

WILLOW TREE
PLANNING

ENVIRONMENTAL IMPACT STATEMENT

Proposed Warehouse, Logistics
and Industrial Facilities Hub

657-769 MAMRE ROAD, KEMPS CREEK

(Lot 34 DP 1118173, Lot X DP 421633, Lot 1 DP 1018318, Lot Y DP 421633 & Lot 22 DP 258414)

Prepared by Willowtree Planning on behalf of
Fraser's Property Australia & Altis Property Partners



MAY 2019



A national town planning consultancy
www.willowtreeplanning.com.au

Environmental Impact Statement

Proposed Warehouse, Logistics and Industrial Facilities Hub

657-769 Mamre Road, Kemps Creek (Lot 34 DP 1118173, Lot X DP 421633, Lot 1 DP 1018318, Lot Y DP 421633 & Lot 22 DP 258414)

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Environmental Impact Statement

Proposed Warehouse, Logistics and Industrial Facilities Hub
657-769 Mamre Road, Kemps Creek (Lot 34 DP 1118173, Lot X DP 421633, Lot 1 DP 1018318, Lot Y DP 421633 & Lot 22 DP 258414)

SECTION 4.12 CERTIFICATE

Declaration Form

Submission of Environmental Impact Statement (EIS)
prepared under the *Environmental Planning and Assessment Act 1979 – Part 4, Division 4.3, Section 4.12*

EIS Prepared By

Name	Travis Lythall
Qualifications	Bachelor of Science, UoN
Address	Suite 4, Level 7 100 Walker Street North Sydney, NSW 2060

In Respect Of

Proposed Warehouse, Logistics and Industrial Facilities Hub

Development Application

Applicant Name	Paul Solomon (Frasers Property Australia) and Stephen O'Connor (Altis Property Partners)
Address	1C Homebush Bay Drive, Rhodes, NSW, 2138 (Frasers Property); and, Level 14, 60 Castlereagh Street Sydney, NSW 2000 (Altis Property Partners)

Land to be Developed

657-769 Mamre Road, Kemps Creek – includes the following parcels:

- 657-703 Mamre Road, Kemps Creek:
 - Lot 34 in Deposited Plan 1118173
- 707-711 Mamre Road, Kemps Creek:
 - Lot X in Deposited Plan 421633
- 707A Mamre Road, Kemps Creek:
 - Lot 1 Deposited Plan 1018318
- 713-755 Mamre Road, Kemps Creek:
 - Lot Y in Deposited Plan 421633
- 757-769 Mamre Road, Kemps Creek:
 - Lot 22 in Deposited Plan 258414

EIS

An Environmental Impact Statement (EIS) is attached.

Certificate

I certify that I have prepared the contents of this EIS to the best of my knowledge:

- it is in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*,

Environmental Impact Statement

Proposed Warehouse, Logistics and Industrial Facilities Hub

657-769 Mamre Road, Kemps Creek (Lot 34 DP 1118173, Lot X DP 421633, Lot 1 DP 1018318, Lot Y DP 421633 & Lot 22 DP 258414)

- contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and
- that the information contained in the statement is neither false nor misleading.

Signature



Name
Qualification
Date

Travis Lythall
BSc, UoN
28 May 2019

Signature



Name
Qualification
Date

Andrew Cowan
BURP, UNE
MPD, UTS
28 May 2019

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GLOSSARY OF KEY TERMS

TERM	MEANING
ACHAR	Aboriginal Cultural Heritage Assessment Report
AUD	Australian Dollars
Altis	Altis Property Partners
BAM	Biodiversity Assessment Methodology
BDAR	Biodiversity Development Assessment Report
BC Act 2016	<i>Biodiversity Conservation Act 2016</i>
BC Regulation 2017	<i>Biodiversity Conservation Regulation 2017</i>
CEEC	Critically Endangered Ecological Community
CEMP	Construction Environmental Management Plan
CPTED	Crime Prevention Through Environmental Design
CTMP	Construction Traffic Management Plan
DGs	Dangerous Goods
NSW DP&E	NSW Department of Planning and Environment
ESD	Ecologically Sustainable Development
EIS	Environmental Impact Statement
EP&A Act 1979	<i>Environmental Planning and Assessment Act 1979</i> (as amended)
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	Environment Protection Authority
EPBC Act 1999	<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>
Frasers Property	Frasers Property Australia
GFA	Gross Floor Area
GME	Groundwater Monitoring Event
GSC	Greater Sydney Commission
LUCRA	Land Use Conflict Risk Assessment
LUIIP 2018	<i>Western Sydney Aerotropolis Land Use & Infrastructure Implementation Plan 2018</i> (Stage 1 Precincts)
MNES	Matter of National Environmental Significance
OEH	NSW Office of Environment and Heritage
PCC	Penrith City Council
PMF	Probable Maximum Flood

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<i>NPW Act</i>	<i>National Parks and Wildlife Act 1974</i>
<i>NSW RMS</i>	NSW Roads and Maritime Services
<i>RAPs</i>	Registered Aboriginal Parties
<i>SEARs</i>	Secretary's Environmental Assessment Requirements issued 14 th of September 2018
<i>SEPP</i>	State Environmental Planning Policy
<i>SEPP (WSEA) 2009</i>	<i>State Environmental Planning Policy (Western Sydney Employment Area) 2009</i>
<i>SEPP (SRD) 2011</i>	<i>State Environmental Planning Policy (State and Regional Development) 2011</i>
<i>SLR</i>	Southern Link Road
<i>Sqm or m²</i>	Square metres
<i>SREP</i>	Sydney Regional Environmental Plan
<i>SSD</i>	State Significant Development
<i>The Site / Study Area / Subject Site</i>	657-769 Mamre Road, Kemps Creek (Lot 34 DP 1118173, Lot X DP 421633, Lot 1 DP 1018318, Lot Y DP 421633 & Lot 22 DP 258414)
<i>TfNSW</i>	Transport for NSW
<i>WSUD</i>	Water Sensitive Urban Design
<i>WSFL</i>	Western Sydney Freight Line
<i>Willowtree Planning</i>	Willowtree Planning Pty Ltd

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EXECUTIVE SUMMARY

This Environmental Impact Statement (EIS) has been prepared by Willowtree Planning, on behalf of a joint venture between Frasers Property Australia (Frasers Property) and Altis Property Partners (Altis). The EIS is submitted to the NSW Department of Planning & Environment (DP&E), in support of a State Significant Development (SSD) Application, for the construction and operation of a Warehouse, Logistics and Industrial Facilities Hub, at 657-769 Mamre Road, Kemps Creek.

Development Consent under this Proposal is sought for:

- Construction and operation of a Warehouse, Logistics and Industrial Facilities Hub, comprising nine (9) buildings in Stage 1 only. This incorporates ancillary office space; amenities; hardstand parking and loading areas; and, landscaping. The facilities will operate on a 24-hour, 7-day basis, consistent with the adjacent Erskine Park Industrial Areas;
- Upgrade of the existing Bakers Lane intersection;
- Construction of new signalised intersection along Mamre Road providing a connection to the proposed Southern Link Road;
- Subdivision of the overall Site into 33 Torrens Title allotments over three (3) stages; and
- Bulk earthworks (in two stages) and estate works across the whole site including internal estate roads (to be dedicated to Council) and civil works.

The Site has a direct frontage to Mamre Road of 1.1 km and a total Site area of 118 hectares and is located within the Land Application Area under *State Environmental Planning Policy (Western Sydney Employment Area) 2009* (SEPP WSEA) – Precinct 11, which aims to create employment, by providing development in the form of major warehousing, distribution, freight transport, industrial and manufacturing facilities.

This Proposal is deemed to be SSD under Part 4 of the *Environmental Planning and Assessment Act 1979* (EPA & Act, 1979). For *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP (SRD) 2011) to apply, the Capital Investment Value (CIV) of development needs to be greater than AUD\$50 Million and its use is for Warehouse or Distribution Centres pursuant to Schedule 1, Part 12 of SEPP (SRD) 2011.

The provision of Infrastructure headworks to the Site is costed at \$12 Million. The CIV, as defined under Part 1, Clause 3 the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation 2000), is defined as follows:

capital investment value of a development or project includes all costs necessary to establish and operate the project, including the design and construction of buildings, structures, **associated infrastructure** and fixed or mobile plant and equipment, other than the following costs:

- (a) amounts payable, or the cost of land dedicated or any other benefit provided, under a condition imposed under Division 7.1 or 7.2 of the Act or a planning agreement under that Division,
- (b) costs relating to any part of the development or project that is the subject of a separate development consent or project approval,
- (c) land costs (including any costs of marketing and selling land),
- (d) GST (within the meaning of A New Tax System (Goods and Services Tax) Act 1999 of the Commonwealth).

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Proposed Warehouse 6 is located on proposed Lot 6. It has a CIV (including infrastructure) of \$72,990,000 Million (excluding GST). A new tenancy has already been secured for the facility in this SSD and is for "the same operation at one location". It therefore also satisfies the requirements under SEPP (SRD) 2011, Schedule 1 Part 12. The Proposed Development, therefore, qualifies as SSD in accordance with the provisions and must be assessed accordingly. It is noted, that the total CIV for this SSD Application is approximately \$189,270,000 Million.

The Proposal also includes a 60 m land reservation for the Western Sydney Freight Line Corridor adjacent to the northern boundary of the Site, and adjacent to the Water NSW Pipeline.

Under the EP&A Act, 1979, it is required that a request for Secretary's Environmental Assessment Requirements (SEARs) must be made prior to the lodgement of any SSD Applications. SEARs were requested for the Proposed Development (Reference: SSD 9522) and later issued by the NSW DP&E on the 14th of September 2018 (refer to **Appendix 1**).

In addition to the general requirements, the SEARs for the Proposed Development, highlight a number of Key Issues. These have all been addressed as part of this EIS and are set out as follows, in the 21 categories below:

1. Strategic and Statutory Context;
2. Planning Agreement and Development Contributions;
3. Suitability of the Site;
4. Community and Stakeholder Engagement;
5. Urban Design and Visual Assessment;
6. Traffic and Transport;
7. Flooding;
8. Soils and Water;
9. Biodiversity;
10. Infrastructure Requirements;
11. Heritage;
12. Noise and Vibration;
13. Hazards and Risks;
14. Bushfire;
15. Waste;
16. Air Quality; and
17. Social Impact.

Other areas evaluated throughout this EIS, include the following:

18. Economic Impacts;
19. Agricultural Impacts;
20. Greenhouse Gas and Energy Efficiency; and,
21. Ecologically Sustainable Development.

The findings of this EIS, are that the Proposed Development can proceed. All assessed impacts have been examined and deemed acceptable, in relation to all the relevant legislative requirements applicable to the Subject Site. Furthermore, the proposed Warehouse, Logistics and Industrial Facilities Hub, is consistent with the objectives SEPP (WSEA); SEPP (SRD) 2011; *A Metropolis of Three Cities*; the *Western City District Plan*; and the *Western Sydney Aerotropolis Land Use Infrastructure Implementation Plan* (LUIIP).

Based on the findings of this EIS, the Proposed Development can successfully support a Warehouse, Logistics and Industrial Facilities Hub, inclusive of related development, under this Application, with acceptable environmental impacts. The Proposed Development provides over 160,000 m² of employment Gross Floor Area (GFA) and in the order of 800 operational jobs

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and 500 construction jobs in the immediate term, in line with the stated objectives of both SEPP (WSEA) 2009 and SEPP (SRD) 2011, as well as the clear employment focus of the LUIIP. The Proposed Development is contiguous to and a logical extension of, the existing established and fully-developed industrial precinct at Erskine Park, including the 50-ha development at First Estate, directly adjoining the Site to the North.

The vision for the Proposed Development, is to create and build a new Warehouse, Logistics and Industrial Facilities Hub with an architectural treatment that achieves a high-quality integrated Estate and an attractive appearance, in a style that is consistent with the Industrial precinct of the Western Sydney Employment Area (WSEA). The Proposed Development would showcase the next-generation industrial Estate design, targeting State-of-the-Art, Six-Star-Green-Star-rated industrial buildings designed to set new standards in relation to sustainability, social amenity and building quality. Also, as part of this Application, the Proponents will dedicate the entire western portion of the Subject Site of some 11 ha directly adjacent to South Creek, to a new green area of activated open and recreational space.

This vision for the Estate is entirely consistent with the objectives of both the LUIIP (2018) and the *Western City District Plan* (2018), to provide opportunities for green space and active uses. Further analysis regarding the Proposed Development's consistency with the LUIIP and the *Western City District Plan* is demonstrated within **Sections 4.3.2 & 4.3.3** of this EIS.

The Site can also be serviced immediately and at **No Cost to Government**, based on extensions to existing approved infrastructure. The total cost of delivering roadworks, sewer, water and power to the Site forms part of the \$12 Million of infrastructure and will be borne by the Proponent in full. This infrastructure will be sized to facilitate servicing of future land within the Aerotropolis and will be constructed in the early stages of the project.

The Proposed Development is deemed suitable for its intended purpose, having regard to its regional and local context and would not result in any significant environmental impacts. The Proposal satisfactorily addresses all the SEARs issued on 14th of September 2018. These are summarised below in **Table 1** of this EIS. As such, it is recommended that the Proposed Development be supported by the NSW DP&E.

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Table 1: How SEARs have been satisfied	
General Requirements	How Addressed
The Environmental Impact Statement (EIS) for the development must meet the form and content requirements in Clauses 6 & 7 of Schedule 2 of the EP&A Regulation.	This EIS has been prepared in accordance with Clauses 6 & 7 of Schedule 2 of the EP&A Regulation 2000. The structure of this EIS addresses all legislative requirements set out in the EP&A Regulation 2000.
Key Issues	
The EIS must include an assessment of all potential impacts of the Proposed Development on the existing environment (including cumulative impacts) and develop appropriate measures to avoid, minimise, mitigate and / or manage these potential impacts. As part of the EIS assessment, the following matters must also be addressed.	A full assessment of all potential and cumulative impacts of the Proposed Development on the environment, is detailed in Part F, which proposes appropriate mitigation measures for the Proposed Development in Part G of this EIS, where necessary to be implemented.
Statutory and Strategic Context – including: <ul style="list-style-type: none"> detailed justification for the Proposal land use is permissible, taking into consideration the <i>State Environmental Planning Policy (Western Sydney Employment Area) 2009</i>; details of any proposed consolidation or subdivision of land; demonstration that the Proposal is generally consistent with all relevant planning strategies, environmental planning instruments, adopted precinct plans, draft district plan(s) and adopted 	<p>A detailed response to the Statutory and Strategic Context for the Subject Site, including a detailed justification for land use, is shown in Sections 2.3, 4.3 and 6.5 of this EIS.</p> <p>Accordingly, the permissibility of the Proposed Development is captured within Section 4.2.7 of this EIS, which explains, that the Proposed Development has satisfactorily met the required criteria for permissibility of the proposed SSD. As well as the compatibility with adjoining land, the Proposed Development is complemented by existing industrial development directly to the north of the Subject Site, further demonstrating the Subject Site's suitability within its local context. This is considered compliant with sub-clauses (2)(a) & (b) under Clause 12 of SEPP (WSEA) 2009; therefore, enabling consent to be granted on land located within SEPP (WSEA) 2009 and to which Clause 12(1) applies. This has been confirmed by the NSW DP&E in writing. A detailed justification regarding the Proposed Development's permissibility under SEPP (WSEA) 2009 is provided in Section 4.2.7 of this EIS.</p> <p>Both lot consolidation and subdivision are proposed on the Subject Site. Consolidation of the existing five (5) lots forming the Subject Site is proposed. A new 33-lot subdivision is also proposed to be carried out on the consolidated land at 657-769 Mamre Road, Kemps Creek.</p> <p>The Proposed Development has been comprehensively assessed against the relevant planning strategies, EPIs and adopted precinct plans within Sections 4.2.7, 4.3.1, 4.3.2, 4.3.3 and 6.4.3 of this EIS. The Proposed Development is considered totally consistent with the objectives of the LUIIP 2018; SEPP (WSEA) 2009; SEPP (SRD) 2011; <i>A Metropolis of Three Cities</i> and the</p>

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<p>management plans and justification for any inconsistencies. The following must be addressed:</p> <ul style="list-style-type: none">○ <i>State Environmental Planning Policy (Western Sydney Employment Area) 2009;</i>○ <i>A Metropolis of Three Cities</i>○ <i>Western City District Plan</i>○ <i>Western Sydney Aerotropolis – Land Use and Infrastructure Implementation Plan – Stage 1: Initial Precincts; and,</i>○ <i>WSFL corridor.</i>	<p><i>Western City District Plan</i> it is considered to be orderly development and consistent with both the strategic vision for the region and the designated economic and employment outcomes envisaged for the Aerotropolis and WSEA.</p> <p>The main objectives of the LUIIP 2018 and SEPP (WSEA) 2009 are:</p> <p><u>LUIIP Objectives:</u></p> <ol style="list-style-type: none">1. Productive - <i>The Aerotropolis would be an accessible innovative 24-hour city, connected globally, nationally, locally and digitally and prime location for investment. The Aerotropolis would make a significant contribution to 200,000 jobs for Western Sydney, creating an innovation precinct and a home for technology, science and creative industries.</i>2. Compact and Connected - <i>A compact urban form would minimise the urban footprint, preserve environmentally valuable lands and allow for a diversity of housing within 10 minutes of centres and five minutes of parks and open space.</i>3. Liveable - <i>A diversity of jobs and homes including affordable housing, high-quality public transport, vibrant urban centres and unique amenity, creativity and recreation would attract a new, highly skilled and diverse community.</i>4. Sustainable - <i>Planning in each of the Aerotropolis's precincts would create opportunities to introduce aspirational energy and water solutions, and sustainable approaches to the creation of public areas, new built form and social infrastructure.</i>5. Aligned with Infrastructure and Funding - <i>Sequenced precinct planning would align population and economic growth, with the planning and construction of new transport, services and community facilities for residents and workers.</i> <p><i>The timely and efficient provision of enabling infrastructure is a key consideration to activate precincts. In the context of the major investments by the Commonwealth and NSW, particularly in Stage 1 of North–South Rail Link, the use of additional value sharing mechanisms would also be considered. This plan represents the beginning of a discussion regarding the potential mechanisms available to the government while the specifics of potential and practical value sharing mechanisms would be explored and developed for reporting in the second stage of the Land Use Plan.</i></p>
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6. **Compatible with a Landscape Led Approach to Urban Development** - *South Creek and its tributaries would shape an open space network that combines recreation, stormwater management and biodiversity, making water an important part of the Aerotropolis's character. As one of the warmest parts of Greater Sydney, where heat can influence the health and lifestyle of residents and workers, the Aerotropolis would be planned around the network of waterways to create greater environmental, social and amenity benefits. This includes responses to mitigate urban heat, flooding and intense storm events and locating noise sensitive land uses in areas considered acceptable to liveability outcomes to allow unencumbered airport operations.*

The Proposed Development's overall consistency with the LUIIP 2018 is demonstrated further in Section 4.3.3 of this EIS, which includes a comprehensive assessment against each objective.

SEPP (WSEA) 2009 Objectives:

1. *to promote economic development and the creation of employment in the Western Sydney Employment Area by providing for development including major warehousing, distribution, freight transport, industrial, high technology and research facilities,*
2. *to provide for the co-ordinated planning and development of land in the Western Sydney Employment Area,*
3. *to rezone land for employment or environmental conservation purposes,*
4. *to improve certainty and regulatory efficiency by providing a consistent planning regime for future development and infrastructure provision in the Western Sydney Employment Area,*
5. *to ensure that development occurs in a logical, environmentally sensitive and cost-effective manner and only after a development control plan (including specific development controls) has been prepared for the land concerned,*
6. *to conserve and rehabilitate areas that have a high biodiversity or heritage or cultural value, in particular areas of remnant vegetation.*

Section 4.2.7 of this EIS contains a comprehensive assessment of the Proposed Development against each of objective contained within SEPP (WSEA) 2009, for which the Proposed Development is considered entirely consistent with.

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<p>Planning Agreement / Development Contributions – including:</p> <ul style="list-style-type: none"> ▪ Demonstration that satisfactory arrangements have been or would be made to provide or contribute to the provision of, necessary local and regional infrastructure required to support the development. 	<p>It is noted, that the Applicant has consulted with the NSW DP&E contributions team and has submitted a Letter of Offer to enter into a Voluntary Planning Agreement (VPA). Appendix 40 of this EIS demonstrates the correspondence exchanged between the Proponents and the NSW DP&E, concerning satisfactory arrangements, with regard to a new VPA for the Proposed Development.</p> <p>It is intended that the VPA would provide monetary contributions for the Proposed Development, to go towards the provision of infrastructure for the region as determined by the relevant Authority.</p> <p>It is anticipated, based on the discussions hold to date, that satisfactory arrangements would be made under a new VPA, for this SSD Application and the Site in accordance with the SEPP as per Clause 29 of SEPP (WSEA) 2009 (despite that it is not located within an Industrial Release Area).</p> <p>This process is consistent with other VPAs within the surrounding WSEA and in accordance with held discussions, will be able to be made acceptable to the NSW DP&E. The VPA would be registered on title and commitments secured before development can proceed.</p>
<p>Suitability of the Site – including:</p> <ul style="list-style-type: none"> ▪ an analysis of site constraints, such as flooding impacts and future road corridors; and, ▪ a detailed justification that the site is suitable for the scale of the Proposal and any constraints identified, having regard to the site's surrounds and the potential visual impact of the development. 	<p>All Site constraints e.g. flooding; roads; flora and fauna have been identified, mapped and assessed.</p> <p>The Proposed Development's overall consistency with applicable Regional and Local Strategies is demonstrated in the comprehensive Environmental Assessment. This includes an analysis of all potential impacts. The corresponding sections of the EIS that addresses Site constraints such as flooding impacts and future road corridors are contained within Sections 4.2.7, 4.3.1, 4.3.2, 4.3.3 and 6.4.3.</p> <p>The suitability of the Site with regard to the Proposed Development is addressed in full within Section 2.5 of this EIS and further reinforced throughout. Following the detailed assessment of the Site constraints, it was deemed suitable for the scale of the proposal contained in this EIS. Some 22 suitability and assessment criteria were used to carry out the assessment in this respect. These included:</p> <ol style="list-style-type: none"> 1. Strategic and Statutory Context;

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	<ol style="list-style-type: none">2. Planning Agreement and Development Contributions;3. Suitability of the Site;4. Community and Stakeholder Engagement;5. Urban Design and Visual Assessment;6. Traffic and Transport;7. Flooding;8. Soil and Water;9. Biodiversity;10. Infrastructure Requirements;11. Heritage;12. Noise and Vibration;13. Hazards and Risks;14. Bushfire;15. Waste;16. Air Quality; and17. Social Impact.18. Economic Impacts;19. Agricultural Impacts;20. Visual Impacts;21. Greenhouse Gas and Energy Efficiency; and,22. Ecologically Sustainable Development. <p>The Environmental Assessment undertaken, also contains recommendations and mitigation measures (where necessary) to account for any identified potential impacts, as a result of the Proposed Development. The suitability of the Subject Site with regard to the scale, size and purpose of Proposed Development, can be attributed to its demonstrated minimal impact on the existing environment.</p>
<p>Community and Stakeholder Engagement – including:</p> <ul style="list-style-type: none">▪ a detailed community and stakeholder participation strategy which identifies who in the community has been consulted and a justification for their selection, other stakeholders consulted and the form(s) of	<p>A copy of the Consultation Letters issued, to State Agencies for comment on the Proposal, as well as a detailed Community Consultation Report, prepared by Willowtree Planning, are both located within Appendix 33 of this EIS. Together these show the consideration and extent of the detailed community and stakeholder participation strategy for this EIS that was implemented in line with the requirements of the EP&A Act, 1979.</p>

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<p>consultation, including a justification for the approach;</p> <ul style="list-style-type: none">▪ a report on the results of the implementation of the strategy including issues raised by the community and surrounding land owners and occupiers that may be impacted by the Proposal;▪ details of how issues raised during community and stakeholder consultation have been addressed and whether they have resulted in changes to the Proposal; and, <ul style="list-style-type: none">▪ details of the proposed approach to future community and stakeholder engagement based on the results of consultation.	<p>A full and comprehensive Community Consultation Report including the consultation process has already been carried out for this SSD Application. Key Stakeholders have already been identified. Meetings have already been undertaken with relevant State Agencies and documented within this EIS and the Community Consultation Report by Willowtree Planning.</p> <p>The Stakeholder and Community Consultation has included:</p> <ol style="list-style-type: none">1. Identification of Key Stakeholders and Community Groups involved.2. Consultation Letters issued to State Agencies and adjoining landowners, as per the request of the SEARs, issued on the 14th of September 2018.3. Resident Notification letters issued to the immediate and wider community groups, highlighting the Proposed Development and identifying the time and location for two (2) consultation sessions to be held on the 22nd and 25th of September 2018 at Twin Creeks Gold Club.4. Newspaper advertisement advertised within the Penrith Press alluding to the time and location for two (2) consultation sessions to be held on the 22nd and 25th of September 2018 at Twin Creeks Gold Club.5. Attendance at five (5) various meetings with State Agencies to discuss the Proposed Development. Agencies included NSW DP&E, NSW RMS, TfNSW, NSW OEH and the Greater Sydney Commission. <p>As mentioned above, two (2) community consultation sessions were held at Twin Creeks Golf & Country Club on the 22nd of September 2018 and the 25th of September 2018, following a community-wide letterbox drop and newspaper advertisement being issued, which allowed the immediate community and wider locale the opportunity to comment in detail on the Proposal. All issues raised in the consultation sessions held, were recorded and have further informed this EIS. These have been fully detailed in the Community Consultation Report (2019).</p> <p>With regard to the Proposed Development's Construction and Operational phases, future community and stakeholder engagement strategies will be facilitated by a Site specific website</p>
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	and Complaints Register. An appointed liaison officer will be made responsible for handling all queries and concerns with regard to the Proposed Development.
<p>Urban Design and Visual – including:</p> <ul style="list-style-type: none">▪ a visual impact assessment (including photomontages and perspectives) of the development layout and design (buildings and storage areas) including height, colour, scale, building materials and finishes, signage and lighting, having regard to surrounding residential receivers and Clause 23 of SEPP (WSEA) 2009, particularly in terms of potential impacts on:<ul style="list-style-type: none">○ nearby public and private receivers; and,○ significant vantage points in the broader public domain including Mamre Road.▪ Consideration of the layout and design of the development having regard to the surrounding vehicular, pedestrian and cycling networks;	<p>A Visual Impact Assessment (including photomontages and perspectives) of the Proposed Development has been undertaken and prepared by Geoscapes (2019). This Visual Impact Assessment uses immediate visual receptors to assess impacts with regard to the Subject Site, as well as receptors that represent the wider community. The Visual Impact Assessment prepared by Geoscapes concludes that:</p> <ul style="list-style-type: none">▪ The significance of impact upon the landscape at the Subject Site is minor in nature.▪ Although the Site presents some scenic qualities, this has to be considered against the immediate surrounding landscape character and context. Directly to the north and northeast of the Site, contains industrial zoned land, which has created a landscape character, that is heavily influenced by industrial and commercial development.▪ The proposed Stage 1 Development will create visual impacts for several user groups who will experience views of the Proposed Development. It is noted, that these visual impacts are predominantly for people who are located in close proximity to the Proposed Development.▪ Generally, locations to the north and west have fewer open views towards the Proposed Development, with a few exceptions, including 707A Mamre Road.▪ The Visual Impact Assessment, demonstrates, that proposed landscape planting at the Subject Site can be effective in helping to reduce visual impacts for a number of properties and public locations. This is particularly important for the east and southern boundaries of the Subject Site. Accordingly, this will be most effective after 15 years and for those receptors who experience direct views at close to medium range. Essentially, mature landscape planting should effectively screen view corridors to many of the warehouse elements experienced at the Subject Site. <p>A full report is located in Appendix 9 of this EIS. The findings detailed within the Visual Impact Assessment provided by Geoscapes are satisfactorily considered within Section 6.2 of this EIS, as well as being further reinforced throughout consideration of Clauses 23 & 31 of SEPP (WSEA) 2009, which is addressed in Section 4.2.7.</p>

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<ul style="list-style-type: none">▪ Detailed plans showing suitable landscaping which incorporates endemic species; and,	<p>The Site is not directly serviced by public transport operations, however recommendations have been provided which suggest future improvements and extensions to the bus routes surrounding the Site, to improve site access and connectivity.</p> <p>Additionally, the Traffic Impact Assessment Report by Ason Group (2019) in response to the LUIIP 2018 and in anticipation of, increased future development in the whole area, assesses existing and future opportunities for infrastructure upgrades available for cycling to and from the Site via Mamre Road. Current bicycle lanes are provided along Erskine Park Road and sections of Mamre Road, as well as carriageways that can also be utilised by cyclists to travel between work and home. Pedestrian access to the Site has also been assessed by Ason Group and will be enhanced by the Proposal in the following ways:</p> <ul style="list-style-type: none">▪ Provision of full signalised pedestrian crossings in accordance with standard RMS practice for new signalised intersections.▪ Upgrades to the Mamre Road / Bakers Lane intersection to improve pedestrian crossing opportunities. <p>Meetings with the NSW RMS to date (held on the 26th of July 2018) indicated the intention to upgrade Mamre Road, including pedestrian footpaths on one side and a shared path (cyclist / pedestrians) on the other side. This has been included in the Site's plan and connected to the Site's own facilities.</p> <p>Landscape Plans prepared by the chosen Landscape Architect for the Proposed Development (Habit8, 2019), propose various endemic species in the landscape design. The landscape design for the Subject Site is included within Appendix 7 of this EIS. The main features of the landscape plan for the Site includes the following landscape principles:</p> <ol style="list-style-type: none">1. Enjoyable for all users and visitors alike.2. Sustainable in its management, development and promotion.3. Accessible to all.4. Creating spaces to enjoy at work.5. Reducing environmental impact.6. Life cycle cost management.7. Community & environmental benefits.
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<ul style="list-style-type: none">▪ A design report that establishes design guidelines and development parameters, and includes diagrams, illustrations and drawings to clarify the design intent of the Proposal and which clearly demonstrates how design quality would be achieved in accordance with Clause 31 Design principles of SEPP (WSEA) 2009.	<p>8. Compliance with Penrith City Council design objectives.</p> <p>Additionally, the Architectural Plans located within Appendix 6 of this EIS, have considered and incorporated the findings of the Visual Impact Assessment, analysed through the urban design of the Subject Site, that includes Architectural Design Report located in Appendix 37 of this EIS. The overall architectural treatment applied to the Proposed Development, particularly responds to the provisions with regard to Clause 31 of SEPP (WSEA) 2009, concerning Design Principles.</p> <p>It does so by comprising the following key design features, including:</p> <ol style="list-style-type: none">1. Walls – General wall materials and finishes are applied in accordance with the “Prominent Elevation” diagram displayed in page 9 of Appendix 37 of this EIS. Accordingly, prominent elevations contribute to the character of the Proposed Development. It is noted, that textural / material contrasts, shadows and translucency should be considered with regard to the prominent elevation.2. Feature Corners / Accent Material – each warehouse expresses an accent material at corners of prominent elevations. Where required, estate numbering. Additionally, the accent material should be viewed as a warehouse identity feature and should be expressed in the office design as well.3. Roofs – dynamic forms, expressed eaves and overhangs on prominent corners are to be incorporated into the roof design. Light colours will be used on the roof as darker colours are known to absorb more heat. Where possible, roof top solar panels should be utilised to harvest energy, further contributing to the Proposed Development’s energy efficiency, as well as rainwater harvesting systems being integrated into the overall design for each warehouse.
<p>Traffic and Transport – including:</p> <ul style="list-style-type: none">▪ a quantitative Traffic Impact Assessment prepared in accordance with relevant PCC, Austroads and Roads and Maritime Services guidelines;	<p>A Traffic Impact Assessment has been prepared by Ason Group, which considers the traffic impacts for the facilities proposed under the subject Proposal, as well as potential future stages (subject to further Development Applications). The Traffic Impact Assessment prepared by Ason Group, has been informed by Penrith City Council and RMS requirements, as well as the relevant Australian Standards and concludes that:</p>

