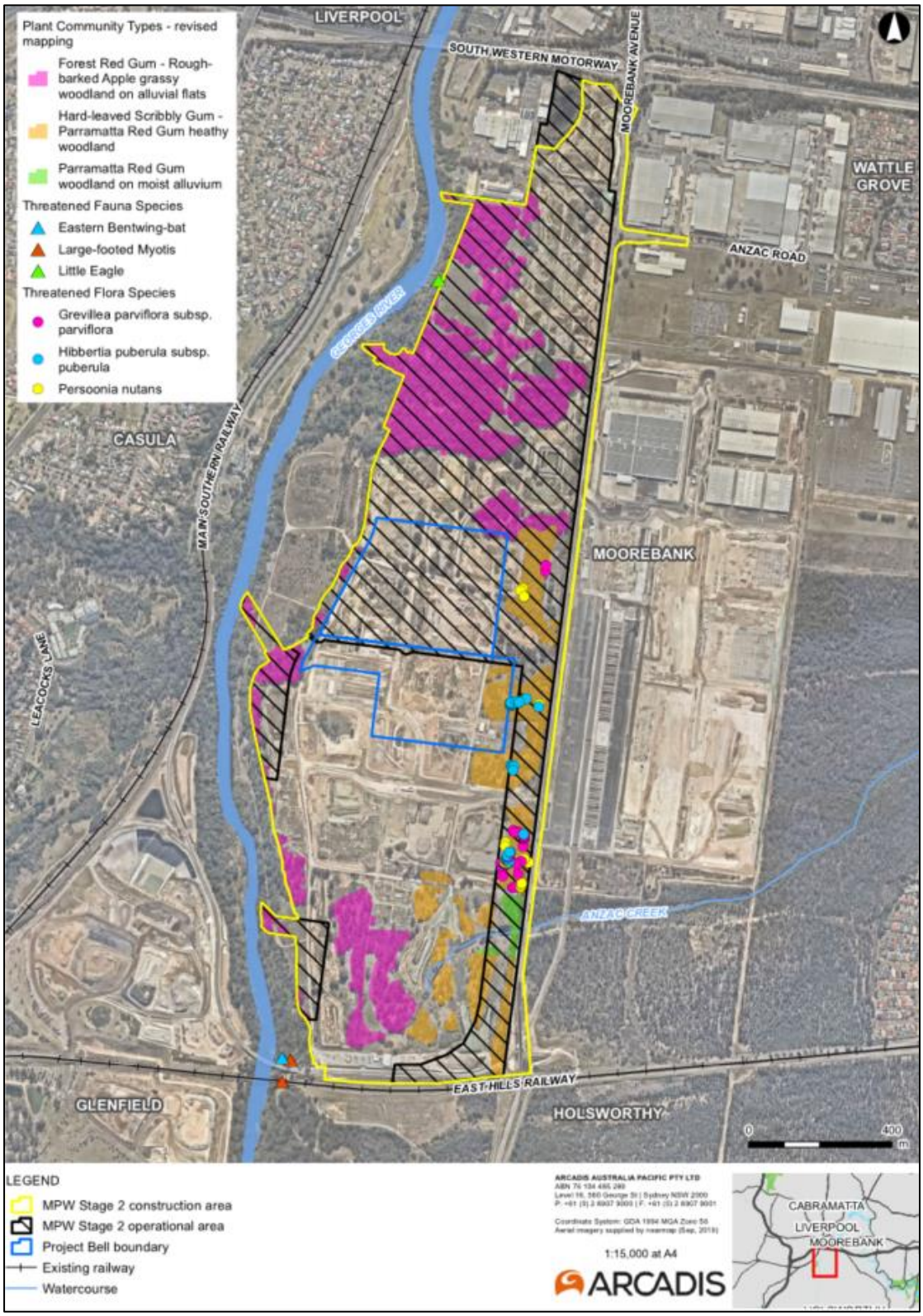


Figure 9 Potential Threatened Ecological Communities across the Subject Site (Source: Arcadis, 2020)

With regard to **Figure 9** above, the proposed modifications are wholly located within the MPW site, for which all potential ecological impacts have been assessed and offset pursuant to the Development Consent subsequently obtained under SSD 7709.

Accordingly, Arcadis conclude, that the proposed modifications are located within the MPW Concept Approval (SSD 5066 and SSD 5066 MOD 1) and the MPW Stage 2 boundary (SSD 7709), for which the potential impacts to threatened species and corresponding ecological communities have previously been considered.

Further consideration with respect to potential ecological impacts is not considered to be required in this Modification Application. Notwithstanding, the pollution control requirements to water, land and air will be consistently applied with the existing provisions of the Development Consent for SSD 7709.

5.4 PROTECTION OF THE ENVIRONMENT OPERATIONS ACT 1997

Another important item of legislation against which this Modification Application has been assessed, is the *Protection of the Environment Operations Act 1997* (POEO Act). Schedule 1 of the POEO Act contains a core list of activities that require a licence before they may be undertaken or carried out. The definition of an 'activity' for the purposes of the POEO Act is:

> *"an industrial, agricultural or commercial activity or an activity of any other nature whatever (including the keeping of a substance or an animal)."*

The proposed modifications, as submitted to the NSW DPIE, do not trigger any thresholds in respect of this legislation.

5.5 STATE ENVIRONMENTAL PLANNING POLICY (STATE AND REGIONAL DEVELOPMENT) 2011

Proposed developments involving activities that are listed in Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) are identified as being State Significant Development. Clause 19 of Schedule 1 states:

> ***"19 Rail and Related Transport Facilities***
>
> *(1) Development that has a capital investment value of more than $30 million for any of the following purposes—*
> *(a) heavy railway lines associated with mining, extractive industries or other industry,*
> *(b) railway freight terminals, sidings and inter-modal facilities.*
> *(2) Development within a rail corridor or associated with railway infrastructure that has a capital investment value of more than $30 million for any of the following purposes—*
> *(a) commercial premises or residential accommodation,*
> *(b) container packing, storage or examination facilities,*
> *(c) public transport interchanges."*

SSD 7709 was approved pursuant to the provisions of Clause 19, as it comprised a Proposal constituting a Capital Investment Value (CIV) of more than $30 Million, and is for the purposes of an intermodal facility (associated with railway infrastructure); and is for the purposes of commercial premises and container packing, storage or examination facilities.

Accordingly, the proposed modifications are consistent with SSD 7709.

5.6 STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) provides permissibility for the development of certain activities for a range of infrastructure types. The ISEPP indicates

whether an activity is permissible with or without consent and on what land use zone the activity is permissible.

For context, both SSD 5066 and SSD 7709 included provisions for the Moorebank Intermodal Terminal, which is defined as "rail freight terminals, sidings and freight intermodal facilities in accordance with the meaning bestowed under Clause 78 of the ISEPP. It is noted, that the IN1 General Industrial and SP2 Infrastructure zones are identified as Prescribed Zones pursuant to Part 3, Division 15, Clause 78(1) of the ISEPP. Accordingly, permissibility for SSD 5066 was achieved through the provisions outlined under the ISEPP.

Furthermore, the ISEPP repeals the former State Environmental Planning Policy No 11 – Traffic Generating Development and, pursuant to Clause 104, provides for certain proposals, know as Traffic Generating Development, to be referred to NSW Roads and Maritime Services (RMS) for concurrence.

Schedule 3 lists the types of development that are defined as Traffic Generating Development. The referral thresholds for 'Freight Transport Facilities' development are:

- *Any size or capacity.*

As the proposal seeks consent for proposed modifications to an existing Intermodal Terminal, referral to the NSW RMS (now TfNSW) is therefore required.

5.7 STATE ENVIRONMENTAL PLANNING POLICY NO 33 – HAZARDOUS AND OFFENSIVE DEVELOPMENT

The *State Environmental Planning Policy No 33 – SEPP 33 – Screening Test and Preliminary Hazard Analysis Report* was prepared by Mendham Consultants (2020) considers the potential hazards associated with the proposal (refer to **Appendix 15**).

Mendham Consultants (2020) note, that there are two (2) sections of the proposed building's which will comprise retail distribution, both of which will store and handle retail commodities of a wide range of commodities. Some of these commodities include small volume individual packages of hazardous chemicals; however, they are stored and distributed in significant quantities. Additionally, combustible liquid (diesel fuel) and LPG storage is provided at the Subject Site for refuelling of picking equipment such as forklifts and as standby generator fuel.

SEPP 33 requires a Screening Test to be undertaken, typically followed by a Preliminary Hazard Analysis (PHA) where screening thresholds are exceeded. There are three (3) possible levels of PHA, with the level dependent of the hazard level identified in the Screening Test. It is noted, that a Level 2 PHA assessment methodology has been followed by utilising a semi-quantitative methodology.

The findings of the Screening Test indicated that a significantly large number of small volume transportations of Dangerous Goods (DGs) occur per week as is expected of a large retail distribution centre servicing up to 266 retail stores per day. Mendham Consultants (2020) confirm that this is not a significant risk, as the results of the SEPP 33 Transportation Threshold Screening Test indicate.

The Screening Test undertaken indicates that only Class 2.1 Liquified Gas (Aerosols) exceeded the Screen Test Thresholds requiring a PHA to justify its storage in the proposed locations. Accordingly, in terms of the consequences of a hazardous incident occurring at the Subject Site subsequently affecting undeveloped neighbouring industrial sites, for which two (2) potential incident sources were taken forward from an initial hazard identification analysis for further review. These incidents included:

1. A fully developed fire associated with the DGs Package Store (Special Goods Store) involving failure of the AS1940 compliant non-fire rated roof with subsequent fire and smoke plume emanating from the roof opening.
2. A fully developed fire associated with the Aerosol Store involving failure of the non-fire rated roof with a subsequent fire and smoke plume emanating from the roof opening.

Mendham Consultants (2020) note, that the identified hazard for both scenarios undertaken was radiant heat, as the potential for explosion was considered very low due to the small size of individual retail packages in each store and the robustness of store construction. Toxic release was considered atypical due to the non-storage of toxic hazardous chemicals in each location.

Furthermore, point source radiant heat analysis indicated for both scenarios that the level estimated at the nearest boundaries was well below 4.7 kw/m^2, so neither injury risk nor property damage risk exceeded industry accepted thresholds. Additionally, the likelihood of the hazardous incidents occurring was also estimated as very low, for which includes a probability of occurrence in the order of 2.54 x 10^{-6}.

Mitigation measures that support the low probability of a fully developed fire occurring include:

1. Robust fire rated package store design based on applicable Australian Standards (AS/NZS 3833, AS1940).
2. Early Suppression Fast Response Sprinklers (ESFR) designed for fire extinguishment rather than control of fire spread to FM Global Standards.
3. In-rack sprinkler protection to FM Global Standards.
4. Separation and segregation of DGs in accordance with AS/NSZ 3833.
5. Hazardous Area Classification in accordance with AS/NZS 60079.10.1.

For context, Mendham Consultants note, that the SEPP 33 process allows for a merit-based approach beyond initial screening tests, ensuring that locational and design considerations are an integral part of the assessment process by utilising a PHA process to facilitate the analysis undertaken. In relation to SSD 7709, Condition B176 restricts the proper application of SEPP 33, with particular focus given towards the subject Modification Application, comprising built form for two (2) Warehouse and Distribution Facilities. Mendham Consultants recommend, that Condition B176 be amended to suit the following wording, with respect to the intent of the enabling and complete application of SEPP:

> "Should the total quantities of dangerous goods present at any time within the development and transport movements to and from the development exceed the screening threshold quantities and movements listed in the Department's Hazardous and Offensive Development guidelines Applying SEPP 33 (January 2011), a Preliminary Hazard Analysis must be provided to demonstrate compliance can be achieved with the requirements of SEPP 33."

Mendham Consultants (2020) conclude that the proposed modifications, comprising the Warehouse and Distribution Facilities should not be considered potentially hazardous.

The complete SEPP 33 Report is located in **Appendix 15** of this Planning Report.

5.8 STATE ENVIRONMENTAL PLANNING POLICY NO 55 – REMEDIATION OF LAND

Under the provisions of *State Environmental Planning Policy No 55 – Remediation of Land* (SEPP 55), where a Development Application is made concerning land that is contaminated, the consent authority must not grant consent unless:

(a) it has considered whether the land is contaminated, and
(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and
(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

The suitability of the Site, in respect of SEPP 55 was previously considered under SSD 5066. Notwithstanding, in a letter of support, dated 2 December 2019 prepared by EP Risk (2020) note, that Enviroview Pty Ltd were engaged in 2016 to provide the services to the extent of a NSW EPA Contaminated Land Accredited Site Auditor in relation to the Moorebank Intermodal Terminal, for which the reviewed the Remedial Action Plan (RAP) prepared by Golder & Associates (2016). Enviroview Pty Ltd (2016) concluded, that "the RAP provided meets the requirements of the guidelines and it is my opinion that the site can be made suitable with the implementation of the RAP…"

Accordingly, the objectives of the RAP were to remediate and / or manage potential contamination risks at the Site, for which the Site could be made suitable for future land uses comprises commercial / industrial related developments.

EP Risk confirm, that given the proposed modifications are situated within an area previously assessed, further consideration is not required with respect to the provisions of SEPP 55, as the findings previously documented under SSD 5066 & SSD 5066 MOD 1 and SSD 7709 remain unchanged in relation to contamination across the Site.

The letter of support prepared by EP Risk is located in **Appendix 7**.

5.9 A METROPOLIS OF THREE CITIES – GREATER SYDNEY REGION PLAN

A Metropolis of Three Cities – Greater Sydney Region Plan (Greater Sydney Commission, 2018) divides the Sydney Region into three (3) Cities, with a vision of growth until 2056 (refer to **Figure 10** below). The Plan aims to anticipate the housing and employment needs of a growing and vastly changing population. The overall vision pursues an objective of transforming 'Greater Sydney' into a Metropolis of Three Cities, including:

- The Western Parkland City;
- The Central River City; and,
- The Eastern Harbour City

The division into three (3) cities puts workers and the wider community closer to an array of characteristics such as, intensive jobs, 'city-scale' infrastructure & services, entertainment and cultural facilities. By managing and retaining industrial land close to city centres and transport, this will ensure critical and essential services are readily available to support local businesses and community members and residents. The Proposed Development would not only achieve economic growth and prosperity but would encourage employment-generating opportunities that are considered relatively close in conjunction with residential communities, for ease of commute.

The proposed development also contributes to the four (4) standardised elements communicated across for all three (3) cities, including:

- Infrastructure and collaboration – subject to approval of the proposed modifications, future built form would be able to provide a locally derived source, readily available for distribution for local use, as well as operating on a national and global scale;

- Liveability – future built form of the Subject Site would encourage employment-generating opportunities and economic prosperity, which would have positive influences on the wider locality;
- Productivity – the Subject Site is situated within the *Western City District Plan* (**Section 5.10**); and,
- Sustainability – the modifications proposed would not cause any detrimental impacts to its wider ecological surroundings as identified in **Part F** of this Report.

In summary, the proposed modifications would contribute to the objectives set out in the *A Metropolis of Three Cities – Greater Sydney Region Plan* by promoting minor environmental impacts and the further promotion of employment-generating opportunities to the wider locality and community, positioned within the Liverpool LGA.

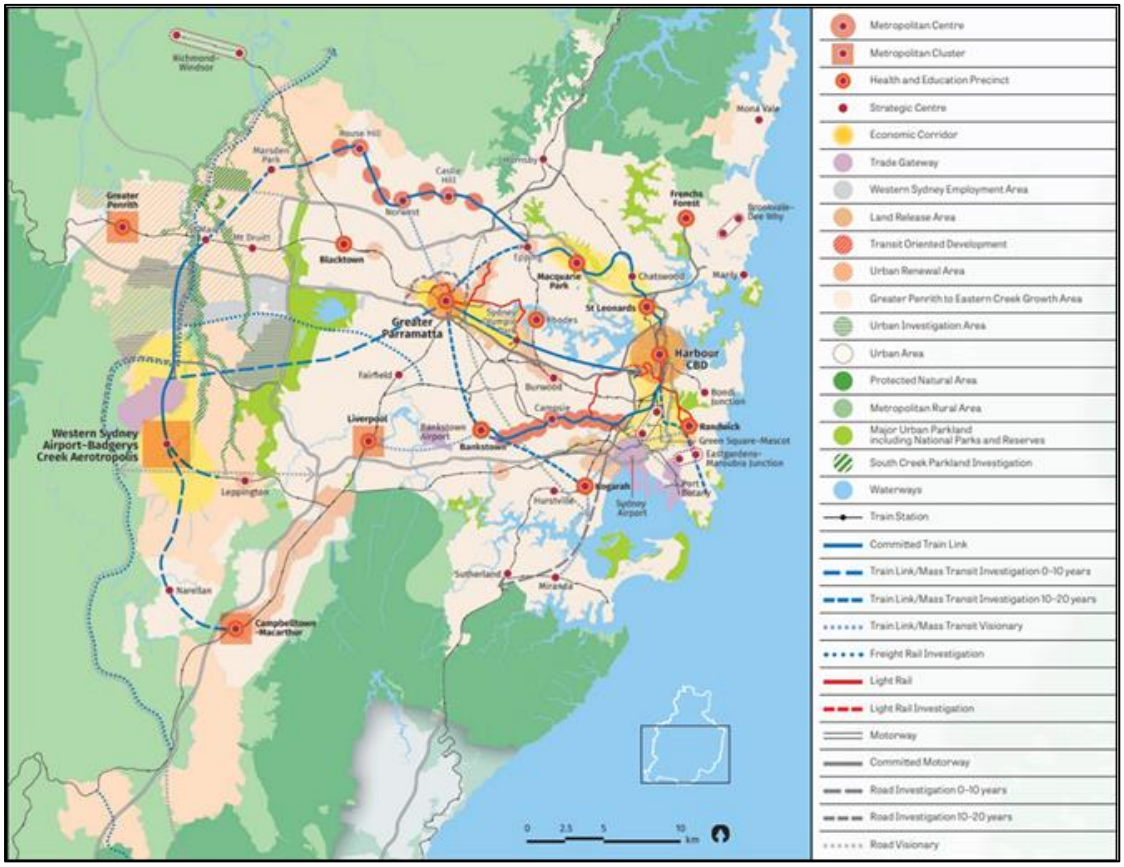


Figure 10 Metropolis of 3 Cities A Vision to 2056 (Greater Sydney Commission: Greater Sydney Region Plan, 2018)

5.10 WESTERN CITY DISTRICT PLAN

The *Western City District Plan* covers the Liverpool LGA. The Plan encourages a twenty-year plan to help encourage and establish goals set out in *A Metropolis of Three Cities – Greater Sydney Region Plan* mentioned above in **Section 5.9**. The Plan is considered the 'bridge' between Regional and Local planning.

The Subject Site – Moorebank Avenue, Moorebank is situated within the *Western City District Plan*, which falls within the Western Parkland City (refer to **Figure 11** below).

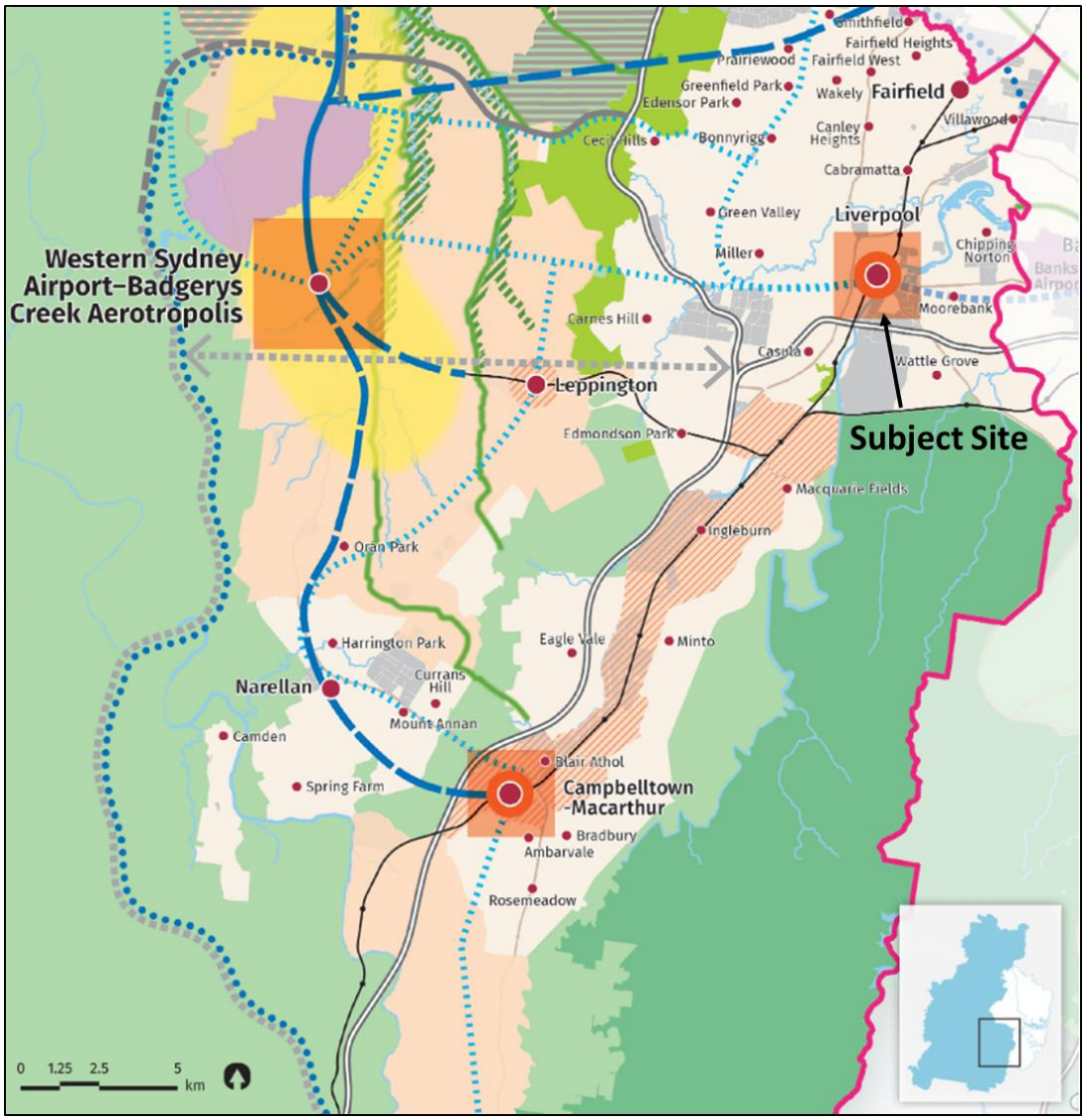


Figure 11 Western City District Plan Structure Plan (Source: Greater Sydney Region Plan, 2018)

The *Western City District Plan* reinforces the four (4) planning priorities of the GSC. The Plan establishes a number of priorities and actions to guide growth, development and change, relating to infrastructure & collaboration, liveability, productivity and sustainability.

The Greater Sydney Commission's mission statement further reinforces the Plan's concentrated aims by outlining its main strategies, namely:

- *Creating a once-in-a-generation economic boom with the Western Sydney Airport and Badgerys Creek Aerotropolis bringing together infrastructure, businesses and knowledge intensive jobs;*
- *Building on the Western Sydney City Deal to transform the Western City District over the next 20 to 40 years by building on natural and community assets and developing a more contained Western City District with a greater choice of jobs, transport and services aligned with growth;*
- *Delivering the first stage of the North South Rail Link;*
- *Collaborating and building strong relationships between Liverpool, Greater Penrith and Campbelltown-Macarthur reinforced by the emerging Badgerys Creek Aerotropolis forming a unique metropolitan cluster;*

- *Providing major transport links for people and freight by unprecedented transport investments;*
- *Developing a range of housing, providing access to public transport and infrastructure including schools, hospitals and community facilities;*
- *Linking walking and cycling paths, bushland and a green urban landscape framed by the Greater Blue Mountains World Heritage Area, the Scenic Hills and Western Sydney Parklands;*
- *Enhancing and protecting South Creek, Georges River and Hawkesbury-Nepean river systems;*
- *Mitigating the heat island effect and providing cooler places by extending urban tree canopy and retaining water in the landscape;*
- *Protecting the District's natural landscapes, heritage and tourism assets, unique rural areas and villages; and,*
- *Protecting the environmental, social and economic values of the Metropolitan Rural Area.*

The proposed modifications would contribute to a variety of the objectives set out in the *Western City District Plan* by promoting a greater range of land uses of benefit to the community including the proposed development approved under SSD 7709 for MPW Stage 2 within a land portion zoned for industrial purposes and other supporting commensurate land uses; and promoting additional employment-generating opportunities to the wider locality and community closer to home, whilst supporting an economically and environmentally sustainable proposed development.

5.11 LIVERPOOL LOCAL ENVIRONMENTAL PLAN 2008

LLEP2008 is the principal EPI applicable to the Site. The Site is zoned as follows:

- IN1 General Industrial; and
- E3 Environmental Management.

Table 3 outlines the relevant planning controls applicable to the Site, as stated within LLEP2008. As mentioned in **Section 5.6** above, that the Proposed Development, for the purposes of an Intermodal Terminal (as approved under SSD 7709), achieves permissibility pursuant to the provisions of the ISEPP. Notwithstanding, the LEP provisions have been adhered to below.

Table 3: *Liverpool Local Environmental Plan 2008* (LLEP2008) – General LEP Clauses		
Requirement	**Application to Proposed Development**	**Consistency with LLEP2008 Clause (Y/N?)**
Clause 2.3 – Zone Objectives and Land Use Table	*(2) The consent authority must have regard to the objectives for development in a zone when determining a development application in respect of land within the zone.*	Y
IN1 General Industrial Zone		
IN1 General Industrial – Objectives of Zone	▪ *To provide a wide range of industrial and warehouse land uses.* ▪ *To encourage employment opportunities.* ▪ *To minimise any adverse effect of industry on other land uses.*	Y

	▪ *To support and protect industrial land for industrial uses.* ▪ *To particularly encourage research and development industries by prohibiting land uses that are typically unsightly or unpleasant.* ▪ *To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.*	
Permitted without Consent	*Nil.*	Y
Permitted with Consent	*Boat sheds; Building identification signs; Business identification signs; Car parks; Cemeteries; Centre-based child care facilities; Community facilities; Crematoria; Depots; Environmental facilities; Environmental protection works; Flood mitigation works;* ***Freight transport facilities****; Garden centres; General industries; Hardware and building supplies; Helipads; Heliports; Hotel or motel accommodation; Industrial training facilities; Industrial retail outlets; Information and education facilities; Kiosks; Light industries; Liquid fuel depots; Mortuaries; Neighbourhood shops; Oyster aquaculture; Passenger transport facilities; Places of public worship; Public administration buildings; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Respite day care centres; Restaurants or cafes; Roads; Sex services premises; Storage premises; Take away food and drink premises; Tank-based aquaculture; Transport depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres.*	Y
Prohibited	*Pond-based aquaculture Any development not specified in item 2 or 3.*	Y
E3 Environmental Management Zone		
E3 Environmental Management – Objectives of Zone	▪ *To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values.* ▪ *To provide for a limited range of development that does not have an adverse effect on those values.* ▪ *To enable the recreational enjoyment or scientific study of the natural environment.*	Y

Permitted without Consent	*Environmental protection works; Home-based child care; Home occupations.*	Y
Permitted with Consent	*Building identification signs; Cellar door premises; Dwelling houses; Environmental facilities; Flood mitigation works; Home businesses; Home industries; Information and education facilities; Kiosks; Neighbourhood shops; Oyster aquaculture; Pond-based aquaculture; Roads; Roadside stalls; Tank-based aquaculture.*	Y
Prohibited	*Industries; Multi dwelling housing; Residential flat buildings; Retail premises; Seniors housing; Service stations; Warehouse or distribution centres; Any other development not specified in item 2 or 3.*	Y
LEP Clauses		
Clause 4.1 – Minimum Subdivisions Lot Size	The Site is subject to a minimum lot size of 120 ha pursuant to LLEP2008, for which the Subject Site has been previously subdivided for development purposes.	Y
Clause 4.3 – Height of Buildings	The Site is subject to a maximum building height of approximately 21 m under Clause 4.3 of LLEP2008 (refer to **Figure 12**). The height approved under SSD 5066 and SSD 7709 (21 m) would require to be amended under this subject Modification Application to approximately 45 m across relevant portions (Warehouse areas 5 & 6) of the Site, for which a Clause 4.6 Variation is proposed to be submitted as part of this Modification Application (refer to **Appendix 17**).	N
Clause 4.4 – Floor Space Ratio	The Site is subject to a maximum Floor Space Ratio (FSR) of 1:1 under Clause 4.4 of LLEP2008 (refer to **Figure 13**). Notwithstanding, there are no built form works proposed under this Modification Application.	Y
Clause 4.6 – Exceptions to Development Standards	The height approved under SSD 5066 and SSD 7709 (21 m) would require to be amended under this subject Modification Application to approximately 45 m across relevant portions (Warehouse areas 5 & 6) of the Site, for which a Clause 4.6 Variation is proposed to be submitted as part of this Modification Application (refer to **Appendix 17**).	Y

	It is noted, that a Clause 4.6 Variation is not a statutory requirement under a Modification Application; however, has been prepared for consistency and completeness to provide additional justification in relation to the proposed modifications.	
Clause 5.10 – Heritage Conservation	The proposed modifications would not result in any inconsistencies with respect to the previous investigations undertaken on the Subject Site, including any recommendations required to be implemented across the Site, as confirmed by Artefact within their letter of support prepared for this Modification Application (refer to **Figure 14** and **Appendix 13**).	Y
Clause 5.11 – Bush Fire Hazard Reduction	All future built form proposed would be located outside vegetated and bushfire prone areas. Accordingly, the potential bushfire threat to the fixed assets (built form components) during construction is considered to be low. Additionally, the operational phase of the proposed modifications would be considered to be consistent with the objectives of *Planning for Bushfire Protection 2006* (PBP).	Y
Clause 7.6 – Environmentally Significant Land	It is noted, that SSD 5066, SSD 5066 MOD 1 and SSD 7709 considered all works that would impact the E3 Environmental Management zone, which intersects the Subject Site. The proposed modifications do not include provisions for built form works, for which Clause 7.6 of LLEP2008 would require further consideration.	Y
Clause 7.7 – Acid Sulfate Soils	The Site is subject to Acid Sulfate Soils under LLEP2008 categorised as Classes 1 & 5 potential for Acid Sulfate Soils to occur (refer to **Figure 15**). SSD 5066, SSD 5066 MOD 1 and SSD 7709 has previously considered the potential for Acid Sulfate Soils across the Site.	Y
Clause 7.8 – Flood Planning	Flood affectations across the Site with respect to the western and northern-most portions have been previously considered with respect to SSD 5066, SSD 5066 MOD 1 and SSD 7709.	Y
Clause 7.8A – Floodplain Risk Management	As above.	Y
Clause 7.9 – Foreshore Building Line	It is noted, that the majority of the Subject Site is located outside of the foreshore building line, with the exception of three (3) overland flow	Y

	drainage channels. Further consideration with regard to Clause 7.9 is not considered to be required due to no built form works proposed under this Modification Application.	
Clause 7.27 – Development of Certain Land at Moorebank	The Subject Site is identified as a 'Key Site' pursuant to Clause 7.27 of LLEP2008 (refer to **Figure 16**) earmarked for an Intermodal Terminal, for which the Subject Site responds to accordingly, with respect to both SSD 5066 and SSD 7709.	Y
Clause 7.31 – Earthworks	All bulk earthworks were approved and undertaken pursuant to SSD 5066, SSD 5066 MOD 1 and SSD 7709. There are no earthworks proposed under the subject Modification Application.	Y
Clause 7.36 – Arrangements for Infrastructure Arising out of Development of Intermodal Terminal at Casula and Moorebank	It is noted, that Clause 7.36 of LLEP2008 has been previously considered and addressed, for which the proposed modifications would remain completely consistent with.	Y

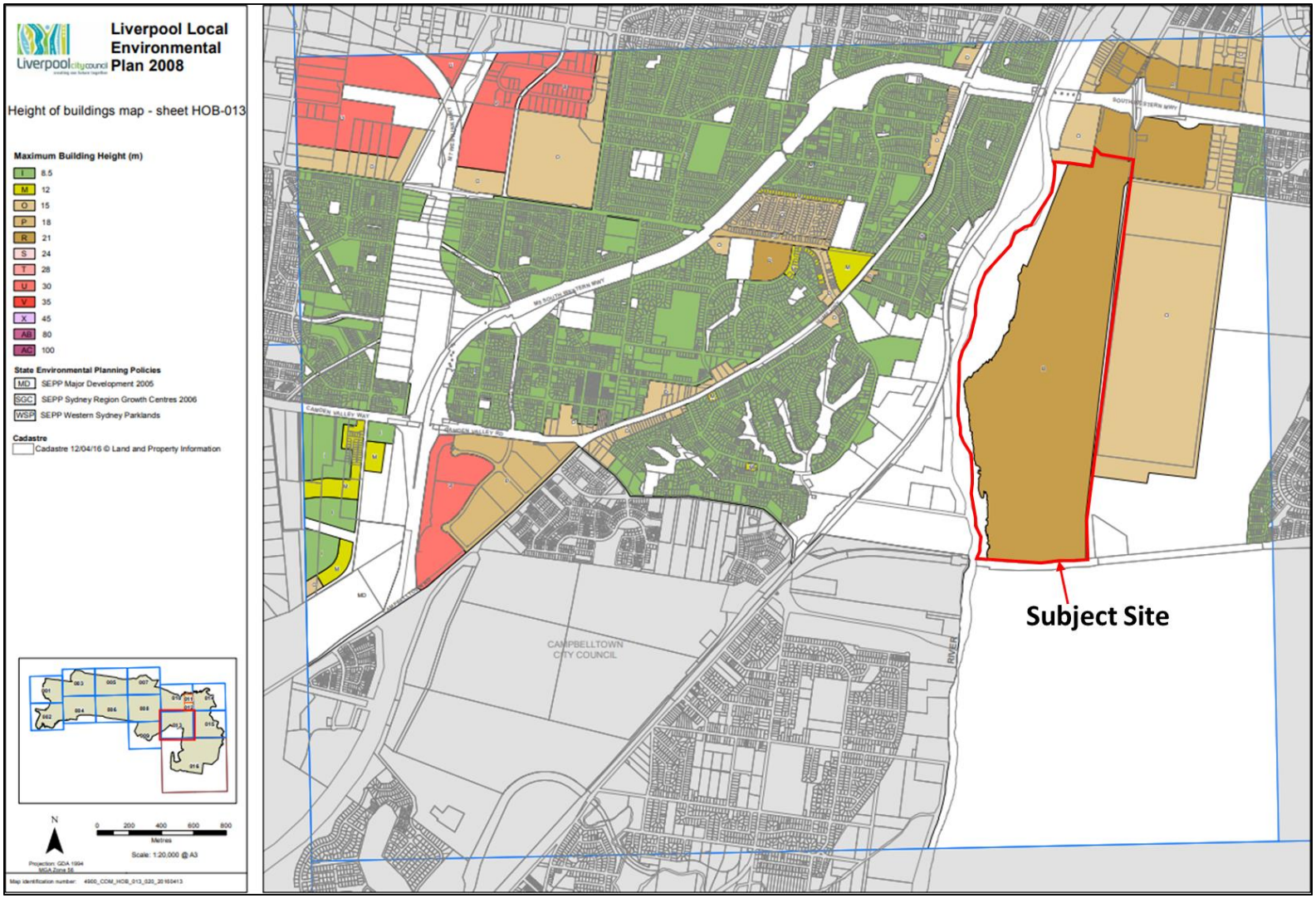


Figure 12 Maximum Building Height of Subject Site and Surrounding Area under *Liverpool Local Environmental Plan 2008* (Source: NSW Legislation, 2020)