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	<ul style="list-style-type: none">▪ The Subject Site will be accessed from the western leg of the existing Mamre Road / Bakers Lane signalised intersection.▪ The development proposed under this SSD Application is anticipated to generate approximately 405 veh/hr during the AM and 297 veh/hr during the PM peak hour. The estimated daily traffic generation of the proposed SSDA is 4,322 veh/day.▪ With reference to the SIDRA Network results for the Proposed Development, Ason Group conclude, that the proposed SSD Application traffic volumes can be accommodated through the existing intersections in the locality and that the proposed indicative signal layout envisaged for the Mamre Road / Bakers Lane can cater the additional traffic volumes.▪ A review of the parking requirements for this SSD Application confirms, that each land parcel will generally provide sufficient car parking spaces to satisfy the RMS parking requirements. <p>Section 6.4 of this EIS summarises the findings of the Traffic Impact Assessment undertaken. A full copy is located in Appendix 18 of this EIS.</p> <p>The Traffic Impact Assessment was further informed by consultation undertaken as part of the SEARs, held with NSW DP&E, NSW RMS, TfNSW and Penrith City Council (in 2017, 2018 and 2019). In particular, the future Mamre Road Upgrade Project, proposed Southern Link Road and Western Sydney Freight Line Corridor, have all been incorporated in the overall Traffic Impact Assessment, forming the overall Site design and layout.</p> <p>The trip assessment rates adopted for the Proposed Development are as follows:</p> <ul style="list-style-type: none">▪ AM Rate – 0.247 trip per 100 m² of GFA;▪ PM Rate – 0.182 trip per 100 m² of GFA; and▪ Daily Rate – 2.64 trip per 100 m² of GFA. <p>The approach taken for the Site is considered conservative in nature. It is designed specifically for flexibility for later development, allowing changes to occur over the lifespan of the Estate development.</p>
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<ul style="list-style-type: none">▪ details of all daily and peak traffic and transport movements likely to be generated (vehicle type, public transport) during construction and indicative operation;▪ impacts on the safety and capacity of the surrounding road network and access points, using SIDRA or similar modelling, to assess impacts from current traffic counts and cumulative traffic from existing and Proposed Development;▪ demonstrate that sufficient loading/unloading, car parking and pedestrian and cyclist facilities have been provided for the development;	<p>By applying the above rates, the traffic generation rates for the proposed SSDA, have been determined as follows:</p> <ul style="list-style-type: none">▪ AM Peak (veh/hr) = 405;▪ PM Peak (veh/hr) = 297; and▪ Daily (veh/day) = 4,322. <p>The Traffic Impact Assessment included SIDRA analysis for relevant modelling scenarios. The Traffic Impact Assessment and SIDRA found that the traffic generated by this Proposal can be accommodated by the surrounding road network and intersections without any significant material traffic impact, subject to localised improvements to the Bakers Lane intersection.</p> <p>A full version of both Assessments is located in Appendix D of the Traffic Impact Assessment, located within Appendix 18 of this EIS. The results of the SIDRA analysis are articulated within Section 6.4 of this EIS.</p> <p>Relevant parking rates used in the Traffic Impact Assessment, have been based on the NSW RMS <i>Guide to Traffic Generating Developments</i>, which include the following:</p> <ul style="list-style-type: none">▪ One (1) space per 300 m² of warehouse GFA; and,▪ One (1) space per 40 m² of ancillary office GFA. <p>It is noted that these rates are adopted within the proposed Mamre South DCP.</p> <p>For proposed Lots 1, 2 & 3 (north of Bakers Lane), the parking requirements accrue to a total of 293 parking spaces, for which the Proposed Development provides 293 car parking spaces. Additionally, for proposed Lots 4, 5 & 6 (south of Bakers Lane) the parking requirements accrue to a total of 432 parking spaces, for which the Proposed Development provides 465 car parking spaces.</p> <p>Accessible rates have also been adopted, including:</p> <ul style="list-style-type: none">▪ One (1) space for every 100 car parking spaces or part thereof (rounded up).
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<ul style="list-style-type: none"> ▪ details and a justification of access to, from and within the site (vehicular and pedestrian); ▪ details of road upgrades, new roads or access points required for the development, if necessary; ▪ consideration of the western connection of the SLR and road widening requirements for Mamre Road, in consultation with RMS; 	<p>This rate has been adopted for the Proposal.</p> <p>Access to the Stage 1 area will be provided by the interim upgrade of the current Bakers Lane intersection and local access roads. The future Southern Link Road (SLR) would connect to local access roads and also result in Bakers Lane being converted to a cul-de-sac at Mamre Road. This is scheduled to occur by the year 2020.</p> <p>New internal access roads will provide immediate vehicular access to all proposed Lots in Stage 1 of this Proposal. All new internal access roads have been designed in accordance with the proposed Mamre South Precinct DCP, prepared by Willowtree Planning (which is located within Appendix 39 of this EIS). It is also important to note that the Mamre South Precinct DCP, has fully considered and incorporated all of Penrith Council's existing DCP Guidelines with regard to the design of roads, and road dedication to Council in the future. All roads which would be dedicated to Council have been designed in accordance with the requirements of Clause 10 Transport Access and Parking of the <i>Penrith Development Control Plan 2014</i> (PDCP2014).</p> <p>Three (3) full options have been considered for Mamre Road. To that end, the Proposed Development integrates the future Southern Link Road running parallel to Bakers Lane in accordance with the RMS's publicly-advertised option. The design adopts Austroads and RMS standards and will be the primary access to the development once completed.</p> <p>The future widening of Mamre Road has also been thoroughly considered and incorporated in the Design Plans by the NSW RMS that have been exhibited on the NSW RMS website as part of the Mamre Road Upgrade Project show a 50-m wide corridor. This has been adopted in the design of the Proposed Development.</p> <p>With regard to the Southern Link Road, the alignment adopted has been based on the Draft Structure Plan 2013 and the following factors:</p> <ul style="list-style-type: none"> ▪ The Mamre Road upgrade options report issued by the NSW RMS, shows the location of the SLR intersection. ▪ An alignment to co-locate regional infrastructure, being the Western Sydney Freight Rail Corridor and the Sydney Water Pipeline that avoids fragmentation of land between infrastructure corridors.
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<ul style="list-style-type: none"> consideration of the proposed WSFL, including the width of the corridor and how this would be considered in the layout of the Proposal, in consultation with TfNSW; and, details of how the Proposal would allow connection to future land uses to the south of the site. 	<ul style="list-style-type: none"> To facilitate a more cost-effective crossing of South Creek by combining the SLR, WSFL and pipeline with only one bridge structure rather than multiple crossover points. To avoid the unnecessary fragmentation of land between infrastructure corridors <p>As part of this EIS submission, extensive consultation has been undertaken with the NSW RMS, Transport for NSW (TfNSW) and the NSE DP&E in relation to the proposed Southern Link Road alignment.</p> <p>Based on advice provided by the Transport for NSW (TfNSW) (following a Meeting on 21st of August 2018), a 60 m wide corridor has been adopted in the design of the Proposed Development with respect to the Western Sydney Freight Line Corridor. The Applicant completed further consultation with TfNSW on the 21st of August 2018, which confirmed that the 60-m-wide corridor is sufficient for both the proposed widening of Mamre Road and a potential grade-separated bridge over the Western Sydney Freight Line Corridor and Sydney Water Pipeline.</p> <p>Furthermore, the properties located immediately to the south of the Subject Site (Lots 23 and 24 in DP258414) have almost 280 m of frontage to Mamre Road and therefore are afforded their own access to the arterial road network.</p> <p>Regardless of the of the above, it is important to note, that unnecessary connections between the two (2) sites, would encourage rat-running movements between them, which as a consequence would unnecessarily increase the traffic movements within the Subject Site. This can by itself create number of different issues and is therefore not a desirable outcome.</p> <p>Notwithstanding, no connection was deemed necessary following RMS, TfNSW consultation, as a result of individual sites developing and implementing their own access to Mamre Road.</p>
<p>Flooding – including:</p> <ul style="list-style-type: none"> a detailed hydrological and hydraulic assessment which includes the following: a comprehensive assessment of the impact of flooding on the development for the full range of flood events up to the probable maximum flood. This 	<p>Costin Roe Consulting have prepared a detailed hydrological and hydraulic assessment (Costin Roe Overland Flow Report (2019)) (See Appendix 11 of this EIS). The assessment uses Bureau of Meteorology Data for Average and Maximum Monthly Rainfall figures. It has also included, for this assessment, a 10% increase in rainfall intensity, representative of potential climate change impacts for the Sydney Metropolitan Area (being consistent with project rainfall increases in accordance with the NSW Department of Environment and Climate Change (DECC) 'Floodplain Risk Management Guideline Practical Consideration of Climate Change' (2018).</p>

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<p>assessment should address any relevant provision of the NSW Floodplain Development Manual (2005) including the potential effects of climate change, sea level rise and an increase in rainfall intensity;</p> <ul style="list-style-type: none"> consideration of current flooding behaviour and impacts, including on flood detention areas, how flood behaviour and impacts would change due to the Proposal and how these changes would be mitigated; <ul style="list-style-type: none"> assessment of the impact of the development on flood behaviour (i.e., levels, velocities and duration of flooding) and on adjacent, downstream and upstream areas; 	<p>The Overland Flow Report (OFR) prepared by Costin Roe Consulting provides a comprehensive analysis of flooding behaviour for mainstream flooding in the catchment with due consideration given to downstream and upstream controls on the South Creek Channel. MUSIC and TUFLOW modelling has been prepared within the OFR located in Appendix 11 of this EIS, which satisfactorily addresses the required considerations. Further analysis regarding flood behaviour and resultant emergency response plans has been carried out, which are to be adopted as part of the Proposed Development. The Costin Roe OFR demonstrates, that the proposed Development can be satisfactorily evacuated in the event of flooding.</p> <p>With regard to flooding behaviour, a TUFLOW hydrodynamic flood model of South Creek was produced for the area surrounding the Proposed Development for the purpose of future scenario testing. The current report prepared, provides a summary of the model build and results for the existing, pre-developed, condition over the land. The model has since been reviewed by Penrith City Council's chosen consultants, Worley Parsons, prior to the Stage 2 Scenario Testing being undertaken.</p> <p>Detailed MUSIC and TUFLOW Modelling has been provided in Appendix 11 of this EIS, which satisfactorily addresses any considerations assessed with regard to flood behaviour. Costin Roe analysed a full range of flood events for the Site including the PMF.</p> <p>The TUFLOW modelling included adjustment and validations of the pre-developed conditions using the <i>South Creek Study</i>. Results of the TUFLOW modelling show acceptable comparison with those of the <i>South Creek Study</i> with differences in flood depths of less than 100 mm being achieved. Flood surface levels are also seen to be within 0.1 m of those produced in the <i>South Creek Study</i> and similar hydraulic conditions were also observed. The flood surface varies in level from RL 35.20 m AHD at the upstream (south) end of the Stage 1 Site to RK 33.60 m AHD at the downstream end of the Site (north / Sydney Water Pipeline).</p>
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<ul style="list-style-type: none">▪ detail proposed floor levels for all proposed habitable structures on the site having considered the full range of flood events up to the probable maximum flood; and,▪ detail an emergency response plan for the site, which includes consideration of a flood-free access to or from the development site in extreme flood events.	<p>Additionally, the post development TUFLOW modelling shows, that filling within certain flood affected land can be made without impacting upstream, downstream and adjacent properties and which meets the specific criteria set out in the <i>Penrith City Council DCP Part C3</i>. These specific criteria, include limiting depth and velocity afflux, confirming no effect on development potential to other properties or reduction in flood immunity to other properties.</p> <p>The flood planning level of the site has been based on normal, social and industry accepted freeboard allowances for industrial development. A minimum level of 1% AEP plus 500 mm freeboard has been adopted as per the PDCP2014 requirements. The adopted flood planning level is consistent with nearby industrial estates and Penrith City Council adopted policy.</p> <p>The Costin Roe OFR concludes, for the purposes of evacuation, that significant lead warning time would not be required to enable effective flood response plans to be initiated for this Site. The freeboard, set at 0.5 m above the 1% AEP, means that all parts of the Site are a level higher than the 0.5% AEP flood level and are not flood affected, meaning that safe refuge in a major flood event is available. Further, given the travel distances from the western fringe of the Site, to the eastern flood free portions are less than 1,000 m, vehicular and pedestrian evacuation to flood free land above the PMF level may be completed in less than five (5) minutes. It is noted, that sufficient warning times are recommended; however, even if these were to be shortened to less than an hour, this would still result in ample time for safe evacuation to be made. Furthermore, parts of the Subject Site are clear of the PMF event and on-site refuge is available in these locations.</p> <p>Further, the preferred evacuation route from the Subject Site is to be made northeast of the Site (as shown on page 34 of the Overland Flow Report prepared by Costin Roe Consulting in Figure 10.2 – Potential Flood Evacuation Route of Appendix 11 of this EIS). In additional modelling undertaken by Costin Roe Consulting (Blind Kemps Creek within the First Estate Stage 2), it is demonstrated, that overtopping of Erskine Park Road will not occur when South Creek is in flood for flood events less than the 0.5% AEP event. The route is expected to be cut in events between the 0.5% AEP and PMF event and evacuation during these events would be cautioned, subject to SES road closures and authority warnings. On-site shelter could be considered for PMF events in areas known to be free of flooding during the PMF, including the eastern and southeastern portions of the Subject Site, if the preferred evacuation route is cut or SES warnings recommend on-site shelter be undertaken.</p>
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	<p>Other potential evacuation routes, such as south along Mamre Road, to Elizabeth Drive or Bakers Lane, or north along Mamre Road past the Erskine Park Drive intersection would also be expected to be inundated and potentially hazardous during PMF and smaller AEP events. Accordingly, these routes are not recommended to be utilised during major storm events.</p>
<p>Soil and Water – including:</p> <ul style="list-style-type: none">▪ a description of how the Proposal takes into consideration the South Creek corridor strategy and the land use vision for the South Creek Precinct, in consultation with Infrastructure NSW and the Greater Sydney Commission;	<p>The South Creek Corridor Strategy states that main land use vision for the Precinct is:</p> <ol style="list-style-type: none">1. Activated Open Space.2. Biodiversity Protection and Retention.3. Improving Amenity Function. <p>Importantly, the long-term role of South Creek is to provide green space and water management within the catchment. This SSD Application takes full cognisance of South Creek's importance, with future stages allowing up to 11-ha of green open space fronting South Creek to complement the Governments initiatives of greening the region and water cycle management.</p> <p>It should be formally noted, that Infrastructure NSW have declined meeting with the Proponents claiming that they only formally consult with Government. The Greater Sydney Commission, however, has hosted meetings on both the 29th of March 2018 and the 10th December 2018, which included detailed notes and public information on the South Creek Corridor Strategy. Further, the Proposed Development, has been designed in accordance with all the publicly-exhibited information including the objectives of the South Creek Corridor Precinct, in respect of the LUIIP, 2018.</p> <p>The Proposed Development does not include any built form works under the subject SSD Application within close proximity of the creek edge. It does however seek consent for earthworks, the provision of infrastructure and subdivision, to accommodate a variety of land uses in the future, subject to separate development consent, including:</p> <ol style="list-style-type: none">1. Ancillary retail premises;2. Recreation facilities, including open parklands, walking and bicycle trails, outdoor gyms and picnic areas;3. High-tech industrial facilities; and

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<ul style="list-style-type: none">measures to protect the Warragamba Pipelines corridor from any works or activities associated with the development;	<p>4. Warehouse and logistics facilities.</p> <p>In this respect, the creek edge is to remain flexible in terms of the form of development that can be accommodated in the future, whilst being embellished with landscaping and green spaces to provide opportunity for outdoor recreation to celebrate the role South Creek plays in the precinct.</p> <p>It is noted, that the Proposal has specifically excluded any future indicative built form layouts at the request of the NSW DP&E as this Application does not seek consent for concept approval.</p> <p>The proposed finished earthworks levels and subdivision pattern provide flexibility for a range of future land uses, that are complimentary and compatible to the core operation of the proposed Estate and South Creek which is envisaged to serve as an area for recreation that is of high ecological value in the future.</p> <p>Both small format retail offerings and recreation facilities may be constructed and operated in the future, or a range of more intense employment generating land uses. The area reserved around the creek edge (in the order of 11-ha) provides the flexibility to support a range of active land uses, including bike paths, walking tracks, outdoor recreation, for which are considered in line with the intended function of South Creek.</p> <p>The 11-ha area is proposed to be heavily rejuvenated from its current poor condition, to revitalise and encourage waterfront activities, such as those indicated above. It is noted, all future development within close proximity the creek, would have a direct interface with the natural environment of the creek and its amenity offerings.</p> <p>All works are proposed to be clear of the Warragamba Pipeline corridor. Perimeter fencing, and sediment controls will be placed along the common boundary of the Subject Site and pipeline corridor during construction. Any proposed level differences in the Proposed Development will employ safe and stable batters, based on recommended slopes from a geotechnical investigation, or via retaining structure. No retaining is currently proposed for the development; however, future walls may be necessary for individual development sites. These would form part of future designs and Development Applications. All structures would be within the Site boundaries and would not affect support or structures within the pipeline corridor. Additionally,</p>
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<ul style="list-style-type: none">▪ details of how access to the Warragamba Pipelines corridor would be maintained, in consultation with WaterNSW;▪ a description of the water demands and a breakdown of water supplies, including a detailed site water balance;	<p>a 60 m wide corridor has been included south of the water pipeline as provision for the future WSFL Corridor, with no disturbance in this zone effectively providing a 60 m buffer between the Proposed Development and the water pipeline.</p> <p>Access to the pipeline corridor from Mamre Road would be maintained per existing conditions. No change to current access arrangements will occur due to the development.</p> <p>Rainwater harvesting mechanisms would be implemented with the proposed design, promoting reuse applications for potable and non-potable water, for warehouse amenities internally, as well as external applications for irrigation. Rainwater harvesting is set to reduce water-usage for the Project by up to 50%.</p> <p>The Service Infrastructure Assessment prepared by Land Partners (located within Appendix 12 of this EIS), confirms in a letter provided by Sydney Water on the 8th of November 2018, that potable and non-potable water can both be provided to fully service the Subject Site.</p> <p>Costin Roe Consulting include a Detailed Site Water Balance, that has considered water reuse and harvesting, for this Development, with provision of rainwater tanks. Non-potable water reuse (from rainwater) for irrigation and toilet flushing, will reduce demand on non-potable uses in the range of 50%. The requirements for water balance assessment are considered to have been addressed in the submitted documents.</p>
<ul style="list-style-type: none">▪ identification of any water licensing requirements under the <i>Water Act 1912</i> or <i>Water Management Act 2000</i>;▪ details of proposed erosion and sediment controls during construction;	<p>Costin Roe Consulting confirm, that no water sharing plans or licensing considerations are proposed as part of the Proposed Development. Neither groundwater nor surface water, will be sourced as part of water sharing plans.</p> <p>The Erosion and Sediment Control Plan by Costin Roe Consulting, forms part of the Civil Engineering Report that will be adopted for the proposed design, subject to approval. Drawing DA200, DA120 and DA250 within the Civil Engineering Report prepared by Costin Roe Consulting, located within Appendix 10 of this EIS satisfactorily address the proposed Erosion and Sediment Controls and conclude that:</p> <p><u>Sediment Control Notes:</u></p>

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	<ul style="list-style-type: none">▪ Sedimentation basin sizing is based on recommendations from '<i>Soils and Construction, Managing Urban Stormwater</i>' (The Blue Book). Additionally, the basin capacity has been based upon a 5-day rainfall depth at the 85th percentile intensity, noted at 32.2 mm.▪ Sedimentation basins have been designed to collect runoff in extreme rainfall events. Collected runoff is to be assessed by a qualified laboratory for dosing rates of alum or gypsum to ensure coagulation of sediments occurs prior to water being discharged to Council's Stormwater System.▪ Each basin is to have a marker placed as per the detail to indicate when sediment is to be removed. Sediment that is removed, is to be classed and dewatered prior to being removed from the Site.▪ During benching, allowance is to be made, to ensure runoff is directed to sedimentation basins. <p><u>Erosion Control Notes:</u></p> <ul style="list-style-type: none">▪ All control work including diversion banks and catchment drains, v-drains and silt fences will be completed directly following the completion of the proposed bulk earthworks.▪ Silt fences and silt fence returns will be erected in convex to the contour towards the pond water.▪ Hay bale barriers and geofabric fences are to be constructed towards the toe of the batter, prior to earthworks commencing, and immediately after vegetation clearing has taken place.▪ Diversion and silt dam embankments are to be machine compacted, seeded and mulched for temporary vegetation cover, as soon as they have been formed.▪ Clear water is to be diverted away from disturbed ground and into the drainage system.▪ All sediment trapping structures and devices are to be inspected after storms for structural damage or clogging. Trapped materials are to be removed accordingly, to a safe, approved location.▪ All final erosion prevention measures, including the establishment of grassing are to be maintained until the end of the defect's liability period.▪ All earthwork's areas will be rolled by appropriate machinery on a regular basis to seal the earthworks undertaken.
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<ul style="list-style-type: none"> ▪ a description of the surface and stormwater management system designed in accordance with PCC's Water Sensitive Urban Design Policy, including drainage design, on-site detention and measures to treat or reuse water; ▪ characterisation of the nature and extent of any contamination on the site and surrounding area; and, ▪ an assessment of potential impacts on surface and groundwater resources, drainage patterns, soil (stability, salinity and acid sulfate soils), related infrastructure, watercourses and riparian land and proposed mitigation, management and monitoring measures. 	<ul style="list-style-type: none"> ▪ All fill areas are to be left with a bund at the top of the slope. The height of the bund shall be a minimum of 200 mm. ▪ All cut and fill slopes are to be seeded and hydro-mulched within ten (10) days of completion of being formed. ▪ All topsoil stockpiles are to be suitably covered. ▪ A 6 m buffer zone should be enforced between stockpile sites and any stream or flow path. <p>Costin Roe Consulting break the Subject Site's Water Cycle Management Strategies (WCMS) into five (5) main Strategies, including:</p> <ol style="list-style-type: none"> 1. Water Quantity – which the aim involves maintain and improving the volume of stormwater flows to South Creek from the Subject Site. 2. Water Quality – adopts the pollution reduction targets, which form part of the Site's Stormwater Treatment Measures to be implemented Estate-wide. 3. Flooding – proposed buildings and proposed roads have been set 500 mm above the 1% AEP. 4. Water Supply – intentions to reduce demand on non-potable water uses. Additionally, each warehouse will provide a minimum of a 100,000 kL rainwater harvesting tank. 5. Erosion and Sediment Control – an Erosion and Sediment Control Plan will be adopted for the Estate. <p>Environmental Consultants JBS&G have successfully undertaken a Phase 2 Environmental Site Assessment of the Subject Site (2019), for which they considered any Contaminants of Potential Concern (COPC) under SEPP 55 (see Section 4.2.10 of this EIS). The Subject Site's overall salinity via a comprehensive Site Salinity Assessment; and, the potential for Acid Sulfate Soils occurring within the varied homogenous soils identified throughout the Subject Site.</p> <p>The Subject Site's overall salinity was investigated by JBS&G, via a comprehensive Site Salinity Assessment; and the potential for Acid Sulfate Soils occurring within the varied homogenous soils identified throughout the Subject Site. The Report concluded, that no indicators for Acid Sulfate Soils were observed within sampled material from the Subject Site. Accordingly, no management for the potential presence of Acid Sulfate Soils is required during the construction and operational phases of development. With regard to salinity, a Construction Environmental</p>
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	Management Plan (CEMP) is to be prepared for the Subject Site to address the identified soil conditions, including characteristic sodicity and the saline nature of the soils and groundwater to appropriately mitigate potential risks concerning the Proposed Development and the surrounding area.
<p>Biodiversity – including:</p> <ul style="list-style-type: none">▪ an assessment of the Proposal's biodiversity impacts in accordance with the <i>Biodiversity Conservation Act 2016</i>, including the preparation of a Biodiversity Development Assessment Report (BDAR) where required under the Act, except where a waiver for preparation of a BDAR has been granted; and,▪ describe how impacts upon critical vegetation and endangered species on site would be avoided and minimised.	<p>Ecological investigations undertaken by Ecoplaning (2019) indicate, that the condition of the identified Cumberland Plain Woodland, which is a Critically Endangered Ecological Community (CEEC) listed under the <i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) on the Subject Site, does not meet the relevant condition criteria to be considered a Matter of National Environmental Significance (MNES). Consequently, referral to the Commonwealth is not required under the EPBC Act, with regard to the Proposed Development.</p> <p>Further, the Biodiversity Development Assessment Report (BDAR) prepared by Ecoplaning (2019) notes, that clearing of native vegetation for the Proposed Development totals approximately 12.51 ha, or 10.6% of the Site. However, due to the nature of the Proposed Development (Warehouse, Logistics and Industrial Facilities Hub) and, the sparse nature of native vegetation on-site and the isolated and degraded condition of the vegetation, the Proposed Development has minimal impact on significant vegetation on the Site (Ecoplaning, 2019). Though the Proposed Development removes potential foraging and roosting/sheltering/breeding habitat (small tree hollows and stags) for fauna, the likelihood of any threatened fauna according to the Study, is considered to be low, based on a recent Site assessment, expert opinion and analysis of the likelihood of occurrence. This was the documented view of expert ecologists Eco-planning, confirming the researched 'Atlas'¹ records over the past 20 years searched by Ecoplaning. In accordance with the recommendations of the Ecoplaning Report (2019), the submitted plans are acceptable if site works during construction and excavation, include:</p> <ul style="list-style-type: none">▪ On-site supervision by an ecologist of all habitat relocation of fauna and tree felling;▪ A programme of soft felling of hollow bearing trees to be implemented to minimise injuries to undetected fauna;

¹ The Atlas of Living Australia (ALA) is Australia's national biodiversity database (ALA, 2018)

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	<ul style="list-style-type: none">Implementation of an appropriate Erosion and Sedimentation Control Plan², following Landcom (2004) best-practice protocols, to avoid any, indirect, offsite impacts during construction. This would also be included in a site-specific Construction Environmental Management Plan (CEMP)³, to be formulated and approved prior to any construction works taking place. The CEMP would be required to span the “pre”, “during” and “post-construction” phases, and would include, both pre-clearance and fauna-management protocols. <p>According to assessment completed by Ecoplaning in the BDAR, the Site’s Ecological Value Score, has been measured. Accordingly, an offset is required, and the Proponent will be paying biodiversity credits in line with the Biodiversity Offsets Scheme, subject to the <i>Biodiversity Conservation Act 2016</i> (BC Act 2016) and <i>Biodiversity Conservation Regulation 2017</i> (BC Regulation 2017).</p> <p>It is noted, that the total cost of ecosystem credits to be used to offset the potential impacts of the Proposed Development, have been are estimated by Ecoplaning (2019) at \$5,207,471.08 for the entire Subject Site, which will be borne by the Proponent. Further, this equates to approximately \$1,131,210.95 for Stage 1 and approximately \$4,076,260.13 for Stage 2.</p> <p>In addition to the above, species credits would also be required for <i>Grevillea juniperina</i> subsp. <i>juniperina</i>. A total of 15 species credits are required for the complete loss of the species with regard to the Subject Site attributed to an estimated species credits cost of \$2,945.06.</p> <p>The full BDAR (2019) prepared by Ecoplaning is located within Appendix 19 of this EIS.</p>
<p>Infrastructure Requirements and Contributions – including:</p> <ul style="list-style-type: none">a detailed written and/or geographical description of infrastructure required on the site;identification of any infrastructure upgrades required off-site to facilitate the development, and describe	<p>The Subject Site’s infrastructure and servicing requirements will be provided by the Proponents at No Cost to the Government. Accordingly, a Service Infrastructure Assessment Report (accompanied by relevant correspondence from Sydney Water and Endeavour Energy), confirms the Site’s ability to successfully augment existing infrastructure, such as potable & waste water, gas, power and telecommunications to the Subject Site.</p>

² An Erosion and Sediment Control Plan (ESCP) has been prepared by Costin Roe Consulting, which addresses the Proposed Development and the Subject Site as a whole.

³ A Construction Environmental Management Plan (CEMP) has been prepared and will be adopted for the Subject Site, pursuant to Development Consent being obtained.

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<p>any arrangements to ensure that the upgrades would be implemented in a timely manner and maintained;</p> <ul style="list-style-type: none">▪ an infrastructure delivery and staging plan, including a description of how infrastructure on and off site would be coordinated and funded to ensure it is in place prior to the commencement of construction; and,▪ an assessment of the impacts of the development (construction and operation) on existing infrastructure surrounding the site.	<p>Furthermore, the report describes the staging of infrastructure upgrades, the impacts to existing infrastructure and anticipated timing for completion of works.</p> <p>The Site Infrastructure Assessment prepared by Land Partners is located within Appendix 12 of this EIS.</p>
<p>Historic Heritage – including:</p> <ul style="list-style-type: none">▪ an Aboriginal Cultural Heritage Assessment Report prepared in consultation with Aboriginal people and in accordance with Office of Environment and Heritage guidelines; and,	<p>Biosis have satisfactorily addressed the requirements of the SEARs via the preparation of a Statement of Heritage Impact (refer to Section 6.14 of this EIS), Archaeology Report and Aboriginal Cultural Heritage Assessment Report (ACHAR) (refer to Section 6.13 of this EIS),</p> <p>The Reports prepared by Biosis have assessed the Project's impacts on the surrounding area; built landscapes; conservation areas; views and the site's setting.</p> <p>Within the ACHAR prepared by Biosis (2019) they have provided recommendations, which respond specifically to the wishes of the RAPs. The recommendations are as follows:</p> <p><u>Recommendation 1: Further archaeological work in the form of surface salvage and salvage excavation at AHIMS site 45-5-5187/MSP-03 as part of the SSD approval</u></p> <p>Biosis recommend, that further archaeological work be conducted for AHIMS site 45-5-5187/MSP-03 in the form of salvage excavation to recover sub-surface artefacts, which will be impacted as a part of the Proposed Development. This would be able to provide further information relating to the artefact's typology and material type, as well as the nature of the activities taking place at AHIMS site 45-5-5187/MSP-03. Biosis recommend this be undertaken as a condition of consent subject to approval of the SSDA. The salvage work for this particular area of the Site would not hold up the development of the remaining areas of the Estate.</p>

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Recommendation 2: Further archaeological work in the form of surface salvage AHIMS sites 45-5-5184/MSP-01, 45-5-5185/MSP/02, MSP-07 and MSP-08 as part of the SSD approval

Biosis recommend, that further archaeological work be conducted for AHIMS sites 45-5-5184/MSP-01, 45-5-5185/MSP-02, MSP-07 and MSP-08 in the form of surface salvage to recover any surface artefacts which will be impacted as a part of the proposed development. It is recommended that surface salvage be undertaken as a condition of the SSD approval.

Recommendation 3: No further archaeological work is required for sites MSP-05, MSP-06, MSP-09 and MSP-10

Biosis suggest no further archaeological investigations are considered to be required for Aboriginal sites MSP-05, MSP-06, MSP-09, MSP-10 and MSP-11 prior to development impacts.

Recommendation 4: Update AHIMS site cards for AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02, 45-5-5189/MSP-03 ad 45-5-5190/MSP-04 and lodge AHIMS site cards for newly identified sites MSP-05, MSP-06 & MSP-07, MSP-08, MSP-09 and MSP-10

It is recommended that the AHIMS site cards for previously identified AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02 and 5-5-5189/MSP-03 be updated to reflect the revised site descriptions following the test excavations discussed in within the ACHAR.

AHIMS site cards should also be prepared and lodged with AHIMS for newly identified sites MSP-05, MSP-06 and MSP-07, MSP-08, MSP-09, MSP-10 and that the site numbers be included in the final version of the ACHAR.

Recommendation 5: Preparation and lodgement of AHIMS site impact recording forms for 45-5-5184/MSP-01, 45-5-5185/MSP-02, 45-5-5189/MSP-03, MSP-05, MSP-06, MSP-07 & MSP-08, MSP-09 and MSP-10 following development impacts

It is recommended that AHIMS site impact recording forms are prepared and lodged with AHIMS for Aboriginal sites 45-5-5184/MSP-01, 45-5-5185/MSP-02, 45-5-518/MSP-03, MSP-05, MSP-06,

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<ul style="list-style-type: none">▪ an assessment European Heritage including potential impacts on the surrounding site and surrounding area, including any built landscape items, conservation areas, views and settings.	<p>MSP-07 and MSP-08, MSP-09 and MSP-10 within four (4) months following completion of development impacts or as otherwise stated in SSD approval conditions.</p> <p><u>Recommendation 6: Unexpected finds</u></p> <p><u>Discovery of Aboriginal Objects</u></p> <p>All Aboriginal objects and places are protected under the NPW Act. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by OEH. Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.</p> <p><u>Discovery of Unanticipated Historical Relics</u></p> <p>Should unanticipated relics be discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.</p> <p><u>Discovery of Aboriginal Ancestral Remains</u></p> <p>If any suspected human remains are discovered during any activity the following protocol must be followed:</p> <ol style="list-style-type: none">1. Immediately cease all work at that location and not further move or disturb the remains.2. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.3. Not recommence work at that location unless authorised in writing by OEH. <p>Within the <i>Statement of Heritage Impact</i> prepared by Biosis (2019) they have provided recommendations, which respond to client requirements and the significance of the Site. They are guided by the ICOMOS <i>Burra Charter</i> with the aim of doing as much as necessary to care</p>
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	<p>for the place and make it useable and as little as possible to retain its cultural significance. The recommendations are as follows:</p> <p><u>Recommendation 1: No Further Assessment Required</u></p> <p>The assessment undertaken has identified no items of heritage significance or archaeological potential within the study area, and no negative heritage impacts to surrounding heritage items. As such, no further assessment is required prior to the approval of the Proposal. Prior to any ground disturbance occurring within the study area, an unexpected finds procedure should be implemented as outlined in Recommendation 2.</p> <p><u>Recommendation 2: Development of an Unexpected Finds Procedure</u></p> <p>Should unanticipated relics be discovered during the course of the project, work in the vicinity must cease and an archaeologist be contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.</p> <p>Their proposed recommendations, in accordance with the NSW Office of Environment and Heritage Guidelines, will be implemented throughout the development.</p> <p>The ACHAR and <i>Statement of Heritage Impact</i> Reports by Biosis are shown in full in Appendices 24, 26 and 27 of this EIS.</p>
<p>Noise and Vibration – including:</p> <ul style="list-style-type: none">▪ a quantitative noise and vibration assessment undertaken by a suitably qualified person in accordance with the relevant Environment Protection Authority guidelines and including an assessment of nearby sensitive receivers;▪ cumulative impacts of other developments; and,▪ details of the proposed mitigation, management and monitoring measures.	<p>A Noise Impact Assessment was prepared for the Proposed Development by Acoustic Works. The assessment has considered noise generated during earthworks; construction and operational noise and included the identification, of sensitive noise receivers and potential noise sources.</p> <p>The Noise Impact Assessment carried out has considered the relevant acoustic criteria adopted by Penrith City Council and the NSW EPA. Acoustic Works have concluded that there is no impediment for the construction or operation of the Site (when fully developed) from a noise perspective, subject to management and mitigation measures which are summarised as follows:</p> <p><u>Construction Noise and Vibration:</u></p>

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	<ul style="list-style-type: none">▪ A Construction Noise Management Plan is required to be updated and submitted to Council prior to the issue of a Construction Certificate (CC), in accordance with the <i>NSW Interim Construction Guideline</i>. <p><u>Operational Noise and Vibration:</u></p> <ul style="list-style-type: none">▪ The investigation undertaken by Acoustic Works, indicates, that 24-hour operation of the Subject Site is considered viable on the condition, that the following recommendations are considered (where applicable) and implemented accordingly. They include:<ul style="list-style-type: none">○ Construct an acoustic barrier (approximately 3 m high) at the eastern end of the loading dock area for proposed Lot 3 (proposed Warehouse 3B). The height of the barrier is required to be 3 m above the finished driveway level and is to be constructed, using lapped timber (minimum 40% overlap), masonry, fibre cement sheet, Hebel, Perspex, plywood, or other material with a minimum surface density of 10 kg/m². The barrier shall be free of gaps and holes.○ If Industrial use, Bars, Child Care Centres or Factory Production are proposed within any of the proposed warehouse, then additional individual acoustic assessment may be required, to ensure, that the proposed construction of the applicable warehouse / industrial building, will adequately attenuate internal noise sources. <p><u>On-site Mechanical Plant:</u></p> <ul style="list-style-type: none">▪ It is noted, that no information regarding mechanical services was available at the time of the assessment undertaken by Acoustic Works. Any new mechanical plant will be designed to comply with the relevant noise criteria, which have been determined in consultation with Penrith City Council's noise requirements, the SEARs issued by the NSW DP&E on the 14th of September 2018 and the NSW Noise Policy for Industry 2017.▪ Based on the ambient noised levels measured at the nearest sensitive receiver (refer to Section 7 of the NIA prepared by Acoustic Works located within Appendix 25 of this EIS) and separation distances, mechanical plant located on the plant deck of each warehouse will require a combined sound power level, that does not exceed 75.9 dB(A) for each warehouse. With the majority of development, the number of mechanical plant
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	<p>units are predicted to exceed one (1); therefore, as a guide, Table 9 from the NIA should be consulted, which confirms the maximum sound power level (dBA) per the number of mechanical plant units. This is also addressed in further detail within Section 6.6 of this EIS.</p> <p><u>Vibration:</u></p> <ul style="list-style-type: none">▪ Vibration associated with truck activity is predicted to comply with the relevant NSW Guidelines at the nearest sensitive receivers. Acoustic Works recommend, that any vibrating equipment proposed to be used on-site, is adequately isolated to prevent vibration issue to nearby receivers from occurring or is reviewed by a qualified acoustic consultant. <p><u>Sleep Disturbance:</u></p> <ul style="list-style-type: none">▪ On the condition, the applicable noise criteria outlined within Table 43 of this EIS (Section 7.5.3 within the NIA) is implemented, then compliance is predicted with the relevant Sleep Disturbance criteria. <p><u>NSW Road Noise Policy – Traffic Generation:</u></p> <ul style="list-style-type: none">▪ The traffic generation from the Proposed Development is predicted to be approximately 4,322 vehicles per day. Based on the existing traffic volumes on Mamre Road, this increase in traffic volume is not predicted to exceed the criteria nominated with Table 44 of this EIS (Section 7.6 of the NIA). <p>The recommendations and mitigation measures suggested are detailed within Section 6.6 of this EIS. The Noise Impact Assessment prepared by Acoustic Works is located within Appendix 25 of this EIS.</p>
<p>Hazards and Risks – including:</p> <ul style="list-style-type: none">▪ a preliminary risk screening completed in accordance with <i>State Environmental Planning Policy No. 33 – Hazardous and Offensive Development</i>, and	<p>A SEPP 33 Preliminary Risk Screening Report was prepared by Risk Eng. It confirms, that the quantities of Dangerous Goods (DGs) proposed for storage and handling at the proposed warehouses and industrial facilities, will be below the maximum permissible threshold quantities stipulated in SEPP 33.</p>

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Applying SEPP 33 (DOP, 2011), with a clear indication of class, quantity, and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicated that the project is "potentially hazardous" a preliminary hazard analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011).

A full copy of Risk Eng's SEPP 33 Report can be found within **Appendix 13** of this EIS.

The findings of the SEPP 33 Report, by Risk Eng (2019), are more fully considered with regard to the Proposed Development in **Section 4.2.9** of this EIS.

Bushfire – including:

- details of the storage of any flammable materials;
- an assessment against the requirements of Planning for Bush Fire Protection 2006 (RFS), particularly, access and provision of water supply for firefighting purposes; and,
- a description of measures to ensure the Proposal would not increase the bushfire risk to adjoining lands.

The Hazards and Risks Assessment (Risk Eng, 2019) undertaken for the Project and Site, includes tabular DGs storage lists, detailing the maximum quantity of flammable materials (DGs) proposed for each part of the Site. These lists are the main method used to identify if the property that may be close to bushfire or grassfire-prone areas, surrounding the Subject Site, is at risk or poses a risk to the Proposed Development.

According to the Hazards and Risks Assessment (2019) Report, flammable materials storage (DGs) as planned, does comply with the requirements of "AS1940-2017, The Storage and Handling of Flammable and Combustible Liquids". As compliance with this standard is designed and planned this will have the effect of limiting both potential external impacts as well as internal impacts from incidents, within the storage area. Requirement for compliance with AS1940, would also typically form part of all tenancy agreements. This would minimise risks both on-site and offsite (Risk Eng (2019)).

The Conacher Consulting (2019) Report, provides a list of measures, recommended to ensure the planned development on site, would not increase the bushfire risk to adjoining lands. It also sets out access arrangements and provision of water supplies for firefighting purposes.

The Conacher Consulting (2019) Report, concludes that the bushfire attack levels from the grassland and woodland vegetation to the south and west will be decreased by the use of fire retardant construction materials, such as precast concrete panels, masonry and / or sheet metal and the provision of an area of defendable space of at least 5 metres, comprising roadways, car parking areas and internal access driveways. There is no Bushfire impediment to the delivery of

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	<p>the Proposed Development in its submitted form. Further, the following recommendations are provided in relation to reducing the potential loss of life and property by the impact of bushfire. These include:</p> <ol style="list-style-type: none"> 1. Implementing a five (5) metre setback for buildings from the southern and western boundaries where these lots adjoin grassland / woodland vegetation. 2. Use of cladding materials for the external surfaces of the Proposed Development, which are fire retardant materials, such as metal sheeting, pre-cast cement panels or masonry. 3. Undertake regular inspections and maintenance of the Managed Lands or curtilage; landscaped areas; and hardstand areas within the Proposed Development, which are to be undertaken by the owners according the <i>Planning for Bushfire Protection 2006</i> (PBP 2006). 4. Maintain any retained areas of Managed Lands or curtilage / gardens within the Subject Site as an Inner Protection Area (IPA) in accordance with PBP 2006. 5. Ensure that future landscape plantings within the Subject Site are in accordance with the requirements of Appendix 5 of PBP 2006. <p>Further Bushfire Assessment is considered in the Environmental Assessment of this EIS within Section 6.15. The Bushfire Assessment Report prepared by Conacher Consulting is shown in full in Appendix 32 of this EIS.</p>
<p>Waste – including:</p> <ul style="list-style-type: none"> ▪ details of the quantities and classification of all waste streams to be generated onsite during construction and operation; ▪ details of waste storage, handling and disposal during construction and operation; and, ▪ details of the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021. 	<p>LG Consult have considered the Waste Classification of all relevant waste streams in accordance with the construction and operational phases of the Proposed Development. Accordingly, a Waste Management Plan has been prepared as a form of mitigation, which would be transposed upon Development Consent being provided by the NSW DP&E, for each site applicable to the Stage 1 portion of the Proposed Development.</p> <p>The Waste Clarification Report (2019) by LG, concludes that waste generated by the Proposed Development, both during construction and operationally, is able to be handled appropriately for both the Construction and Operational phases of the Proposed Development. There are a number of measures set out in the Report which include:</p> <p><u>Construction Waste Reduction Measures:</u></p> <ul style="list-style-type: none"> ▪ Applying practical building designs and construction techniques;

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	<ul style="list-style-type: none">▪ Appropriate sorting and segregation of demolition and construction wastes to ensure efficient recycling of wastes;▪ Selecting construction materials, whilst taking into consideration their long-term lifespan and potential for reuse;▪ Ordering materials to size and ordering pre-cut and prefabricated materials;▪ Reuse of formwork (where possible);▪ Planned work staging;▪ Reducing packaging waste on-site, by returning packaging to suppliers where possible; purchasing in bulk; requesting cardboard or metal drums rather than plastics; requesting metal straps rather than shrink wrap; and, using returnable packaging, such as pallets and reels;▪ Careful on-site storage and source separation;▪ Subcontractors informed of site-specific waste management procedures; and,▪ Coordination and sequencing of various trades. <p><u>Operational Waste Reduction Measures:</u></p> <ul style="list-style-type: none">▪ Provision of take back services to clients to reduce waste further along the supply chain;▪ Re-work / repackaging of products prior to local distribution to reduce waste arising;▪ Review of packaging design to reduce waste, but maintain 'fit for purpose';▪ Investigating leased office equipment and machinery, rather than purchase and disposal;▪ Establish systems with in-house and with corresponding supply chain stakeholders, to transport products in re-usable packaging, where possible;▪ Development of 'buy recycled' purchasing policy;▪ Flatten or bale cardboard to reduce the number of bin lifts required; and▪ Providing recycling collections within each of the offices and tearooms (e.g. plastics, cans and glass). <p>These will be implemented in full and would be in accordance with the following recycling targets stipulated within the <i>NSW Waste Avoidance and Resource Recovery Strategy 2014-2021</i>, which are considered in line with the Proposed Development and include:</p>
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	<ul style="list-style-type: none">▪ Increased recycling of commercial and industrial waste from 57% (in 2010-11) to 70% by 2021; and,▪ Increase recycling of construction and demolition waste from 75% (in 2010-11) to 80% by 2021. <p>The Waste Management Plan / Report prepared by LG Consult is located within Appendix 31 of this EIS.</p>
<p>Air Quality – including:</p> <ul style="list-style-type: none">▪ an assessment of the air quality impacts (including dust) during construction and operation of the development, in accordance with the relevant Environment Protection Authority guidelines; and,▪ details of the proposed mitigation, management and monitoring measures.	<p>A comprehensive Air Quality and Odour Impact Assessment (AQOIA) was prepared by Northstar, covering both the construction phase activities with demolition works and associated earthworks; as well as, construction works and associated vehicle traffic. The associated risks of impacts from demolition, construction, track-out and construction traffic, have all been assessed using published guideline in <i>IAQM Guidance on the Assessment of Dust from Demolition and Construction (2014)</i>. These were developed in the United Kingdom by the Institute of Air Quality Management (IAQM), and adapted by Northstar Air Quality for use in Australia. The Assessment shows that there would only be a low risk of health or nuisance impacts during construction works. Using a range of mitigation measures available would ensure, that short-term impacts associated with construction activities, are also properly managed.</p> <p>The prediction of potential impacts associated with operational activities has been performed in general accordance with the requirements of the NSW Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (NSW EPA, 2016). The prediction uses an approved dispersion model. The estimation of emissions has been performed using referenced emission factors.</p> <p>The AQOIA Report (2019) by Northstar concluded that the operation of the Proposed Development does not cause any exceedances of the Air Quality Criteria assessed against the relevant NSW EPA criteria thresholds.</p> <p>It is important to note also, that there are no specific mitigations measures required to minimise impacts on surrounding receptor locations. There are a range of methods already used by Altis and Frasers on all their existing industrial facilities. These include good site management practices; observation of speed limits on-site; and the minimization of vehicle use (through avoidance of engine idling). Experience on existing facilities Australia-wide suggest that these measures are highly effective in minimising offsite impacts when encountered.</p>

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	<p>The Report concludes that there would only be a low risk of health or nuisance impacts during the construction phase of the Proposed Development, for which the Proposed Development was assessed against the relevant requirements of the <i>IAQM Guidance on the Assessment of Dust from Demolition and Construction (2014)</i> and the operational phases of the Proposed Development fully satisfies all the requirements as set out by the NSW Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (NSW EPA, 2016).</p> <p>The Report prepared by Northstar (2019) is shown in full in Appendix 21 of this EIS.</p>
<p>Social – including:</p> <ul style="list-style-type: none"> the preparation of a social impact assessment, which; identifies and analyses the potential social impacts of the development, from the points of view of the affected community/ies and other relevant stakeholders, i.e. how they expect to experience the project; considers how potential environmental changes in the locality may affect people's: way of life; community; access to and use of infrastructure, services, and facilities; culture; health and wellbeing; surroundings; personal and property rights; decision-making systems; and fears and aspirations, as relevant and considering how different groups may be disproportionately affected; assesses the significance of positive, negative and cumulative social impacts considering likelihood, extent, duration, severity/scale, sensitivity/importance, and level of concern/interest; includes mitigation measures for likely negative social impacts, and any proposed enhancement measures; and, 	<p>The Social Impact Assessment prepared by HillPDA (2019) evaluates changes to existing local and regional social conditions due to the Proposed Development. This included the assessment of both direct and indirect benefits and impacts, as-well-as consideration of any cumulative impacts. The findings and recommendations provided within Social Impact Assessment, that have the potential to enhance the positive impacts and minimise the potential negative social risks were that:</p> <p><u>Construction Management Plan:</u></p> <p>The CMP could address potential social impacts, including reducing stress and inconvenience to neighbouring businesses and residents, by:</p> <ul style="list-style-type: none"> Identifying construction vehicle traffic routes that minimise impacts to neighbours, as far as possible; Providing arrangements for parking of worker and construction vehicles on-site; Storing all equipment on-site; Identifying management practices to minimise and manage interruptions to traffic flows; Establishing practices to maintain traffic and pedestrian safety to local residents; Minimising disruption of proposed road closures, temporary traffic routes, loss of pedestrian or cyclist access or reversing manoeuvres; Providing queueing space on-site for the standing of vehicles; Providing clear signage to direct construction vehicles; and

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<ul style="list-style-type: none">▪ details how social impacts would be adaptively monitored and managed over time.	<ul style="list-style-type: none">▪ Provide signage on-site, that provides a contact number for residents to direct enquiries and report incidents (e.g. theft or break and enter to the site while unattended), should they occur. <p><u>Noise Amelioration:</u></p> <ul style="list-style-type: none">▪ Minimise noise disturbance to local residents and businesses during construction by implementing the recommendations of the Noise Impact Assessment (Acoustic Works, 2019) including:<ul style="list-style-type: none">○ Preparation of a Construction Noise Management Plan in accordance with the <i>NSW Interim Construction Guideline</i>.▪ Minimise noise disturbance to local residents and businesses during operation by implementing the recommendations of the Noise Impact Assessment (Acoustic Works, 2019) including:<ul style="list-style-type: none">○ Constructing an acoustic barrier between easternmost loading dock and the setback adjoining Mamre Road○ Adequately isolating any vibrating equipment used onsite to prevent vibration issues to nearby receivers.▪ Note the need for future acoustic assessments to be undertaken in relation to future applications relating to building construction and use of the Site, to ensure that proposed building construction will adequately attenuate internal noise sources, especially where industrial use or factory production is proposed for any of the warehouses.▪ Note the need for mechanical plant equipment installed on-site to undergo an assessment by qualified acoustic consultant be conducted prior to installation to determine any requirements for acoustic treatments. <p><u>Traffic Management:</u></p> <p>Minimise the risks to residents from increased movement of vehicles (including heavy vehicles) by implementing the recommendations of the Traffic Impact Assessment report by Ason Group (2019) and note the longer term need for RMS to review road planning in the area to accommodate employment growth including:</p>
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	<ul style="list-style-type: none">▪ Expanding the capacity of Mamre Road;▪ Improving the intersection of Mamre Road / Bakers Lane; and▪ Implement the RMS Mamre Road Upgrade project and plan for a potential a longer term need for additional capacity on Mamre Road. <p><u>Lighting:</u></p> <p>Monitor potential light spill impacts by inspecting the Site (during night time) after construction and confirm compliance with the relevant Australian Standard.</p> <p><u>Social Infrastructure Delivery:</u></p> <p>Recognise the limited social infrastructure in the area for future workers and plan to deliver social infrastructure as part of the ongoing development of the Site.</p> <p><u>Community Liaison:</u></p> <ul style="list-style-type: none">▪ Undertake to establish good relations with neighbours by regularly liaising with neighbours to:<ul style="list-style-type: none">○ Advise them of the construction timeframe and construction activity;○ Monitor impacts to neighbouring residents and businesses.▪ Provide neighbours with contact details to report incidents or voice complaints; and,▪ Establish clear responsibility within the construction team for neighbourhood liaison. <p><u>Safety:</u></p> <p>Implement the recommendations of the Overland Flow Report prepared by Costin Roe Consulting (2019) to ensure:</p> <ul style="list-style-type: none">▪ Each facility has a plan which sets out flood warden, evacuation zones and responsible persons;▪ Users of each facility are registered to able to receive flood warning messages via SMS from the NSW SES;
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	<ul style="list-style-type: none"> ▪ The evacuation framework, including the evacuation route, (set out in the Overland Flow Report is understood and adapted to each specific facility. ▪ A copy or copies of the evacuation route and plan are kept at several locations on-site. <p>Specific mitigation measures for the Proposed Development recommended by HillPDA (2019), as follows:</p> <ul style="list-style-type: none"> ▪ Construction: The preparation of a Construction Management Plan to effectively manage any potential impacts to neighbours arising from construction. This will certainly be completed after approval and prior to construction. ▪ Noise: The installation of an acoustic barrier at the interface between the easternmost-loading dock and the setback adjoining Mamre Road at Warehouse 3B on proposed Lot 3. <p>Monitoring should be carried out for any future sensitive uses, that might negatively impact surrounding areas.</p> <p>the HillPDA Social Impact Assessment (2019) concludes that all potential for negative impacts to arising from construction, noise and increased traffic have been identified and can be appropriately managed and mitigated through management plans, post approval and identified design measures.</p> <p>These factors are discussed at length in Section 6.11 of this EIS.</p> <p>A full copy of the Social Impact Assessment prepared by HillPDA (2019) is located in Appendix 23 of this EIS.</p>
Table 2: How SEARs have been satisfied	
General Requirements	How Addressed
<p>The EIS must assess the Proposed Development against the relevant Environmental Planning Instruments, including but not limited to:</p> <ul style="list-style-type: none"> ▪ <i>State Environmental Planning Policy (State & Regional Development) 2011;</i> 	<p>The Proposed Development has been satisfactorily assessed against the relevant EPIs listed in the following sections of the EIS, including:</p> <ul style="list-style-type: none"> ▪ Section 4.2.5 – SEPP (SRD) 2011 <ul style="list-style-type: none"> ○ The Proposal is deemed to be State Significant Development under Part 4 of the EPA & Act, 1979. The process of applying for State Significant Development

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<ul style="list-style-type: none"> ▪ <i>State Environmental Planning Policy No. 33 Hazardous and Offensive Development;</i> ▪ <i>State Environmental Planning Policy No.55 - Remediation of Land;</i> ▪ <i>State Environmental Planning policy (Infrastructure) 2007;</i> ▪ <i>State Environmental Planning Policy (Western Sydney Employment Area) 2009;</i> ▪ <i>Penrith Local Environmental Plan 2010;</i> and, ▪ Relevant development control plans and Section 7.11 plans. 	<p>(SSD) requires that the Capital Investment Value (CIV) of the Project to be greater than AU\$50 Million for Warehouse or Distribution Centres pursuant to the SEPP (SRD) 2011, Schedule 1, Part 12. Importantly, proposed Warehouse 6 (located on proposed Lot 6) has a CIV of \$72,990,000 M (including \$12 Million of infrastructure to service the Site). The future tenancy touted for the facility in this SSD, is for a single building for “one operation in one location” and therefore clearly satisfies the requirements under SSD (SRD) 2011, Schedule 1 Part 12.</p> <ul style="list-style-type: none"> ▪ Section 4.2.6 – ISEPP <ul style="list-style-type: none"> ○ As the Proposal covers a site area greater than 20,000 m², referral to the NSW RMS is required. ▪ Section 4.2.7 – SEPP (WSEA) 2009 <ul style="list-style-type: none"> ○ Comprehensive commentary concerning the Proposal’s permissibility under SEPP (WSEA) 2009, as well as a detailed assessment against the relevant Clauses of SEPP (WSEA) 2009 are elucidated upon in Section 4.2.7 of this EIS. ▪ Section 4.2.9 – SEPP 33 <ul style="list-style-type: none"> ○ The SEPP 33 Report prepared by Risk Eng (2019), confirms that the quantities of Dangerous Goods anticipated for storage and handling at the proposed warehouses would not exceed the maximum permissible threshold quantities stipulated in SEPP 33. Full compliance with the requirements of SEPP 33, can be found within Appendix 13 of this EIS. ▪ Section 4.2.10 – SEPP 55 <ul style="list-style-type: none"> ○ JBS&G (2019) have undertaken a Phase 2 Environmental Site Assessment for the Subject Site. This has confirmed that there were no Contaminants of Potential Concern (COPC) identified above the relevant NSW EPA criteria thresholds, that would require further consideration under SEPP 55. Additionally, a Site Salinity Assessment and Acid Sulfate Soils Assessment were undertaken. Both have found that, there were no traces being recorded above the relevant NSW Department of Land and Water Conservation (DLWC 1992),
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	<p>DIPNR (2002), AS 2159-2009 (SA 2009) and ASSMAC (1998) Guidelines. The relevant reports prepared by JBS&G, are located in Appendices 15-17 of this EIS.</p> <ul style="list-style-type: none"> ▪ Section 4.2.11 – SEPP 64 <ul style="list-style-type: none"> ○ A SEPP 64 assessment has been provided by Willowtree Planning, that considered signage as proposed across the estate under the Stage 1 portion of the Proposed Development. The Assessment found that the proposed signage is appropriate and meets all the relevant SEPP 64 criteria for the site. Indicative signage proposed is shown in the Architectural Plans located in Appendix 6 of this EIS, which have been designed in accordance with the controls outlined under the site-specific DCP found in Appendix 39 of this EIS. ▪ Section 4.4.1 – Penrith Local Environmental Plan 2010 (PLEP2010) <ul style="list-style-type: none"> ○ PLEP2010 was considered; however, SEPP (WSEA) 2009 is the prevailing EPI for the Proposed Development. Therefore, the controls listed under PLEP2010 are not the governing controls for this assessment. ▪ Mamre South Precinct Land Investigation Area <ul style="list-style-type: none"> ○ A new Development Control Plan – “The <i>Mamre South Precinct Development Control Plan 2019</i>” prepared by Willowtree Planning, has been completed after consultation, and is formally proposed for adoption under this Application. This DCP is a site-specific Development Control Plan, containing objectives and controls for elements proposed under this Stage 1 SSDA. It is also relevant for all future Development Applications, that may be proposed on the Subject Site.
<p>Consultation</p> <p>During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with:</p> <ul style="list-style-type: none"> ▪ PCC; ▪ Greater Sydney Commission; ▪ Roads and Maritime Services; 	<p>As a part of this assessment, consultation with relevant stakeholders has occurred as follows, in accordance with the SEARs issued on the 14th of September 2018:</p> <ol style="list-style-type: none"> 1. PCC; 2. Greater Sydney Commission; 3. Roads and Maritime Services; 4. Transport for NSW; 5. Office of Environment and Heritage;

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<ul style="list-style-type: none"> ▪ Transport for NSW; ▪ Office of Environment and Heritage; ▪ Environment Protection Authority; ▪ Fire and Rescue NSW; ▪ NSW Rural Fire Service; ▪ Department of Industry – Crown Lands and Water; ▪ Sydney Water; ▪ WaterNSW; ▪ Surrounding local residents and stakeholders; and, ▪ Any other public transport or community service providers. <p>The EIS must describe the consultation process and the issues raised and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.</p>	<ul style="list-style-type: none"> 6. Environment Protection Authority; 7. Fire and Rescue NSW; 8. NSW Rural Fire Service; 9. Department of Industry – Crown Lands and Water; 10. Sydney Water; 11. WaterNSW; 12. Surrounding local residents and stakeholders; and, 13. Any other public transport or community service providers. <p>As detailed above, a Community Consultation Report has been prepared by Willowtree Planning and is located within Appendix 33 of this EIS, which satisfactorily demonstrates the detailed community and stakeholder participation strategy, that was implemented. The Community Consultation Report includes evidence of consultation undertaken with relevant State Agencies, for which meetings were attended (documented within this EIS and the Report, as well as Consultation Letters and corresponding Meeting Minutes issued allowing State Agencies to comment on the Proposal furthermore. Additionally, two (2) public community consultation sessions were held at Twin Creeks Golf & Country Club, pursuant to a community-wide letterbox drop and newspaper advertisement being issued, which allowed the immediate community and wider locale the opportunity to query the Proposal, as well as raise their concerns and objections (if necessary).</p> <p>A fuller discussion of the outcomes of the various consultations outlined above and resultant modifications to the Proposal, are all included in this Part E of this EIS.</p>
Further Consultation After Two (2) Years	
<p>If you do not lodge a development application and EIS for the development within 2 years of the issue date of these SEARs, you must consult further with the Secretary in relation to the preparation of the EIS.</p>	<p>Noted.</p>

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PART A PRELIMINARY

1.1 INTRODUCTION

This EIS has been prepared by Willowtree Planning on behalf of a joint venture between Frasers Property and Altis Property Partners. The Proposed Development seeks the construction, fit-out and operation of a Warehouse, Logistics and Industrial Facilities Hub, along with the subdivision of land located at 657-769 Mamre Road, Kemps Creek (identified formally as Lot 34 DP 1118173, Lot X DP 421633, Lot 1 DP 1018318, Lot Y DP 421633 & Lot 22 DP 258414). The Site has a total area of 118 hectares.