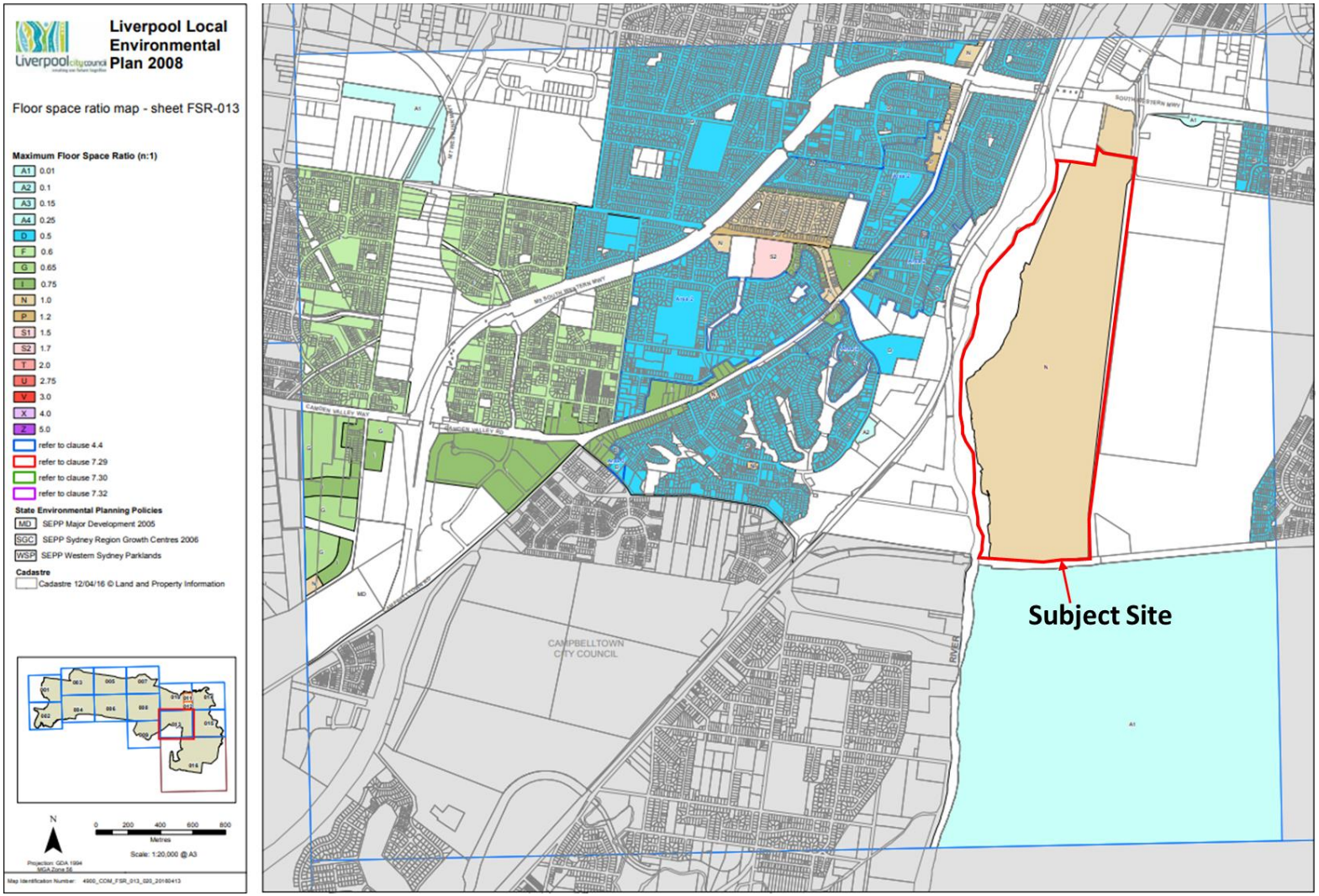


Figure 13 Maximum Floor Space Ratio of Subject Site and Surrounding Area under *Liverpool Local Environmental Plan 2008* (Source: NSW Legislation, 2020)

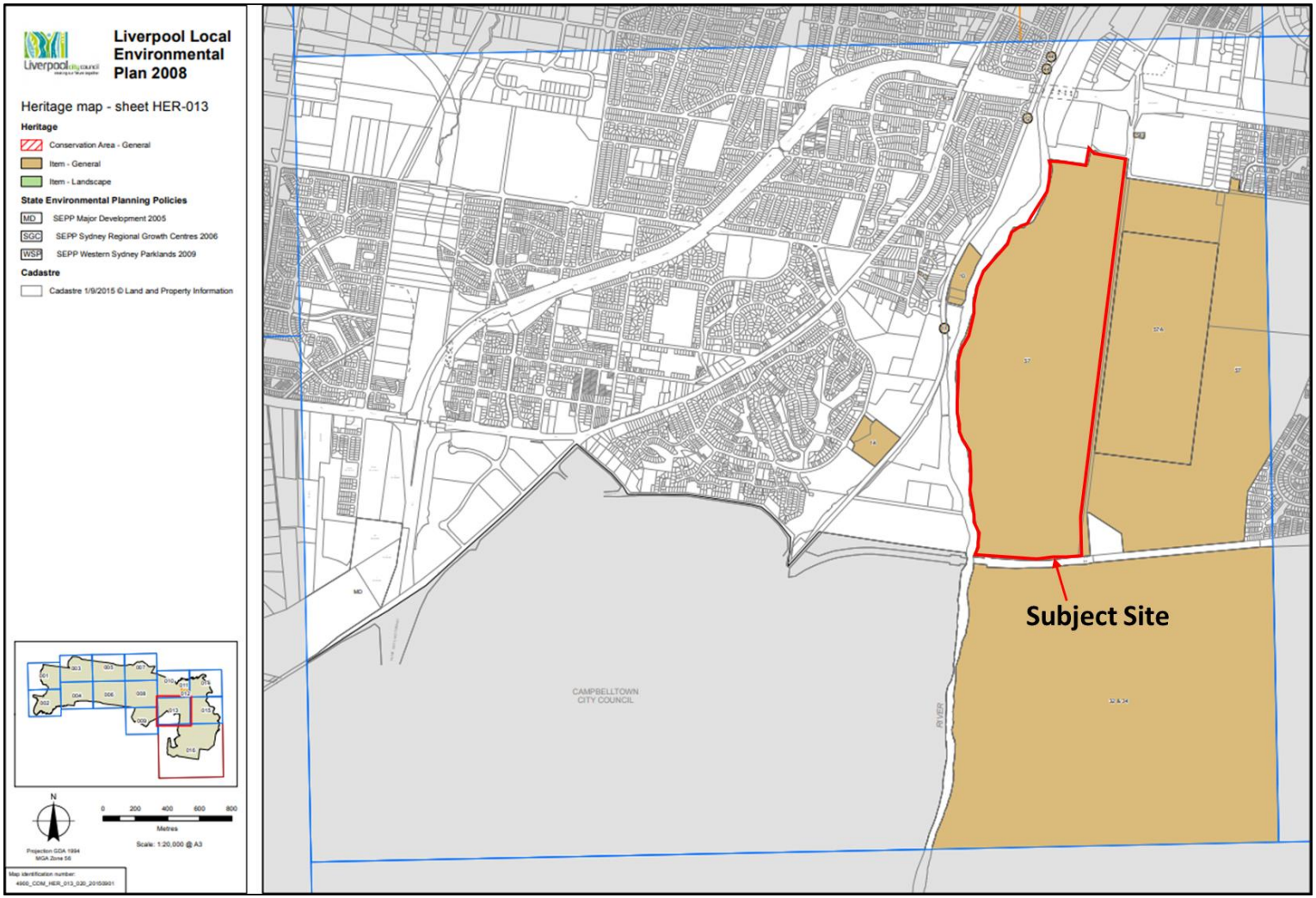


Figure 14 Local Heritage Items Applicable to the Subject Site and Surrounding Area under *Liverpool Local Environmental Plan 2008* (Source: NSW Legislation, 2020)

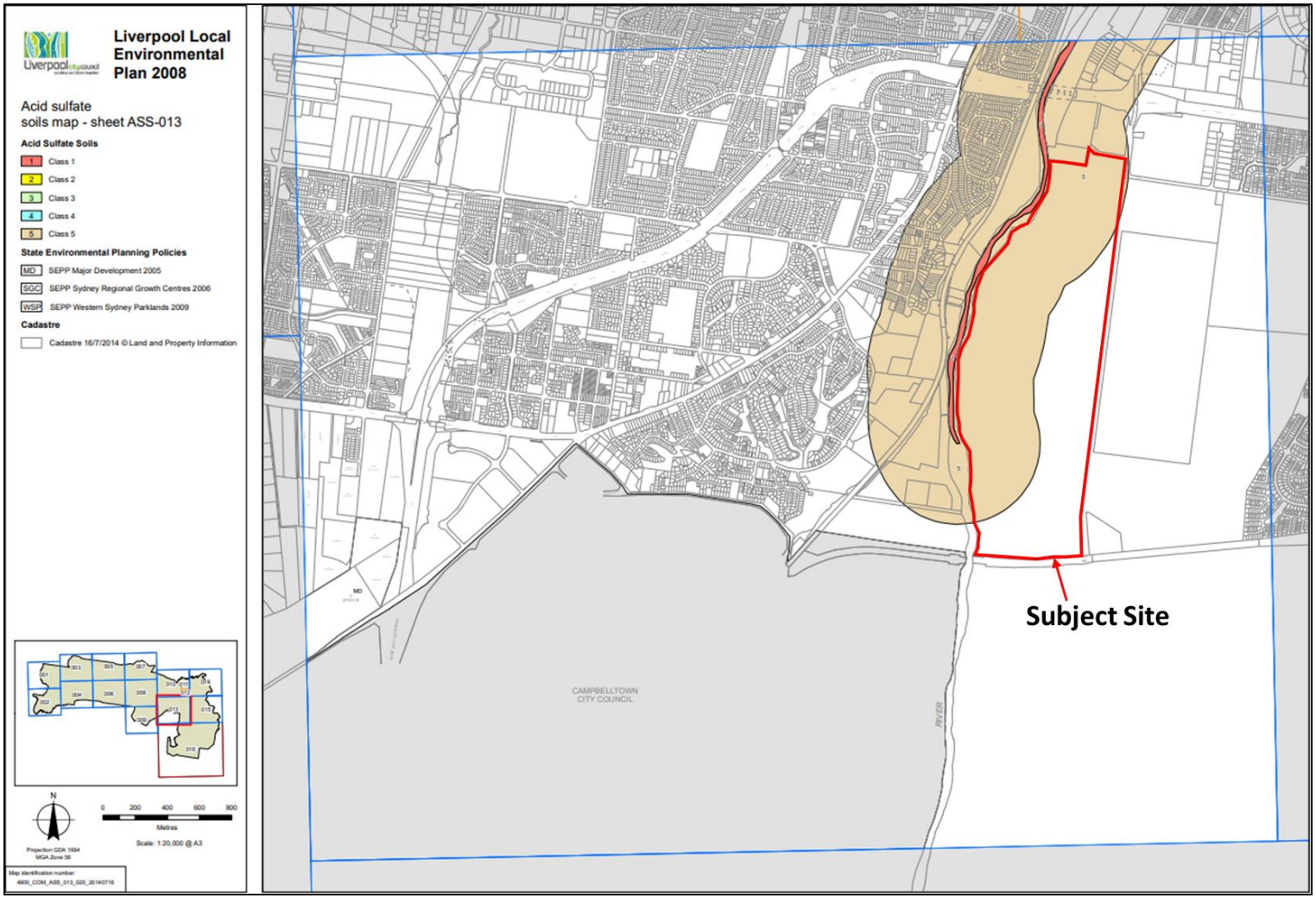


Figure 15 Potential of Acid Sulfate Soils Occurring to the Subject Site and Surrounding Area under *Liverpool Local Environmental Plan 2008* (Source: NSW Legislation, 2020)

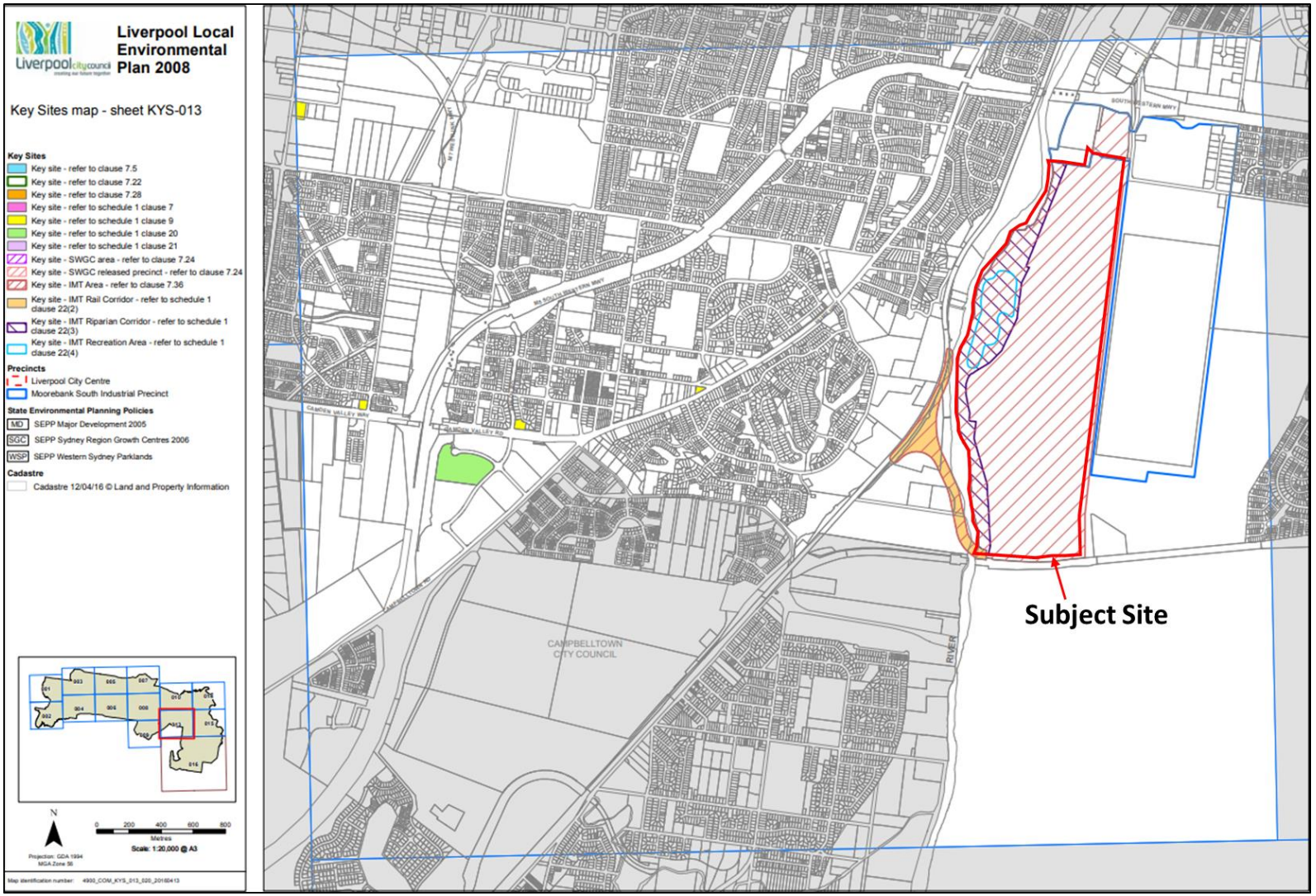


Figure 16 Key Sites Applicable to the Subject Site and Surrounding Area under *Liverpool Local Environmental Plan 2008* (Source: NSW Legislation, 2020)

5.12 LIVERPOOL DEVELOPMENT CONTROL PLAN 2008

The *Liverpool Development Control Plan 2008* (LDCP2008) was formally adopted by Council on 28 July 2008 and came into regulatory effect as of 29 August 2008. The LDCP2008 is to be read and applied in conjunction with LLEP2008, for which, if there is an inconsistency between the two (2), the LEP would prevail over the DCP.

The aims and objectives of the LDCP2008 are as follows:

(a) To provide more detailed provisions for regulating the carrying out of development.
(b) To protect and improve the natural environment in the City of Liverpool.
(c) To protect and improve the amenity of the City of Liverpool.
(d) To protect personal safety and to minimise the risk of damage to areas subject to environmental hazards, particularly flooding.
(e) To promote a high standard of urban and environmental design.
(f) To conserve, protect and enhance the environmental heritage of the City of Liverpool.
(g) To encourage a diversity of housing to meet the needs of the residents of the City of Liverpool.
(h) To facilitate development that is environmentally sustainable.

It is noted, that DCPs do not apply to State Significant Development Applications (SSD 7709) under the SRD SEPP. Notwithstanding, a review of the core controls applicable to the proposed modifications, for the purposes of a proposed Intermodal Terminal approved under SSD 7709 with regard to the Subject Site can be found in **Appendix 18**.

PART F ENVIRONMENTAL ASSESSMENT

The key planning matters for consideration, as they relate to the modified proposal are addressed in the ensuing subsections.

6.1 CONTEXT AND SETTING

The proposed modifications in relation to SSD 7709, concerning MPW Stage 2 would remain consistent with the intended development of industrial-zoned land positioned within the Liverpool LGA. The proposed modifications in relation to height; noise criteria; and Dangerous Goods would enable the efficient and sustainable use of such designated industrial land via adherence to the provisions, and overarching aims, and objectives set out within LLEP2008, that allows for the construction and operation of an Intermodal Facility and other industrial-related development. Accordingly, the proposed modifications to SSD 7709 would beneficially contribute to the regional and local economies and population groups positioned in the wider locality

The proposed modifications to the concept layout and maximum building height would continue to remain consistent and compatible with surrounding industrial land uses (eastern and northern boundaries), including warehouses and industrial facilities, as well as the adjoining Moorebank Precinct East (MPE) Intermodal Facility within the wider Moorebank Logistics Park, that are designated for such employment-generating land uses of similar and parallel nature. Accordingly, the Site would not adversely impact the identified residential typologies, located to the west (adjoining George River) and far east (adjoining and screened by MPE) of the Subject Site, which are zoned R2 Low Density Residential. Therefore, the Site (including the proposed modifications) would not exhibit any adverse environmental or amenity impacts (refer to **Section 6.2** below).

With respect to the proposed modifications, the Site layout, informed by the revised concept layout (including boundary adjustments), proposed under SSD 5066 MOD 2 (concurrent Modification Application); and the proposed maximum building height across the Site, would continue to ensure the functional operation, with regard to the future built form of the Subject Site is enhanced, maintaining market demand and ensures that the operational needs of future end users involved are met, whilst not impacting on any other surrounding operations.

The proposed modifications would not exhibit any significant environmental impacts and would not adversely impact on the amenity or operations of any adjoining sites within close proximity to the Subject Site. Therefore, the proposed modifications in relation to SSD 7709, would be considered compatible with the Site context.

6.2 URBAN DESIGN AND VISUAL

The layout and design of Site features and built form, have been considered in terms of the visual amenity of both MPW and the broader context, in order to facilitate a positive visual outcome for the wider Intermodal Facility and the wider sensitive visual receivers throughout Casula towards the west of the Site beyond Georges River.

The architectural treatment utilised will ultimately reinforce the principles of Ecologically Sustainable Development (ESD) and reinforce the characteristics of State-of-the-Art, modernised Warehouse and Distribution Facilities, for the purposes of High Bay Warehousing. The proposed Warehouse and Distribution Facilities will incorporate energy efficient and sustainable measures that target a Five Star Green Star rating.

Specifically, the visual impact of the proposed modifications is informed by the following:

6.2.1 Site Layout including Landscaping

The proposed Site layout has been designed to ensure that the efficient use of the land and the functionality of the proposed Warehouse and Distribution Facilities, meet the operational requirements of the end user involved. The overall Site layout is configured in a sense to allow fluid access to and from the facilities provided on-site, whilst offering a sense of safety and continuity pertaining to the circulation of vehicular and pedestrian movements on-site.