This SSD Application, seeks Development Consent for the construction and use of a Warehouse, Logistics and Industrial Facilities Hub, that would play a vital role in the storage and distribution of goods for businesses and contribute to the promotion and creation of employment opportunities. It also will play a vital role in supporting the Aerotropolis and the Western Sydney Employment Area, achieving both local and regional planning objectives.

The particulars of this Proposal are summarised below:

- Bulk earthworks across the Site to establish building pads;
- Provision of infrastructure and services, including internal estate roads;
- Construction of warehouse, logistics and industrial facilities within the Stage 1 portion only;
- Dedicating the western portion of the Subject Site (over 11 ha), for proposed new parklands, replanting of a significant number of new native plants, including the revegetation of riparian areas adjoining South Creek;
- Extensive landscaping around the proposed buildings with a total of 615 trees to be planted;
- Interim upgrade to the existing Bakers Lane intersection;
- Construction of a new signalised intersection along Mamre Road, and the proposed Southern Link Road (SLR);
- Construction of 1.3 km of new internal Estate roads being 20.6 m wide;
- Construction jobs generated under this SSD Application, are forecasted at 500;
- Extensive civil works including -126,300 m³ (cut volume) and +2,252,900 m³ (fill) is required during the construction phase of the Proposed Development;
- A total of 800 full-time operational jobs, are estimated to be created as a result of the Proposed Development, with up to 2,500 jobs when the remainder of the Estate is fully developed;
- Under this SSD Application, a total of 754 car parking spaces will be constructed in accordance with the Site-Specific Development Control Plan prepared for this site. The Mamre South Precinct Development Control Plan 2019 (as proposed).. Spaces are provided according to the following RMS rates:
 - One (1) space per 300 m² of warehouse GFA;
 - One (1) space per 40 m² of ancillary office GFA;
 - One (1) accessible space for every 100 parking spaces provided; and,
- Torrens Title subdivision to create 33 lots.

The Proposed Development seeks to invest over \$100 Million (Land + Building) in a new operation, that would generate new businesses and jobs in an area already earmarked for employment. This will be in line with the new-age economy. The proposed employment outcomes sought at the Site will look to provide new State-of-the-Art facilities that would be of Regional, National and International significance.

This EIS describes the Subject Site and Proposed Development, including future land-use outcomes for the Site, all with an employment-generation focus. It also responds to the SEARs

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and assesses the Proposed Development in terms of all relevant matters set out in legislation, Environmental Planning Instruments (EPIs) and associated planning policies.

The structure of this EIS is as follows:

- **Part A** **Preliminary**
- **Part B** **Site Analysis**
- **Part C** **Proposed Development**
- **Part D** **Legislative and Policy Framework**
- **Part E** **Consultation**
- **Part F** **Environmental Risk Assessment**
- **Part G** **Management and Mitigation Measures**
- **Part H** **Proposed Development Justification**
- **Part I** **Conclusion**

It is important to note, that consent is not sought in this SSD Application for any of the proposed built-form along the South Creek interface. Though further amenities are envisaged for the future, these will be realised upon development of the remainder of this Estate. Future development will be subject to separate applications and assessment.

1.2 PROJECT TEAM

The Project Team involved in the preparation of this SSD Application includes:

- Frasers Property (Proponent, Subdivision Plan, Architectural Plans & Urban Design Report, Ecologically-Sustainable-Development Report and Greenhouse-Gas-Energy-Efficiency Performance and Ecologically Sustainable Development Report);
- Altis Property Partners (Proponent);
- EG Advisory (Strategic Property Advisors);
- Willowtree Planning (Planning Consultant and Community Consultation Report);
- Northcroft Consulting (Quantity Surveyor);
- Land Partners (Infrastructure and Servicing Report);
- Habit8 (Landscaping Plans);
- Geoscapes (Visual Impact Assessment);
- Costin Roe Consulting (Civil Engineering; WSUD Strategy; and Flooding Assessment);
- Risk Eng (Hazards and Risks Assessment);
- Pells Sullivan Meynink (Geotechnical Report);
- JBS&G (Contamination, Salinity and Acid Sulphate Report);
- Ason Group (Traffic Impact Assessment);
- Eco Planning (Biodiversity Assessment Report);
- CT Environmental (Riparian and Groundwater Dependent Ecosystems Assessment);
- Northstar Air Quality (Air Quality Impact Assessment; and Greenhouse Gas Assessment);
- Macroplan Dimasi (Economic Impact Assessment);
- Hill PDA (Social Impact Assessment);
- Biosis (Aboriginal Heritage & Historic (European) Heritage Assessment);
- Acoustic Works (Noise Impact Assessment);
- LG Consult (Waste Management Plan);
- Conacher Consulting (Bushfire Report); and
- Monteath & Powys (Survey Plan).

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All consultant expert reports are appended in **Appendices 7 to 39** in this EIS.

1.3 THE PROPONENT

The proponent is a joint venture between Frasers Property and Altis Property Partners. See **Table 2 below** for contact details.

Table 2: Proponent Contact Details		
Contact Name	Paul Solomon	Stephen O'Connor
Company Details	Frasers Property Australia	Altis Property Partners
Contact Number	(02) 9767 2951	(02) 9233 9566
Email Address	Paul.Solomon@frasersproperty.com.au	stephen.oconnor@altisproperty.com.au

1.4 CAPITAL INVESTMENT VALUE

For this SSD only, the CIV of the Proposed Development in accordance with the CIV definition under the EP&A Regulation 2000, is estimated to be \$189,270,000 Million. The facility proposed on future Lot 6, equates to \$72,990,000 Million alone as shown in **Appendix 2**, containing QS Costings.

1.5 EXISTING ZONING PROVISIONS

For purposes of the proposed SSD Application, SEPP (WSEA) 2009 would be invoked as the prevailing EPI to achieve permissibility. The Subject Site is located within Precinct 11 – Broader Western Sydney Employment Area and is governed by the provisions of Clause 12 of the SEPP.

1.6 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

Prior to obtaining the SEARs, a meeting was held with the NSW DP&E, to confirm that the SEARs could be issued for this Development and to clarify the intersection between the operation of SEPP (WSEA) and the SEPP (SRD) 2011. The NSW DP&E confirmed in writing that SSD provisions would apply to the Proposed Development. An application requesting SEARs was then submitted on the 15th of August 2018 (DP&E Reference: SSD 9522). The SEARs were subsequently issued by NSW DP&E on the 14th of September 2018 and are addressed by this EIS.

For reference, the full SEARs, as issued, are annexed in **Appendix 1** of this submission. An overview of how the Secretary's Environment Assessment Requirements have been satisfied by this EIS, is outlined in **Table 1** above. This EIS is also consistent with the minimum requirements for Environmental Impact Statements, as set out in Clauses 6 and 7 of Schedule 2 of the EP&A Regulation 2000.

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PART B SITE ANALYSIS

2.1 SITE LOCATION & EXISTING SITE CHARACTERISTICS

The Subject Site is legally defined as 657-769 Mamre Road, Kemps Creek (Lot 34 DP 1118173, Lot X DP 421633, Lot 1 DP 1018318, Lot Y DP 421633 & Lot 22 DP 258414). Existing Site attributes are noted as follows:

- In total, the Proposed Development Subject Site area is approximately 118-ha, with direct frontage to Mamre Road of approximately 1.1 km;
- Access is readily available to the regional road network, including both the M4 and M7 Motorways, which further confirms the suitability of the Site for the proposed purpose;
- Topographically, the Subject Site is relatively flat, with a gradual slope in gradient from east to west;
- South Creek bounds the Subject Site to the west;
- The Warragamba Pipeline bounds the Subject Site to the north (controlled by Water NSW) and industrial development, known as "First Estate", developed by Altis that was approved under SSD 7173;
- Located north of the Water NSW Warragamba Pipeline, is Erskine Business Park, operating on a 24-hour, 7-day basis, containing businesses such as CEVA Logistics, CSR, Woolworths and Alvaro Transport;
- Rural and residential land holdings bound the Subject Site to both the south and east, adjacent to Mamre Road. These include rural and residential land holdings with some educational precincts (Trinity Primary School and Emmaus Catholic College) further to the east;
- Directly south of Bakers Lane on Lot X DP 421633, there are two (2) dam bodies of water, that will be removed as part of the proposed earthworks for the Proposed Development;
- The Subject Site is sparsely vegetated with scattered stands of trees and scrub. The Site is identified as containing pasture grasses that have been previously actively grazed;
- Ecological investigations by Ecoplaning indicate, that the condition of the identified Cumberland Plain Woodland, (a Critically Endangered Ecological Community (CEEC) listed under the *Commonwealth Environmental Protection and Biodiversity Act 1999* (EPBC Act) on the Subject Site), does not meet the relevant criteria, cause it to be classified as a Matter of National Environmental Significance (MNES). Consequently, referral to the Commonwealth is not required;
- Historically, the Subject Site was used primarily for pastoral and agricultural purposes; however more recent uses indicate that the Subject Site has included rural/residential uses and would therefore have inherent soil conditions that are uncontaminated and therefore considered suitable for the Proposed Development –a Warehouse, Logistics and Industrial Facilities Hub; and
- Review of the 10.7(2) & (5) Planning Certificates and specialist studies confirms that a portion of the Subject Site (along its western boundary) is flood affected.

An aerial photograph and cadastral image of the Subject Site, further illustrating the Site's characteristics, are provided in **Figures 1** and **2** overleaf. **Figures 3 - 6** depict the Site from ground level from varied directional perspectives. **Figure 6** is particularly important as it highlights the unmaintained state of the South Creek Corridor, which at later development application stages, will be revitalised into an aesthetically-pleasing re-vegetation riparian edge, through an activated open, green space at the South Creek edge of the Site.

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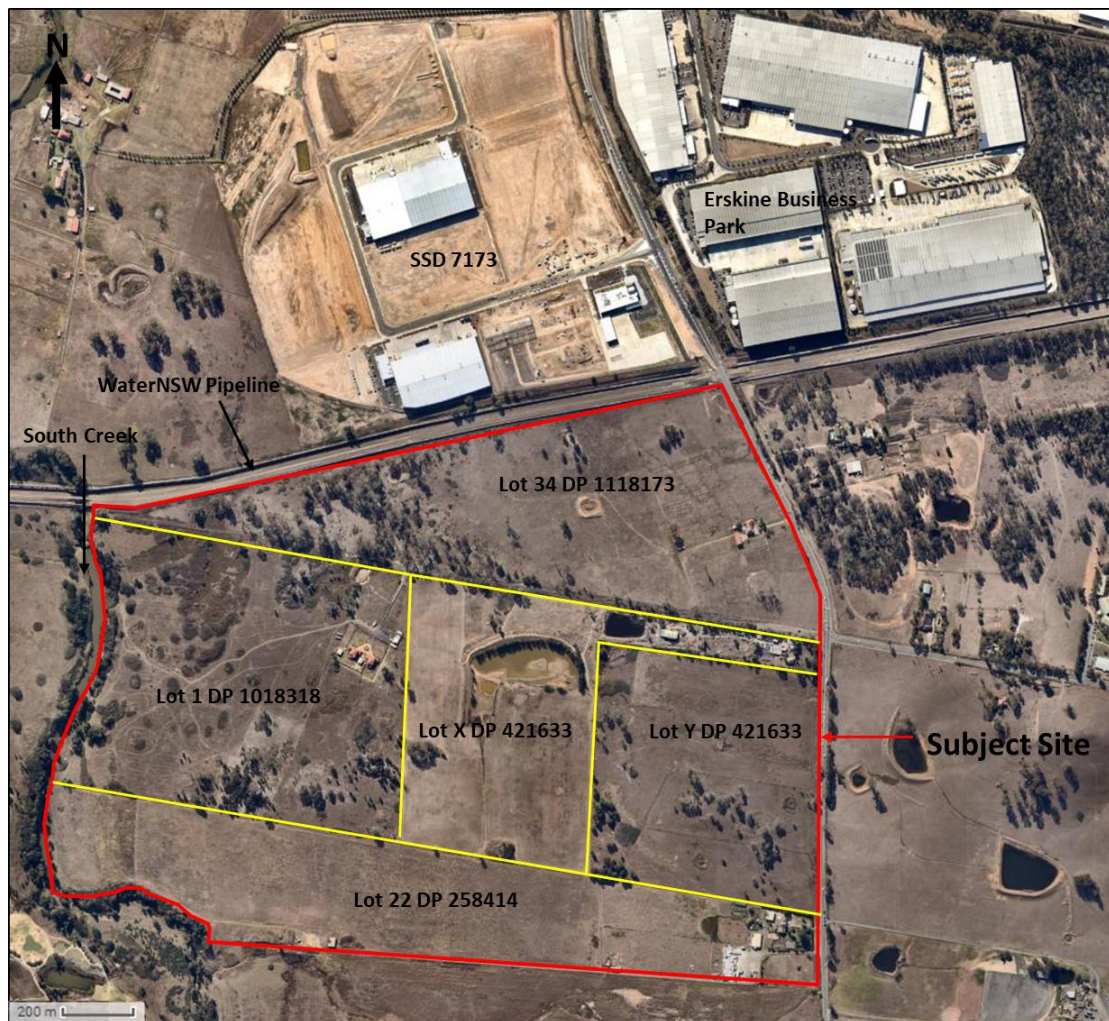


Figure 1: Subject Site and Surrounding Context (Source: NearMaps, 2018)

Figure 1 captures the footprint of the Subject Site from an aerial perspective, and provides context with regard to surrounding developments in close proximity to the Subject Site.

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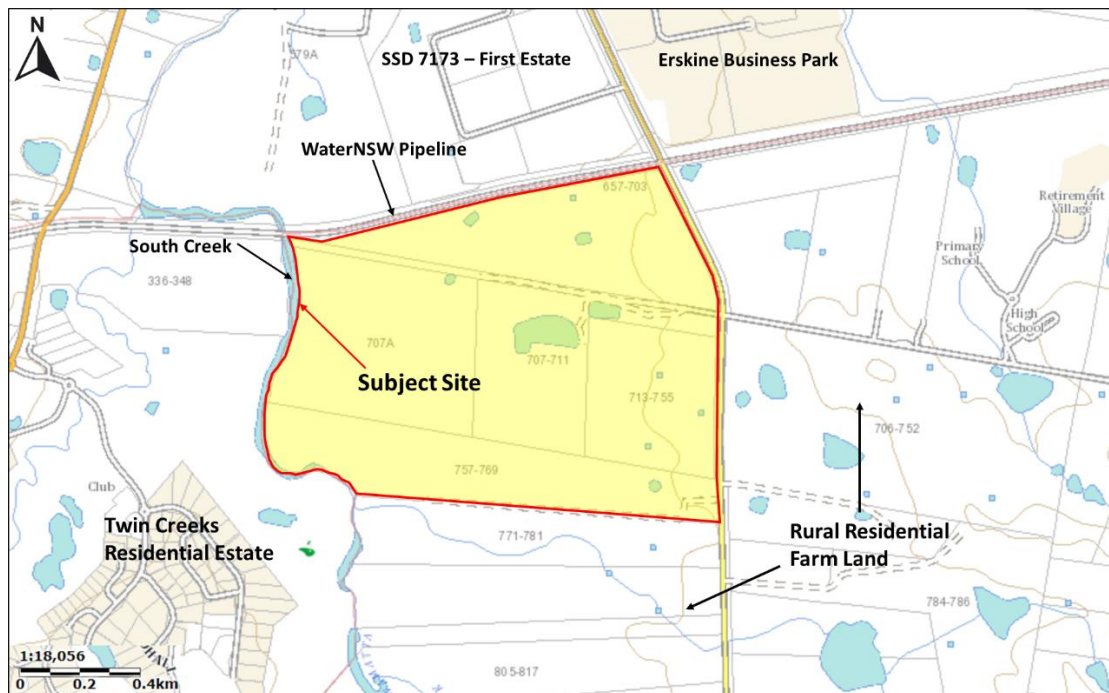


Figure 2: Cadastral Image of Subject Site and Surrounding Context (Source: SIX Maps, 2018)

Figure 2 above shows the Subject Site and contextually illustrates the surrounding area, comprising industrial land to the north of the Subject Site, positioned within the WSEA and rural residential land located to the south of the WaterNSW Pipeline surrounding the Subject Site on its southern, eastern and western interfaces.

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Figure 3: Northern Perspective of the Subject Site with First Estate (SSD 7173) and Erskine Business Park Identified in the Background (Source: Willowtree Planning, 2018)

Figure 3 shows the aesthetic of the northern end of the Subject Site, which comprises undulated grassland and the occasional isolated tree within the foreground, whilst the background imagery contains existing industrial development within the WSEA, including First Estate to the north and Erskine Business Park to the northeast.

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Figure 4: Northern Perspective of the Subject Site facing the WasterNSW Pipeline (Source: Willowtree Planning, 2018)

With regard to the Proposed Development, the northern boundary of the Subject Site, facing the WaterNSW Pipeline (as identified above in **Figure 4**) will integrate a 60-m-wide setback, dedicated to the future construction of Western Sydney Freight Line Corridor.

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Figure 5: Eastern Perspective of the Subject Site facing Mamre Road and Bakers Lane (Source: Willowtree Planning, 2018)

Figure 5 above, accurately captures the topography of the Subject Site from 657-703 Mamre Road, Kemps Creek (Lot 34 DP 1118173). The existing tree line traversing the right-hand side of the image, is for removal thereby greatly enhancing access to and from the Subject Site, off Bakers Lane.

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Figure 6: Western Perspective of the Subject Site facing the South Creek Riparian Edge (Source: Willowtree Planning, 2018)

Figure 6 above, accurately demonstrates the overgrown and undermaintained nature of South Creek and its tributaries. The image has been taken facing downstream (southern aspect), with the Left-Hand Bank (LHB) comprising the Subject Site directly adjacent and the corresponding Right-Hand Bank (RHB) comprising the Twin Creeks Golf Club and residential estate, further west of the riparian corridor. This further emphasises the importance of the environmental work planned for the South Creek banks, as part of the Proposed Development.

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2.2 LAND OWNERSHIP

The entire land, is the subject of this Application, some 118-ha in total, is jointly controlled by Frasers Property and Altis Property Partners.

2.3 STRATEGIC CONTEXT OF THE SITE

Key contextual attributes of the Subject Site in relation to its context are noted as follows:

- The Subject Site is located approximately 40 km west of the Sydney CBD, 21 km west of Parramatta, 12 km south-east of Penrith and 16 km northwest of Liverpool;
- Mamre Road adjoins the Subject Site to the east, while a tributary of South Creek meanders the western boundary. To the north comprises the Warragamba Pipeline and to the south, rural / residential land is evident;
- The Subject Site is wholly located within the Penrith Local Government Area (LGA);
- SEPP (WSEA) 2009 remains the primary Environmental Planning Instrument (EPI) applicable to the Subject Site. Under the provisions of SEPP (WSEA) 2009, the Subject Site is located within Precinct 11 – Broader Western Sydney Employment Area (refer to **Figure 7 overleaf**);
- Given the strategic location of the Subject Site being positioned south of First Estate and Erskine Business Park, the Proposed Development represents a logical outcome that would provide employment-generating land uses that are complimented by access to the surrounding regional road network; and,
- The surrounding regional road network is located in close proximity to the Subject Site, which includes the M4 & M7 Motorways.

2.4 STRATEGIC CONTEXT

The Productivity Priorities of the Western Parkland City under the *Western City District Plan* (issued by the GSC, 2018) sets out for the Site its strategic planning priorities, namely:

- *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 Development is considered entirely consistent with 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 economic development of the Subject Site. As is obvious, this Development maximises opportunities for logistics, freight and industry; grows business investment and provides business opportunities and employment.

The Subject Site is included within 'Precinct 11 – Broader Western Sydney Employment Area' under SEPP (WSEA) 2009. The area surrounding the Western Sydney Airport, formerly known as the WSEA Extension Area, in which the Site is located, is now included in a new plan titled

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Western Sydney Aerotropolis (refer to **Figure 13** of this EIS). The Subject Site is located within the north-eastern corner of the Aerotropolis (Mamre Road Precinct and South Creek Precinct).

The Aerotropolis' main objectives are to support the new Airport and focus on new employment outcomes, both within and around the future Western Sydney Airport. In delivering these outcomes, the Federal and NSW governments are planning new infrastructure and service upgrades, such as the M9, M12, as well as new Rail and Freight Lines. The proposed Warehouse, Logistics and Industrial Facilities Hub, fits these planned outcomes perfectly, with new, large employment-generating development opportunities (2,500 jobs) that will contribute to growth and development of the entire Greater Western Sydney Region.

Included as an annexure to support the need for this Development, is a Strategic Justification paper prepared by EG. Amongst other matters, the paper outlines the critical industrial land shortage within Western Sydney, based on specialist advice from market experts such as CBRE, Jones Laing LaSalle and Knight Frank. The Strategic Justification states:

"There is strong evidence of an industrial land supply shortage in the Western Sydney Employment Area, supported by market opinion from Real Estate Agents CBRE. The market opinion confirms that there is strong market demand for both traditional warehousing and distribution as well as new State-of-the-Art logistics and transport in this location.

The Greater Sydney Commission's (GSC) A Metropolis of Three Cities and the Western City District Plan have employment as one of their key objectives. This is the essence of what this Proposed Development is delivering. State Environmental Planning Policy (Western Sydney Employment Area) 2009 also emphasises employment outcomes. Its stated aims are to: "to promote economic development and the creation of employment in the Western Sydney Employment Area by providing for development including major warehousing, distribution, freight transport, industrial, high technology and research facilities".

The Site is in a unique position to be able to deliver on the GSCs and WSEA SEPP's objectives for the following reasons:

- 1. The Proposed Development responds to the need for short-term industrial land supply creating immediate employment;*
- 2. The development supports the functions of the new Airport by providing uses that are complimentary to the proposed land uses within the Aerotropolis;*
- 3. The development can be serviced at no cost to government by connecting to existing adjacent infrastructure; and*
- 4. The development adjoins an existing logistics facility and is a logical extension of the existing and well-established precinct of Erskine Park. It is therefore a logical, timely and sequential development that will be built in time for the opening of the new Airport in 2026.*
therefore

As the Proposed Development is totally consistent with the objectives of the LUIIP; SEPP (WSEA); SEPP (SRD); *A Metropolis of Three Cities* and the *Western City District Plan*, it is considered to be orderly development and consistent with both the strategic vision for the

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region and the designed economic and employment outcomes envisaged for the Aerotropolis and WSEA.

Given the strong alignment of the Proposal with stated SEPP objectives it is deemed appropriate for the NSW DP&E to endorse and support the Proposal. It is also appropriate given the level of uncertainty in relation to when the Stage 2 LUIIP would be finalised. If approved in 2019, it is expected to be available to the market by the time the new Airport opens in 2026. This is essential and orderly so that supporting land uses are able to complement the economic outcomes envisaged for the Western Sydney Aerotropolis.

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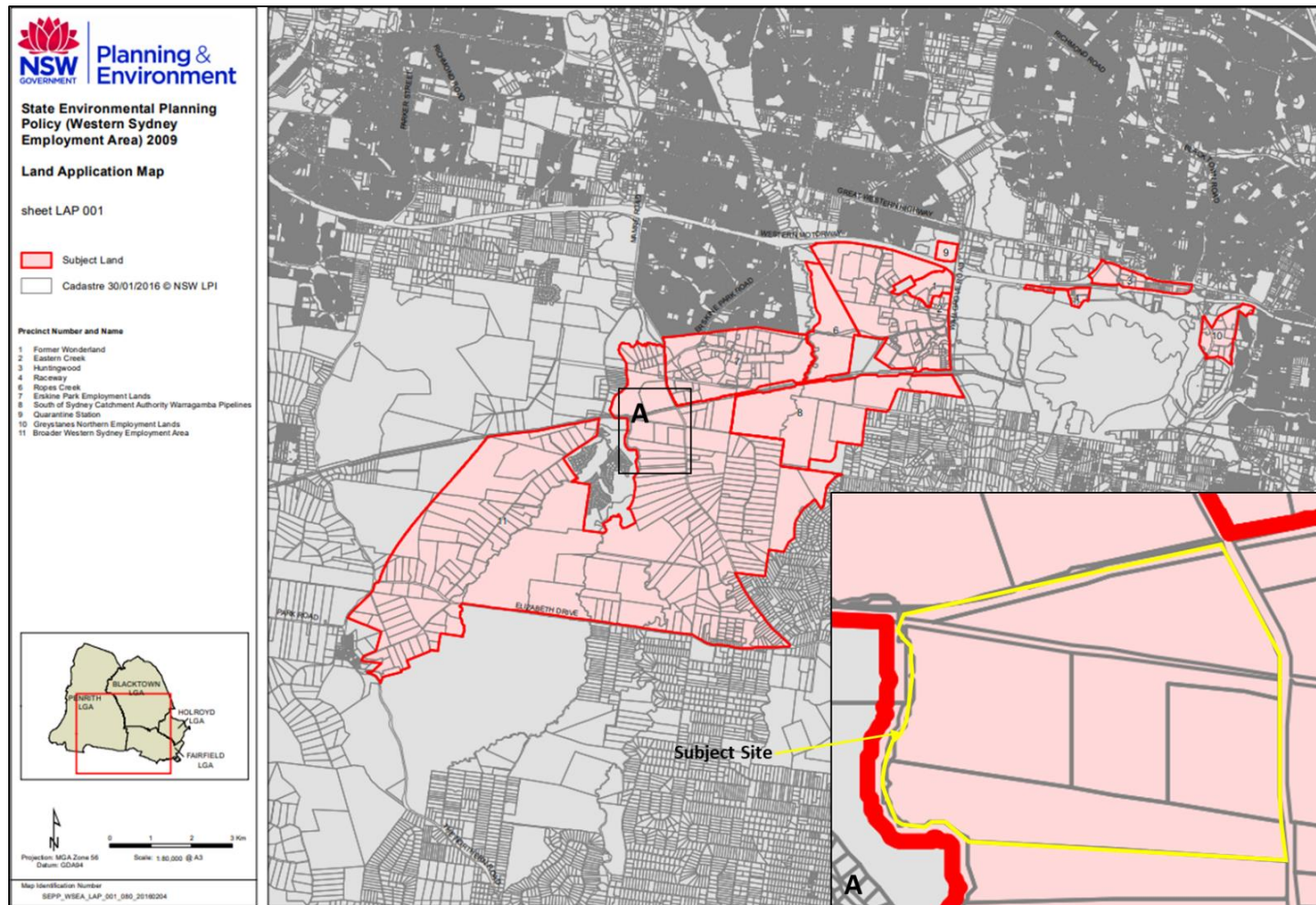


Figure 7 Land Application Map – State Environmental Planning Policy (Western Sydney Employment Area) 2009 (Source: NSW Legislation, 2018)

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2.5 SITE SUITABILITY

The Proposed Development provides for a Warehouse, Logistics and Industrial Facilities Hub in a location that is suitably-located, away from sensitive land uses. The Site has an obvious advantage, as it provides an unconstrained platform for development. This SSD Application seeks approval for a new State Significant Development, with full infrastructure provision; subdivision to create 33 allotments; internal Estate roads; nine (9) warehouse and industrial facilities; along with bulk earthworks across the entire Site. The Site is suitable for the size and scale of the development proposed and represents a logical extension of the existing Erskine Park Industrial Area and First Estate to the north both with similar land uses.

The Site topography is generally flat in nature (with a slight slope in the gradient from east to west). This is considered ideal for the Proposal and will be serviced off existing infrastructure at No Cost to Government. The Site is highly suitable for the intended use as it is clear of contamination and, generally clear of significant Fauna and Flora. All of the Cumberland Plain Woodland identified on the Site, does not require referral to the Commonwealth under the EPBC Act.

In summary, the Subject Site is highly-suited to accommodate the intended new, State-of-the-Art development due to the following factors:

- It is Already in SEPP (WSEA), which allows for the Proposed Development;
- Access to the regional road network is readily available;
- Compatibility with surrounding development and local context is achieved;
- The Site represents orderly and sequential development given its proximity to Erskine Business Park; First Estate; and other developed employment lands in the WSEA;
- The Site can be serviced immediately and at No Cost to Government;
- It causes minimal impact on the environment and site Flora and Fauna;
- The Site will complement functions of the new Western Sydney Aerotropolis,
- There is Flexibility to accommodate all future planned Government infrastructure such as the Southern Link Road or the Freight Rail Corridor;
- All built form is designed to mitigate any impacts on surrounding properties.

The following key elements of the Site and Proposed Development are noted:

Visual Impact:

- The Visual Impact Assessment undertaken confirms, that there will be no major impacts on visual amenity of the locality given the scale of prevailing development.
- Land surrounding the development is designated for both employment and open space under the strategic planning policies, specifically the LUIIP, for which the Proposed Development and future development planned for the Subject Site would provide a complimentary outcome.

Noise:

- The Proposed Development has been designed to mitigate noise impacts through the orientation of buildings; noise screening, and sensitivity to all surrounding receivers. Mitigation measures have also been designed and included in the Site plans to further mitigate any operational impacts.
- The Noise Impact Assessment, which has been undertaken and prepared by Acoustic Works, confirms compliance with all current NSW Environment Protection Authority (EPA) Guidelines and relevant criteria, as required for a 24-hour operation.

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Traffic:

- The Site will access an existing intersection, comprising Mamre Road / Bakers Lane for the interim period, whilst planned State infrastructure is being built. The Proposed Development's traffic impacts on the Road Network including Mamre Road, was calculated based on existing and future service levels and includes upgrades to the current Bakers Lane intersection. The Traffic Impact Assessment demonstrates, that the Proposed Development, along with associated local upgrades would improve the Level of Service and safety on Mamre Road.

The Site's consistency with applicable Regional and Local Strategies is demonstrated in the comprehensive Environmental Assessment, provided in **Part F** of this EIS, which includes an analysis of all potential impacts, which has been informed by the relevant consultant reports. Accordingly, the Environmental Assessment prescribes recommendations and mitigation measures (where necessary), to account for all identified potential impacts, by the Proposed Development. The suitability of the Subject Site with regard to the Proposed Development, can be attributed to its ready ability to provide employment; its excellent access arrangements; its suitable contextual setting; and its minimal impact on the environment it would impose.