The precise siting of the various structures and hardstand areas of the Site, including warehouses, offices, loading docks, car parking areas and associated landscaping, has been strategically coordinated to provide a functional layout (enabling co-location) and coherent visual outcome with respect to potentially impacted sensitive residential receivers. Where feasible, offices have been positioned and orientated to address the street frontage and loading docks located away from the street frontage.

Soft landscaping around the perimeter of the Subject Site and in the building separation zones, would soften the appearance of the built form and contribute to an attractive streetscape along the Western Ring Road, characterised by native vegetation planting and green verges. Vegetation planting would include a dichotomous array of both native and endemic trees, plants, shrubs and grass species, which would provide a natural buffer between the Site and surrounding allotments to define the separate warehouses and ensure views to and from the Site take in high quality landscaping.

The internal road system (Western Ring Road) provides direct access from Moorebank Avenue to the associated car parking, hardstand and loading dock areas for the proposed warehouses and ensures all roads have been designed in accordance with Australian Standards.

Landscaping would be consistent with the landscaping provisions stipulated within the Urban Design Development Report (UDDR), which has been prepared (and is currently under assessment) in accordance as part of the post-approval requirements for SSD 7709. Site-specific Landscape Plans can be made available during the Detailed Design phase which will appropriately satisfy the UDDR requirements and any post-approval requirements in relation to the subject Modification Application.

6.2.2 Design of Built Form

The approach to the built form of the Proposed Development, is to create an architectural treatment towards a high quality, cohesive development, with an attractive appearance, in a manner that is consistent with the success of the wider Moorebank Intermodal Logistics Park. The proposed built form incorporates a high-quality design and fabric, to ensure a positive, visual outcome and sustainable development. Additionally, the architecture is envisaged to incorporate simple (but conducive), well-proportioned buildings, accented with high-quality elements around the entry and office components.

The bulk and scale of the proposed built form is typical of similar warehousing facilities throughout the Moorebank Intermodal Logistics Park, as well as the wider Western Sydney Region; and is therefore considered highly appropriate for the Site. Accordingly, the proposed Warehouse and Distribution Facilities exhibit a consistent design that would be reflected throughout the broader area upon the development of MPW in direct proximity of the Subject Site, which provides for orderly and sequential development.

As further justified in the Clause 4.6 Variation (refer to **Appendix 17**), the proposed building bulk and scale would not cause any undesirable visual impact, view obstruction, privacy intrusion or loss of solar access owing to the provision of adequate setbacks, building separation and deep-soil landscaping.

Overall, the Site layout has been designed to address the street frontages through the

positioning and orientation of offices at the forefront of the Site, where feasible. This would provide façade articulation, as well as opportunities for passive surveillance of the street and car parking areas, in accordance with the principles of Crime Prevention Through Environmental Design (CPTED).

Façade articulation will be incorporated in warehouse design through a complementary variety of materials, colours, design features and openings, that would create visual interest and prevent the presentation of large expanses of blank wall with positive connotations for views toward the Subject Site.

6.2.3 Height, Scale, Materials and Colours

The height and scale of the Proposed Development is to be uniform and representative of the facilities within the wider Moorebank Intermodal Logistics Park, as well as industrial-related development to the north of the Subject Site. The heights proposed are considered consistent with market trends and operational requirements within the NSW Industrial Sector, whilst being consistent and transitional with industrial development adjoining the Subject Site and within close proximity. Increased heights allow for flexibility for end users and high volumes of storage; thereby, improving the operational efficiencies able to be achieved on-site. Additionally, the height and scale of the Proposed Development is further articulated within a comprehensive Visual Impact Assessment prepared Roberts Day (2020). The Visual Impact Assessment is located within **Appendix 5** & **6** of this Modification Application.

The *Visual Assessment Report* prepared by Roberts Day (2020) based the potential visual impact on visual receptors that were perceived to potentially have the highest sensitivity towards the Subject Site, with regard to the proposal for two (2) Warehouse and Distribution Facilities. These included the following viewpoint locations:

1. Public views from Anzac Road.
2. Public views from Wattle Grove residential areas.
3. Public views from Casula residential areas.
4. Public views from Leacock Regional Park.
5. Private view from existing residential tower located in Liverpool Town Centre.

Accordingly, the viewpoints utilised in preparation of the *Visual Assessment Report* prepared by Roberts Day (2020) are illustrated in **Figures 17** & **18** below. These viewpoints were inspected on both the 12 and 27 November 2019.

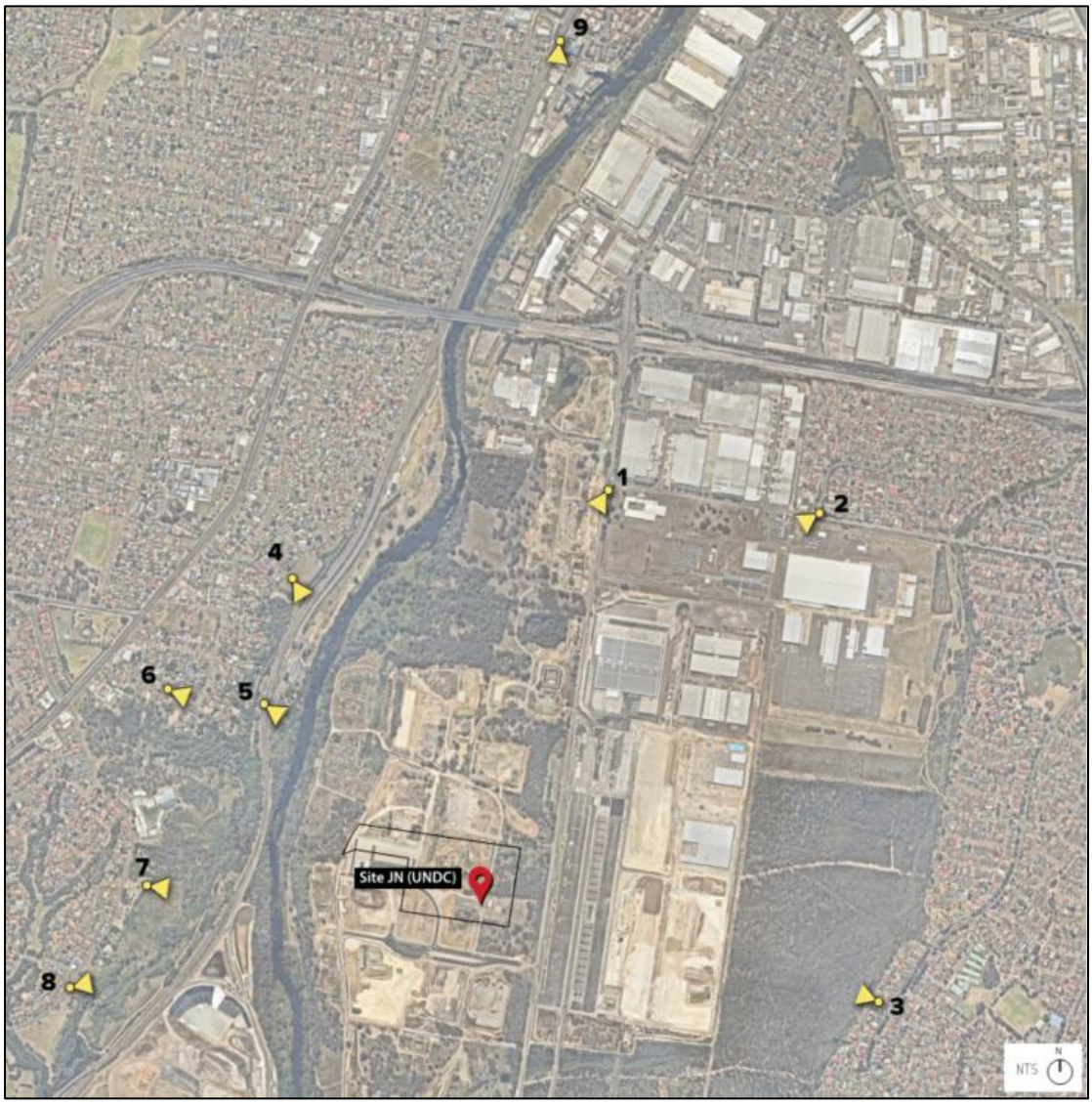


Figure 17 Viewpoint Locations utilised by Roberts Day to Inform the Preparation of the Visual Assessment concerning the 'JN' Site (Source: Roberts Day, 2020)

Figure 18 Viewpoint Locations utilised by Roberts Day to Inform the Preparation of the Visual Assessment concerning the 'JR' Site (Source: Roberts Day, 2020)

It is noted, that the Subject Site would be visually treated and suitably screened by both existing and proposed landscaping along the western boundary traversing the Georges River tributary, along with dispersed landscape planning proposed on the Subject Site, throughout the designated landscape setbacks and throughout the proposed car parking and hardstand areas, which further ameliorates the potential impacts with respect to the urban heat island effect.

Roberts Day (2020) note, that the closest residential receivers in close proximity to the Subject Site are situated to the west of the Site within Casula. Accordingly, the potential visibility of the proposal in accordance with adjoining residential properties factors in the following parameters:

- Orientation and proximity of residential receivers;
- Land elevation;
- Existing vegetation / trees; and
- Future surrounding industrial warehouses.

As shown on the Architectural Plans appended to this Modification Application report, the proposed maximum building height of the facilities attains a maximum height (at the ridge height) of approximately 45 m. This height is considered consistent with the end user

requirements for modernised industrial warehousing, encapsulating a highly cost beneficial and operationally efficient outcome. The combination experienced with respect to both market and tenant demand has significantly increased due to the lack of industrial land release and exponential land value increases, for which requires end users to reach new attainable development standards, via means of verticality to secure an ideal planning outcome. Accordingly, the proposal is considered to be of an appropriate scale and character, having regard to the desired outcome for the locality, for which the Subject Site is centralised within the MPW site, whereby the future built form of the wider MPW site would provide for a softer and improved transitional development, whilst not posing any adverse visual impacts on nearby sensitive visual receivers.

The main warehouse walls for both warehouses have been designed to present an articulated form to the public roads where visible. The application of various tones and cladding seeks to alleviate the bulk and scale of the built form, making a positive contribution to the streetscape and local character. The design of individual building components within both Warehouse and Distribution Facilities would encapsulate high commercial and industrial standards by virtue of various configurations and colours being applied throughout the Site, which responds to the potential industrial character of the wider Moorebank Intermodal Precinct, as well as the intended industrial character throughout the wider Liverpool LGA.

The colours, materials and finishes have been selected to consider the surrounding environment and orientation. External walls would consist of various tones to alleviate the bulk and scale of the built form – contributing to the surrounding streetscape of the area, including surrounding industrial zoned land. High quality finishes will be applied to the office components to provide a striking break in the bulk of the warehouse buildings.

Furthermore, the varied colour tones utilised have been chosen to help site the proposed building's more comfortably into the surrounding context. To do so, a varied colour palette has been typically utilised on the four (4) building facades of each Warehouse and Distribution Facility Accordingly, this colour scheme assists in making the buildings more recessive into the skyline and is considered consistent with regard to adjoining development throughout the wider Moorebank Intermodal Terminal and industrial development towards the north of the Site.

The overall design concept of the proposed Warehouse and Distribution Facilities, centres on a vision to provide quality functional building design solutions, that respond to the Site and wider surroundings. Accordingly, the design is more flexible in its environment and its form and matches with the end user's operational needs and standards. It also sets a new industrial standard of amenity for workers and visitors, as well as potentially impacted residential receivers, which is considered well in advance of the current nature of industrial development practices and standards.

The complete *Visual Assessment Report* prepared by Roberts Day (2020) is located within **Appendix 5** & **6** of this Modification Application.

6.2.4 Land Use Conflict

The Subject Site is located within the Moorebank Intermodal Precinct, which comprises a versatile range of industrial land uses pursuant to its IN1 General Industrial and E3 Environmental Management zoning. Accordingly, the Site context may be described as part of an employment-generating industrial precinct (Moorebank Intermodal Precinct), which the proposed Warehouse and Distribution Facilities would positively contribute to. Given the existing industrial character of the Site's surrounds, no such land use conflict is expected to occur.

There are a range of land uses which surround the Subject Site, all of which have been given due consideration in the design of the Subject Site. Of particular relevance, the following land

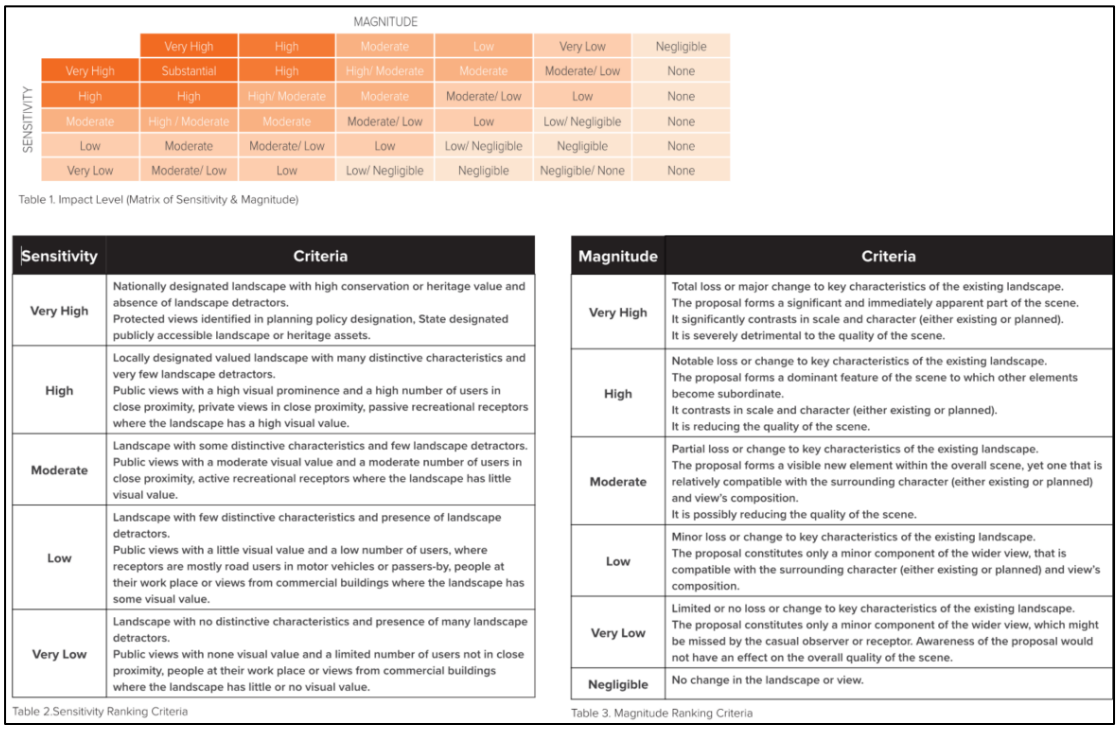
uses are noted within the vicinity of the Site:

- **North** – comprises existing industrial-related developments of similar nature and scale, for which provide for transitional, orderly and sequential development throughout land designated for industrial-related purposes and employment generation.
- **South** – comprises of SP2 Infrastructure zoned land, formulating part of the wider Heathcote National Park, which includes the Holsworthy Barracks. Further south and southwest includes R2 Low Density Residential zoned land with the suburb of Glenfield. Additionally, immediately south of the Subject Site includes IN1 General Industrial zoned land identified as MPW Stage 3, for which would be subject to future planning approval by SIMTA. Once approval has been provided for this portion of MPW, the built form will attribute to softening the bulk and scale of the proposed modifications, by providing a transitional array of development, comprising both orderly and sequential development across the Site.
- **East** – towards the east, there is a wider extension of MPW, which facilitates forming the remainder of the Moorebank Intermodal Terminal identified as MPE. Further east comprises R2 Low Density Residential and R3 Medium Density Residential zoned land; however, views with respect to the proposal would be appropriately screened by existing industrial-related developments throughout MPE.
- **West** – Residential development comprising a combination of both R2 Low Density Residential and R3 Medium Density Residential zoned land is located to the west of the Subject Site, which is sufficiently separated from the Subject Site, due to the Georges River tributary meandering the Site, as well as the elevated topographical nature of the residential receivers. Whilst Roberts Day note, that some views are afforded towards the Site (Viewpoint 4 within **Appendix 5** & **6**), the overall visual impacts are considered negligible given the wider horizon views encountered by these receivers.

In the *Visual Assessment Report* prepared by Roberts Day, they note, that a qualitative assessment of the visual impacts and changes to landscape has been undertaken based on the following guidelines:

- RMS Environmental Impact Assessment Guidance Note: Guidelines for landscape character and visual impact assessment (2013);
- The Guidance for Landscape and Visual Impact Assessment (GLVIA), Third Edition (2013) prepared by the Landscape Institute and Institute of Environmental Management and Assessment; and
- Visual Representation of Development Proposals, Technical Guidance Note 02 (2017).

Accordingly, the guidelines utilised by Roberts Day describe the assessment as a way to define the changes to the physical landscape and day to day visual effects of a project on people's views. **Figure 19** depicted below encapsulates the matrix's utilised to inform the relevant viewpoints assessed throughout the visual assessment undertaken.



MAGNITUDE

SENSITIVITY	Very High	High	Moderate	Low	Very Low	Negligible
Very High	Substantial	High	High/ Moderate	Moderate	Moderate/ Low	None
High	High	High/ Moderate	Moderate	Moderate/ Low	Low	None
Moderate	High / Moderate	Moderate	Moderate/ Low	Low	Low/ Negligible	None
Low	Moderate	Moderate/ Low	Low	Low/ Negligible	Negligible	None
Very Low	Moderate/ Low	Low	Low/ Negligible	Negligible	Negligible/ None	None

Table 1. Impact Level (Matrix of Sensitivity & Magnitude)

Sensitivity	Criteria
Very High	Nationally designated landscape with high conservation or heritage value and absence of landscape detractors. Protected views identified in planning policy designation, State designated publicly accessible landscape or heritage assets.
High	Locally designated valued landscape with many distinctive characteristics and very few landscape detractors. Public views with a high visual prominence and a high number of users in close proximity, private views in close proximity, passive recreational receptors where the landscape has a high visual value.
Moderate	Landscape with some distinctive characteristics and few landscape detractors. Public views with a moderate visual value and a moderate number of users in close proximity, active recreational receptors where the landscape has little visual value.
Low	Landscape with few distinctive characteristics and presence of landscape detractors. Public views with a little visual value and a low number of users, where receptors are mostly road users in motor vehicles or passers-by, people at their work place or views from commercial buildings where the landscape has some visual value.
Very Low	Landscape with no distinctive characteristics and presence of many landscape detractors. Public views with none visual value and a limited number of users not in close proximity, people at their work place or views from commercial buildings where the landscape has little or no visual value.

Table 2.Sensitivity Ranking Criteria

Magnitude	Criteria
Very High	Total loss or major change to key characteristics of the existing landscape. The proposal forms a significant and immediately apparent part of the scene. It significantly contrasts in scale and character (either existing or planned). It is severely detrimental to the quality of the scene.
High	Notable loss or change to key characteristics of the existing landscape. The proposal forms a dominant feature of the scene to which other elements become subordinate. It contrasts in scale and character (either existing or planned). It is reducing the quality of the scene.
Moderate	Partial loss or change to key characteristics of the existing landscape. The proposal forms a visible new element within the overall scene, yet one that is relatively compatible with the surrounding character (either existing or planned) and view's composition. It is possibly reducing the quality of the scene.
Low	Minor loss or change to key characteristics of the existing landscape. The proposal constitutes only a minor component of the wider view, that is compatible with the surrounding character (either existing or planned) and view's composition.
Very Low	Limited or no loss or change to key characteristics of the existing landscape. The proposal constitutes only a minor component of the wider view, which might be missed by the casual observer or receptor. Awareness of the proposal would not have an effect on the overall quality of the scene.
Negligible	No change in the landscape or view.

Table 3. Magnitude Ranking Criteria

Figure 19 Matrix Data Utilised to Inform Potential Visual Impacts (Source: Roberts Day, 2020)

In accordance with the Site inspections undertaken by Roberts Day, nine (9) viewpoints were analysed in close proximity of the Subject Site to determine any potential visual impacts, with respect to the proposed modifications. **Table 4** outlined below describes the potential visual impacts with respect to identified viewpoint locations.

Table 4: Summary of Visual Impact to Key Viewpoints

Viewpoints	Visual Sensitivity	Magnitude of Visual Change	Impact Level
Viewpoint 1 Moorebank Avenue	Low	Negligible	None
Viewpoint 2 Delfin Drive to Anzac Road	Low	Negligible	None
Viewpoint 3 Corryton Court	Moderate	Negligible	None
Viewpoint 4 Carroll Park at Marsh Parade	High	Moderate	Moderate
Viewpoint 5 2B Casula Road	Low	Negligible	None
Viewpoint 6 Casula Road and Canberra Avenue	Low	Negligible	None
Viewpoint 7 Leacock Regional Park	Moderate	Low	Low
Viewpoint 8 Leacocks Lane	Moderate	Negligible	None
Viewpoint 9 Shepherd Street	Low	Low	Moderate / Low

Note: the photomontages located within **Appendix 5** & **6** have been prepared by 3D modelling of the Site and wider context, by utilising accurate survey information of the Site and the surrounding area. 3D modelling of the proposed future built form has been digitally linked to the Site and matched to the photomontages prepared based on the existing coordination and reference points.

With regard to **Table 4** outlined above, Roberts Day conclude that the significance of impact on the landscape is low / negligible in accordance with the matrix information utilised within **Figure 19** above. This is primarily due to the existing and future planned industrial character of the surrounding areas; the future character of the intermodal precinct (including associated warehousing and distribution facilities); and introduction of associated landscaping provisions, including native trees / landscape buffers compatible with existing vegetative and floristic characteristics and compositions surrounding the Subject Site.

Overall, the visual impacts assessed from multiple viewpoints surrounding the Site result in impacts considered to be in the none / negligible to moderate ranges. Accordingly, from the visual assessment and analysis undertaken by Roberts Day, the built form proposed would be visible from the following locations:

- Carroll Park (Viewpoint 4).
- Residential properties throughout Casula adjoining the rail network, whereby properties are:
    - Located adjoining Carroll Park; and
    - Facing Casula Station.
- Residential towers in the Liverpool Town Centre.

Notwithstanding, the wider Casula neighbourhood has a relatively compact configuration, which exhibit limited open views towards the Site. Accordingly, the proposal will be screened by Leacock Regional Park in the southern areas, Similarly, residential properties dispersed throughout Wattle Grove will not be impacted by the proposal.

In terms of the Site's perception from the public domain, the main vantage point of the Site is over 500-900 m to the west of the Subject Site near Carroll Park in Casula. With respect to immediate public domain surroundings the proposed Warehouse and Distribution Facilities would be visible from Moorebank Avenue and the Western Ring Road, which traverse the Subject Site. It is therefore noted, that the design of the proposed Warehouse and Distribution Facilities responds suitable to the surrounding context, with due consideration taken with respect to existing and future planned industrial development, as well as surrounding residential receivers. Proposed materials, design innovation, architectural articulation and deep soil landscaping, remodels the visual amenity of the Site.

Additionally, existing views of residential dwellings around Carroll Park will be visually impacted by future developments accruing heights of the maximum 21 m able to be attained in accordance with the LLEP2008 Development Standard. The analysis undertaken by Roberts Day indicates that the proposed High Bay components will constitute only a minor additional built form component, with respect to the future industrial character and built form of the wider Moorebank Intermodal Precinct. Coupled with associated proposed landscape planting and façade design, this will effectively reduce and soften the height impacts on the surrounding receivers.

Roberts Day (2020) further highlight the key mitigation measures to consider as part of the proposal, which include:

- Retaining dense vegetation and established trees surrounding the Site for screening;
- Additional landscaping and well located screen planting to reduce the visual impact in close proximity;

- Use of native planting to reinforce the character of existing vegetation; and
- Use of façade treatment, articulation and colour selection to blend with the landscape and reduce the height impact.

The proposed architectural design and treatment, would further reduce any conflicts with adjoining landowners and limit any visual obtrusiveness, for which the building's proposed as a result of the proposed modifications have been designed consistently with the Conditions of Consent under SSD 7709, pertaining to Conditions B2, C2, C3, C8 and C9. Accordingly, any ancillary plans required can be provided as part of the post-approval documentation, subject to Development Consent.

In terms of potential noise impacts, the Proposal's Noise Impact Assessment (Renzo Tonin, 2020), has considered the acoustic wall approved under SSD 7709 along the western boundary of the Subject Site with reference to noise emissions from respective warehouse operations. It is important to strike a balance between a visually pleasing barrier (with landscaping), maintaining operational functionality and an effective sound attenuation measure along the Subject Site boundary. The architectural design aim is to achieve this desired outcome. It is noted, that the acoustic barrier (provided under SSD 7709) is required to ameliorate noise emissions from the MPW Subject Site to assist in the achievement of operational noise limits for the progressive development of the site as specified in SSD 7709 conditions B140 and B141.

6.2.5 Geotechnical Assessment

No geotechnical or topographical constraints have been identified that would preclude or restrict the development of the Subject Site. The geotechnical profile of the Subject Site has been previously considered and approved under both SSD 5066 and SSD 7709.

6.2.6 Development Control Plan

It is noted, that Development Control Plans do not apply to SSD Applications (including Modification Applications) made pursuant to the SRD SEPP. Notwithstanding, the LDCP2008 is addressed in **Section 5.14** and **Appendix 18**, having regard to the specific controls which apply to the Subject Site, and the level of compliance achieved with regard to the proposed modifications. As noted in **Sections 5.13** and **5.14**, there are no numerical non-compliances with the proposal – despite the increased height, which has been strategically justified (refer to **Appendix 17**); therefore, the subject Modification Application is considered consistent with the objectives of the LDCP2008, which are outlined as follows:

(a) To provide more detailed provisions for regulating the carrying out of development.
(b) To protect and improve the natural environment in the City of Liverpool.
(c) To protect and improve the amenity of the City of Liverpool.
(d) To protect personal safety and to minimise the risk of damage to areas subject to environmental hazards, particularly flooding.
(e) To promote a high standard of urban and environmental design.
(f) To conserve, protect and enhance the environmental heritage of the City of Liverpool.
(g) To encourage a diversity of housing to meet the needs of the residents of the City of Liverpool.
(h) To facilitate development that is environmentally sustainable.

6.2.7 Surrounding Vehicular, Pedestrian and Cycling Networks

At present, the Site is not directly serviced by public transport operations; however, Casula Train Station and the bus network along both Moorebank Avenue and Anzac Road are within close proximity to the Subject Site.

6.2.8 Signage

Proposed signage (business identification) would be provided in accordance with what is considered appropriate for the industrial use of the land, considering the need for legible way-finding signage for vehicle drivers and visitors across the Site.

The proposed signage is considered appropriate with regard to appearance and quality and is consistent and compatible with the built form and landscape character of the wider Moorebank Intermodal Precinct. Signage has been avoided where both the design and positioning could cause a safety hazard for motorists or pedestrians.
Compliance is achieved with the provisions of SEPP 64 as the signage would be limited to that for business identification purposes, generally consistent with that which exists with the Moorebank Intermodal Precinct. The Signage Plans are annotated within the complete Architectural Plans located within **Appendix 3** & **4** of this Planning Report.

6.3 TRAFFIC AND TRANSPORT

The *Transport Assessment* prepared by Ason Group (2020), has considered the potential traffic impacts as a result of the proposed modifications in conjunction with the traffic thresholds established under SSD 7709 (refer to **Appendix 8**).

6.3.1 SSD 7709 Traffic Generation

For context, the EIS that support SSD 7709 (including the Traffic Impact Assessment considered by Arcadis), indicated that MPW Stage 2 would generate the following volumes of daily traffic movements:

- 2,670 light vehicle trips; and
- 1,458 heavy vehicle trips.

Accordingly, the key objective of the Transport Assessment prepared by Ason Group is to demonstrate, that the detailed components of this Modification Application – particularly, the proposed construction and operation of two (2) Warehouse and Distribution Facilities – generate traffic volumes that are equal to, or less than the MPW Stage 2 traffic threshold volumes.

Table 5 outlined below contains the approved thresholds in accordance with the previous SSD approvals in relation to the Subject Site, which include:

Table 5: Approved Daily Traffic Generation Thresholds			
SSD No.	**Light Vehicle**	**Heavy Vehicle**	**Total[1]**
Concept Plan Approval (SSD 5066)	9,337 (4,855)[2]	10,798 (5,615)	20,135 (10,470)
MPW Stage 2 Approval (SSD 7709)	2,670	1,458	4,128[3]

Note:
1. Above daily traffic flows are 2-ways (inbound + outbound).
2. Figures in brackets demonstrate the estimated MPW traffic generation (52% of the total).
3. The Concept Plan Approval represents the MPW Site as a whole under a fully developed scenario and the MPW Stage 2 Approval represents a subset of the whole of the site.

Further to **Table 5** outlined above, **Table 6** outlined below demonstrated the approved traffic generation thresholds for MPW Stage 2:

Table 6: MPW Stage 2 Traffic Generation Thresholds (Trips)				
Time Period	**Light Vehicle (LV)**	**Heavy Vehicle (HV)**	**Total (LV + HV)**	**PCU**
AM Peak (08:00 – 09:00)	75	102	177	279
PM Peak (17:00 – 18:00)	27	94	121	215
Daily	2,670	1,458	4,128	5,586

In accordance with **Table 6** outlined above, the estimated approved threshold in terms of Passenger Car Units (PCUs), allows for a like for like comparison between the approved threshold for MPW Stage 2 and the proposed modifications. The Transport Assessment prepared by Ason Group, notes that in terms of traffic impacts on the road network – one (1) light vehicle (car) is equivalent to one (1) PCU and one (1) heavy vehicle (truck) is equivalent to two (2) PCUs[1].

6.3.2 Traffic Assessment

To establish an accurate analysis with respect to the overall potential traffic impacts from the proposed modifications on the road network, the project staff numbers must be considered in accordance with the two (2) proposed Warehouse and Distribution Facilities. The project staff numbers by shift change are outlined in **Table 7** below:

Table 7: Projected Staff Numbers by Shift for the Combined Facilities (JR & JN)			
Shift	**JR**	**JN**	**Combined**
Day Shift (06:00 – 14:00)	319	260	579
Evening Shift (14:00 – 20:00)	256	240	496
Night Shift (20:00 – 06:00)	30	-	30
Total	605	500	1,105

From **Table 7** outlined above, it is noted that only negligible levels of staff would be working a standard administration staff shift of 08:30AM to 17:00PM.

Accordingly, the adopted profile for staff traffic is depicted in **Figure 20** below, which has been extracted from the Parsons Brinkerhoff Memorandum, prepared for the Moorebank Intermodal Precinct (dated, 1 September 2016) and has only been adopted for the profile assumptions for the Subject Site.

[1] One (1) truck has a similar impact on the performance of the road network as two (2) cars. (Source: Ason Group, *Transport Assessment*, 2020).

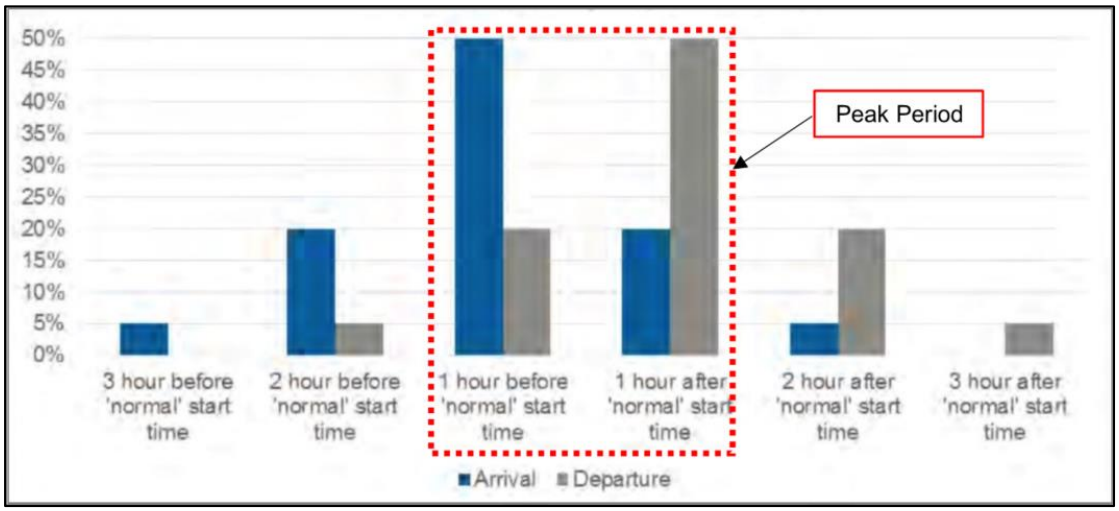


Figure 20 Warehouse Staff Profile from Parsons Brinkerhoff Memorandum (Source: Ason Group, 2020)

Figure 20 above, indicates that whilst 70% of shift changeover occurs in the 2-hour peak period, i.e. 1-hour either side of the shift changeover time – 30% generally occurs in the 2-hour periods either side of the peak period.

By virtue of the proposed modifications and the associated specific forecast staffing requirements incurred by the proposal, a first principles assessment of daily commuter trips has been undertaken by Ason Group and is discussed below.

In accordance with the projected staffing numbers outlined in **Table 7** above, the light vehicle traffic generation has been undertaken on a first principles basis, for which applies a mode split of approximately 90% of staff commuting as car drivers. **Table 8** outlined below demonstrates the forecast trips at the shift changeover.

Table 8: Forecast Commuter Light Vehicle Trips at Shift Changeover			
Staff Numbers	**Entry**	**Exit**	**Two-Way**
Night to Day Shift	521	27	548
Day to Evening Shift	446	521	967
Evening to Night Shift	27	446	473
Daily Trips	994	994	1,988

It is noted, that the two-way trips assumed above are higher than the two-way trip assumptions anticipated within the Parsons Brinkerhoff Memorandum previously prepared (SSD 7709); thereby, reflecting the higher employee density (which includes fleet truck drivers) expected for the combined facility.

Accordingly, **Figure 21** outlined below presents the daily traffic forecasts for light vehicles generated by the proposed modifications, which includes the three (3) profiles adopted for the three (3) shift changeover periods.

TIME (hour starting)	PROFILE		TOTAL		
	Entry	Exit	Entry	Exit	Two-Way
0:00	-	5%	0	22	22
1:00	-	-	0	0	0
2:00	-	-	0	0	0
3:00	5%	-	26	0	26
4:00	20%	5%	104	1	105
5:00	50%	20%	261	5	266
6:00	20%	50%	104	15	119
7:00	5%	20%	26	5	31
8:00	-	5%	0	1	1
9:00	-	-	0	0	0
10:00	-	-	0	0	0
11:00	5%	-	22	0	22
12:00	20%	5%	89	26	115
13:00	50%	20%	224	104	328
14:00	20%	50%	89	261	350
15:00	5%	20%	22	104	126
16:00	-	5%	0	26	26
17:00	-	-	0	0	0
18:00	-	-	0	0	0
19:00	5%	-	1	0	1
20:00	20%	5%	5	22	27
21:00	50%	20%	15	89	104
22:00	20%	50%	5	224	229
23:00	5%	20%	1	89	90
TOTAL	**-**	**-**	**994**	**994**	**1,988**

Figure 21 Forecast Hourly Light Vehicle Traffic Generation (Source: Ason Group, 2020)

With regard to **Figure 21** above, the proposed modifications are expected to generate the following peak hour and daily light vehicle traffic movements:

- AM Peak (08:00AM – 09:00AM): One (1) trip;
- PM Peak (17:00PM – 18:00PM): Zero (0) trips; and
- Daily: 1,988 trips.

Additionally, to accurately assess the anticipated heavy vehicle trip generation, an analysis of two (2) existing Warehouse and Distribution Facilities was utilised to inform the daily profile anticipated for the proposal, subject to this Modification Application. The two (2) existing warehouses include:

- The Minchinbury Facility, which informed assumptions for the JR component; and
- The Yennora Facility, which informed assumptions for the JN component.

Accordingly, **Table 9** outlined below demonstrated the adopted daily heavy vehicle traffic generation and the vehicle types assuming independent operation as a worst-case scenario.

Table 9: Forecast Daily Truck Movements – Independent Operation						
Traffic Generator	**JR Component**			**JN Component**		
	Total	**B-Double**	**Semi-Trailer**	**Total**	**B-Double**	**Semi-Trailer**
Primary	330 trucks	281 trucks	49 trucks	174 trucks	26 trucks	148 trucks
Primary Connect	30 trucks	15 trucks	15 trucks	17 trucks	17 trucks	-
Secondary	344 trucks	-	344 trucks	21 trucks	16 trucks	5 trucks

Notwithstanding, and by virtue of co-location and the benefits of the Intermodal Facility adjoining the Site, the truck traffic reductions experienced as a result of the proposal would be noted as follows:

- For the JR Component:
  - 5% reduction in primary trucks; and
  - 100% reduction in primary connect trucks.
- For the JN Component:
  - 25% reduction in primary trucks.

Having regard to the above reduction rates, **Table 10** outlined below provides details of the adopted daily heavy vehicle traffic generation and the vehicle types for the proposed modifications, for which the two (2) Warehouse and Distributions Facilities would be co-located side by side.