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PART C PROPOSED DEVELOPMENT

3.1 OBJECTIVES OF THE PROPOSAL

The aim of the Proposed Development is to provide a Warehouse, Logistics and Industrial Facilities Hub that is built in line with Industry Best Practice that would:

1. Construct new facilities equating to 163,671 m² of GFA (in Stage 1, the subject of this SSD).
2. Generate large amounts of employment – up to 800 under this SSD Application and 2,500 in total, once the Estate is fully developed (under future development consents);
3. Supplement, support and compliment to the new Western Sydney Airport;
4. Improve access to jobs for residents of the immediate community and wider locality;
5. Demonstrate architectural excellence, through its siting and design compatibility, with minimal visual impact;
6. Enhance the South Creek Precinct, and regenerate vegetation over 11ha of unimproved land, dedicated to improving the working environment; and
7. Provide suitable mitigation measures where required, to minimise any unforeseen impacts arising in the future.

3.2 DESCRIPTION OF THE PROPOSAL

3.2.1 Warehouse, Logistics and Industrial Facilities Hub

Consent is sought to develop the Subject Site for the purpose of a Warehouse, Logistics and Industrial Facilities Hub. Operational use of the facilities is sought for warehousing, distribution and industrial purposes on a 24-hour, 7-day basis, consistent with surrounding operations and the vision for a 24-hour Western Sydney Airport located, only eight (8) km from the edge of Site.

The built-form component of the Proposed Development includes earthworks and infrastructure, across the entire Site in two (2) construction stages, for which consent is also sought under this SSDA. The Application also includes, roadworks and a 33-lot Torrens Title Subdivision. The Proposed Development sets out a series of stages, that develop the 118 ha Site into a number of distinct work packages, set out in below **Table 3** and **Figure 8** overleaf.

Table 3: Proposed State Significant Development Particulars	
Project Element	Development Particular
Subject Site Area	118 ha
Stage 1 Site Area	306,308 m ²
General	The Proposed Development is considered State Significant Development pursuant to the SEPP (SRD) 2011 attaining a CIV of approximately \$189,270,000 Million, for which comprises a total of 163,671 m ² warehousing / industrial GFA. Additionally, the future warehouse proposed on Lot 6, attains a CIV of approximately \$72,990,000 Million alone.
Warehouse/Office	Proposed Lot 1: Warehouse 1A (11,375 m ²) Office 1A (Mezzanine) (500 m ²) Office Entry (50 m ²) Loading Docks: Eight (8) loading docks Car Parking Spaces: 48 spaces (including two (2) accessible spaces) Warehouse 1B (11,375 m ²) Office 1B (Mezzanine) (500 m ²) Office Entry (50 m ²) Loading Docks: Eight (8) loading docks

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	<p>Car Parking Spaces: 45 spaces (including two (2) accessible spaces)</p> <p><u>Proposed Lot 2:</u></p> <p>Warehouse 2 (21,995 m²) Office 2 (Mezzanine) (1,100 m²) Office Entry (50 m²) Loading Docks: 12 loading docks Car Parking Spaces: 105 spaces (including two (2) accessible spaces)</p> <p><u>Proposed Lot 3:</u></p> <p>Warehouse 3A (9,020 m²) Office 3A (Mezzanine) (500 m²) Office Entry (50 m²) Loading Docks: Seven (7) loading docks Car Parking Spaces: 43 spaces (including two (2) accessible spaces) Warehouse 3B (9,020 m²) Office 3B (Mezzanine) (500 m²) Office Entry (50 m²) Loading Docks: Seven (7) loading docks Car Parking Spaces: 43 spaces (including two (2) accessible spaces)</p> <p><u>Proposed Lot 4:</u></p> <p>Warehouse 4 (18480 m²) Dock Office 4 (50 m²) Office 4 (840 m²) Loading Docks: 11 loading docks Car Parking Spaces: 92 spaces (including two (2) accessible space)</p> <p><u>Proposed Lot 5:</u></p> <p>Warehouse 5A (13,020 m²) Dock Office 5A (50 m²) Office 5A (710 m²) Loading Docks: Ten (10) loading docks Car Parking Spaces: 63 spaces (including one (1) accessible space)</p> <p>Warehouse 5B (12,785 m²) Dock Office 5B (50 m²) Office 5B (710 m²) Loading Docks: 11 loading docks Car Parking Spaces: 72 spaces (including one (1) accessible space)</p> <p><u>Proposed Lot 6:</u></p> <p>Warehouse 6 (48,341 m²) Dock Office 6a (50 m²) Office 6a (2 storey) (1,200 m²) Loading Docks: 16 loading docks Car Parking Spaces: 120 spaces (including two (2) accessible spaces) Dock Office 6b (50 m²) Office 6b (1,200 m²) Loading Docks: 15 loading docks</p>
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	Car Parking Spaces: 114 spaces (including two (2) accessible spaces)
Building Height	<p><u>Proposed Lot 1 (includes 60 m WSFL setback):</u></p> <p>Warehouse 1A: 13.7 m; and, Warehouse 1B: 13.7 m.</p> <p><u>Proposed Lot 2 (includes 60 m WSFL setback):</u></p> <p>Warehouse 2: 26.37 m.</p> <p><u>Proposed Lot 3:</u></p> <p>Warehouse 3A: 13.7 m; and, Warehouse 3B: 13.7 m.</p> <p><u>Proposed Lot 4:</u></p> <p>Warehouse 4: 13.7 m.</p> <p><u>Proposed Lot 5:</u></p> <p>Warehouse 5A: 13.7 m; and, Warehouse 5B: 13.7 m.</p> <p><u>Proposed Lot 6:</u></p> <p>Warehouse 6: 13.7 m.</p>
Primary Land Use	- Warehousing, logistics and light industrial activities (24/7 use)
Bulk Earthworks	<p>Earthworks on the Site are proposed as follows:</p> <ul style="list-style-type: none"> - Bulk earthworks are proposed to be carried out across the entire estate in 2 stages to establish building pads for the Site. - Maintaining all of the 11-ha western portion of the Subject Site as green open space and common recreation land. This area would also be designed for additional flood storage and have ample room for accommodating State facilities such as sewer and water infrastructure.
Internal Estate Road	<ul style="list-style-type: none"> - The internal Estate road would service all allotments within the Estate and would be constructed in a staged approach. - All road design proposed will be in accordance with Penrith City Council requirements, achieving a road reserve width of 20.6 metres and built with a dual carriageway, capable of accommodating B-Doubles. - Access to Stage 1 (shown on plans in Appendix 6 of this EIS) and linking the Proposed Estate Road and the Southern Link Road, will be provided by constructing all necessary vehicle crossings for proper and efficient road operation, in line with the civil engineering drawings submitted with this Application (see Appendix 10 of this EIS).
External Intersection works	<p>Access to the Subject Site would be provided via two (2) new intersections, off Mamre Road. These will be provided at the full cost of the developer in accordance with RMS requirements and the following:</p> <ul style="list-style-type: none"> - The primary access to the Precinct is designed to be provided via a new western connection to the existing signalised intersection of Mamre Road with Bakers Lane; and,

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	<ul style="list-style-type: none">- The secondary access to the Precinct would be provided via a left-in / left-out priority-controlled intersection located approximately 500 m south of the existing intersection with Bakers Lane. <p>Both intersections will be fully designed in accordance with all relevant Australian Standards and constructed as part of the Project and at No Cost to Government.</p>
Infrastructure and Services	All Services to the Site are able to be provided from Mamre Road to the Site, including potable water; electricity; gas; waste water; and communications.
Subdivision	Torrens Title subdivision of the Subject Site is proposed to create 33 allotments. All common areas of the Estate would be subject to a Community Management scheme. Altis and Frasers will jointly manage and operate the Estate, including stormwater basins and associated infrastructure.
Operational & Construction Jobs	<p>Overall Employment Generation (Full Estate Development):</p> <ul style="list-style-type: none">- Upon development of the entire Estate (subject to future development consent) up to 2,500 jobs are forecast to be created.- Construction and Design activities would encompass the extensive environmental, technical, road, stormwater and civil works required. In addition, the construction team will employ the latest construction techniques required to deliver the facilities. <p>Stage 1 Employment Generation (Subject SSDA):</p> <ul style="list-style-type: none">- Operational jobs generated only by the Stage 1 works, are expected to be in the order of 800 full time jobs and can be delivered within only (2) years of approval.- Construction jobs generated only by the Stage 1 works are expected to be in the order of 500 full time jobs and can also be delivered within two (2) years of approval.

The proposed Site Plan (See **Figure 8** of this EIS) uses landscaping and architectural design to create a pleasant work environment - a vision outlined in *A Metropolis of Three Cities* and the *Western City District Plan*.

The Proposed Site Plan is shown in **Figure 8** overleaf.

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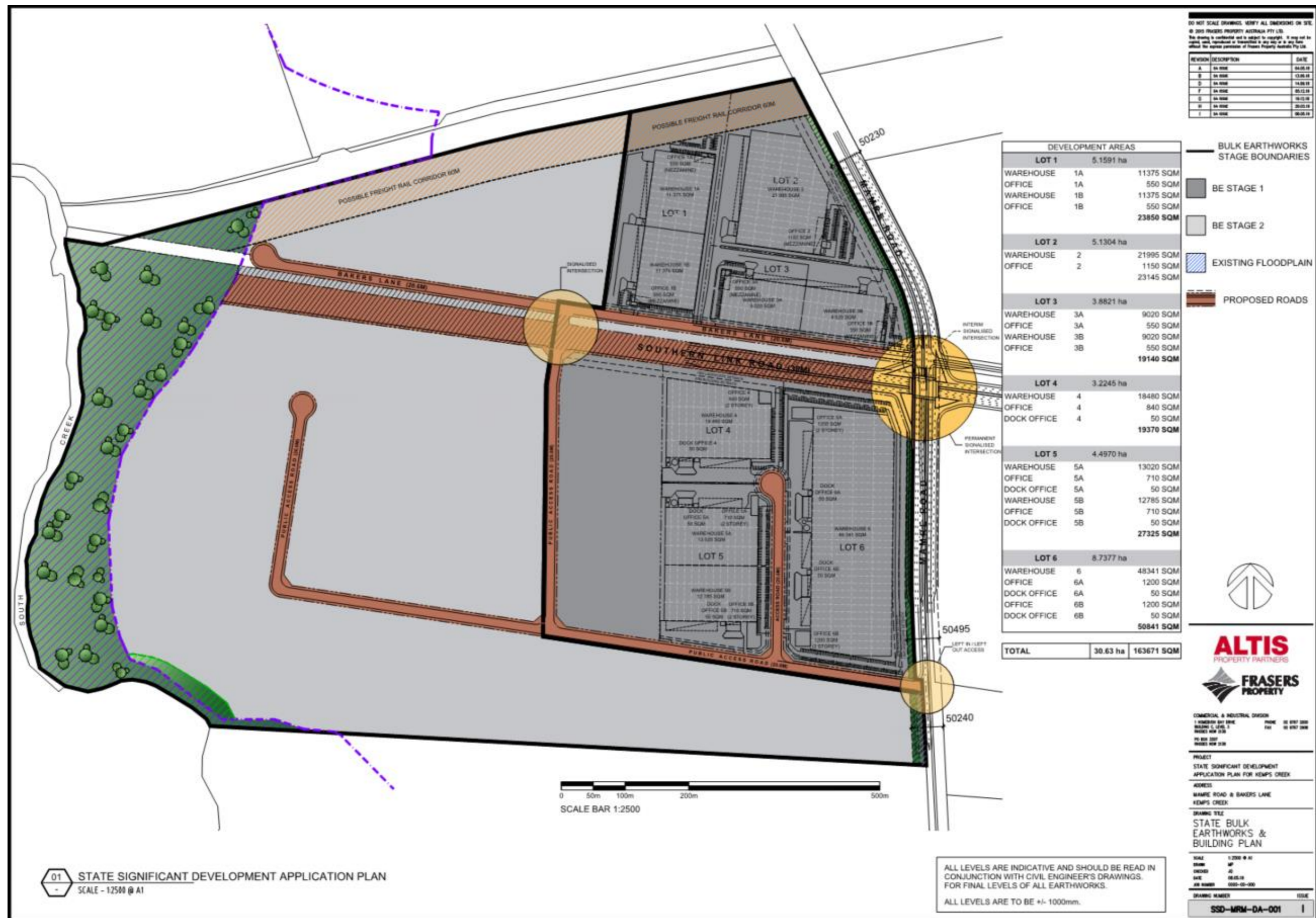


Figure 8 Proposed State Significant Development (Stage 1) – Proposed Warehouse, Logistics and Industrial Facilities Hub (Source: Frasers Property & Altis Property Partners, 2019)

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3.2.2 Construction Staging of Development

The proposed construction staging of the development is shown in **Figure 8** above, with the proposed bulk earthworks split into two (2) stages. The works will include the construction of warehouses, with industrial facilities; bulk earthworks; provision of services; road & intersection construction; and the delivery of fully operational water-saving stormwater management systems. The indicative construction stage sequence proposed is outlined in **Table 4** below, which comprises three (3) stages:

Table 4: Proposed Construction Staging Sequence	
Stage	Proposed Works
1	Bulk Earthworks; Site Infrastructure Works; Building Works; and Subdivision.
2	Bulk Earthworks; Site Infrastructure Works; and Subdivision.
3	Subdivision

As outlined above in **Table 4**, subdivision of the full land parcel (118 ha) is also proposed in a staged manner over three (3) indicative stages, being Stage 1, 2 and 3, as shown in these different colours in **Figure 9** below. Flexibility in allotment size, has been provided to specifically meet market demand. The design and siting of allotments are designed to be sympathetic to the topography of the Subject Site, and also meet access and flood-planning requirements. Additionally, the allotments adjacent to South Creek, all allow for the minimum 500 mm freeboard above the 1% AEP flood level.

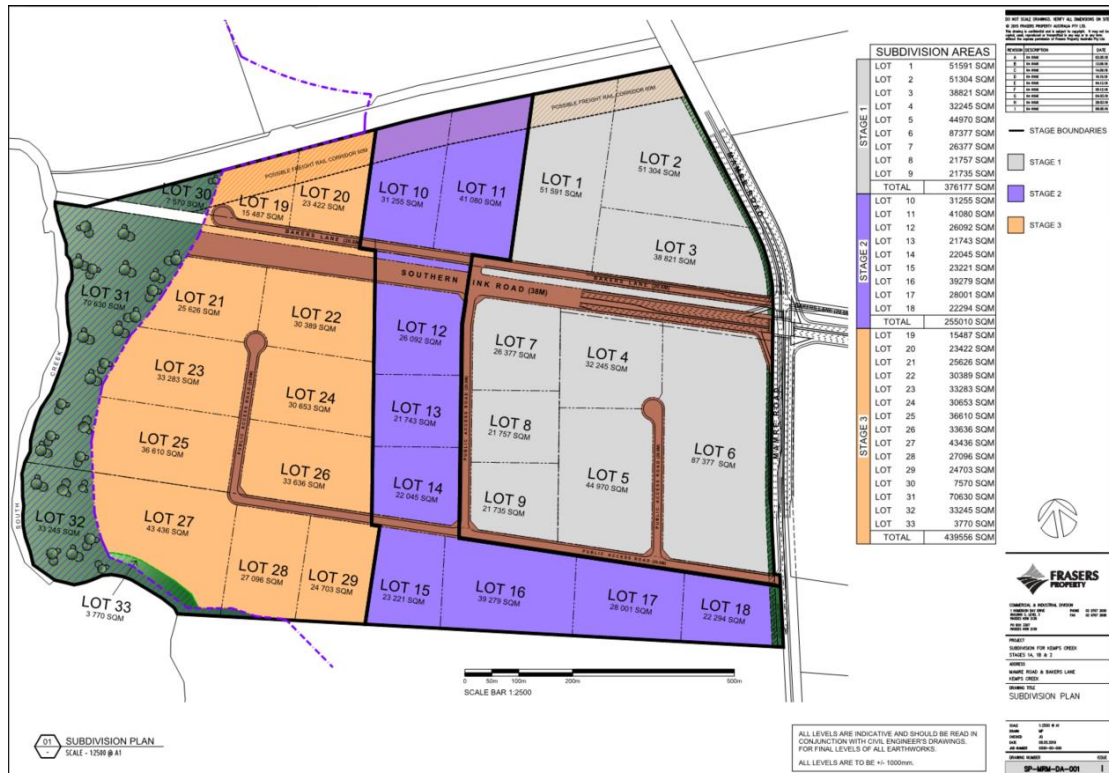


Figure 9 Proposed Subdivision Layout and Staging of Subject Site (Source: Frasers Property, 2019)

The proposed staging of the subdivision is detailed below in **Table 5**.

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Table 5: Proposed Subdivision Staging of the Subject Site	
Lot Number as per Proposed Subdivision Plan	Area (m²)
Stage 1	
1	51,591
2	51,304
3	38,821
4	32,245
5	44,970
6	87,377
7	26,377
8	21,757
9	21,735
Total Area: 376,177 m²	
Stage 2	
10	31,255
11	41,080
12	26,092
13	21,743
14	22,045
15	23,221
16	39,279
17	28,001
18	22,294
Total Area: 255,010 m²	
Stage 3	
19	15,487
20	23,422
21	25,626
22	30,389
23	33,283
24	30,653
25	36,610
26	33,636
27	43,436
28	27,096
29	24,703
30	7,570
31	70,630
32	33,245
33	3,770
Total Area: 439,556 m²	

Worthy of note is that, although Lots 7, 8 and 9, are part of the Stage 1 Subdivision, there is no built-form proposed for these sites under this SSD Application. Furthermore, the Stage 1 subdivision may be undertaken in sub-stages and not necessarily in numerical order, by which the lots are sequentially outlined above in **Table 5**.

3.2.3 Site Preparation

Bulk earthworks across the entire Site (in 2 stages), includes preparatory works for all future built form. Detailed analysis of the cut and fill, is shown in both **Figure 10** below and **Table 6** overleaf. The total quantum of cut and fill is shown in **Table 6** below:

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Table 6: Cut/Fill Balance

Topsoil Volume	
Cut = -230,000 m ³ (based on 200 mm depth)	
Earthworks Volume	
Cut	-126,300 m ³
Detailed Excavation (1,250 m ³ /ha)	- 135,000 m ³
Fill	+2,514,200 m ³
Balance	+2,252,900 m ³ (Import required)

A detailed expert report titled *Civil Engineering – Mamre Road & Southern Link Road, Kemps Creek NSW* (Costin Roe Consulting, 201) has been completed for the Development. The Costin Roe Report identifies that a volume of 214,000 m³ (a topsoil strip of 200 mm over the Site area) can be either removed from the Site, blended, or placed and used within non-developable vegetation zones.

Additional imported fill has been shown in the initial technical analysis to enable buildings to be sited above the 1% AEP event. This includes the 500 mm of freeboard and will also enable the proper drainage of Site through gravity. Consideration to the bulking factor of fill materials, including rock and clay, has been allowed for by Costin Roe. Bulking of clay, would normally be expected to be around 4% of the removed volume and rock bulking can be expected to fall in the range of 8-12%.

Cut earthworks over the Site has been estimated to be minor (fill is required). Investigations show that no impacts are expected to groundwater levels, or soil quality, as a result of these works. Additionally, all geotechnical testing and inspections performed during earthworks, would be undertaken via a Level 1 Geotechnical Engineer in accordance with the Site earthworks specification, and in accordance with AS3798-1996.

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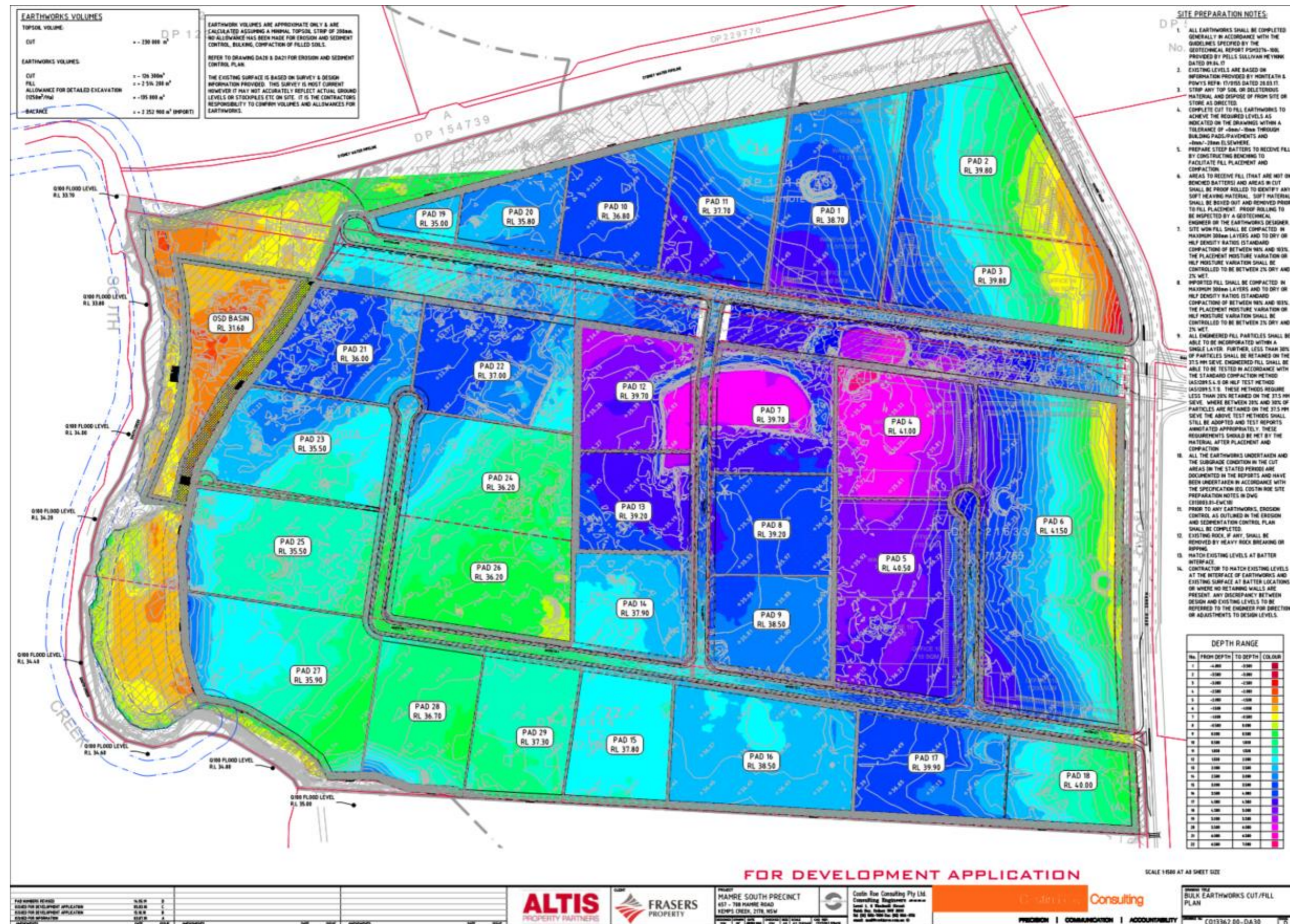


Figure 10 Bulk Earthworks Plan (Source: Costin Roe Consulting, 2019)

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3.2.4 Dangerous Goods

No Dangerous Goods are proposed to be stored, which would trigger the thresholds of *State Environmental Planning Policy No 33 – Hazardous and Offensive Development* (SEPP 33). Should the Proposed Development ever require the need to store Dangerous Goods on-site, a SEPP 33 Preliminary Hazard Analysis would be undertaken by a suitably-qualified specialist, with any recommendations on further approvals required (if any), following all statutory requirements.

3.2.5 Supporting Project Documentation

Documents provided in support of the Proposal are outlined in **Table 7**.

Table 7: Document Schedule and Consultant Team		
Appendix No.	Description	Author
Appendix 1	Secretary's Environmental Assessment Requirements	NSW DP&E
Appendix 2	Quantity Surveyors Report	Northcroft Consulting
Appendix 3	Survey Plan	Monteath & Powys
Appendix 4	Subdivision Plan	Frasers Property
Appendix 5	Stage 1 SSD Application Plan	Frasers Property
Appendix 6	Architectural Plans	Frasers Property & Nettleton Tribe
Appendix 7	Urban Design Report	Frasers Property
Appendix 8	Landscape Plan	Habit8
Appendix 9	Visual Impact Assessment	Geoscapes
Appendix 10	Civil Plans and Design Report	Costin Roe Consulting
Appendix 11	Overland Flow Report	Costin Roe Consulting
Appendix 12	Service Infrastructure Assessment	Land Partners
Appendix 13	Hazard and Risk Assessment	Risk Eng
Appendix 14	Geotechnical Report	Pells Sullivan Meynink
Appendix 15	Phase 1 Contamination Report	JBS&G
Appendix 16	Phase 2 Contamination Report	JBS&G
Appendix 17	Site Salinity Assessment Report	JBS&G
Appendix 18	Traffic Impact Assessment	Ason Group
Appendix 19	Biodiversity Assessment Report	Eco Planning
Appendix 20	Riparian and Groundwater Dependent Ecosystems Assessment	CT Environmental
Appendix 21	Air Quality Impact Assessment	Northstar Air Quality
Appendix 22	Economic Impact Assessment	Macro Plan Dimasi
Appendix 23	Social Impact Assessment	Hill PDA
Appendix 24	Historical Heritage Impact Statement	Biosis
Appendix 25	Noise Impact Assessment	Acoustic Works
Appendix 26	Archaeological Report	Biosis
Appendix 27	Aboriginal Cultural Heritage Assessment Report	Biosis
Appendix 28	Greenhouse Gas Assessment	Northstar Air Quality
Appendix 29	Ecologically Sustainable Development Report	Frasers Property
Appendix 30	Waste Management Report	LG Consult
Appendix 31	Bushfire Report	Conacher Consulting
Appendix 32	Community Consultation Report	Willowtree Planning
Appendix 33	Agricultural Impact Assessment	GHD
Appendix 34	Land Use & LUIIP	Land Partners

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Appendix 35	Sewer Lead-In Advice	Biosis
Appendix 36	Strategic Justification Report	EG Advisory
Appendix 37	Architectural Design Report	Nettleton Tribe
Appendix 38	Mamre South Precinct Development Control Plan 2019	Willowtree Planning
Appendix 39	Satisfactory Arrangement Correspondence	NSW DP&E, Frasers Property Australian & Altis Property Partners

3.3 PROJECT NEED

Given the strong economic growth anticipated for Western Sydney generally and specifically surrounding the planned new Aerotropolis, both Frasers Property and Altis Property Partners, have identified significant future tenant demand for both traditional and new Warehousing, advanced Logistics and an Industrial Facilities Hub.

The Proposed Development fulfills a significant role in satisfying market needs, as well as improving the operational efficiencies of transport and logistics businesses within NSW. According to the forecasts of Frasers Property and Altis, the whole sector is expected to experience significant growth in coming years. Additionally, the Proposed Development appropriately responds to the increased need for employment opportunities throughout the wider WSEA, in line with State and Regional Government objectives for the region, particularly around the Subject Site. The Economic Impact Assessment undertaken by Macro Plan Dimasi (2019) considers the Proposed Development's economic potential, as well as the market need for the Proposed Development, due to economic trends in both the short-term and long-term. The Economic Impact Assessment concludes that there is a critical shortage of serviced industrial land within the Sydney Metropolitan Area and the development will provide a significant amount of jobs within the region. A full copy is located within **Appendix 22** of this EIS.

Further, the Economic Impact Assessment concludes, that the location of the Subject Site at the proposed Bakers Lane intersection on the (to be) upgraded Mamre Road, and located within the WSEA Extension Area, means that it is ideally located for development for the purposes of a Warehouse, Logistics and Industrial Facilities Hub. The Proposed Development will be co-located with established industrial developments to the north (Mamre West – First Estate) and to the east (Erskine Business Park), with leverage from the amenity provided. On the basis of these attributes, the Subject Site is well suited to its intended use for large scale warehousing and logistics purposes.

A full copy is located within **Appendix 22** of this EIS.

3.4 CONSIDERATION OF ALTERNATIVES

The Proposed Development seeks to provide a Warehouse, Logistics and Industrial Facilities Hub across a range of both traditional and new employment sectors in NSW. After several scenarios of development were fully tested, the Proposed Development was deemed to be the most suitable for the Subject Site for the following reasons:

- SEPP (WSEA) 2009 permits the Proposed Development with development consent;
- 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 Erskine Business Park (and broader WSEA);
- The Site can be serviced immediately and at no cost to the Government;
- Minimal impact on the environment would result; and,
- Implementation of suitable mitigation measures where required can be achieved.

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The Subject Site is commensurate with the objectives of the Proposed Development as it allows for industry-based activities, whilst minimising the impact on the surrounding environment. The Site layouts show a strong connection to the maintain consistency with the objectives set out in SEPP (WSEA) 2009 and enhance the underlying employment character intended for the locality. The resultant built form reinforces the nature of the employment-generating land use of the WSEA 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 Proposed Development. These included:

(a) The 'Do Nothing' Option

This option did not meet commercial timing or employment objectives for the Site and was therefore dismissed. If the Proposed Development was not to proceed, the Subject Site would remain vacant and not fulfil its employment-generating potential.

The "do nothing" option would mean that an expensive parcel, earmarked for employment in State Policy and ideally located to support the operation of a \$50 Billion Aerotropolis, would remain undeveloped for the foreseeable future. This is a poor outcome for both investment and employment outcomes for the Site; NSW; and the region.

(b) Development on an Alternative Site

Due consideration was also given to developing alternative sites. Many sites (up to 20), were given due financial and timing consideration. The analysis under taken showed that the Subject Site offered clearly superior outcomes for the intended development. It also was superior to other sites in terms of community and public benefit to the State and the Region, as it allowed for new services, infrastructure and roads, to be built and delivered ahead of schedule, at No Cost to Government. Some of the positive attributes of the Site were:

- It is located within the WSEA and is already surrounded by employment-generating uses;
- Proximity to roads, services and the Airport 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.
- 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:

- Maximises the use of the employment-generating land within Site boundaries off Mamre Road;
- Capitalises on the location of the Site along Mamre Road and the other land uses in the area, which would house the development south of the existing Erskine Park Business Park and First Estate (SSD 7173). Both are complementary and compatible Warehouse and Logistics Hubs acting symbiotically;

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- Takes advantage of the proposed Western Sydney Freight Line and Southern Link Road;
- Makes a positive contribution to improving future air quality, as-well-as minimising noise and vibration impacts. The implementation of new Water Sensitive Urban Design (WSUD) for the Site will also greatly improve current water quality in South Creek and tributaries;
- Providing the use of an 11-ha parcel near South Creek to create new amenity; and,
- Provide new environmental standards to create a Six-Star-Green-Star Industrial Estate.

The Proposed Development was 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 Proposed Development has obvious demand, supports the new economic vision for Western Sydney and the Western Parkland City and is complementary to services at the new Aerotropolis.