Table 10: Forecast Daily Truck Movements – Independent Operation						
Traffic Generator	**JR Component**			**JN Component**		
	Total	**B-Double**	**Semi-Trailer**	**Total**	**B-Double**	**Semi-Trailer**
Primary	314 trucks	267 trucks	47 trucks	131 trucks	20 trucks	111 trucks
Primary Connect	-	-	-	17 trucks	17 trucks	-
Secondary	344 trucks	-	344 trucks	21 trucks	16 trucks	5 trucks

Based on the data articulated within **Table 10** above, **Figures 22** & **23** below depict the forecasted daily truck trips for both the JR and JN components, whilst **Figure 24** depicts the cumulative forecasted daily traffic generation.

TIME (hour starting)	PRIMARY				SECONDARY	
	Entry		Exit		Entry	Exit
	B-Double	Semi	B-Double	Semi	Semi	Semi
0:00	12	2	15	3	7	2
1:00	11	2	14	2	9	4
2:00	16	3	13	2	5	4
3:00	14	3	10	2	0	8
4:00	17	3	10	2	2	6
5:00	20	3	16	3	5	17
6:00	12	2	19	3	5	25
7:00	8	1	15	3	7	17
8:00	7	1	15	3	9	11
9:00	11	2	10	2	25	25
10:00	10	2	9	2	32	25
11:00	7	1	7	1	23	25
12:00	6	1	7	1	16	21
13:00	6	1	9	2	21	19
14:00	5	1	6	1	18	25
15:00	13	2	9	2	23	25
16:00	11	2	9	1	23	19
17:00	10	2	11	2	18	13
18:00	10	2	6	1	27	11
19:00	7	1	9	1	16	11
20:00	10	2	11	2	14	11
21:00	15	3	8	1	14	8
22:00	18	3	11	2	14	6
23:00	11	2	18	3	11	6
TOTAL	**267**	**47**	**267**	**47**	**344**	**344**

Figure 22 Forecast Daily Truck Trips for the JR Component (Source: Ason Group, 2020)

TIME (hour starting)	PRIMARY				SECONDARY				INTERSTATE	
	Entry		Exit		Entry		Exit		Entry	Exit
	B-Double	Semi	B-Double	Semi	B-Double	Semi	B-Double	Semi	B-Double	B-Double
0:00	0	0	0	0	0	0	0	0	0	0
1:00	0	1	0	1	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0
3:00	0	1	0	1	0	0	0	0	0	0
4:00	0	1	0	1	0	0	0	0	0	0
5:00	1	6	0	1	0	0	2	1	0	0
6:00	0	4	0	3	0	0	0	1	1	1
7:00	1	4	1	4	1	0	1	0	1	1
8:00	1	4	1	6	1	0	1	0	1	1
9:00	1	8	1	7	1	0	1	0	1	1
10:00	2	11	1	8	1	0	1	0	1	1
11:00	2	10	2	11	1	1	1	1	1	1
12:00	2	8	2	9	1	1	1	0	1	1
13:00	2	10	2	8	1	0	1	0	1	1
14:00	2	9	2	10	1	0	1	0	1	1
15:00	2	9	2	10	1	0	0	0	1	1
16:00	2	8	2	11	1	1	1	0	1	1
17:00	1	4	1	4	2	0	0	0	1	1
18:00	1	7	1	4	1	1	1	0	1	1
19:00	0	2	1	4	2	1	1	1	1	1
20:00	0	2	0	3	1	0	1	1	1	1
21:00	0	1	1	4	0	0	1	0	1	1
22:00	0	1	0	1	0	0	1	0	1	1
23:00	0	0	0	0	0	0	0	0	0	0
TOTAL	**20**	**111**	**20**	**111**	**16**	**5**	**16**	**5**	**17**	**17**

Figure 23 Forecast Daily Truck Trips for the JN Component (Source: Ason Group, 2020)

TIME (hour starting)	LIGHT VEHICLES		B-DOUBLES		SEMI-TRAILERS		TOTAL		
	Entry	Exit	Entry	Exit	Entry	Exit	Entry	Exit	Two-Way
0:00	0	22	12	15	9	5	21	42	63
1:00	0	0	11	14	12	7	23	21	44
2:00	0	0	16	13	8	6	24	19	43
3:00	26	0	14	10	4	11	44	21	65
4:00	104	1	17	10	6	9	127	20	147
5:00	261	5	21	18	14	22	296	45	341
6:00	104	15	13	20	11	32	128	67	195
7:00	26	5	11	18	12	24	49	47	96
8:00	0	1	10	18	14	20	24	39	63
9:00	0	0	14	13	35	34	49	47	96
10:00	0	0	14	12	45	35	59	47	106
11:00	22	0	11	11	35	38	68	49	117
12:00	89	26	10	11	26	31	125	68	193
13:00	224	104	10	13	32	29	266	146	412
14:00	89	261	9	10	28	36	126	307	433
15:00	22	104	17	12	34	37	73	153	226
16:00	0	26	15	13	34	31	49	70	119
17:00	0	0	14	13	24	19	38	32	70
18:00	0	0	13	9	37	16	50	25	75
19:00	1	0	10	12	20	17	31	29	60
20:00	5	22	12	13	18	17	35	52	87
21:00	15	89	16	11	18	13	49	113	162
22:00	5	224	19	13	18	9	42	246	288
23:00	1	89	11	18	13	9	25	116	141
TOTAL	**994**	**994**	**320**	**320**	**507**	**507**	**1,821**	**1,821**	**3,642**

Figure 24 Total Forecast Daily Traffic Generation (Source: Ason Group, 2020)

Accordingly, a comparative analysis of the approved thresholds under SSD 7709 and the proposed modifications are outlined within **Table 11** below, for which the analysis undertaken indicates, that during the standard AM and PM peak hours, the two (2) facilities generate significantly less traffic (both light and heavy vehicles) than the corresponding approved thresholds under SSD 7709.

Table 11: MPW Approved Traffic Thresholds vs. Proposed Modification Traffic Generation

Time	MPW		JR + JN		Difference		
	LVs	HVs	LVs	HVs	LVs	HVs	Total
08:00 – 09:00	75	102	1	62	(-) 74	(-) 40	(-) 114
17:00 –	27	94	0	70	(-) 27	(-) 24	(-) 51

18:00							
Daily	2,670	1,458	1,988	1,654	(-) 682	+ 196	(-) 486

Table 11 demonstrates, that whilst the proposed modifications generate a lot more, heavy vehicle traffic across the day compared with the developments assumed at the assessment stage for SSD 7709, this traffic occurs outside of the critical morning and evening peak hour periods. For consistency and completeness in accordance with the Conditions of Consent with respect to SSD 7709, the traffic estimates for the proposed modifications have been converted into PCUs (refer to **Table 12** below).

Table 12: MPW Stage 2 Approved PCU Threshold vs. Proposed Modification Forecasted PCUs

Time Period	MPW Stage 2 Threshold PCUs	Proposed Modification PCUs	Difference Incurred
AM Peak (08:00 – 09:00)	279	125	-154
PM Peak (17:00 – 18:00)	215	140	-75
Daily	5,586	5,296	-290

Accordingly, the modifications proposed would accrue a traffic generation that is considered to be below the approved traffic generation thresholds established under SSD 7709. Additionally, Ason Group note that the road network (subject to the relevant infrastructure upgrades in accordance with the VPA executed for SSD 7709) would operate at a satisfactory level.

For added due diligence, the modifications proposed with respect to traffic generation have been analysed in comparison to the concept plan approval (SSD 5066) established for the MPW site (refer to **Table 13**), for which the proposed modifications would result in far less daily traffic generation when compared to the concept plan approval.

Table 13: MPW Concept Approval Traffic Thresholds vs. Proposed Modification Traffic Generation (Daily Two-Way Trips)

Time	MPW		JR + JN		Difference		
	LVs	HVs	LVs	HVs	LVs	HVs	Total
Daily	4,855	5,615	1,988	1,654	(-) 2,867	(-) 3,961	(-) 6,828

6.3.3 Car Parking

It is noted, that the following car parking rate is applicable to the Subject Site:

- Warehouse developments comprising GFA of greater than 1,000 m^2:
  - One (1) space per 250 m^2 of GFA.

By applying the abovementioned rate to the proposed modification, a total of 304 car parking spaces (135 spaces for JR and 169 for JN) are required to be provided. Notwithstanding, by utilising the light vehicle traffic generation determined in **Figure 24** above, **Figure 25** outlined below includes a cumulative assessment of the forecast hourly on-site parking demand.

Time (Hour Starting)	Light Vehicle		On-Site Parking Demand
	Entry	Exit	
0:00	0	22	0
1:00	0	0	0
2:00	0	0	0
3:00	26	0	26
4:00	104	1	129
5:00	261	5	385
6:00	104	15	474
7:00	26	5	495
8:00	0	1	494
9:00	0	0	494
10:00	0	0	494
11:00	22	0	516
12:00	89	26	579
13:00	224	104	699
14:00	89	261	527
15:00	22	104	445
16:00	0	26	419
17:00	0	0	419
18:00	0	0	419
19:00	1	0	420
20:00	5	22	403
21:00	15	89	329
22:00	5	224	110
23:00	1	89	22

Figure 25 Forecast Hourly On-site Parking Demand (Source: Ason Group, 2020)

Accordingly, the maximum on-site car parking demand is approximately 699 car parking spaces (being a worst-case scenario at 1PM), based on the operational requirements of the proposed Warehouse and Distribution Facilities. Based on the abovementioned requirements, approximately 725 car parking spaces (including eight (8) accessible car parking spaces are provided for the proposal.

Furthermore, the proposed car parking, truck parking, access, servicing facilities and internal design have been designed in accordance with the relevant Australian Standards, including:

- AS2890.1;
- AS2890.2;
- AS2890.3; and
- AS2890.6.

Ason Group conclude, that the proposed modifications are supportable on both traffic

engineering and transport planning grounds.

6.4 SOILS AND WATER

The engineering design for this project has been completed and coordinated in the MPW Precinct wide Stormwater Management Strategy and Water Sensitive Urban Design (WSUD) requirements as detailed within the *Stormwater Design Development Report* (SDDR) previously prepared in accordance with Conditions of Consent, B4-B6 and B28 under SSD 7709. Any revisions required to the post-approval documentation under SSD 7709 in relation to soils and water can be undertaken as a post-approval requirement, subject to Development Consent being granted under this Modification Application.

6.5 NOISE

The *Noise & Vibration Impact Assessment* prepared by Renzo Tonin & Associates (2020) in relation to the proposed modifications has considered the following acoustical parameters:

- Noise generated during both the construction and operational phases of development;
- The location of sensitive noise receivers;
- Potential noise sources;
- Relevant acoustic criteria from Liverpool City Council and the NSW EPA; and
- Controls necessary to ensure compliance with noise emission goals.

The nearest sensitive receiver locations are identified as follows and can be best illustrated graphically in **Figure 26** below, as well as outlined in **Table 14** below.

Figure 26 Receiver Locations (Source: Renzo Tonin & Associates, 2020)

Table 14: Receiver Locations		
Receiver ID	**Address**	**Description**
R1	9 Casula Road, Casula	Residential property located approximately 635 m west of the project area.
R2	Casula Powerhouse Arts Centre, 1 Powerhouse Road, Casula	Educational property located approximately 510 m northwest of the project area.
R3	All Saints Catholic Senior College, Leacocks Lane, Casula	Education property located approximately 796 m west of the project area.

It is noted, that **Table 15** provides the Noise Management Levels (NML) for the residential receivers identified in **Figure 26**, based on the measured background noise levels presented in the previous Acoustic Report prepared under SSD 7709.

Table 15: Construction Noise Management Levels at Residential Receivers, dB(A)			
Receiver ID	**Location**	**Day L_{90} Background Noise Level (RBL)**	**Noise Management Level $L_{eq\ (15\ min)}$**
			Day
R1	9 Casula Road, Casula	39	49
R4	30 Goodenough Street, Glenfield	35	45
R5	25 Yallum Circuit, Wattle Grove	35	45

6.5.1 Construction Noise

Renzo Tonin (2020) note, that in accordance with Condition B125 of SSD 7709, the Noise and Vibration Impact Assessment applies to the construction hours from 7:00am to 6:00pm Monday to Friday, 8:00am to 1:00pm on Saturday and no work performed on Sundays and Public Holidays.

Furthermore, **Table 16** sets out the NSW Interim Construction Noise Guideline (ICNG) noise management levels for other types of noise sensitive receiver locations applicable for the proposal. Additionally, Section 4.1.2 of the ICNG stipulates that a conservative estimate of the difference between the internal and external noise levels is 10 dB(A) for buildings other than residences. Based on this assumption, an education facility with an internal noise management level of 45 dB(A) has an equivalent external noise management level of 55 dB(A). Accordingly, the external noise management levels have been adopted for this assessment.

Table 16: Noise Management Levels at Other Noise Sensitive Land Uses	
Receivers	**Applicable Noise Management Levels, dB(A)**
R2, R3	55
Industrial	75

Renzo Tonin (2020) note, that noise from traffic generated by a development on the public road network is assessed against the NSW EPA, Road Noise Policy. The assessment involves consideration of the existing traffic noise levels and the potential change in noise as a result of the development. Access to the Site will be from the M5 Motorway and Moorebank Avenue. No additional traffic will be generated by the proposed modifications. Accordingly, construction traffic from the Site on public roads is predicted not to have a significant noise impact and is not further addressed within the Noise and Vibration Impact Assessment prepared (refer to **Appendix 10**). Notwithstanding, construction traffic would be managed in accordance with the Construction Noise and Vibration Management Plan (CNVMP) approved under SSD 7709.

Accordingly, construction traffic road noise will be consistent with the CNVMP to be prepared under Conditions B134 & B135 of SSD 7709.

Renzo Tonin (2020) confirm, that construction activities for the proposed modifications are predicted to be consistent with the assessed and approved construction noise impacts previously approved under SSD 7709. Accordingly, a feasible and reasonable approach towards noise mitigation and management measures would be applied to manage noise levels to reduce the impact from construction noise.

The following recommendations stipulated by Renzo Tonin (2020) provide in-principle feasible and reasonable noise control solutions to reduce noise impacts to sensitive receivers. **Table 17** outlined below demonstrates noise control methods, practical examples and expected noise reductions according to AS2436.

Table 17: Relative Effectiveness of Various Forms of Noise Control, dB(A)

Noise Control Method	Practical Examples	Typical Noise Reduction Possible in Practice		Maximum Noise Reduction Possible in Practice	
		AS 2436	Renzo Tonin	AS 2436	Renzo Tonin
Distance	Doubling of distance between source and receiver	6	6	6	6
Screening	Acoustic barriers such as earth mounds, temporary or permanent noise barriers	5 to 10	5 to 10	15	15
Acoustic Enclosures	Engine casing lagged with acoustic insulation and plywood	15 to 25	10 to 20	50	30
Engine Silencing	Residential class mufflers	5 to 10	5 to 10	20	20
Substitution by Alternative Process	Use electric motors in preference to diesel or petrol	-	15 to 25	-	40

In addition to the physical noise controls outlined above, the following general noise management measures should be followed:

- General Engineering Noise Controls;
- Noise Management Measures:
  - *Use less noisy plant and equipment, where feasible and reasonable;*
  - *Plant and equipment should be properly maintained;*
  - *Provide special attention to the use and maintenance of 'noise control' or*

'silencing' kits fitted to machines to ensure they perform as intended;
- *Strategically position plant on-site to reduce the emission of noise to the surrounding neighbourhood and to site personnel;*
- *Avoid any unnecessary noise when carrying out manual operations and when operating plant;*
- *Any equipment not in use for extended periods during construction work should be switched off;*
- *A management procedure would need to be put in place to deal with noise complaints that may arise from construction activities. Each complaint would need to be investigated and appropriate noise amelioration measures put in place to mitigate future occurrences, where the noise in question is in excess of allowable limits.*
- *Good relations with people living and working in the vicinity of a construction site should be established at the beginning of a project and be maintained throughout the project.*

6.5.2 Construction Vibration

The main types of vibration impacts associated with the construction phase of the proposed development have been identified as the following:

- Disturbance to building occupants; and
- Potential damage to buildings.

Generally, if disturbance to building occupants is controlled, there is limited potential for structural damage to buildings.

Potential vibration generated to receivers for the proposed modifications (including proposed built form) will be dependent on separation distances, the intervening soil and rock strata, dominant frequencies of vibration and the receiver structure. **Table 18** outlined below demonstrates the recommended minimum working distances for vibration generating plant.

Table 18: Recommended Minimum Working Distances for Vibration Intensive Equipment

Plant Item	Minimum Working Distance (m)			
	Cosmetic Damage			Human Disturbance
	Commercial and Industrial Buildings[1]	Dwellings and Similar Structures[1]	Sensitive Structures (e.g. Heritage)[1]	Residences Day[2]
Jackhammer	5	5	5	5
Grader	5	5	5	10
Truck traffic (over irregular surfaces)	5	5	10	20
Excavator <=30 tonne (travelling / digging)	5	10	10	20
Vibratory roller	5	15	20	40

Notes:
1. Criteria referenced from DIN 4150 Structural Damage – Safe Limits for Short-term Building Vibration.
2. Daytime is 7am to 10pm.

The vibration assessment undertaken by Renzo Tonin has been based on vibration-generating equipment being in operation at the closest location to nearby buildings. When vibration equipment operates further from the closest point, the predicted vibration levels will reduce along with the probability of adverse comments and risk of structural damage (refer to **Table 19** below).

Table 19: Potential Vibration Impact Assessment

Receiver Location	Approx. distance to nearest buildings from works (m)	Type of nearest sensitive buildings	Assessment of potential vibration impacts		
			Structural damage risk	Human disturbance	Vibration monitoring
R1-R3	Minimum distance greater than 500 m	Dwellings	Very low risk of structural damage from construction works	Very low risk of adverse comment as a result of construction works	Not required
R4-R5	Minimum distance greater than 400 m	Commercial	Very low risk of structural damage from construction works	Very low risk of adverse comment as a result of construction works	Not required

Although the vibration impacts for the construction phase of the proposal are considered to be generally low, the following vibration management measures are provided to minimise vibration impacts from construction activities:

1. A management procedure should be implemented to deal with vibration complaints. Each complaint should be investigated and where vibration levels are established as exceeding the set limits, appropriate amelioration measures should be put in place to mitigate future occurrences. This would be captured by the CEMP and CNVMP approved under SSD 7709.
2. Where vibration is found to be excessive, management measures should be implemented to ensure vibration compliance is achieved. Management measures may include modification of construction methods such as using smaller equipment, establishment of safe buffer zones as mentioned above, and if necessary, time restrictions for the most excessive vibration activities. Time restrictions are to be negotiated with affected receivers.
3. Where construction activity occurs in close proximity to sensitive receivers, vibration testing of actual equipment on site would be carried out prior to their commencement of site operation to determine acceptable buffer distances to the nearest affected receiver locations.
4. Notification by letterbox drop would be carried out for all occupied buildings within 100m of the construction site. These measures are to address potential community concerns that perceived vibration may cause damage to property.

6.5.3 Operational Noise

The noise sources associated with the operational phase of the proposal, for which Renzo Tonin assessed included:

- Mechanical plant;
- Vehicle movements and car parking; and

- Loading dock activities.

6.5.3.1 Mechanical Plant

It is noted, that mechanical plant used for the proposed Warehouse and Distribution Facilities would be consistent with the approval under SSD 7709. Accordingly, Renzo Tonin (2020) note, that the proposed modifications would not be likely to materially alter predicted noise levels. Operational performance would be managed in accordance with the Operational Noise Management Plan prepared pursuant to Condition B136 of SSD 7709. **Table 20** below outlines the mechanical plant utilised for the proposal.

Table 20: Mechanical Plant Noise Sources, dB(A)

Mechanical Plant	Number of Units	Area Served	Brand & Model No.	Sound Pressure Level, dB(A)	Calculated / Reported Sound Power Level, dB(A)
Chiller Unit	3	Warehouse	Carrier 30XB 1700	70 @ 10m	104
Air Handling Unit	10	Warehouse	Fusion Modulair VPAC 180SE	58 @ 5m	86
Air Handling Unit (No Detail Provided)	14	Warehouse	Carrier 39HQ 21.14	-	104 (based in chiller unit noise level)

6.5.3.2 Vehicle Movements and Car Parking

Table 21 outlined below considers the forecast vehicle movements, which have been extrapolated from the TIA prepared by Ason Group (2020).

Table 21: Predicted Hourly Traffic Movements and Composition

Time	Light vehicles		B-doubles		Semi-trailers		Total		
	Entry	Exit	Entry	Exit	Entry	Exit	Entry	Exit	Two-way
12:00 AM	0	22	12	15	9	5	21	42	63
1:00 AM	0	0	11	14	12	7	23	21	44
2:00 AM	0	0	16	13	8	6	24	19	43
3:00 AM	26	0	14	10	4	11	44	21	65
4:00 AM	104	1	17	10	6	9	127	20	147
5:00 AM	261	5	21	18	14	22	296	45	341
6:00 AM	104	15	13	20	11	32	128	67	195
7:00 AM	26	5	11	18	12	24	49	47	96
8:00 AM	0	1	10	18	14	20	24	39	63

Table 21: Predicted Hourly Traffic Movements and Composition									
Time	Light vehicles		B-doubles		Semi-trailers		Total		
	Entry	Exit	Entry	Exit	Entry	Exit	Entry	Exit	Two-way
9:00 AM	0	0	14	13	35	34	49	47	96
10:00 AM	0	0	14	12	45	35	59	47	106
11:00 AM	22	0	11	11	35	38	68	49	117
12:00 PM	89	26	10	11	26	31	125	68	193
1:00 PM	224	104	10	13	32	29	266	146	412
2:00 PM	89	261	9	10	28	36	126	307	433
3:00 PM	22	104	17	12	34	37	73	153	226
4:00 PM	0	26	15	13	34	31	49	70	119
5:00 PM	0	0	14	13	24	19	38	32	70
6:00 PM	0	0	13	9	37	16	50	25	75
7:00 PM	1	0	10	12	20	17	31	29	60
8:00 PM	5	22	12	13	18	17	35	52	87
9:00 PM	15	89	16	11	18	13	49	113	162
10:00 PM	5	224	19	13	18	9	42	246	288
11:00 PM	1	89	11	18	13	9	25	116	141
Daily Total	**994**	**994**	**320**	**320**	**507**	**507**	**1,821**	**1,821**	**3,642**

Based on the data from **Table 21** outlined above, it can be seen that for the day time period (7:00am to 6:00pm), the highest hourly traffic movements occur between 2:00pm and 3:00pm; for the evening period (6:00pm to 10:00pm) the highest hourly movements occur between 9:00pm and 10:00pm; and for the night time period (10:00pm and 7:00am) the highest hourly movements occur between 5:00am and 6:00am. Based on the data from **Table 21**, the predicted highest hourly traffic movements and compositions used for the Noise Impact Assessment prepared by Renzo Tonin (2020) are outlined in **Table 22** below.

Table 22: Hourly Traffic Movements and Compositions						
Period of the Day	Light Vehicles		B-Doubles		Semi-Trailers	
	Entry	Exit	Entry	Exit	Entry	Exit
Day (7:00am to 6:00pm)	89	261	9	10	28	36
Evening (6:00pm to	15	89	16	11	18	13

10:00pm)						
Night (10:00pm and 7:00am)	261	5	21	18	14	22

Noise generated by car park activities includes vehicle doors closing, vehicle engines starting, vehicles accelerating and vehicles moving. The car parking activity distribution for the Noise and Vibration Impact Assessment prepared by Renzo Tonin is outlined in **Table 23** for the highest one-hour period for the day, evening and night periods.

Table 23: Car Parking Activity Distribution

Area ID	Car Parking Area	Area Size (m^2)	% of Total Available Area	Number of Cars for Highest One-Hour		
				Day	Evening	Night
C1	Car Park Ground	10,723	33%	117	35	89
C2	Car Park Level 1	10,723	33%	117	34	89
C3	Car Park Level 2	10,723	33%	116	34	88
Total parking Area		**32,169**	**100%**	**350**	**104**	**266**

Furthermore, the sound power levels generated by car park activities on-site are presented in **Table 24** below.

Table 24: Carpark Activity Sound Power Levels

Activity	Metric	Sound Power Level, dB(A) re. 1pW
Vehicle moving (10km/h)	Passby L_W	79
Door Slam	L_W+10log(t)	86
Engine Start	L_W+10log(t)	92

Renzo Tonin (2020) note, that for vehicles exiting the basement carpark and moving up the access ramp, a 5 dB(A) adjustment has been added to the predicted noise levels. Additionally, modelling of truck movements and loading dock operations has been based on sound power levels and is outlined further in **Table 25** below.

Table 25: Loading Dock Activity Sound Power Levels

Activity	$L_{Aeq\ 15\text{-}minute}$ Sound power level, dB(A) re. 1pW	Modelled Source Height Above Ground Level (m)
BD moving (<30km/h)	106[2]	2.0
Truck reversing alarm	92[1]	2.0
Forklift	90	1.5
Air brake, partial (single event)	77	0.5
Air brake, full release (single event)	91	0.5

Notes
1. +5dB(A) added to source level to account for tonality in accordance with NPfI
2. Calculated based on typical Woolworths' fleet truck noise measurements on 18 February 2020

Renzo Tonin (2020) note, that for loading and unloading activities within internal loading docks during the day, evening and night time periods, warehouse doors will be opened. For loading and unloading activities that occur externally it is assumed that the activities will mostly be comprised of forklift noise, as outlined in **Table 25** above.

The predicted noise impacts at the receiver locations are outlined in **Table 26** below.

Table 26: Predicted $L_{Aeq, 15\ min}$ Operational Noise Levels, dB(A)

Receiver	Predicted $L_{Aeq, 15min}$ Noise Level (dBA)				Noise Criteria (dBA)[5]			Exceedance (dB)[6]
	Day [1,3]	Evening [1,3,4]	Night[1] Calm [2]	Night[1] Adverse [3,4]	Day [1]	Evening[1]	Night[1]	
No noise barrier within the site								
R1 - 9 Casula Road, Casula	**40**	**38**	**34**	**39**	39	35	35	Up to 4
R2 - Casula Powerhouse Arts Centre, 1 Powerhouse Road, Casula	38	36	32	37	45 (external, when in use)			0
R3 - All Saints Catholic Senior College, Leacocks Lane, Casula	35	33	29	34	45 (external, when in use)			0
Mitigated Design[7] – 8 m high noise barriers within the site up to 325 lineal metre								
R1 - 9 Casula Road, Casula	**39**	**37**	32	**37**	39	35	35	Up to 2
R2 - Casula Powerhouse Arts Centre, 1 Powerhouse Road, Casula	38	36	31	36	45 (external, when in use)			0
R3 - All Saints Catholic Senior College, Leacocks Lane, Casula	35	32	28	33	45 (external, when in use)			0

Notes:
1. Daytime = 7.00am-6.00pm; Evening = 6.00pm-10.00pm; Night = 10.00pm-7.00am.
2. 'D' atmospheric stability class with 0m/s wind – calm or neutral meteorological conditions.
3. 'D' atmospheric stability class with 3m/s winds – adverse meteorological conditions.
4. 'F' atmospheric stability class (evening and night-time only as per Fact Sheet D of NPfI) – adverse meteorological conditions.
5. Noise criteria as per Table 4 in Condition B131 of SSD 7709.
6. Exceedances of up to 7 dB (no noise barrier within the Site) and 5 dB (mitigated design) are predicted when assessed against the allocated noise quota levels as presented in Section 5.1 of **Appendix 10**.
7. Design aimed to implement feasible and reasonable mitigation to achieve the allocated noise quota levels.

Renzo Tonin (2020) note, that the predicted noise levels outlined in **Table 26** above indicate that noise associated with the operation, as a result of the proposed modifications for the warehouse and distribution facilities would not comply during the day, evening and night time periods. Exceedances up to 4 dB of the operational noise limits in Condition B131 of SSD 7709 are modelled without any additional on-site noise mitigation measures. Exceedances were modelled to reduce to an upper level of 2 dB with noise barriers up to 8 m high at locations within the JN and JR site where found to be feasible on-site.

Additionally, the night period was found to be the critical and controlling period. Under calm (or neutral) meteorological conditions, compliance is achieved; however, under adverse

meteorological conditions, exceedances reach 4 dB over the noise quota for the JN and JR sites.

Notwithstanding, physical noise mitigation would be implemented as required to address the existing Conditions of Consent pertaining to Conditions B136-B140 of SSD 7709. Implementation of noise mitigation measures across the various noise sources during operations are anticipated to reduce noise levels validated in accordance with B136 – B140 of the consent. It is noted, that these measures would be confirmed during the course of the Detailed Design phase as part of any post approval requirements.

Importantly, Renzo Tonin (2020) confirm that as the project noise criteria for sleep disturbance is based on the Development Consent, it is assumed to have been taken into account and no further assessment is considered to be required under this Modification Application. Additionally, the Subject Site will be developed on existing area designated for future industrial-related land uses, including Warehousing and Distribution, for which it is not expected to generate higher L_{Amax} noise levels then already assumed in previous modelling undertaken for SSD 7709.

The following recommendations presented by Renzo Tonin (2020) provide in-principle solutions to address the proposal's acoustic requirements:

- Acoustic Fence:
    - Beyond the obligation associated with Condition B129, Woolworths propose to construct further internal acoustic fencing to a maximum length of 325 m and to a height of no greater than 8 m. The final configuration of the acoustic fence would be design and configured in accordance with Condition B138 once mechanical plant and equipment has been selected.
    - The construction of the acoustic fence can be from any durable material with sufficient mass to prevent direct noise transmission, e.g. masonry, steel, fibrous-cement, timber, acrylic or polycarbonate, selected to withstand weather elements. A profiled sheet steel fence with 0.6 mm minimum base metal thickness (e.g. 'Colorbond' or similar) is adequate for use as an acoustic fence. Alternatively, a treated timber lapped and capped fence could be used, provided it has no gaps so that it can perform as an effective noise screen.
    - In addition to the above, all fences should give due consideration to the following, to maintain acoustic integrity:
        - Any penetrations through the fabric of the fence should be sealed airtight.
        - All joints and gaps between fence panels / planks should be sealed airtight.
        - Any gaps between the fence and the ground / retaining walls should be filled to ensure that the fence provides appropriate noise attenuation.
- Mechanical Plant and Equipment:
    - Acoustic assessment of mechanical services equipment should be undertaken during the detailed design phase of the proposal to ensure that the cumulative noise of all equipment does not exceed the applicable noise criteria.
    - Noise control treatment can affect the operation of the mechanical services system. An Acoustic Engineer should be consulted during the initial design phase of mechanical services system to reduce potential redesign of the mechanical system.
    - Mechanical plant noise emission can be controlled by appropriate mechanical system design and implementation of common engineering methods, which may include:
        - Procurement of 'quiet' plant;
        - Strategic positioning of plant away from sensitive neighbouring

premises to maximise intervening acoustic shielding between the plant and sensitive neighbouring premises;
        - Commercially available acoustic attenuators for air discharge and air intakes of plant;
        - Acoustically lined and lagged ductwork;
        - Acoustic barriers between plant and sensitive neighbouring premises; and
        - Partial or complete acoustic enclosures over plant.
    - The specification and location of mechanical plant should be confirmed prior to installation on-site; and
    - Fans shall be mounted on vibration isolators and balanced in accordance with Australian Standard 2625 '*Rotating and Reciprocating Machinery – Mechanical Vibration'.*
- Continuous Long-Term Noise Monitoring:
    - Continuous long-term noise monitoring is required under the consent and will be implemented across MPW to monitor and review any potential noise issues and to verify performance outcomes. Any complaint would be investigated and, where noise levels are identified as exceeding the noise limits under the respective weather condition, appropriate amelioration measures are to be implemented in consultation with a qualified acoustic consultant to mitigate further acoustic occurrences.

Renzo Tonin (2020) conclude that noise emission from the construction phases of the proposed development are predicted to comply with the construction noise management levels at the nearest potentially affected receivers. The in-principle recommendations provided in **Section 6.5.1** should be implemented. Additionally, operational noise impacts as a result of the proposed Warehouses and Distribution Facilities are predicted to exceed the noise criteria for at the nearest residential receivers in Casula (up to 4 dB) during adverse conditions. Physical noise mitigation measures beyond the proposed 8 m noise walls within the operational boundaries of the JN & JR Site are not considered feasible or reasonable; however, further long-term noise monitoring required under the consent.

The complete Noise and Vibration Impact Assessment is located within **Appendix 10** of this Planning Report.

6.5.4 Operational Noise Management

Renzo Tonin (2020) have reviewed the operational noise requirements for both MPW and MPE in accordance with the Conditions of Consent bestowed under SSD 7709 (refer to **Appendix 11**).

From the supplementary review undertaken and in accordance with the Noise and Vibration Impact Assessment prepared for the subject Modification Application, the findings demonstrate that practical (achievable) noise levels, with the implementation of all feasible and reasonable mitigation measures, are similar to the noise levels predicted in the EIS (approved under SSD 7709) and are unlikely to achieve the noise criteria limits set under the Conditions of Consent for SSD 7709. Renzo Tonin (2020) note, that that Conditions of Consent under SSD 7709 and substantially more stringent than the noise criteria derived in the EIS, despite the criteria being derived in accordance with the NSW EPA noise policies.

As such, the supplementary review undertaken, considers the relevant project documentation; relevant project data; and recommends noise limits that would be applicable for the Moorebank Noise Management Precinct and are considered to be consistent with the objectives of the NSW EPA NPI (Section 2.8 Noise Management Precincts). Accordingly, the recommended noise limits would seek to amend the operational noise limits established within Table 4 of Condition B131 under SSD 7709 (refer to **Figure 27** below), to establish noise management objectives for the

Moorebank Noise Management Precinct, which are consistent across both MPW and MPE; are consistent with the NSW EPA's noise policy for managing noise impacts on the community; and are appropriate and achievable.

Table 4: Operational Noise Limits dB(A)

Location (residential receivers)	Day $L_{Aeq,15\ minute}$	Evening $L_{Aeq,15\ minute}$	Night $L_{Aeq,15\ minute}$	Night $L_{A1,\ 1\ minute)}$
Casula	39 dB	35 dB	35 dB	52 dB
Glenfield	35 dB	35 dB	35 dB	52 dB
Wattle Grove	36 dB	35 dB	35 dB	52 dB

Notes: *To determine compliance with the $L_{Aeq,15\ minute}$ noise limits, noise from the development is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 m of a dwelling where the dwelling is more than 30 m from the boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, the EPA may accept alternative means of determining compliance (see Chapter 7 of the NPI). The modification factors in Fact Sheet C of NPI must also be applied to the measured noise levels where applicable.*

To determine compliance with the $L_{A1,1\ minute}$ noise limits, noise from the project is to be measured at 1 m from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the project is impractical, the EPA may accept alternative means of determining compliance (see Chapter 7 of the NPI).

The noise emission limits identified above apply under meteorological conditions of:

(i) wind speeds of up to 3 m/s at 10 m above ground level; or

(ii) 'F' atmospheric stability class.

Figure 27 Operational Noise Limits dB(A) under Condition B131 of SSD 7709 (Source: NSW DPIE, 2019)

As part of the supplementary review undertaken by Renzo Tonin (2020), amendment to the noise criteria limits established under Condition B131 of SSD 7709 is requested to be amended for the following key reasons under the Moorebank Noise Management Precinct, to cover all operational activities for MPW and MPE:

- Consistency across both MPW and MPE.
- In line with the criteria derived in accordance with the NSW EPA NPI document.
- A more stringent approach, rather than adopting the amenity criteria directly as per the NSW EPA NPI document recommended approach for cumulative industrial scenarios, which has been taken.
- In line with the criteria establish in the EIS documentation prepared to date under SSD 7709.
- Include noise limits for the critical Casula area that are in line with those recommended in the independent review undertaken by EMM for the NSW DPIE in relation to SSD 7709 and SSD 7628.
- Consistent with the predicted noise levels in the EIS documentation prepared to date under SSD 7709, with the implementation of feasible and reasonable mitigation measures. As such, this would not result in the worst outcomes for any receivers compared to what was previously assessed and accepted within the EIS documentation previously prepared.
- Consistent with recent noise monitoring data considering the prevailing meteorological conditions (refer to Section 5.2.1.5 of **Appendix 11**).

Accordingly, the Moorebank Noise Management Precinct cumulative noise limits under Condition B131 are requested to be amended to the following as demonstrated in **Figure 28** below.

Location (residential receivers)	Day $L_{Aeq,\ 15\ minute}$	Evening $L_{Aeq,\ 15\ minute}$	Night $L_{Aeq,\ 15\ minute}$	Night $L_{A1,\ 1\ minute}$
Casula	46	44	39	52
Glenfield	49	46	42	52
Wattle Grove	44	42	42	52
Wattle Grove North	41	41	41	52

Figure 28 Moorebank Noise Management Precinct Cumulative Noise Limits (Source: Renzo Tonin, 2020)

Renzo Tonin (2020) conclude, that the Moorebank Noise Management Precinct will allow for a much clearer, more effective, more consistent and flexible approach for managing and mitigating noise emissions across the MPW and MPE precincts; and allow them to be *utilised in a cost-effective and efficient manner* in accordance with Section 2.8 of the NSW EPA NPI document.