It is also totally aligned with the Regional and District Plans, WSEA and the Western Sydney Aerotropolis objectives.

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PART D LEGISLATIVE AND POLICY FRAMEWORK

Controls and Policies

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

Commonwealth Planning Context

- *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*

State Planning Context

- *Environmental Planning and Assessment Act 1979*
- *Environmental Planning and Assessment Regulation 2000*
- *Protection of the Environment Operations Act 1997*
- *Biodiversity Conservation Act 2016*
- *State Environmental Planning Policy (State and Regional Development) 2011*
- *State Environmental Planning Policy (Infrastructure) 2007*
- *State Environmental Planning Policy (Western Sydney Employment Area) 2009*
- *State Environmental Planning Policy No 19 – Bushland in Urban Areas*
- *State Environmental Planning Policy No 33 – Hazardous and Offensive Development*
- *State Environmental Planning Policy No 55 – Remediation of Land*
- *State Environmental Planning Policy No 64 – Advertising and Signage*

Strategic Planning Context

- *A Metropolis of Three Cities – Greater Sydney Region Plan*
- *Western City District Plan*
- *Western Sydney Aerotropolis – Land Use and Infrastructure Implementation Plan – Stage 1: Initial Precincts*

Local Planning Context

- *Penrith Local Environmental Plan 2010*
- *Penrith Development Control Plan 2014*
- *Penrith City Council Community Plan*
- *Proposed Mamre South Precinct Development Control Plan*

This Project has therefore been carefully assessed against the requirement and objectives of all of the above planning statutory and policy documents. A detailed analysis is set out in the following sections:

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4.1 COMMONWEALTH PLANNING CONTEXT

4.1.1 Environment Protection and Biodiversity Conservation Act 1999

Under the EPBC Act 1999, 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 Matters of National Significance, it is declared a "Controlled Action" for which formal Commonwealth approval is required.

Survey of the Subject Site, has led to the identification and further floristic composition of two (2) native vegetation communities and two (2) exotic communities, experiencing varied condition classes. These were identified as:

- Alluvial Woodland;
- Shale Plains Woodland;
- Cleared Land 'Exotic Grasslands'; and
- Planted 'exotics, native indigenous and non-indigenous'.

With reference to spatial data, in a preliminary desktop study undertaken by Ecoplaning (2019), vegetation mapped in proximity to the Subject Site included a patch of Cumberland Shale Plain Woodland to the north-east of the Subject Site on the eastern side of Mamre Road; and Cumberland River Flat Forest along South Creek to the west and north of the Subject Site. These ecological communities are both defined as Critically Endangered Ecological Communities under the EPBC Act 1999. Upon completion of field validation, Ecoplaning confirmed neither community was located at the Subject Site.

In the letter dated 13th of December 2018, Ecoplaning confirmed that in the BDAR prepared, only one (1) threatened species (fauna) was identified under the EPBC Act as having more than a 'low' likelihood of currently utilising habitats within the Subject Site. The species identified was the Grey-headed Flying Fox. During a detailed site inspection, however no Flying-fox camps were identified on the Subject Site, and as such impact on these species is now considered to be negligible.

Further, the condition of the Cumberland Plain Woodland – a Critically Endangered Ecological Community (CEEC) – listed under the EPBC Act 1999 on the Subject Site, does not meet the condition criteria to be considered a MNES. Consequently, referral to the Commonwealth is not required.

The BDAR prepared by Ecoplaning (2019), identifies that no "undue biodiversity impacts" were anticipated. Further detailed analysis with regard to potential biodiversity impacts, is provided within the *A Biodiversity Development Assessment Report* (BDAR) prepared for the Proposal in accordance with the *Biodiversity Assessment Methodology* (BAM) and is provided in full in **Appendix 19**.

4.2 STATE PLANNING CONTEXT

4.2.1 Environmental Planning and Assessment Act 1979

The Proposal is deemed to be entirely consistent with the EP&A Act, 1979, particularly Part 1 Preliminary, Clause 1.3 Objects of the Act. The following response is provided with regard to each Object:

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Object (a): to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,

to promote the social and economic welfare of the community

The Proposed Development strongly promotes the social and economic welfare of the community, as it has significant employment-generating potential, generating:

- 800 full-time jobs under this SSD Application;
- 500 Construction jobs; and
- 2,500 full-time jobs once the Estate is fully developed (subject to separate development consent in the future).

The creation of these jobs would have a direct economic impact on both the local and broader communities of Western Sydney. The economic development of the Proposal, would attract a diverse workforce over a range of long-term permanent and part-time jobs, sourced from the region and beyond. Having diverse, permanent full-time and part time employment opportunities for over 2,500 people, in Western Sydney, is indeed highly significant in promoting the economic welfare of the community.

This access to both construction and full-time logistics jobs, is highly significant, given the scale, quantum, type and location of this employment, nearer to where people live and in support of the New Western Sydney Airport, only 8 km away.

The social welfare of the community is also promoted and achieved through the permanent provision of workforce opportunities to individuals and their families in a new area, not yet supplied with employment. The Proposal also fulfils the underlying objectives of SEPP (WSEA), which emphasises the importance of job creation throughout the Western Sydney Employment Area. This is achieved here (in line with the objectives of both the Act and the SEPP), via the promotion of economic development, through a large financial investment (of some \$189 Million) in a new Warehouse, Logistics and Industrial Facilities Hub at Kemps Creek.

The Proposed Development also satisfies both the objectives of *A Metropolis of Three Cities*, the *Western City District Plan* and the LUIIP 2018, by creating jobs in proximity to established residential areas at Erskine Park and St Clair to the north, and Mount Vernon and Horsley Park to the south. This strongly aligns with the Greater Sydney Commission's (GSC's) 30-Minute City Concept, which enhances liveability and elevates the role of the Western Parkland City to a competitive and connected working hub, linked to Parramatta and with the Eastern and Central Cities, promoting the overall social and economic welfare of the broader Sydney community.

Given that the Site is 8 km away from the new Western Sydney Airport, the Proposed Development would play a vital role in supporting meaningful employment, investment and services within the Aerotropolis, thereby greatly complementing airport operations and functions. On a regional level, this promotes the economic welfare of the community through both continued job creation and, the fostering of long-term investment within the short-to-medium-term, in Sydney's Western Parkland City Land, neighbouring the Site.

a better environment by the proper management, development and conservation of the State's natural and other resources

The Site will contribute strongly to a new, greener, more aesthetic setting at the Creek's edge, activating a functional, new outdoor passive and active recreational parkland space, covering an area of over 11-ha to be dedicated as Open Space. This is significant for any industrial facility, architecturally designed for the enhancement of an area otherwise degraded, unusable

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and inaccessible to either employees or the public at present. Through the landscaping and enhanced planting of indigenous tree species and shrubs, the creek's edge will be activated with creation of 1.4 km of walkable, green trails, thereby contributing to a healthier, more natural setting and a better aesthetic environment.

Under this SSD Application, it is proposed to create a new connection to South Creek's edge, which is currently not there. Through this naturally-enhanced setting, the Proposal will help promote, with the extensive plantings, the State's proper management of natural resources, the health and well-being of workers and visitors.

The Proposed Development will also promote high-environmental credentials, through building design. It aims to deliver a Six-Star-Green Star rating, the highest-sustainability benchmark for any industrial development in Australia. Under the Green Star rating tool (NABERS⁴), the design will deliver high-energy-efficiency, acting on the principles of Ecologically Sustainable Development, for the benefit of the Project Owners and tenants, as well as the general public. Using the latest technology in high-efficiency LED lighting, solar panels, automatic lighting controls, advanced mechanical office design (mechanical system), the Proposal will deliver greatly-reduced energy consumption (up to 81% p.a. as confirmed on page 12 of the Ecologically Sustainable Development Report located within **Appendix 29** of this EIS). Other design features such as natural light optimisation and fresh air ventilation, which will improve indoor air quality. Specifically, the design of the industrial and office spaces will benefit from new material selection, solar accessibility and sun shading, all designed to create a healthier, more comfortable working environment, by increasing the amount of outdoor air in internal spaces. This is also achieved by using finishes (such as exposed roof structures rather than suspended ceilings and green walls and feature plantings dispersed throughout office spaces) that improve indoor air quality.

Both design and material selection optimising thermal comfort for occupants through improved passive solar design with specialised insulation; new-age air conditioning; glazing; curtains; external louvers/eaves; high performance glass; and a 'cool roof' structures, which include examples such as, Coolmax – a colourbond product (which assists in decreasing internal fluctuations) and have high levels of daylight (by up to 11%).

Through informed architectural design, the Proposed Development targets an unprecedented Six-Star Green Star energy rating for all its on-site buildings. This is the highest environmental outcome that may be achieved for any industrial complex. Along with a comprehensive Water Sensitive Urban Design strategy and providing new and enhanced on-site stormwater treatment, the Development will greatly enhance the future water quality for South Creek.

The following Ecologically Sustainable Development (ESD) measures are proposed for the Development:

1. Energy Principles

- All assets will feature the latest onsite renewable energy, allowing the minimisation of energy demand (by up to 81%) and introducing industry-best-practice, sustainable design initiatives. These include improving natural ventilation; incorporating passive solar design principles; investigating the potential for solar water-heating and solar panels; adopting an energy-efficient air-conditioning design; and, utilising an LED lighting strategy, to improve energy efficiency, whilst minimising peak electricity demand.

⁴ NABERS – National Australian Built Environmental Rating System, which is an Australian Government-based initiative, which measures and compares the environmental performance of buildings and tenancies.

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2. Water Principles

- The entire development will feature on-site water storage for a minimum 100,000 kL rainwater tank, per development site. All rainwater will be filtered and recycled for use in landscape irrigation and WC and urinal flushing, thereby reducing dependency on potable water use (by up to 36%).

3. Indoor Environment Quality Principles

- Using improved ventilation methods and technology, the design will deliver a high-level of air quality for the working environment, by increasing all minimum fresh air requirements in the ancillary spaces;
- Improving the indoor working environment through improved acoustics, lighting and increased outside views, as well as access to sunlight. These will be achieved by design of office articulation, to optimise solar views and the utilisation of concrete walls and door seals to limit internal noise transmissions;
- Using the latest Low Volatile Organic Compound (LVOC) and formaldehyde finishes and products. These are considered to be of the lowest impact and most sustainable for operational use.

4. Carbon Emission Principles

- Reducing the use of water-based Heat-Rejection-Systems (e.g. cooling towers) to limit the likelihood of legionella impacts.
- Using low-embodied-energy materials, e.g. timber bamboo and cloth.
- Having less noise-generating mechanical devices e.g. roller doors and exhaust systems, this also assists with saving energy and lowering electricity consumption and also emissions.

5. Material Principles

- Selecting materials and products that are sustainable e.g. timber-based or using, crushed aggregate. These range from recycled stone, timber and plastic content, and would be third-party certified for exemplar sustainability credentials;
- Minimising the environmental impact of the products used, by increasing the life-cycle of the building;
- Diverting at least 90% of all construction and demolition waste away from landfill, by implementing a Waste Management Plan that incorporates waste recycling methods; and
- Where appropriate, use locally-sourced materials, further lowering the total energy-content in all materials used and consumed on-site.

6. Management Principles

- Completing best-practice commissioning for every building on Site;
- Undertaking a Climate Risk Assessment, for the mitigation and adaptation of building and site design into a more resilient-development; and,
- Commit to ongoing efficient performance of the development through energy saving devices and green lease management tools.

The Site also, unlike more traditional sites, conserves, re-creates, re-greens, re-vegetates and re-habilitates the 11-ha of active and passive recreational open space adjoining South Creek. This is specifically targeted at delivering a new and healthy eco-system along the creek's edge, aimed at improving the enjoyment, health and well-being of tenants, visitors and the community.

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This industrial Estate is also designed to be world-best-practice, in that it would allow for new measures in water recycling, solar energy conversion and State-of-the-Art new technologies to be brought into industrial land uses that are unprecedented. Examples of these include:

1. Water Recycling Measures through the construction and implementation of on-site detention (OSD) systems and incorporation of WSUD strategies, such as the implementation of rainwater harvesting tanks and other relevant Stormwater Treatment Measures capturing any runoff from the access roads, car parking areas and hardstand areas.
2. Solar Energy Conversion through the adaptive reuse of solar water heating equipment and solar panels, to reduce both overall energy consumption and emission outputs.
3. State-Of-The-Art New Technologies including:
 - 3-D Metal Printing;
 - Robotics;
 - Artificial Intelligence Designing; and,
 - Associated research and development of new technologies and products, such as new materials, IOT, biotechnical research, etc.

This and other measures at the Site such as activating open space areas with a comprehensive architectural design treatment and informed landscape design, would further influence the creation of a hub. This concept that envisages a sense of place and community, which will further contribute to the social and economic welfare of the community, through delivering both a healthier and more sustainable working and recreational environment.

New conservation practices at the Estate, such as rainwater harvesting and reticulation of potable and non-potable applications, as well as energy efficient driven measures, such as solar water heating and solar panels, will deliver great efficiencies in water and energy management (saving up to 41% on previous estates), as well as waste minimisation (by up to 11%). In line with broader State Resource Conservation Objectives such as recycling materials and waste during the construction and operational phases of development, the Development will ultimately reduce its carbon emissions.

Object (b): to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,

The vision for the Proposed Development is to create through siting, design, landscaping and architecture, a high-quality, successful and vibrant Estate. Designed with a contemporary, attractive appearance, and showcasing the next generation in industrial Estate design, the Estate will comprise State-of-the-Art, Six-Star-Green-Star-rated Warehouses and Logistics buildings. It will also set new standards in relation to sustainability, social amenity and building quality, which will be further reinforced throughout its Architectural and Landscape setting. This is seen in the plans prepared by Frasers Property and Nettleton Tribe, as well as the Architectural Design Report prepared by Nettleton Tribe. The Architectural Design Report prepared by Nettleton Tribe is located within **Appendix 37** of this EIS.

These plans demonstrate the architectural features proposed for the Site, comprising the following key design elements, including:

1. Walls – General wall materials and finishes are applied in accordance with the “Prominent Elevation” diagram displayed in page 9 of **Appendix 37** of this EIS. Accordingly, prominent elevations contribute to the character of the Proposed Development. It is noted, that textural / material contrasts, shadows and translucency should be considered with regard to the prominent elevation.

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2. Feature Corners / Accent Material – each warehouse expresses an accent material at corners of prominent elevations. Where required, estate numbering. Additionally, the accent material should be viewed as a warehouse identity feature and should be expressed in the office design as well.
3. Roofs – dynamic forms, expressed eaves and overhangs on prominent corners are to be incorporated into the roof design. Light colours will be used on the roof as darker colours are known to absorb more heat. Where possible, roof top solar panels should be utilised to harvest energy, further contributing to the Proposed Development's energy efficiency, as well as rainwater harvesting systems being integrated into the overall design for each warehouse.

In the 11-ha area adjoining South Creek, the design recreates a region of natural amenity that doesn't currently exist. It does so, by providing opportunity for enhanced plantings, walkways and Creekside rehabilitation works. The health of South Creek is anticipated to greatly improve as a result of the Site's Water Sensitive Urban Design principles' application at the Creek's edge. A full copy of the Architectural Plans prepared by Frasers Property and Nettleton Tribe are located in **Appendix 6** of this EIS.

These include measures such as rainwater harvesting and reticulation systems, Stormwater Treatment Measures (STMs) to limit runoff and further prohibit any discharge occurring into South Creek.

All buildings at the Site, exhibit a fully-considered architectural landscape design, by creating an enjoyable space for all users and visitors. This is achieved through varied species selection; applying a sustainable landscape design in its management; and increasing community and environmental benefits via an informed design. The design incorporates endemic species and trees, providing natural screening to all façades fronting the Estate roads. Additionally, materials, colours and finishes have been chosen by Nettleton Tribe and the Proponents, to best complement the desired future character of the WSEA and surrounding lands.

It is a stated aim of the Proposed Development, to create and deliver at Kemps Creek, a set of buildings that are not only functional, but also aesthetic and technically-advanced, so as to properly integrate economic, environmental and social considerations in line with the aims and objectives of the EPA Act. This will facilitate the latest construction of orderly, sustainable, new facilities that enhance the ecosystem at South Creek

Object (c): to promote the orderly and economic use and development of land,

The WSEA is fully recognised and promoted by State Policy for rapid transformation into employment-generating land uses. The Proposed Development constitutes a sequential (and highly orderly) economic development. It is highly compatible with respect to immediately-surrounding land uses, as well as in the wider locality. The Proposed Development adjoins an already-developed 50-ha industrial and warehousing estate. It is also diagonally across from the 250-ha Erskine Business Park. Given its siting and location, the Site is highly logical, given its proximity to existing industrial facilities and services to which it can connect at No Cost to Government.

The Proposed Development will set a precedent for future warehouse, industrial and logistics development across the board throughout the WSEA, giving rise to new and improved standards of development.

Accordingly, the Proposed Development is considered to be fully consistent with the aims and objectives of the SEPP (WSEA) 2009, which are comprehensively assessed in **Section 4.2.7** of this EIS. As well as fulfilling a significant role in satisfying market needs and improving the operational efficiencies of transport and logistics businesses within NSW, the Proposal

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demonstrates, a logical and orderly extension of existing land use both nearby and adjoining. It is already earmarked in SEPP (WSEA) for this very purpose. The Site's economic development is both logical and orderly for the following reasons:

1. It delivers employment-generating opportunities in both the construction and operational phases (800 during operation) in an area already earmarked by both State and Regional Policy for employment;
2. It provides a new economically and ecologically-sustainable development, delivering new industry-best-practice in industrial construction;
3. It delivers in one single project and ownership structure, enhanced access to Western Sydney's regional road network, including the M4 and M7 Motorways, providing improved worker travel-connectivity to the wider locality;
4. Provides a genuine and obvious transition from existing industrial development, including First Estate and Erskine Business Park, further reinforcing the notion of orderly development, within an area already designated for such purposes;
5. Co-locates complementary employment uses in line with all of the objectives of the LUIIP, thereby supporting the Western Sydney Airport through complimentary land uses, reinforcing the Airport's broader operation, with important land uses such as logistics, industrial, office and education;
6. Minimises impact on the environment – the Subject Site has been confirmed as having 'low' ecological significance, minimal Aboriginal Cultural and Historic Heritage significance. The Proposed Development also has minimal impact on the South Creek Corridor. It also implements best-practice sustainability measures, to promote ecologically sustainable development.
7. Revegetates a denuded 118 ha Site with over 615 new mature trees and over 16,000 shrubs and plants, helping to revitalise and naturally landscape a substantial canopy cover, particularly near the South Creek edge.
8. Improves water-quality for stormwater by fully treating it before entering South Creek, filtering it through a carefully-designed, onsite system that goes beyond all Penrith City Council DCP and engineering guidelines.

According to expert assessment, the overall scale of the Proposed Development and the low-interface-impacts with surrounding properties, demonstrates that the Site is able to be developed for employment purposes immediately. This does represent orderly development of the Site as currently proposed under this SSD Application. This is because the Site is not only highly compatible with the neighbouring 50-ha First Estate and the vast fully-developed Erskine Park, but is also precisely in line with the aims of both the WSEA and the LUIIP, which both emphasise the need for employment in Western Sydney and the areas surrounding, to support the new Airport.

The total site area for the Stage 1 component of this SSD Application is 306,308 m², which represents 25.96% of the total Site area, providing immediate economic benefit through job creation and an investment of approximately \$189,270,000 Million across the entire Estate.

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Furthermore, all required infrastructure is already available at this Site which is able to commence operations immediately before 2026, and at No Cost to Government. Additionally, all upgrades proposed to the road network can be carried out by the Applicant and completed prior to occupation of the first building. This includes all works proposed for the New Link Road.

The Proposed Development is also deemed orderly because none of the land uses proposed under this SSD Application, would pose a risk to any existing industrial or logistic businesses within the broader WSEA or the planned Aerotropolis. This statement has been informed by both the Social Impact Assessment prepared by HillPDA (located within **Appendix 23** of this EIS) and the Economic Impact Assessment prepared by Macro Plan Dimasi (located in **Appendix 22** of this EIS).

In terms of appropriate use of land, the Proposal is deemed appropriate for the following reasons:

1. The Proposal provides employment on land already designated for employment.
2. The Proposed Development minimises land-use conflict by locating similar land uses, as is demonstrated by the similar land uses on the neighbouring First Estate to the north of the Site.
3. The activation of the Site for employment, environmental and recreational purposes ensures that land, previously unusable and inaccessible to the public, can be opened up to workers and the community.

The form and scale of the Proposed Development is also highly compatible with hundreds of hectares of other-developed, employment-generating land nearby (within 3 km). The five (5) examples of existing industrial estates nearby, represent a combined total GFA of some 3 Million sqm of developed, compatible employment-generating development, some of which are located within 1 km of the Site, including First Estate and Erskine Business Park. The Proposal seeks to provide an improved outcome for the next generation of industrial estates and aims to set a new benchmark for land development near the new Aerotropolis and in the WSEA.

There is a multitude of successful, existing business parks and industrial estates nearby. These include:

1. Oakdale Central and South Estate;
2. Horsley Drive Business Park;
3. Bringelly Business Park;
4. Eastern Creek Industrial Estate; and
5. Jacfin Eastern Creek Estate.

The proximity of this Site to and the ability to consolidate with other industrial land uses by having the Proposed Development co-locate with First Estate and Erskine Business Park, is a great advantage. This will ensure that existing infrastructure can be augmented and improved, at No Cost to Government. This also allows the Site and SSD to achieve the economic, ecological outcomes as set out by the EPA Act and State Policies.

It is for these reasons and others that this SSD Proposal represents development that promotes the orderly and economic use and development of land, in line with the objects of the EP&A Act 1979.

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Object (d): to promote the delivery and maintenance of affordable housing,

This objective is not applicable to the Proposed Development, given that no housing will ever exist at the Site.

Object (e): to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats.

The BDAR, prepared by Ecoplaning (BDAR, 2019), has accurately examined the Development's impact on the existing natural environment. The BDAR (2019) found no significant biodiversity impacts would result from the Development. The BDAR (2019) identified only one (1) threatened fauna species listed under the EPBC Act 1999 as having more than a 'low' likelihood of utilising habitats within the Subject Site. This species was the Grey-headed Flying Fox. No Flying Fox camps were identified on-site on any of the site surveys. As such, the BDAR by Ecoplaning found that any impact on these species is considered to be negligible (See **Appendix 19** for the full BDAR (2019)).

Though some isolated examples of Cumberland Plain Woodland do exist on the Site, the condition of the Site's Cumberland Plain Woodland, a Critically Endangered Ecological Community (CEEC), listed under the EPBC Act, does not meet the condition criteria to be considered as a Matter of National Environmental Significance. This includes:

- *listed threatened species and ecological communities.*

According to Ecoplaning, referral to the Commonwealth is not required for any items on this Site. The Proposed Development therefore comfortably satisfies all statutory requirements to protect the environment, as it is unlikely, according to expert opinion, to cause any significant impacts on identified threatened flora or fauna species.

This is detailed in further analysis in **Section 4.1.1** of this EIS. Additional analysis with regard to possible biodiversity impacts, is set out in a Report titled *A Biodiversity Development Assessment Report*, prepared for this Proposal in accordance with the *Biodiversity Assessment Methodology* (BAM), is provided in full in **Appendix 19**.

Object (f): to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),

Biosis have undertaken and prepared an Aboriginal Cultural Heritage Assessment Report (ACHAR 2019) for the Proposed Development. The ACHAR (2019) includes details of all investigations undertaken to date, including a full Aboriginal community consultation, and the assessment of Aboriginal Cultural Heritage (2019). A full copy is located in **Appendix 27** of this EIS Submission. The investigation undertaken has been carried out under Part 6 of the *National Parks and Wildlife 1974* (NPW Act) and in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b-the Code).

The Biosis (2019) ACHAR conclusions and recommendations, which respond specifically to the wishes of the Registered Aboriginal Parties (RAPs), are set out below:

Recommendation 1: Further archaeological work in the form of surface salvage and salvage excavation at AHIMS site 45-5-5187/MSP-03 as part of the SSD approval

Biosis have recommended that further archaeological work be conducted for AHIMS site 45-5-5187/MSP-03, in the form of salvage excavation, to recover sub-surface artefacts, which may

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be impacted as a part of the Proposed Development. This would be able to provide further information relating to the artefact's typology and material type, as well as the nature of the activities taking place at AHIMS site 45-5-5187/MSP-03. The Biosis Report (2019) recommended that this be undertaken as a condition of consent subject to approval of the SSD Application, and that these works take place in accordance with an appropriate salvage strategy, formulated in consultation with the Registered Aboriginal Parties.

Recommendation 2: Further archaeological work in the form of surface salvage AHIMS sites 45-5-5184/MSP-01, 45-5-5185/MSP-02, MSP-07 and MSP-08 as part of the SSD approval

The Biosis Report (2019) recommend, that further archaeological work be conducted for AHIMS sites 45-5-5184/MSP-01, 45-5-5185/MSP-02, MSP-07 and MSP-08 in the form of surface salvage to recover any surface artefacts which may be impacted, as a part of the Proposed Development. Biosis recommended that the surface salvage be undertaken as a condition of the SSD approval.

Recommendation 3: No further archaeological work is required for sites MSP-05, MSP-06, MSP-09 and MSP-10

Biosis concluded that no further archaeological investigations were required for Aboriginal sites MSP-05, MSP-06, MSP-09 and MSP-10.

Recommendation 4: Update AHIMS site cards for AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02, 45-5-5189/MSP-03 and 45-5-5190/MSP-04 and lodge AHIMS site cards for newly identified sites MSP-05, MSP-06 & MSP-07, MSP-08, MSP-09 and MSP-10

Biosis recommended that the Aboriginal Heritage Information Management System (AHIMS) site cards for previously identified AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02, 45-5-5189/MSP-03 and 45-5-5190/MSP-04, be updated to reflect the revised site descriptions, following the test excavations discussed within the ACHAR (Biosis 2019).

The AHIMS site cards, it is recommended, are to be prepared and lodged with AHIMS for newly identified sites MSP-05, MSP-06 and MSP-07, MSP-08, MSP-09, MSP-10. It was also recommended by Biosis that site numbers be included in the final version of the ACHAR (2019).

Recommendation 5: Preparation and lodgement of AHIMS site impact recording forms for 45-5-5184/MSP-01, 45-5-5185/MSP-02, 45-5-5189/MSP-03, MSP-05, MSP-06, MSP-07 & MSP-08, MSP-09 and MSP-10 following development impacts

The Biosis Report (2019) recommended that AHIMS site impact recording forms be prepared and lodged with AHIMS for Aboriginal sites 45-5-5184/MSP-01, 45-5-5185/MSP-02, 45-5-5189/MSP-03, MSP-05, MSP-06, MSP-07 and MSP-08, MSP-09 and MSP-10 within four (4) months of the completion of development impacts or as otherwise stated in SSD approval conditions.

Recommendation 6: Unexpected finds

Discovery of Aboriginal Objects

Should any Aboriginal objects be encountered during site works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide

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further recommendations. These may include notifying OEH and Aboriginal stakeholders of the find (Biosis Report (2019)).

Discovery of Unanticipated Historical Relics

Should unanticipated relics be discovered during project work, sitework in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.

Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity, the following protocol is to be followed:

1. Immediately cease all work at that location and not further move or disturb the remains.
2. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
3. Do not recommence work at that location unless authorised in writing by OEH.

Object (g): to promote good design and amenity of the built environment,

The vision for the Proposed Development is to create an estate with landscaping and architecture with a new treatment. In delivering a high-quality Estate with an attractive appearance, it is considered important that both the natural and built forms at the site, reflect the new ethos of an environmentally-friendly Industrial Estate. The Proposed Development would showcase the next generation in industrial Estate design, comprising State-of-the-Art, Warehouses and Logistics buildings. It aims to use diverse and long-lasting natural features, and sets new standards in relation to sustainability, social amenity and building quality. This Proposal seeks to dedicate the entire 11-ha western portion of the Subject Site, to create a new, vibrant living and activated open and green space, which aligns with the Design Principles for South Creek.

The Proposed Development can be seen to promote both good design and at the same time improving the amenity of the built environment. Through both the use of new-age materials and an innovative contemporary design, the Proposal allows the built form to connect with the natural landscape, to tie the built-form elements into a relatable thematic nexus to the natural environment, using industry-best-practice. This would be achieved with the introduction of the following special features:

- Natural Australian timbers as building features;
- Low-energy metal sheeting, reflecting the rural landscape and original land uses;
- Introduction of green walls (See **page 19** of the Architectural Design Report located within **Appendix 37**);
- Increased tree canopy and landscaping throughout the Estate (with over 600 trees and 3,500 plantings); and,
- Shapes and forms such as moving, curvilinear shapes that with a connection to South Creek.

All buildings would exhibit an aesthetically-pleasing architectural landscape design in accordance with the design principles set out in the Architectural Design Report, prepared by Nettleton Tribe (located within **Appendix 37** of this EIS). The landscaping concentrates on comprising of endemic species and trees, a landscape natural screen, which also adds interest

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to the built form. All materials, colours and finishes have been chosen to complement the aesthetic intended. Material selections comprise of the following preferred options, including:

- Australian Timber;
- Longline;
- Textured concrete;
- Glazing;
- Bricks and Pavers;
- Green Wall;
- Streamlined Steel Structures;
- Corten;
- FC;
- Steel Cladding; and,
- Prefinished metal cladding.

The preferred material selections above, have been chosen based on their corresponding design principles, which include:

- Sustainable, low impact materials;
- Being Natural and robust;
- Having Unfinished and raw;
- Using Recycled and local material; and
- Palette that evokes 'sustainability'.

The proposed subdivision pattern and building layout, provides optimal efficiency at an Estate-wide level and ensures that the functionality and operational requirements of future users can be met.

Object (h): to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,

The Proposed Development would showcase the next generation in industrial-estate-design, comprising State-of-the-Art, Warehouses and Logistics buildings, and will set new standards in relation to sustainability, social amenity and building quality, by aiming to deliver a Six-Star-Green-Star Estate. Through implementing best-industry-practice standards and measures, such as new techniques in water recycling, solar-energy-conversion and State-of-the-Art new technologies, in industrial buildings brings to this Proposed Development techniques that are unprecedented. Examples of these include:

1. Water Recycling Measures through the construction and implementation of on-site detention (OSD) systems and incorporation of WSUD strategies, such as the use of rainwater-harvesting tanks and other Stormwater Treatment Measures, capturing runoff from the access roads, car parking areas and hardstand areas.
2. Solar Energy Conversion, through the adaptive reuse of solar-water-heating equipment and solar panels, to reduce the overall energy consumption and emission output.
3. State-Of-The-Art New Technologies, including:
 - 3-D Metal Printing;
 - Robotics;
 - Artificial Intelligence Designing; and,
 - Associated research and development of new technologies and products, such as new materials, IOT, biotechnical research.
4. Provision of enhanced amenity delivered via embellishing the South Creek Corridor, including walking and cycling tracks and ancillary retail outlets (such as cafes), delivered in future Development Applications.

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The Estate will deliver a cohesive and Ecologically Sustainable Development, that would perhaps come to represent a new benchmark for new industrial estate design, across NSW and Australia.

All buildings have been designed to comply with the Building Code of Australia (BCA) and the requirements of Fire and Rescue NSW, with respect to Fire Safety. This incorporates into the design, all statutory and functional requirements of the BCA regarding access, egress and fire, deemed necessary to safeguard the safety of building occupants, and the longevity of functional structures in the Development.

Object (i): to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,

The Proposed Development will have a positive impact on other existing (and proposed) developments within the wider locality, particularly, the Western Sydney Airport, which is further reinforced throughout the specialist reports that have satisfactorily reinforced the main content of this EIS (See **Part F** of this EIS). Where potential impacts have been identified throughout the assessment, such as flooding, noise and traffic, appropriate mitigation measures have been set out accordingly to counteract any possible adverse impacts on existing or proposed developments within the immediate vicinity, as well as the wider locality.

It is noted, that throughout the assessment process, all relevant Government agencies have been consulted and provided opportunity to both assess the Proposed Development and provide comments. This SSD process has been informed by significant input from agencies such as OEH, the RMS and RFS, as well as the community. Community consultation has been conducted over two (2) separate sessions as part of this Proposal, which has assisted to inform the final submitted design and reinforces compliance with this objective.

Serval Consultation meetings have been held with Sydney Water, Energy Australia, TfNSW and the Greater Sydney Commission. Agenda items and outcomes of these discussions are further detailed in **Table 23** of this EIS.

Object (j): to provide increased opportunity for community participation in environmental planning and assessment.

A comprehensive level of community and stakeholder engagement has been undertaken for the Proposed Development. This has included numerous Government Agency meetings and notification letters to both Government agencies and all potentially-impacted residents. Face-to-face community consultation sessions have also been conducted over two whole days, where the broader public, as well as neighbours, were invited to comment on the Proposal. These took place on both the 22nd and 25th of September 2018.

A comprehensive Community Consultation and Stakeholder Report (located in **Appendix 32** of this EIS), prepared by Willowtree Planning, offers a summary and analysis of all community and stakeholder consultation sessions, distilling into themes, those items identified in the consultation process, as significant. These included:

1. Probable Maximum Flood (PMF) Event being used in the design, instead of the 1:100, as is common practice in NSW. This was first raised at regarding the issue of the LUIIP, 2018. Raised by the NSW DP&E and Council.
2. Potential flooding impacts concerning the proposed Mamre Road Upgrade Project (raised by NSW RMS) and the proposed Southern Link Road (TfNSW). Raised during

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the SEARs process and corresponding meetings with the NSW DP&E; TfNSW; and NSW RMS.

3. Traffic Impacts concerning the Proposed Development and the integration of the proposed Mamre Road Upgrade Project (NSW RMS) and the proposed Southern Link Road (TfNSW). Raised during the SEARs process and corresponding meetings with the NSW DP&E, Penrith City Council, TfNSW and NSW RMS.
4. Consideration of outcomes of visual receptors, identified by participants at the community consultation sessions held on the 22nd and 25th of September 2018, raised by a nearby resident at one of the sessions held.
5. Positive comments from residents regarding the overall design of the Proposed Development and the opportunity to create an influx of employment-generating opportunities, impacting the immediate and wider community groups.
6. Numerous meetings with the NSW DP&E and NSW chief planner who expressed strong support for this SSD and the employment outcomes generated by this Proposal.

4.2.2 Environmental Planning and Assessment Regulation 2000

In accordance with EP&A Regulation 2000, the Proposed Development is not classified as Designated Development.

Section 4(1) – Designated Development

Section 4(1) of the EP&A Regulation states that any development described in Part 1 of Schedule 3 would be declared to be Designated Development for the purposes of the Act. The Proposed Development being for a proposed Warehouse, Logistics and Industrial Facilities Hub, does not trigger the Designated Development thresholds under Part 1 of Schedule 3 of the EP&A Regulation.

4.2.3 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).

An expert report commissioned and completed for the Site titled: *Biodiversity Development Assessment Report* by Ecoplaning Pty Ltd, 2019, has evaluated the Proposed Development in relation to the requirements of the *Biodiversity Assessment Methodology (BAM)* and Section 6.12 of the BC Act.

Vegetation has also been mapped for the areas surrounding the Subject Site. This included a patch of Cumberland Shale Plain Woodland to the north-east of the Subject Site, on the eastern side of Mamre Road (not on the Site). Also, Cumberland River Flat Forest, along South Creek to the west and north of the Subject Site (not on the Site). These were deemed to be sufficiently distant so as to not be impacted by any land use activities at the Subject Site.

Clearing of native vegetation for the Proposed Development will only be required for 12.51 ha, or 10.6% of the Site. Due to the sparse nature of native vegetation on-site and the isolated

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and degraded condition of the vegetation, the Proposed Development has been assessed to have minimal impact on significant vegetation on the Site (Eco-planning, 2019). Though the Proposed Development removes potential foraging and roosting and breeding habitat (small tree hollows and stags) for fauna, the likelihood of any threatened fauna utilising the Study has been considered and assessed to be low, based on a detailed, recent Site assessment, expert opinion and analysis of the likelihood of occurrence. This was the conclusion of expert ecologists. Eco-planning, who also examined with 'Atlas'⁵ records over the past 20 years. The Eco-planning Report (2019), also suggests measures to reduce any impacts on the Site and surroundings, including:

1. On-site supervision by an ecologist of all habitat relocation of fauna and tree felling;
2. A programme of soft felling of hollow bearing trees would be implemented to avoid any injuries to undetected fauna;
3. Appropriate erosion and sedimentation control plan would be in place, following best practice protocols such as Landcom (2004), to avoid potential indirect offsite impact during construction. This would also be included in a site-specific Construction Environmental Management Plan (CEMP), to be formulated and approved prior to any construction works taking place. The CEMP would be required to span the "pre", "during" and "post-construction" period, and would include, in full, both pre-clearance and fauna-management protocols.

Impacts associated with two (2) vegetation zones with regard to the Proposed Development would require offset under the Biodiversity Assessment Methodology. A total of 290 ecosystem credits are required to offset the Proposal.

The total cost of ecosystem credits to be used to offset the potential impacts of the Proposed Development, have been estimated by EcoPlanning (2019) at \$5,207,471.08 for the entire Subject Site, which will be borne by the Proponent.

In addition to the above, species credits would also be required for *Grevillea juniperina* subsp. *juniperina*. A total of 15 species credits are required for the complete loss of the species with regard to the Subject Site attributed to an estimated species credits cost of \$2,945.06.

Rules applying to the particular offset include the following:

- *Grevillea juniperina* subsp. *juniperina* / Juniper-leaved Grevillea in any IBRA subregion in NSW.

It is therefore concluded based on the BDAR that the required credits would be retired under this SSD Application. The Site's biodiversity impacts have therefore been deemed acceptable. The full BDAR is provided in **Appendix 19**.

4.2.4 Protection of the Environment Operations Act 1997

Another important item of legislation against which this Proposal has been assessed, is The Protection of the Environment Operations Act 1979. Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act, 1997), 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 1997 is:

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

⁵ The Atlas of Living Australia (ALA) is Australia's national biodiversity database (ALA, 2018)

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The Proposed Development as submitted to the NSW DP&E, does not trigger any thresholds in respect of this legislation.

4.2.5 State Environmental Planning Policy (State and Regional Development) 2011

Proposed Developments that are listed in Schedule 1 of SEPP (SRD) 2011 are identified as being State Significant Development. Clause 12 of Schedule 1 states:

"12 Warehouses or distribution centres

- (1) Development that has a capital investment value of more than \$50 million for the purpose of warehouses or distribution centres (including container storage facilities) at one location and related to the same operation.*
- (2) This clause does not apply to development for the purposes of warehouses or distribution centres to which clause 18 or 19 applies."*

The Proposed Development is comprised of several deliverable construction stages. This SSD application is for Warehouse, Logistics and Industrial Facilities Hub comprising nine (9) buildings (including ancillary offices), all proposed in the Stage 1 component of this SSD Application. The Proposed Development has a CIV of \$72,990,000 Million for the Warehouse on Proposed Lot 6 alone (illustrated in **Figure 8**). As the project exceeds the \$50 Million statutory threshold and meets all other criteria in SEPP (SRD) 2011, it is therefore deemed and categorised as SSD.

This was confirmed in a meeting held with the NSW DP&E on the 24th of January 2019.

4.2.6 State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) repeals the former *State Environmental Planning Policy No. 11 – Traffic Generating Development* and, pursuant to Clause 104, provides for certain Proposed Developments known as Traffic Generating Development, to be referred to NSW Roads and Maritime Services (RMS) for concurrence.

Schedule 3 of ISEPP, lists the types of development that are defined as Traffic Generating Development. The referral thresholds for 'warehouse or distribution centres' development includes sites of:

- *8,000 m² in site area or (if the site area is less than the gross floor area) gross floor area; or*
- *8,000 m² in site area or (if the site area is less than the gross floor area) gross floor area where the site has access to a classified road or to a road that connects to a classified road (if access is within 90 metres of connection, measured along the alignment of the connecting road).*

As the Proposed Development seeks consent for more than 8,000 m² of GFA (163,671 m²) and is located on a Site significantly greater than 8,000 m² in area (118 hectares), referral to the NSW RMS is required under the ISEPP.

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4.2.7 State Environmental Planning Policy (Western Sydney Employment Area) 2009

The Site forms part of the Western Sydney Employment Area (WSEA) and is situated under the land application of SEPP (WSEA) 2009. According to SEPP (WSEA) 2009, the aims of the Policy are:

- (a) to promote economic development and the creation of employment in the Western Sydney Employment Area by providing for development including major warehousing, distribution, freight transport, industrial, high technology and research facilities,*
- (b) to provide for the co-ordinated planning and development of land in the Western Sydney Employment Area,*
- (c) to rezone land for employment or environmental conservation purposes,*
- (d) to improve certainty and regulatory efficiency by providing a consistent planning regime for future development and infrastructure provision in the Western Sydney Employment Area,*
- (e) to ensure that development occurs in a logical, environmentally sensitive and cost-effective manner and only after a development control plan (including specific development controls) has been prepared for the land concerned,*
- (f) to conserve and rehabilitate areas that have a high biodiversity or heritage or cultural value, in particular areas of remnant vegetation.*

SEPP (WSEA) 2009 was formulated in 2009 specifically to promote employment outcomes in the broader Western Sydney Region in proximity to where people live. The Proposed Development is highly consistent with the aims of SEPP (WSEA) 2009, in that it would strongly promote economic development and employment opportunities, exactly as per the aims of the SEPP. Employment and Investment results anticipated for the Site, would be consistent with both short and long-term outcomes for Kemps Creek and the broader Region.

The aims of SEPP (WSEA) 2009 are addressed as follows:

"To provide for the co-ordinated planning and development of land in Western Sydney Employment Area."

Response: The Proposal represents a logical and rational extension to the existing IN1 General Industrial zoned lands, located to the north at 585-649 Mamre Road (approved under SSD 7173), and the broader Erskine Business Park fully zoned employment areas. In this respect, the same scale and form of development is proposed to continue in a coordinated and orderly manner across Bakers Lane from First Estate, which are already being utilised for the same land use purposes. This contributes to the provision of employment, in line with the aims of SEPP (WSEA) 2009.

The Site is already linked and adjoins existing, zoned lands. The Site's development is highly orderly because it can be serviced at No Cost to Government. The development of the Subject Site is slightly ahead of the finalisation of the strategic planning for the locality, for which it shows great adherence to the objectives of SEPP (WSEA) 2009, as it can be suitably accessed and serviced. The broader Aerotropolis Precinct and Western Sydney Airport would not be affected by the Proposal, given its location. All planning for this broader area can proceed as planned.

"To rezone land for employment and environmental conservation purposes."

Response: Clause 12 of SEPP (WSEA) 2009, enables the Consent Authority to grant approval for development on unzoned land. This permits the subject SSD Application to be approved on

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this basis. Following completion of the planning framework under the LUIIP (anticipated within the next 12 Months) the land can be appropriately zoned for the uses proposed under this SSD.

This is totally in line with a co-ordinated planning approach to the development of land in the WSEA.

"To improve certainty and regulatory efficiency by providing a consistent planning regime for future development and infrastructure provision in the Western Sydney Employment Area."

Response: The Proposed Development would represent a logical extension to existing and operational employment lands, being First Estate and Erskine Business Park to the north. The scale of development proposed, is deemed entirely consistent with these adjoining employment lands, in terms of the overall built-form, and the intensity of operations. It is considered however, that the Proposed Development would provide improved sustainability measures by targeting Six-Star-Green-Star outcomes and the dedication of over 11-ha of new open space for public recreation.

Infrastructure would be provided to the Site at no cost to Government and would serve to benefit the subject Site and those which are developed in the future that are presently underutilised. Accordingly, the Proposed Development responds to this objective satisfactorily.

"To ensure that development occurs in a logical, environmentally sensitive and cost-effective manner and only after a development control plan (including specific development controls) has been prepared for the land concerned."

Response: Despite Clause 11 of the SEPP (SRD) 2011 which stipulates that Development Control Plans do not apply to SSD, a Site Specific DCP has been prepared for this Site and concurrently submitted for exhibition and adoption within this Proposal. Before this SSD Application is determined, the DCP may be adopted and made to apply to the Site. The Proposed Development has been designed to comply with the controls specified in the new DCP.

"To conserve and rehabilitate areas that have a high biodiversity or heritage or cultural value, in particular areas of remnant vegetation."

Response: The Proposed Development seeks to dedicate an 11-ha portion of land, adjoining South Creek, for public recreation and open space. This area would be re-vegetated to improve its current state for the benefit of tenants, owners and the public. In total, the Proposed Development includes the planting of some 615 new trees. Subsequent Development Applications (as many be anticipated for the remainder of the Site) would include additional landscaping schemes for the remaining Lots. This includes the 11-ha area to be dedicated.

After careful assessment, it is proposed to retire Biodiversity Credits for the removal of vegetation on the Site. This approach accords with the BC Act 2016 and will ensure the proper management of the natural environment at and around the Site.

State Significance Permissibility and Application of SEPP (SRD)

The SEPP (SRD) 2011 is an Environmental Planning Instrument that designates certain development as either State Significant Development (SSD) or State Significant Infrastructure (SSI), in accordance with sections 4.36(2) and 5.12(2) of the EP&A Act, 1979 respectively and Sections 1.1 of the SEPP (SRD) 2011.

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If development is categorised under the SEPP (SRD) 2011 as either SSD or SSI, then a separate approval pathway applies to the development and the Consent Authority becomes the Minister for Planning.

Section 4.36 of the EP&A Act, 1979 makes provision for what constitutes SSD. It states that:

- (1) For the purposes of this Act, State significant development is development that is declared under this section to be State significant development.*
- (2) A State environmental planning policy may declare any development, or any class or description of development, to be State significant development.*

The Minister may, by order published in the Gazette, declare specified development on specified land to be SSD, but only if the Minister has obtained and made publicly available advice from the Independent Planning Commission about the State or regional planning significance of the development.

According to the Act, a State Environmental Planning Policy that declares SSD may extend the provisions of the policy relating to that development to SSD declared under subsection (3). Clause 8 of the SEPP (SRD) 2011 provides that development is declared to be SSD for the purposes of the EP&A Act, 1979 if:

- "(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and*
- (b) the development is specified in Schedule 1 or 2."*

Thus, in accordance with Clause 8 of the SEPP (SRD) 2011, it is necessary that the Proposed Development is permissible with development consent under Part 4 of the EP&A Act, 1979 by operation of an EPI. For this Development, the Land Application Map under SEPP (WSEA) 2009 marks the land of the Subject Site as unzoned.

The land is currently zoned RU2 - Rural Landscape under Penrith Local Environmental Plan 2010' (PLEP). The land use table for the zone provides as follows:

2 Permitted without consent

Extensive agriculture; Home occupations

3 Permitted with consent

Agricultural produce industries; Agriculture; Animal boarding or training establishments; Building identification signs; Business identification signs; Cellar door premises; Cemeteries; Community facilities; Crematoria; Dual occupancies; Dwelling houses; Environmental facilities; Environmental protection works; Farm buildings; Flood mitigation works; Forestry; Funeral homes; Helipads; Home-based child care; Home businesses; Home industries; Information and education facilities; Places of public worship; Public administration buildings; Recreation areas; Recreation facilities (outdoor); Roads; Roadside stalls; Rural supplies; Schools; Secondary dwellings; Stock and sale yards; Tourist and visitor accommodation; Veterinary hospitals

3 Prohibited

Hotel or motel accommodation; Serviced apartments; Any other development not

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specified in item 2 or 3"

These provisions limit permissibility and also provide for some development to be carried out without development consent. The main consideration, therefore, becomes a matter of the relationship between PLEP2010 and SEPP (WSEA) 2009 and determining the prevailing instrument.

Section 3.28 of the EP&A Act, 1979 provides that for any inconsistencies between EPIs:

1. *In the event of an inconsistency between environmental planning instruments and unless otherwise provided:*
 - (a) *there is a general presumption that a State environmental planning policy prevails over a local environmental plan or other instrument made before or after that State environmental planning policy, and*

Furthermore, Clause 8(2) of the SEPP (WSEA) 2009 states:

'In the event of an inconsistency between this Policy and a local environmental plan or deemed environmental planning instrument that applies to the land to which this Policy applies, this Policy prevails to the extent of the inconsistency.'

In addition, Clause 1.9 of the PLEP2010 provides:

This Plan is subject to the provisions of any State environmental planning policy that prevails over this Plan as provided by section 36 of the Act.'

Therefore, SEPP (WSEA) 2009 prevails over PLEP2010. Accordingly, the Proposed Development is zoned in accordance with SEPP (WSEA) 2009 and therefore satisfies the first limb of Clause 8 of the SEPP (SRD) 2011.

The second part of Clause 8 relates to Part 12 of Schedule 1 of the SEPP (SRD), which provides that certain Warehouses and Distribution Centres are State Significant Development (SSD) under Clause 12 if they constitute:

"(1) Development that has a capital investment value of more than \$50 million for the purpose of warehouses or distribution centres (including container storage facilities) at one location and related to the same operation.

(2) This clause does not apply to development for the purposes of warehouses or distribution centres to which clause 18 or 19 applies."

The Proposed Development has a CIV of more than \$50 Million and is for the purpose of Warehouses or Distribution Centres. Clauses 18 and 19 of Schedule 1 relate to port and rail facilities and do not apply in respect of the Proposed Development.

Accordingly, the Proposed Development also satisfies the second part of Clause 8 of the SEPP (SRD) 2011 and can be properly categorised as SSD.

Under the provisions of Clause 4 of SEPP (WSEA) 2009, the Site forms Part of Precinct 11 - Broader Western Sydney Employment Area and therefore, the Proposal has the benefit of invoking Clause 12 for the purpose of this SSD Application.

Clause 12 reads as follows:

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"12 Unzoned Land

- (1) Development may be carried out on unzoned land only with consent.*
- (2) Before granting consent, the consent authority:*
 - (a) must consider whether the development would impact on adjoining zoned land and, if so, consider the objectives for development in the zones of the adjoining land, and*
 - (b) must be satisfied that the development is appropriate and is compatible with permissible land uses in any such adjoining land."*

The correct legal interpretation is provided with respect to Clause 12 of the SEPP in the following points:

1. the definition of "development" is defined broadly under the parent Act, the EP&A Act, 1979 as:
 - (a) the use of land,
 - (b) the subdivision of land,
 - (c) the erection of a building,
 - (d) the carrying out of a work,
 - (e) the demolition of a building or work,
 - (f) any other act, matter or thing that may be controlled by an environmental planning instrument."
2. the terms of Clause 12(1) do not limit or circumscribe the types of development that may be carried out with consent;
3. as a matter of statutory interpretation, Clause 12(1) should be interpreted so that it has operative effect.
4. this interpretation is consistent with some of the aims of the Policy at Clause 3 of the SEPP (WSEA) 2009, namely:
 - (a) to promote economic development and the creation of employment in the Western Sydney Employment Area by providing for development including major warehousing, distribution, freight transport, industrial, high technology and research facilities,
 - (b) to provide for the co-ordinated planning and development of land in the Western Sydney Employment Area,
 - (c) to rezone land for employment or environmental conservation purposes,
 - (d) to improve certainty and regulatory efficiency by providing a consistent planning regime for future development and infrastructure provision in the Western Sydney Employment Area,
 - (e) to ensure that development occurs in a logical, environmentally sensitive and cost-effective manner and only after a development control plan (including specific development controls) has been prepared for the land concerned"

Accordingly, any development on unzoned land within SEPP (WSEA) 2009 is permissible (rather than prohibited) and the provisions of Clause 12(2) and other parts of the instrument impose mandatory considerations on a Consent Authority for granting consent in respect of that development; by invoking Clause 12 of SEPP (WSEA) 2009, the need to amend SEPP (WSEA) 2009 is alleviated as is the immediate need to rezone the land. The SSD Application can thus be determined accordingly.

In terms of demonstrating that the Proposal satisfies Clause 12(2)(a) and (b) with respect to adjoining land, the following assessment is provided.

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- **North** – 585-649 Mamre Road, Orchard Hills (IN1 General Industrial under SEPP (WSEA) 2009). This land is partially developed and comprises a mix of industrial and logistics facilities that operate on a 24-7 basis. Access to this site is provided from Mamre Road. The nature of development carried out on this land is entirely consistent with that under the subject SSD Application due to size, scale and general operational particulars of the businesses which occupy it.

The Proposed Development would inevitably be visible from this site; however, it would not adversely affect its operational capacity, or the planned outcomes which have been considered under SSD 7173.

Under SEPP (WSEA) 2009, the objectives which apply to the IN1 General Industrial zone are stated as follows:

- *To facilitate a wide range of employment-generating development including industrial, manufacturing, warehousing, storage and research uses and ancillary office space.*
- *To encourage employment opportunities along motorway corridors, including the M7 and M4.*
- *To minimise any adverse effect of industry on other land uses.*
- *To facilitate road network links to the M7 and M4 Motorways.*
- *To encourage a high standard of development that does not prejudice the sustainability of other enterprises or the environment.*
- *To provide for small-scale local services such as commercial, retail and community facilities (including child care facilities) that service or support the needs of employment-generating uses in the zone.*

There would be no component of the Proposed Development which would hinder this site directly to the north in terms of achieving the zone objectives which apply. Indeed, the Proposed Development would be complimentary and compatible with the IN1 General Industrial zone under SEPP (WSEA) 2009.

- **South** - 771-781 Mamre Road, Kemps Creek (located within the SEPP (WSEA) 2009 Land Application Area and zoned RU2 Rural Landscape under PLEP2010.

Existing development on this land comprises rural-residential land uses, similar to the Subject Site. As shown on the plans submitted with this SSD Application, the proposed warehouse and industrial facilities are proposed to be located away from the common boundary with this property; however, in the future there would be development applications submitted for new development on the proposed allotments which have a direct interface.

Accordingly, the development under this SSD Application would have minimal impact given the limited scope of development at this interface. In the future, due consideration would be given to how the boundary interface is treated with respect to architectural and noise treatment.

Importantly, access arrangements would be maintained to this property and the rural-residential function would remain unimpeded.

As the land falls within the application area of SEPP (WSEA) 2009, the objectives of the SEPP are considered relevant which state:

- (a) *to promote economic development and the creation of employment in the Western Sydney Employment Area by providing for development including*

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major warehousing, distribution, freight transport, industrial, high technology and research facilities,

- (b) to provide for the co-ordinated planning and development of land in the Western Sydney Employment Area,*
- (c) to rezone land for employment or environmental conservation purposes,*
- (d) to improve certainty and regulatory efficiency by providing a consistent planning regime for future development and infrastructure provision in the Western Sydney Employment Area,*
- (e) to ensure that development occurs in a logical, environmentally sensitive and cost-effective manner and only after a development control plan (including specific development controls) has been prepared for the land concerned,*
- (f) to conserve and rehabilitate areas that have a high biodiversity or heritage or cultural value, in particular areas of remnant vegetation.*

The nature and scale of the Proposed Development is therefore considered complimentary and compatible as this adjoining land is also earmarked for employment and the Subject Proposal is capable of implementing mitigation measures to ensure that it can be continued to be used as rural-residential in the interim.

- **East** – 350 Luddenham Road, Luddenham (E4 Environmental Living under PLEP2010).

Importantly, there is a physical landmark which divides this property and the Subject Site, being South Creek. As such there is no common property boundary between the properties. Notwithstanding, the closest residential dwelling on this property is located at least 500 m away from the Subject Site, which reinforces the limited potential for any significant impacts, particularly with respect to noise and visual amenity. The proposed re-vegetation of the Site and future amenity offerings have the potential to provide connectivity so that the creek area can be accessed by the public.

Due to the constraints of this site, namely the 1:100 flood level, it is considered that there would be no further residential development within proximity of South Creek, and therefore, the future stages to be developed on the Subject Site would have minimal impact.

The objectives of the E4 zone are provided as follows:

- *To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.*
- *To ensure that residential development does not have an adverse effect on those values.*
- *To minimise conflict between land uses within the zone and land uses within adjoining zones.*
- *To ensure land uses are compatible with the available infrastructure, services and facilities and with the environmental capabilities of the land.*
- *To preserve and improve natural resources through appropriate land management practices.*

The Proposed Development would not hinder the objectives of the zone which applies to this land, particularly given the separation which is achieved and distinct physical barrier due to the existence of South Creek.

- **West** - 654-770 Mamre Road, Kemps Creek (located within the SEPP (WSEA) 2009 Land Application Area and also zoned RU2 Rural Landscape under PLEP2010. This site contains multiple land parcels and is presently used for rural-residential purposes.

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All proposed warehouse and industrial facilities would be visible in the future from this site and would present a similar scale to that within Erskine Business Park to the north and First Estate. Due to the presence of this public road, any noise impacts from the Proposed Development are considered to be minimal and the traffic impacts associated with the development would be accommodated by way of upgrades.

As this land is within the SEPP (WSEA) 2009 Application Area and is within close proximity of existing employment land uses, it is expected to be developed for purposes similar to the Proposed Development in the future. It is also wholly included within the Mamre Road Precinct under the LUIIP 2018 and should be released as an initial precinct or excluded from the LUIIP 2018, similar to the request made for the Subject Site.

The objectives of SEPP (WSEA) 2009 would not be hindered as they apply to this Site by the Proposed Development.

On balance, the Proposed Development would provide a transitional development, that would incorporate an architectural treatment to create an integrated Estate with an attractive appearance, in a manner that is considered consistent with the Industrial Precinct of the land forming part of the WSEA. The Proposed Development would showcase the next generation in industrial Estate design, comprising State-of-the-Art, Six-Star-Green-Star rated Warehouses and Logistics buildings, and set new standards concerning sustainability, social amenity and building quality. All of which would be considered transitional and complementary with regard to existing industrial development throughout the wider WSEA.

As part of the SEARs response, Penrith City Council indicated that planning matters with regard to the adjoining RU2 Rural Landscape zones would need to be considered. It is important to note, that under Clause 8 of SEPP (WSEA) 2009, in the event of an inconsistency arising (in this case zoning and overall permissibility), the SEPP prevails over PLEP2010, for which the Proposed Development is considered compatible with the context of the wider locality within the WSEA, particularly adjoining developments and adjoining land designated for similar developmental purposes.

Accordingly, the 'Unzoned Land' adjoining the Subject Site would not be unduly impacted by the Proposed Development (as confirmed throughout the EIS based on data and mitigation measures provided in the consultant reports), which aims to provide an employment-generating development within an area designated for such purposes. Rather, adjoining land uses would be able to provide future developments that further complement proposed and existing employment-generating developments within the immediate vicinity, as well as throughout the wider WSEA.

The Proposed Development has satisfactorily considered the Subject Site's permissibility, as well as the compatibility of adjoining land, by proposing an innominate development that is complemented by existing industrial development directly to the north of the Subject Site, further demonstrating its compatibility with the local context. This is considered compliant with sub-clauses (2)(a) & (b) under Clause 12 of SEPP (WSEA) 2009; therefore, enabling consent to be granted under Clause 12(1) of SEPP (WSEA) 2009.

As mentioned above, the Proposed Development is considered to be of an appropriate scale, that ultimately represents the rapid industrial expansion taking place within the WSEA, which has been mapped and designated for such industrial development and employment-generating purposes. Additionally, the Proposed Development is considered compatible with the local context and surrounding developments, for which it would provide a transitional development, that aligns with the trends of existing developments, directly to the north of the Subject Site, including First Estate and Erskine Business Park.

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In satisfying the set provisions of Clause 12 of SEPP (WSEA) 2009 (as detailed above), the Proposed Development is considered compliant on the following basis:

1. The proposed Warehouse, Logistics and Industrial Facilities Hub, would be wholly-contained within the Subject Site boundaries, with the exception of any road upgrade works to facilitate access and road widening;
2. Impacts associated with the Proposed Development, in terms of noise, traffic, stormwater, vegetation-clearing, and visual amenity, can all be successfully mitigated and managed, so as to not adversely impact on any surrounding properties. More Specifically, the following measures would be applied, including but not limited to:
 - **Noise** – screening devices and built-form design measures, are to be included within all of the proposed warehousing facilities;
 - **Stormwater** – detention basins to treat all runoff, using Water Sensitive Urban Design (WSUD), before any Stormwater is permitted to flow into South Creek;
 - **Vegetation** – replacement planting throughout the Site and revegetation of areas adjacent to South Creek is proposed with 615 new trees to be planted, to embellish and enhance the ecological value of the land; and
 - **Visual** – using designed, dense-landscaped buffers and architectural design measures, that appropriately respond to the aesthetics of the locality, to landscape a modern, visually-attractive working environment.
3. No components of the development would undermine the ability of other surrounding land to operate under their current intended purpose or for future development to be carried out at any surrounding locations; and
4. A suitable form of transition is currently proposed by this Application to the adjoining Erskine Business Park and First Estate (SSD 7173). Both estates would continue to provide employment-generating functions and would complement the Proposal, by utilising existing infrastructure and providing for increased employment opportunities, which contribute to a critical mass.

By invoking Clause 12 of SEPP (WSEA) 2009, the need to amend SEPP (WSEA) 2009 is alleviated as is the immediate need to rezone the land. The SSD Application can thus be determined accordingly.

Below in **Table 8**, is a summary of all SEPP (WSEA) 2009 provisions Clauses 20 - 33A, as they apply to the Proposed Development. A response addressing each Clause is set out in the Right-hand Column under Comment.