6.6 AIR QUALITY AND ODOUR

The *Air Quality Impact Assessment* (AQIA) prepared by Northstar (2020) considers the potential air quality impacts with respect to the proposed modifications (refer to **Appendix 9**).

6.6.1 Construction Phase

The construction phase of the proposal would primarily result in emissions of particulate matter (i.e. construction dust), which would be anticipated to occur throughout the construction of the pad; construction of warehouse and associated infrastructure. Quantitative modelling has been previously undertaken under SSD 7709 with respect to the construction phase of development, for which Rambool Environ (2016) confirmed that any built form construction (include warehousing fitouts) consider the Air Quality Management Plan (AQMP) approved under SSD 7709 and apply mitigation measures where required.

6.6.2 Operational Phase

From an operational standpoint and as part of the energy complex associated with the proposed Warehouse and Distribution Facilities, four (4) diesel generators may be located on-site (with two (2) generators in each facility. Northstar note, that it is anticipated that these generators would operate for less than 200 hours each per year and emissions would therefore be exempt from the air impurities emission concentration standard for Nitrogen Dioxide (NO_2), as prescribed under Part 5, Division 5, Clause 57A of the *Environment Operations (Clean Air) Regulation 2010*.

The operational phase of the proposal would result in emissions of particulate matter (PM_{10} and $PM_{2.5}$), oxides of nitrogen (NO_X), sulphur dioxide (SO_2), carbon monoxide (CO) and volatile organic compounds (VOC). Accordingly, these would be emitted primarily through the operation of vehicles throughout the Subject Site; and through the sporadic use of emergency electricity generation in the energy complex in the event of electricity supply failure.

Northstar note, that the level of disaggregation pertaining to calculated emissions only allows for examination of emissions in the operational phase on the following basis:

- Locomotives travelling, idling, shifting;
- Container handling;
- External truck movements;
- Internal truck movements;
- Light vehicles; and

- Warehousing – internal transfer, heating / cooling, forklifts.

Notwithstanding, given that the AQIA previously prepared by Ramboll Environ (2016) was performed for all of the above parameters; and the proposed modifications only seek to modify the approval associated with the warehousing element and minor variations to the anticipated truck movements, a quantitative re-assessment would require a level of detail on emission source locations, and emission estimates for each concept warehouse, which is not able to be ascertained from the previous AQIA prepared by Ramboll Environ (2016). Accordingly, a comparison has been undertaken by Northstar (2020) (in accordance with the AQIA previously prepared by Ramboll Environ (2016)) to examine the incremental change in emissions of air pollutants, which might be likely to occur, subject to approval of this Modification Application.

As outlined within the AQIA for the MPW Stage 2 Approval (SSD 7709), emissions of air pollutants across five of the parameters noted above are outlined in **Table 27** below.

Table 27: Summary of Annual Emissions MPW Stage 2 (kg-annum)

Source	CO	HC	NOx	PM_{10}	$PM_{2.5}$	SO_2	VOC
Locomotives travelling, idling, shifting	6,015	2,416	60,353	1,140	1,106	13	2,544
Container handling	26,709	3,052	27,472	1,526	1,480	126	3,214
External truck movements	244	56	4,765	115	112	0	59
Light vehicles	672	64	216	16	15	0	68
Warehousing – internal transfer, heating, cooling, forklifts	14,266	4,123	7,232	486	481	296	4,601
Total	47,906	9,711	100,038	3,283	3,194	435	10,486

With regard to **Table 27** outlined above, and in conjunction with the proposed modifications, the emissions associated with locomotives and container handling are not anticipated to change from that approved under SSD 7709. The sources likely to require further assessment as a result of the proposed modifications for consistency and completeness, include truck movements, light vehicle movements and warehousing operations.

Data provided by Woolworths associated with the relevant truck and light vehicle movements can be utilised to determine the emissions associated with the proposed modifications (refer to **Table 28** below).

Table 28: Vehicle Movements – As Approved and Associated with Proposed Modifications

Vehicle Movements Per Day	As Assessed Under SSD 7709	JR Warehouse	JN Warehouse
Light Vehicles	2,670	994	994
Heavy Vehicles	1,458	658 (267 B-Double plus 391 Semi Trailer)	169 (53 B-Double plus 116 Semi Trailer)

Based on the emissions distribution by source, these predicted impacts are likely to be dominated by the locomotive and container handling emissions sources, with impacts associated with vehicle movements and warehousing operations being relatively minor. Given that the proposed modifications have been shown to not result in a change in vehicle traffic or other operational characteristics that are approved under SSD 7709, these impacts remain unchanged. Northstar (2020) note, that there is no predicted change in emissions associated with the change in building height being sought, or the operational characteristics of the proposed modifications (refer to **Table 29** below).

Table 29: Predicted and Calculated Pollutant Concentrations					
Pollutant Averaging Period	**Units**	**Crit.**	**MPW Stage 2 (SSD 7709) – Approved(A)**		**Incremental Increase due to Proposal (refer to Table …)**
			Max Increment	**Cumulative**	
PM_{10} – 24 hour maximum	µg m^3	50	1.0	48.4	0%
PM_{10} – Annual Average	µg m^3	25(B)	0.4	19.9	0%
$PM_{2.5}$ – 24-hour Maximum	µg m^3	25	1.0	24.3	0%
$PM_{2.5}$ – Annual Average	µg m^3	8	0.4	8.8	0%
NO_2 – 1 Hour Maximum	µg m^3	246	110.7	160.5	0%
NO_2 – Annual Average	µg m^3	62	11.8	36.1	0%
CO – 1 Hour Maximum	mg m^3	30	0.06	5.1	0%
CO – 8 Hour Maximum	mg m^3	10	0.03	3.1	0%

Note: (A): Ramboll Environ (2016)
(B): Updated annual average PM_{10} criterion as per NSW EPA (2017)

6.6.3 Odour

It is noted, that the proposed modifications include provisions to import, hand and distribute a range of fast-moving goods. No perishable or fresh goods will be handled at the Subject Site and the likelihood of odour emissions is therefore determined to be low. All waste materials generated by the proposal will be handled appropriately, with waste contractors removing any generated waste from the proposal site in a timely manner.

Northstar conclude, that in relation to operations of the proposed modifications sought, the AQIA has referenced the inputs and results of the assessment undertaken to support the proposal, for which there are no significant changes anticipated to those inputs (previously approved under SSD 7709) which would result in any material change to the outcome of that assessment. The AQIA prepared by Northstar (refer to **Appendix 9**) demonstrates that the proposed modifications are in accordance with SSD 7709.

6.7 BUSHFIRE

In the EIS prepared for SSD 7709 and the Bushfire Protection Assessment prepared by Australian Bushfire Protection Planners Pty Ltd (ABPP), they note that the Dry Sclerophyll Forest identified toward the eastern and southern boundaries of the Subject Site; and the vegetation towards the western boundary of the Subject Site (located within the riparian corridor), present potential bushfire threats to the Site.

Notwithstanding, all future built form proposed would be located outside vegetated and bushfire prone areas. Accordingly, the potential bushfire threat to the fixed assets (built form components) during construction is considered to be low. Additionally, the operational phase of the proposed modifications would be considered to be consistent with the objectives of *Planning for Bushfire Protection 2006* (PBP), in that it provides the following:

- Separation distances between fixed assets and bushfire prone vegetation exceed the

required defendable space widths;
- Safe operational access and egress for emergency services personnel and residents are available;
- Ongoing management and maintenance measures for bushfire protection; and
- Utility services that meet the needs of firefighters.

The bushfire threat to the fixed assets (rail sidings approved under SSD 7709) is considered to be low; however, there is a risk that ignition of adjoining bushfire may occur from sparks given off by rail cars traversing the Site, for which the proposed modifications should consider for any freight accessing the Site.

The Bushfire Management Strategy implemented for the Subject Site pursuant to the approval of SSD 7709, would be applicable to the proposed modifications, which forms part of the wider MPW Construction Environmental Management Plan (CEMP) and Operational Environmental Management Plan (OEMP), which includes a fire safety and evacuation plan. Notwithstanding, the Bushfire Risk Management Plan approved under SSD 7709 has been included within **Appendix 14** for reference purposes.

Further consideration with respect to bushfire impacts is not considered to be required as part of this Modification Application.

6.8 BIODIVERSITY

The proposed modifications would not result in additional biodiversity impacts at the Site, which have been previously assessed under SSD 7709.

6.9 HERITAGE

In a letter of support prepared by Artefact (2020), the proposed modifications are considered with respect to both Aboriginal Cultural Heritage and Non-Aboriginal Heritage (refer to **Appendix 13**).

6.9.1 Aboriginal Cultural Heritage

Artefact note that the impact assessment previously undertaken across the Site delineated which Aboriginal sites and areas of archaeological potential within MPW would be subject to separate impacts approved under SSD 7709. Additionally, Artefact confirm, that the impact assessment in the Aboriginal Heritage Technical Paper for MPW Stage 2 (SSD 7709) includes the Site and area, for which the proposed modifications are made in relation to.

Therefore, the proposed modifications would not result in any inconsistencies with respect to the previous investigations undertaken on the Subject Site, including any recommendations required to be implemented across the Site.

6.9.2 Non-Aboriginal (European) Heritage

Similarly, with regard to the above-mentioned in **Section 6.9.1**, previous archaeological and historic investigations undertaken on the Subject Site comprised the Site and area, for which the proposed modification are made in relation to.

Therefore, the proposed modifications would not result in any inconsistencies with respect to the previous investigations undertaken on the Subject Site, including any recommendations required to be implemented across the Site.

6.10 WASTE

The proposed modification would not generate additional waste streams at the Site, which have not already been considered as part of SSD 7709, with particular consideration given towards Conditions B49 and B180-183. With the management measures in place in accordance with management plans incorporated in the post-approval stage of SSD 7709, any waste impacts resulting from either the construction or operational use of the Proposed Development can be mitigated to an appropriate level of impact.

6.11 HAZARDS AND RISKS

The *State Environmental Planning Policy No 33 – SEPP 33 – Screening Test and Preliminary Hazard Analysis Report* was prepared by Mendham Consultants (2020) considers the potential hazards associated with the proposal (refer to **Appendix 15**).

Mendham Consultants (2020) note, that there are two (2) sections of the proposed building's which will comprise retail distribution, both of which will store and handle retail commodities of a wide range of commodities. Some of these commodities include small volume individual packages of hazardous chemicals; however, they are stored and distributed in significant quantities. Additionally, combustible liquid (diesel fuel) and LPG storage is provided at the Subject Site for refuelling of picking equipment such as forklifts and as standby generator fuel.

SEPP 33 requires a Screening Test to be undertaken, typically followed by a Preliminary Hazard Analysis (PHA) where screening thresholds are exceeded. There are three (3) possible levels of PHA, with the level dependent of the hazard level identified in the Screening Test. It is noted, that a Level 2 PHA assessment methodology has been followed by utilising a semi-quantitative methodology.

The findings of the Screening Test indicated that a significantly large number of small volume transportations of Dangerous Goods (DGs) occur per week as is expected of a large retail distribution centre servicing up to 266 retail stores per day. Mendham Consultants (2020) confirm that this is not a significant risk, as the results of the SEPP 33 Transportation Threshold Screening Test indicate.

The Screening Test undertaken indicates that only Class 2.1 Liquified Gas (Aerosols) exceeded the Screen Test Thresholds requiring a PHA to justify its storage in the proposed locations. Accordingly, in terms of the consequences of a hazardous incident occurring at the Subject Site subsequently affecting undeveloped neighbouring industrial sites, for which two (2) potential incident sources were taken forward from an initial hazard identification analysis for further review. These incidents included:

1. A fully developed fire associated with the DGs Package Store (Special Goods Store) involving failure of the AS1940 compliant non-fire rated roof with subsequent fire and smoke plume emanating from the roof opening.
2. A fully developed fire associated with the Aerosol Store involving failure of the non-fire rated roof with a subsequent fire and smoke plume emanating from the roof opening.

Mendham Consultants (2020) note, that the identified hazard for both scenarios undertaken was radiant heat, as the potential for explosion was considered very low due to the small size of individual retail packages in each store and the robustness of store construction. Toxic release was considered atypical due to the non-storage of toxic hazardous chemicals in each location.

Furthermore, point source radiant heat analysis indicated for both scenarios that the level estimated at the nearest boundaries was well below 4.7 kw/m^2, so neither injury risk nor property damage risk exceeded industry accepted thresholds. Additionally, the likelihood of the

hazardous incidents occurring was also estimated as very low, for which includes a probability of occurrence in the order of 2.54×10^{-6}.

Mitigation measures that support the low probability of a fully developed fire occurring include:

1. Robust fire rated package store design based on applicable Australian Standards (AS/NZS 3833, AS1940).
2. Early Suppression Fast Response Sprinklers (ESFR) designed for fire extinguishment rather than control of fire spread to FM Global Standards.
3. In-rack sprinkler protection to FM Global Standards.
4. Separation and segregation of DGs in accordance with AS/NSZ 3833.
5. Hazardous Area Classification in accordance with AS/NZS 60079.10.1.

For context, Mendham Consultants note, that the SEPP 33 process allows for a merit-based approach beyond initial screening tests, ensuring that locational and design considerations are an integral part of the assessment process by utilising a PHA process to facilitate the analysis undertaken. In relation to SSD 7709, Condition B176 restricts the proper application of SEPP 33, with particular focus given towards the subject Modification Application, comprising built form for two (2) Warehouse and Distribution Facilities. Mendham Consultants recommend, that Condition B176 be amended to suit the following wording, with respect to the intent of the enabling and complete application of SEPP:

> "Should the total quantities of dangerous goods present at any time within the development and transport movements to and from the development exceed the screening threshold quantities and movements listed in the Department's Hazardous and Offensive Development guidelines Applying SEPP 33 (January 2011), a Preliminary Hazard Analysis must be provided to demonstrate compliance can be achieved with the requirements of SEPP 33."

Mendham Consultants (2020) conclude that the proposed modifications, comprising the Warehouse and Distribution Facilities should not be considered potentially hazardous.

6.12 UTILITIES

The proposed modifications would not create the need for additional utility services to be provided at the Site.

6.13 BUILDING CODE OF AUSTRALIA AND FIRE ENGINEERING

The detailed design of the proposed Warehouse and Distribution Facilities (JN and JR) would be in accordance with the BCA and would be further assessed prior to the issue of a Construction Certificate. Additionally, any fire engineered solutions required pertaining to relevant Category 2 items would need to be approved following consultation being undertaken with the NSW Fire Bridge (Fire and Rescue NSW), prior to the issue of the relevant Construction Certificate. Notwithstanding, this approach pertaining to built form is in accordance with the Conditions of Consent under SSD 7709 in relation to Conditions A21, A23 & A25-27

6.14 CUMULATIVE IMPACTS

No foreseeable cumulative impacts would be anticipated as a result of the proposed modifications sought. Rather, the proposed modifications would remain substantially the same development with respect to what was previously approved under SSD 7709 within an area zoned IN1 General Industrial – which, is commensurate with the intended development of the Site and its surrounds.

6.15 SUITABILITY OF THE SITE FOR DEVELOPMENT

The proposed modifications are considered minor in nature and thus remain generally consistent with the relevant standards and controls listed under LLEP2008 and LDCP2008. Furthermore, the outcomes of the proposed modifications would remain generally consistent with the original approval.

6.16 PUBLIC INTEREST

The proposed modifications are consistent with the Site being used for its intended Intermodal land use purposes, whilst enhancing the potential yield for employment-generating opportunities across the Site; thereby, enabling the Site to meet the strategic land use objectives in the immediate locality within MPW, as well as the wider MLP and locality via alignment with the relevant Strategic Plans including *A Metropolis of Three Cities* and the *Western City District Plan*.

Additionally, the Site is suitably located geographically with respect to its close proximity to the wider regional road network and residential areas, which maximise the overall strategic land use factors. It is important to note, whilst the overall maximum building height is proposed to be modified, the heights attained in future built form approvals would not pose any unacceptable risks for surrounding landowners, including nearby sensitive visual receivers.

PART G CONCLUSION

7.1 PROPOSED MODIFICATION JUSTIFICATION

The proposed modification has been prepared taking into consideration the following key matters:

- The development history of the Site;
- Previously approved development in relation SSD 7709;
- The context of the Site and locality;
- The relevant heads of consideration under Section 4.55(2) of the EP&A Act;
- The aims, objectives and provisions of the relevant statutory and non-statutory planning instruments; and
- The pre-lodgement planning advice received from the NSW DPIE regarding the proposed modifications sought.

The proposed modifications to Development Consent SSD 7709 are considered to be of minor environmental impact, given the extent of changes proposed to the approved development. The development as proposed to be modified would remain substantially the same as the original development, and it is therefore considered that the proposed modifications be supported on the basis that:

- There are negligible undue visual amenity impacts associated with the proposed amendments.
- The construction and operation of two (2) warehouse and distribution facilities is generally in accordance with the built form outcomes envisaged for the Site, approved under SSD 7709.
- The modifications proposed to Condition B131 will allow for a much clearer, more effective, more consistent and flexible approach for managing noise emissions across the MPW and MPE precincts and allow them to be *utilised in a cost effective and efficient manner* (Section 2.8 Noise Management Precincts, NPI).
- The modifications proposed to Condition B176 are considered necessary to allow for the proper and appropriate application of SEPP 33.

Furthermore, the proposed modifications would have no undue impact on the public interest, as it would allow the Site to continue to meet the strategic land use objectives of *A Metropolis of Three Cities*, the *Western City District Plan* and LLEP2008, whilst fulfilling the Site's employment-generating potential, pursuant to the Site's IN1 General Industrial zone.

It is therefore recommended, that the NSW DPIE's favourable determination be given in support of the proposed modifications sought pursuant to SSD 7709.

Appendix 1
SSD 7709 Instrument of Approval

Appendix 2
Amended Concept Plan

Appendix 3
Architectural Plans (JN)

Appendix 4
Architectural Plans (JR)

Appendix 5
Visual Impact Assessment (JN)

Appendix 6
Visual Impact Assessment (JR)

Appendix 7
Contamination Letter of Support

Appendix 8
Traffic Impact Assessment

Appendix 9
Air Quality Impact Assessment

Appendix 10
Noise and Vibration Impact Assessment

Appendix 11
Operational Noise Management Review

Appendix 12
Flora and Fauna Letter of Support

Appendix 13
Aboriginal Cultural Heritage and Non-Aboriginal Cultural Heritage Letter of Support

Appendix 14
Bushfire Risk Management Plan

Appendix 15
SEPP 33 Report

Appendix 16
Legal Advice

Appendix 17
Clause 4.6 Variation Request

Appendix 18
Liverpool Development Control Plan 2008 Compliance Table

Appendix 19
Owner's Consent