Table 8: SEPP (WSEA) 2009 Provisions	
Clause	Comment
Clause 20: Ecologically Sustainable Development	<p>The Proposed Development would provide a full range of sustainable development measures, to reuse clean stormwater; recycle and reduce the consumption of potable water; as well as reduce greenhouse-gas emissions. This EIS provides explicit measures for both reducing water consumption and greenhouse gas emissions. Initiatives incorporated as part of this Proposed Development relate to:</p> <p>1. Management Principles</p> <ul style="list-style-type: none">▪ Completing best-practice commissioning and tuning of all plant and equipment;

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	<ul style="list-style-type: none"> ▪ Undertaking a Climate Risk Assessment to allow for possible mitigation and adoption of design principles, to make for a more resilient development; and ▪ Commit to ongoing efficient performance of the development, including NABERS and Green Star Certification. <p>2. Indoor Environment Quality Principles</p> <ul style="list-style-type: none"> ▪ Ensure there is a high level of good-quality fresh air within the working environment; by increasing the minimum outdoor-air requirements in all ancillary spaces; ▪ Providing a comfortable working environment in respect to acoustic, lighting, views and daylight; and ▪ Using low VOC and formaldehyde finishes and products. <p>3. Energy Principles</p> <ul style="list-style-type: none"> ▪ The assets would all feature onsite renewable-energy solar panels, to minimise energy demand and best-practice sustainable-design initiatives to improve energy efficiency, whilst minimising peak electricity demand. <p>4. Water Principles</p> <ul style="list-style-type: none"> ▪ All developments would feature onsite water storage and provide rainwater to be used for landscape irrigation, WC and urinal flushing, to reduce dependency on potable water. <p>5. Material Principles</p> <ul style="list-style-type: none"> ▪ Select materials and products that are sustainable, which range from recycled content, are third-party certified, for exemplar sustainability credentials. ▪ Minimise the environmental impact of the products used, through the life cycle of the building. ▪ Divert at least 90% of construction and demolition water from landfill. <p>6. Emission Principles</p> <ul style="list-style-type: none"> ▪ Reduce the use of water-based heat-rejection systems e.g. cooling towers, to limit the likelihood of legionella impacts. <p>The Proposed Development includes the provision of rainwater tanks on-site, for the collection of runoff from the roof areas and for re-use on Site, thus minimising consumption of potable water. This is aimed to produce a reduction of some 40% in the potable-water consumption for all buildings on Site.</p>
Clause 21: Height of Buildings	<p>There is no maximum building height identified under Clause 21 of SEPP (WSEA) 2009.</p> <p>The proposed maximum building height is 26.37 m, in Warehouse 33.</p> <p>Building height has been specifically designed, so as to not result in adverse amenity impacts on surrounding land respecting setbacks and meaningful building articulation for the form provided.</p>

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	<p>Additionally, a full Visual Impact Assessment of the Proposed Development has been carried out by Geoscapes which confirms that the scale and impact of the development under this SSD Application, are acceptable. The Landscape and Visual Impact Assessment is located in Appendix 9 of this EIS.</p>
Clause 22: Rainwater Harvesting	<p>Rainwater harvesting would be provided for a large part of the Proposed Development. Water re-use for non-potable applications, has been adopted as a new requirement for all future individual building Development Applications. Internal uses include such applications as toilet flushing, while externally, the water would be used for irrigation.</p> <p>The rainwater harvesting system, would be an "in-line tank", designed for the collection and storage of rainwater. The latest technology would be used which would permit, at times when rainwater storage tanks are full, for rainwater to pass through the tanks and continue to be discharged via gravity into the stormwater drainage system. Rainwater from the storage tanks, would then be pumped for distribution throughout the development, in a dedicated non-potable water reticulation system.</p> <p>The sizing of rainwater harvesting tanks, is ordinarily assessed once the development layout and reuse demands for the facility are better known. Applying a minimum tank size of 100,000 litres at this stage, is deemed appropriate.</p>
Clause 23: Development adjoining residential land	<p>In consideration of Clause 23 of SEPP (WSEA) 2009, a Visual Impact Assessment has been carried out for the Site and the Proposed Development. It has considered all resultant visual impacts, assessed (where possible) from adjoining residential properties.</p> <p>Furthermore, the Proposed Development has been assessed against the provisions of Clause 23 of SEPP (WSEA) as follows:</p> <p><i>a) wherever appropriate, proposed buildings are compatible with the height, scale, siting and character of existing residential buildings in the vicinity.</i></p> <p>Response: The Proposed Development, has been designed to achieve a highly-compatible outcome with the surrounding environment, including proper consideration of both the rural-residential development located to the north, west and south; along with the existing warehouse facilities within Erskine Business Park to the east. Measures incorporated within the design to date, include the following:</p> <ul style="list-style-type: none"> ▪ Building heights under the Proposed Development (Stage 1 of this SSDA) have been limited to between 13.7 and 26.37 m, to be sensitive to surrounding properties. All future buildings would be appropriately sited, to minimise their visual impact. It is noted, that these would be subject to separate development consent and assessment, based on their individual merits. ▪ Noise screening, where required.

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	<ul style="list-style-type: none">▪ Setbacks to all boundaries, that allow for visual separation and deep-soil planting as follows: <p><u>Proposed Lot 1 (includes 60 m WSFL setback):</u></p> <p>Warehouse 1A: 5 m building / landscape setback; Warehouse 1B: 7.5 m building & 5 m landscape setback.</p> <p><u>Proposed Lot 2 (includes 60 m WSFL setback):</u></p> <p>Warehouse 2: 10 m Mamre Road dedication zone setback; 10 m landscape setbacks; and 20 m building setback.</p> <p><u>Proposed Lot 3:</u></p> <p>Warehouse 3A: 7.5 m building & 5 m landscape setbacks; and Warehouse 3B: 10 m dedicated Mamre Road zone setback; 10 m landscape setbacks; and 20 m building setback.</p> <p><u>Proposed Lot 4:</u></p> <p>Warehouse 4: 10 m landscape setback; 6 m wide fire tail (crushed rock); and 20 m building setback.</p> <p><u>Proposed Lot 5:</u></p> <p>Warehouse 5A: 7.5 m building & 5 m landscape setbacks; Warehouse 5B: 7.5 m building & 5 m landscape setbacks.</p> <p><u>Proposed Lot 6:</u></p> <p>Warehouse 6: 10 m wide dedicated Mamre Road zone; 10 m landscape setback; 20 m building setback; and 6 m wide fire trail (crushed rock).</p> <p><i>WSEA(SEPP) Provision b): goods, plant, equipment and other material resulting from the development, are to be stored within building, so as to be suitably screened from view, away from any residential buildings and associated land.</i></p> <p><u>Response:</u> Goods, plant and equipment would be suitably screened from the adjacent rural/residential development, by way of lattices, acoustic wall and planting. Coupled with the significant current separation distances to the nearest surrounding residential development (in excess of 500 m), the Proposed Development is considered sensitively positioned and is designed to afford a significant level of amenity with regard to these properties. All plant and equipment associated with the Proposed Development, is considered typical for warehouse facilities as proposed and is consistent in design and function with the latest facilities located in Erskine Business Park.</p> <p><i>c) the development would not otherwise cause nuisance to residents, by way of hours of operation, traffic movement, parking, headlight glare, security lighting or the like</i></p>
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	<p>Response: Given the separation distances currently planned for the Proposed Project overall, including the considerable setback to the rural/residential properties to the north and west (in excess of 500 m), and proposed future mitigation measures in respect of noise, it is not anticipated (based on current modelling) that there would be any resulting adverse noise impacts. Light spill would also be properly managed through the strategic location of outdoor lighting on building facades at ground level, and under awnings, in full compliance with AS4282-1997.</p> <p>Lighting would be directed towards car parking areas, similar to traffic street lighting which is required for new council access roads. This is effective at minimising light spillage. The Lighting Plan for the Proposed Development has been carefully considered and is discussed in Section 6.3.8 of this EIS and included with the Architectural Plans in Appendix 6 of this EIS.</p> <p>The resultant noise impacts associated with the movement of vehicles during hours of operation, will be minimised through new acoustic-mitigation measures, which include the construction of a noise-attenuation barrier and orientating warehouses to reduce such noise emissions.</p> <p>These measures have been integrated into the design of all warehouse and industrial facilities.</p> <p><i>d) the development would provide adequate off-street parking, relative to the demand for parking likely to be generated.</i></p> <p>Response: 754 car parking spaces are proposed along with the built-form in this Application. This is deemed adequate, based on similar scale developments approved recently and RMS requirements. The car parking proposed, has been provided in accordance with the site-specific DCP, located in Appendix 38 of this EIS.</p> <p><i>e) the Site of the Proposed Development would be suitably landscaped, particularly between any building and the street alignment.</i></p> <p>Response: Landscaping is designed to be planted to properly screen the facilities fronting Mamre Road, including a landscaped setback all the way to the property boundary. The Landscape Area is extensive and will comprise trees, plantings and shrubs, that serve to provide a buffer between the public domain and the Proposed Estate. This is intended to be similar to but improve on planting schemes implemented at Erskine Business Park and First Estate. In total, 615 new trees and shrubs would be planted under this SSD Application alone, with future Development Applications on the remaining allotments to include comprehensive landscaping schemes. These will further enhance the aesthetic value of the Site.</p>
Clause 24: Development involving subdivision	The Proposal includes subdivision of the Site, creating 33 allotments which vary in size between 1 and 8.7 ha.

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	<p>The Proposed Subdivision satisfies Clause 24 of SEPP (WSEA) 2009 as:</p> <ul style="list-style-type: none">▪ The subdivision of land would not undermine the supply of employment lands, it would increase it; and▪ Reasonable access to roads and services would be preserved and enhanced.
Clause 25: Public Utility Infrastructure	<p>A Public Utility Infrastructure Servicing Report has been prepared by Land Partners in respect of the Proposed Development. This Report provides a summary of the availability of infrastructure and any required extensions/provision to existing infrastructure. The following subheadings outline the services that will connect to the Development, including:</p> <p><u>Potable Water: (refer to Section 2.1.1 of Appendix 12)</u></p> <ul style="list-style-type: none">▪ Sydney Water have advised that potable water will be supplied from the Erskine Park reservoir system, which has capacity to service the Proposed Development. <p><u>Waste Water: (refer to Section 2.1.2 of Appendix 12)</u></p> <ul style="list-style-type: none">▪ There is existing waste-water infrastructure located immediately north of the Subject Site.▪ Sydney Water have advised that the Site can access this existing wastewater infrastructure and that the Site would be permitted to drain to the St Mary's Waste Water Treatment Plant. <p><u>Electrical Supply: (refer to Section 4.0 of Appendix 12)</u></p> <ul style="list-style-type: none">▪ Power supply from the Subject Site would be obtained from the zone substation at John Morphet Place, Erskine Park.▪ Existing feeders providing services to the Mamre West Precinct to the north will be extended to serve the initial Proposed Development. <p><u>Telecommunications: (refer to Section 3.0 of Appendix 12)</u></p> <ul style="list-style-type: none">▪ Substantial telecommunications assets exist in the immediate area, which already supply surrounding industrial development. Extensions of these systems to service the Mamre South Precinct, has been confirmed. <p><u>Gas: (refer to Section 5.0 of Appendix 12)</u></p> <ul style="list-style-type: none">▪ The Existing Jemena network main (110mm, 210 kPa) system, is located adjacent to the Site, within Mamre Road. This main will provide reticulation services to the Proposed Development. Jemena has indicated that there is sufficient existing capacity to service the full Development.

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<p>Clause 26: Development on or in vicinity of proposed transport infrastructure routes</p>	<p>The Site is within proximity of a proposed transport infrastructure route (being the Southern Link Road) shown dotted blue in the below in Figure 11.</p> <p>The Proposed Development allows for the Southern Link Road and has based its alignment on the designs prepared for the DPE by AECOM. The alignment shown, demonstrates sound planning, combining three (3) infrastructure corridors (Southern Link Road, Sydney Water Pipeline, Western Sydney Freight Rail Corridor). This limits to only one bridge structure, the crossing of South Creek and avoids the unnecessary fragmentation of land.</p>
<p>Clause 29: Industrial Release Area satisfactory arrangements for the provision of regional transport infrastructure facilities</p>	<p>Whilst the land is not included within the current Industrial Release Area, it is already part of the SEPP (WSEA) 2009 Application Area (extending WSEA formally). Clause 12 applies to both SEPP (WSEA) 2009 and SEPP (WSEA) 2009 Land Application Area.</p> <p>The Applicant has consulted extensively with the NSW DP&E contributions team and has already submitted a Letter of Offer to enter into a VPA.</p> <p>This Site's VPA is currently being finalised between the Minister for Planning, Frasers Property and Altis Property Partners. Once executed, the VPA will allocate monetary contributions for the Proposed Development, to go towards the provision of regional infrastructure, at the election of the relevant Authority.</p> <p>It is considered that satisfactory arrangements will be finalised under this Site's VPA, in accordance with the SEPP as per Clause 29 of SEPP (WSEA) 2009.</p> <p>This process is considered consistent with other planning agreements within the surrounding WSEA and is considered acceptable to the NSW DP&E, for which the VPA would be registered on title and commitments secured before development can proceed.</p>
<p>Clause 31: Design Principles</p>	<p>The design principles of SEPP (WSEA) 2009 are summarised further in subsequent sections of this EIS. The Proposed Development seeks to address the below provisions as follows:</p> <p><i>Provision 31 (a): the development is of a high-quality design, and</i></p> <p><u>Response:</u> New and suitable materials and finishes, would be used to activate and provide a visual outcome that seamlessly integrates with surrounding employment lands throughout the wider WSEA.</p> <p><i>Provision 31 (b): a variety of materials and external finishes for the external facades are incorporated, and</i></p> <p><u>Response:</u> Some of the new materials currently envisaged for use on Site, include composite panel (Kingspan), dampalon polycarbonate and metal sheeting with precast concrete panels of varying textures. Buildings have been architecturally designed to address Mamre Road and the internal Estate roads would provide street activation. Ancillary office areas are also proposed to be</p>

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	<p>located and positioned, so as to create a sense of visual interest and address the public domain.</p> <p>Provision 31 (c): <i>high-quality landscaping is provided, and</i></p> <p>Response: Extensive landscaping is proposed for the Site. A fully laid-out landscaping plan has already been completed for the Estate. It contains screen planting and new shrubs that will provide a visual and natural buffer between the public domain and the proposed estate. Some 615 trees and 6,500 plants and shrubs are designed around a new landscape and leisure theme for the Estate.</p> <p>Provision 31 (d): <i>the scale and character of the development is compatible with other employment-generating development in the precinct concerned.</i></p> <p>Response: The overall scale of the Proposed Development will serve as a transition from First Estate and Erskine Business Park, with which the Development is compatible in terms of built-form and scale. The scale allows for a range of <u>employment-generating</u> land uses that are adaptable and able to respond to shifting economic conditions. The buildings are set back in line with neighbouring industrial estates, promoting a consistent development presence; however, have included substantially more planting and screening than other standard estates.</p>
Clause 32: Preservation of trees	Removal of vegetation on the Site has been kept to a minimum and is offset by numerous new plants and shrubs around the Site and 615 new trees. New plantings and offset plantings of all suitably-selected species, is proposed, to revegetate the Site appropriately with established mature vegetation.
Clause 33A: Development near zone boundaries	The Proposed Development does not rely on Clause 33A to carry out the Development.

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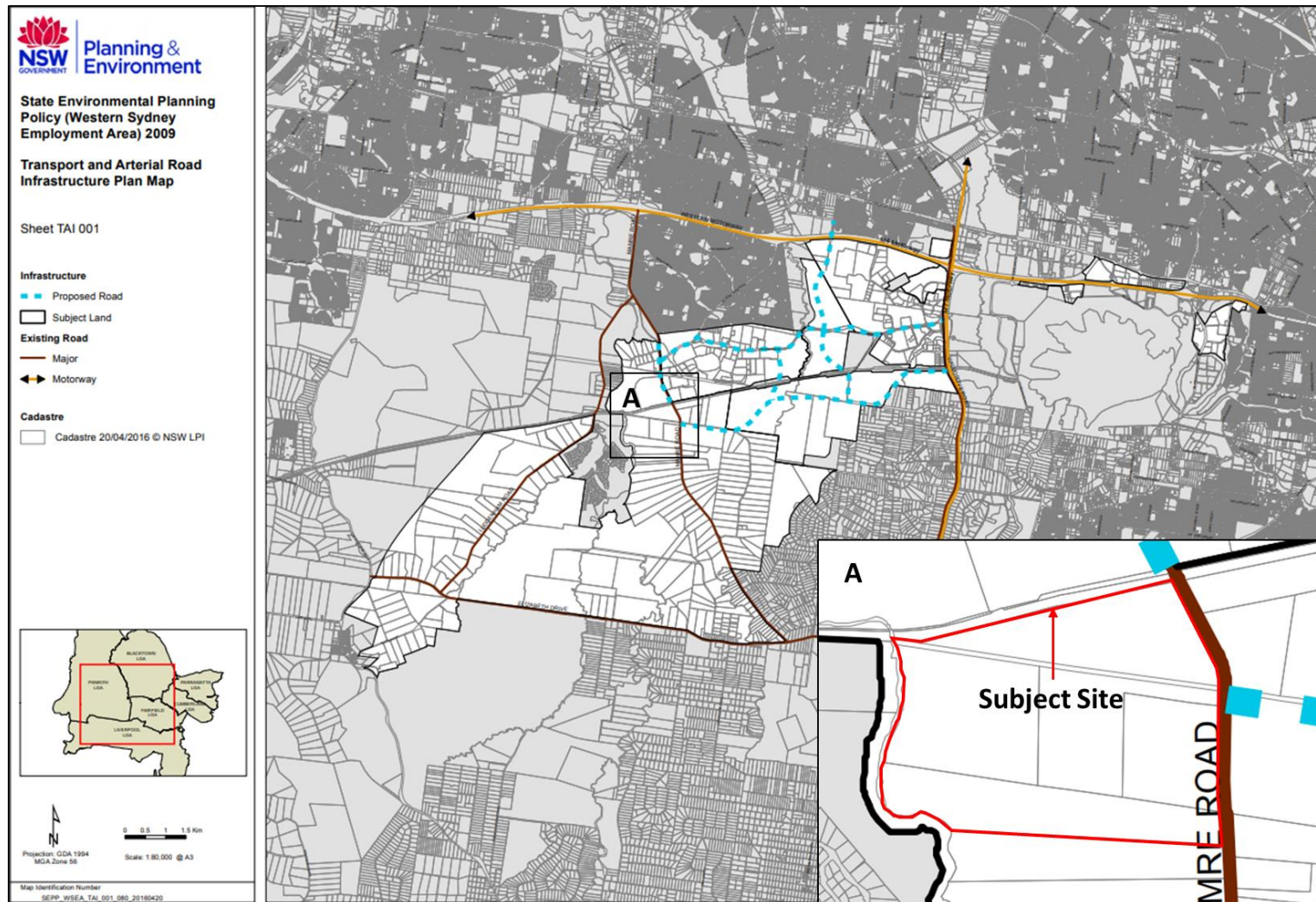


Figure 11 Proposed Transport Infrastructure within the Vicinity of the Proposed Development (Source: NSW Legislation, 2019)

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4.2.8 State Environmental Planning Policy No. 19 – Bushland in Urban Areas

The Subject Site does not contain land zoned or reserved for public open space purposes but rather has been designated for employment-generating development, highlighted by the inclusion within the SEPP (WSEA) Land Application Area. Therefore, the provisions of *State Environmental Planning Policy No. 19 – Bushland in Urban Areas* (SEPP 19), are not relevant to the Proposed Development.

4.2.9 State Environmental Planning Policy No. 33 – Hazardous and Offensive Development

The assessment of the Proposed Development against the provisions of *State Environmental Planning Policy No. 33 (Hazardous and Offensive Development)* (SEPP 33) concludes that the SEPP does not apply to the Proposed Development.

A letter provided by Risk Eng, dated the 27th of November 2017, notes, that as the tenants for the Proposed Development are currently mostly still unknown (with the exception of Lot 6), the approach has been to assume that each tenant will store DGs within the maximum permissible threshold level, listed in "Applying SEPP 33" (NSW DP&E). This approach taken is considered conservative, as not all tenancies will store DGs and many of those that do, will not reach anywhere near the SEPP 33 threshold values. Further, as noted in the Guideline to SEPP 33, quantities of DGs identified below the maximum permissible thresholds, will result in minimal off-site impacts. Using this approach, each individual tenancy, will be asked to maintain the quantities of DGs at levels that will minimise the likelihood of offsite impacts and therefore cumulative risks will be minimised.

The aim of this approach is to provide a complying development, whereby tenants would not require a DA for general warehouse storage, including quantities of DGs below the SEPP 33 levels. To mitigate this further, Frasers and Altis will establish tenancy agreements with each tenant stating the maximum permissible quantity of DGs that may be stored without further DA requirements. This will be based on the DG lists contained in the SEPP 33 report prepared by Risk Eng for each separate tenancy.

Where tenants wish to exceed the tenancy maximum (established in the SEPP 33 Assessment contained in this EIS), Frasers and Altis would stipulate a requirement for full compliance with the SEPP 33 Assessment process, as part of the tenancy agreement, including a DA for DG storage.

This would include the preparation of a Preliminary Hazard Analysis (PHA) study for each of the proposals that would exceed the SEPP 33 thresholds. The Proponent would require the submission of such a PHA, to the development management organisation (Frasers Property and Altis Property Partners), who will keep all record of the PHA results and plot those sites exceeding SEPP 33 thresholds on a site plan. Impacts across site boundaries and cumulative effects, can then be tracked and specific tenancies limited in the storage of DGs exceeding the SEPP 33 thresholds (i.e. if say two facilities exceeding SEPP 33, are located in close proximity).

A SEPP 33 Management and Development Procedure Protocol will be developed for this management approach. The engagement of a professional risk engineering organisation may be procured for this purpose.

As noted above, tenancy agreements would be established limiting the maximum permissible quantity of DGs based on the SEPP 33 assessment and report. The overall plan for the Site is included in the SEPP 33 Report, which is located in **Appendix 13** of this Submission, with each tenancy provided with a list of maximum permissible quantities for the specific tenancy. This DG list is written into the tenancy agreement; hence, the concept plans provided in the SEPP

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33 assessment, includes the proposed storage plan for the Proposed Development. Notwithstanding, where DG storage exceeds the maximum permissible SEPP33 thresholds, an overall "site-cumulative risk plan", monitored for individual DAs.

In summary, the quantities of DGs proposed for storage and handling at the proposed warehouses and industrial facilities would not exceed the maximum permissible threshold quantities stipulated in SEPP 33.

4.2.10 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 would 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 would be remediated before the land is used for that purpose."*

A Preliminary Site Investigation (PSI) has already been completed for the Site, by JBS&G (2017). This can be found in **Appendix 15** of this EIS. The PSI Report did not identify any potential for gross or widespread contamination on the Site, that would preclude it from commercial or industrial land use. JBS&G (2017) recommended a targeted intrusive investigation be undertaken, with regard to the identified Areas of Environmental Concern (AECs) to better quantify potential risks, such that any requirements for management may be appropriately addressed, as well as a detailed site inspection to identify other potential AECs.

An Environmental Site Assessment (ESA) has been undertaken by JBS&G (2019) in accordance with the guidelines made or approved by the NSW EPA and the relevant Australian Standards. A copy of this ESA is contained in **Appendix 16**. It confirms that the Site is suitable for Commercial and Industrial use.

Salinity

JBS&G have completed a Site Salinity Assessment (SSA) and an Acid Sulfate Soils (ASS) Assessment in accordance with the issued SEARS. The SSA has been completed in accordance with the NSW Department of Land and Water Conservation (DLWC 1992), DIPNR (2002), AS 2159-2009 and ASSMAC (1998) Guidelines, which can be located within **Appendix 17** of this EIS Submission.

Based on the industrial and commercial land uses proposed for the Subject Site, the following conclusions were provided by JBS&G. These include:

- The desktop assessment undertaken, identified the potential for regional salinity and soil sodicity characteristics to exist within natural soil strata at the Subject Site. Soils on upper and lower slopes are considered to be moderately and slightly saline respectively, with elevated salinity present in the deeper (>1 m Below Ground Level) soil profiles. Site soils present within all site landforms, were judged to be 'highly sodic';

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- Appropriate management controls as part of a broader Construction Environmental Management Plan (CEMP) are to be developed for the proposed earthworks across the Subject Site and development stages. This is considered necessary to ensure the appropriate management of saline and sodic soil hazards, typical of areas within the Mount Vernon and Shale Plains HGLs. Such conditions will also require consideration by the civil works and structural designers of future infrastructure and / or buildings to ensure appropriate precautions are implemented with regard to material in contact with the saline soil; and
- Consideration of the saline nature of the soils and shallow groundwater seepage system will be required by the development design team (including civil works and structural / building / hydraulics engineering team and landscape designers). This is to ensure that appropriate materials are specified for the project.

Acid Sulfate Soils

JBS&G undertook a review of accessible data using the Sharing and Enabling Environmental Data (SEED) tool (Acid Sulfate Soil Risk Map), hosted by the NSW OEH (2019⁶). This indicated that the area occupied by the Site has not been required to be assessed for the presence of ASS, based on the outcomes of the preliminary evaluation/investigation undertaken. Furthermore, current Section 10.7 (2) & (5) Planning Certificates (provided within Appendix D of the PSI located within **Appendix 15** of this EIS) do not identify the Subject Site as containing the potential for, or being subject to, any policies relating to ASS.

Further, a review of the geographical and topographical location of the assessment area, in addition to the geological conditions identified at the Site, has indicated that there is no appreciable risk of ASS occurrence in natural residual soils and/or rock at the Site. On this basis, JBS&G has confirmed that there is no further requirement for consideration of ASS conditions and/or management of such during future ground disturbance activities.

Based on the Site history, review of previous investigations and JBS&G's understanding of the Site conditions, AECs and associated Contaminants of Potential Concern (COPC), it is believed that all COPCs have been identified. These are presented in **Table 9** below for further consideration with regard to the Subject Site.

Table 9: Areas of Environmental Concern and Associated Contaminants of Potential Concern		
Areas of Environmental Concern (AEC) / Media	Contaminants of Potential Concern (COPCs)	Expected Distribution of COPCs within Media
AEC1 – Storage of Agricultural Supplies and Operation of Plant / Soils Potential environmental incidents as a result of operation of the Mamre Produce facility.	Heavy metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Zn), Polycyclic Aromatic Hydrocarbons (PAHs), Total Recoverable Hydrocarbons	Localised – Surface / Shallow

⁶ *Sharing and Enabling Environmental Data (SEED)*. <https://www.seed.nsw.gov.au/> accessed on the 14th February 2019 by JBS&G (2019)

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	(TRHs), Benzene, Toluene, Ethylbenzene and Xylene (BTEX), Phenols and Organochlorine Pesticides (OCPs)	
AEC2 – Placement of Fill Materials / Soils Materials imported to, or created on, the site and placed during site development/grading.	Heavy metals, PAHs, TRHs/BTEX, OCPs, Polychlorinated Biphenyls (PCBs), Phenols and asbestos	Localised
AEC3 – Former Building Footprints and Surrounding Areas / Soils Formerly surficial / shallow soils surrounding historical residential and agricultural structures at the site that may have been impacted via former construction material use/inappropriate demolition	Heavy metals and asbestos	Localised – Surficial / Shallow
AEC4 – Former Agricultural Features / Soils Surficial/shallow soils within areas of crop cultivation or water storage (dams)	OCPs	Homogeneous – Surficial / Shallow
AEC5 – Ground Surface Wastes and Soil Stockpiles / Material Surficial and near surface soils impacted via storage of general and B&D wastes on site surfaces	Heavy metals, PAHs, TRHs/BTEX, OCPs and asbestos	Localised to relevant waste / stockpiles
AEC6 – All Mobile AECs / Groundwater Where mobile impacts are present, they may potentially have impacted site groundwater	Heavy metals, PAHs, TRHs, BTEX and Phenol	Plumes

Site investigation for potentially-contaminated media, typically comprise the following:

- Fill materials;
- Underlying natural soils; and
- Groundwater.

Review of the Site history and environmental setting by JBS&G has indicated, that the potential for soil-vapour contamination for this Site is low. On this basis, no direct assessment of soil-vapour is considered warranted.

Some Surface water features have been identified at the Site. Given the anticipated hydrological setting, it is considered likely, that surface water residence times would be relatively short, prior to extraction from the water bodies and/or infiltration into the underlying groundwater system. On this basis, and with consideration of the observed surface water condition, the current surface water quality does not warrant direct assessment, according to JBS&G.

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Natural soils at the Site have been assessed to comprise relatively impermeable clays overlying residual shale on upper slopes, and structured loams / plastic clays in drainage lines (lower slopes).

Based on the COPC identified in various media (as discussed above in **Table 7**), and proposed site development activities, the exposure pathways for the Site during and following the Proposed Development works include:

- Inhalation of dust liberated from soils;
- Dermal and oral contact to soils, surface water and groundwater (if encountered during development);
- Contact and constituent uptake by vegetation and fauna within areas of exposed soils; and
- Direct contact with groundwater discharged in the receiving water body (South Creek).

It should be noted, that where potential site production of potable water occurs, it is currently limited to rainwater capture and is not anticipated to occur during or following the Proposed Development. Further, groundwater is not considered to be suitable for drinking purposes at this Site, as a result of identified regional conditions. On this basis, no potential direct ingestion of groundwater is anticipated to occur at the Site. Additionally, given the absence of identified soil-vapour impacts, inhalation of vapours, is also not considered to comprise a relevant exposure pathway.

Potential human/ecological populations who may be exposed to site impacts in the future (if they are not remediated, or appropriate management is not implemented prior to or during development), includes:

- Future commercial workers, construction workers and maintenance personnel during and subsequent to completion of redevelopment; and
- Flora and fauna within areas of exposed soils.

Offsite ecological receptors may potentially be exposed to overland surface water and windblown dust migrating from the property. Ecological receptors within the freshwater environment of South Creek, may also be exposed to overland surface water and groundwater discharged from the Site.

For the purpose of the ESA undertaken, preferential pathways have been identified as natural and/or man-made pathways, that result in the preferential migration of COPC, as either liquids or gases. Man-made preferential pathways are present throughout the Site, generally associated with constructed drainage lines sub-surface services, and at-near-surface depths.

With regard to the above parameters, a total of 30 systematic boreholes were advanced across Lot X DP 421633 (comprising part of the Subject Site) on a systematic grid basis to provide adequate site coverage, with an additional eight (8) locations targeted toward local conditions (refer to **Figure 12**). An Additional ten (10) test pit locations were advanced across the remainder of the Subject Site, targeted towards areas of anticipated historical filling and identified site features. Soils were inspected and screened on-site to determine the likelihood and scale of potential impacts within the Subject Site. Based on the desktop assessment and conditions observed during these soil investigations, no AECs were identified which warranted laboratory analysis of soils for contaminants.

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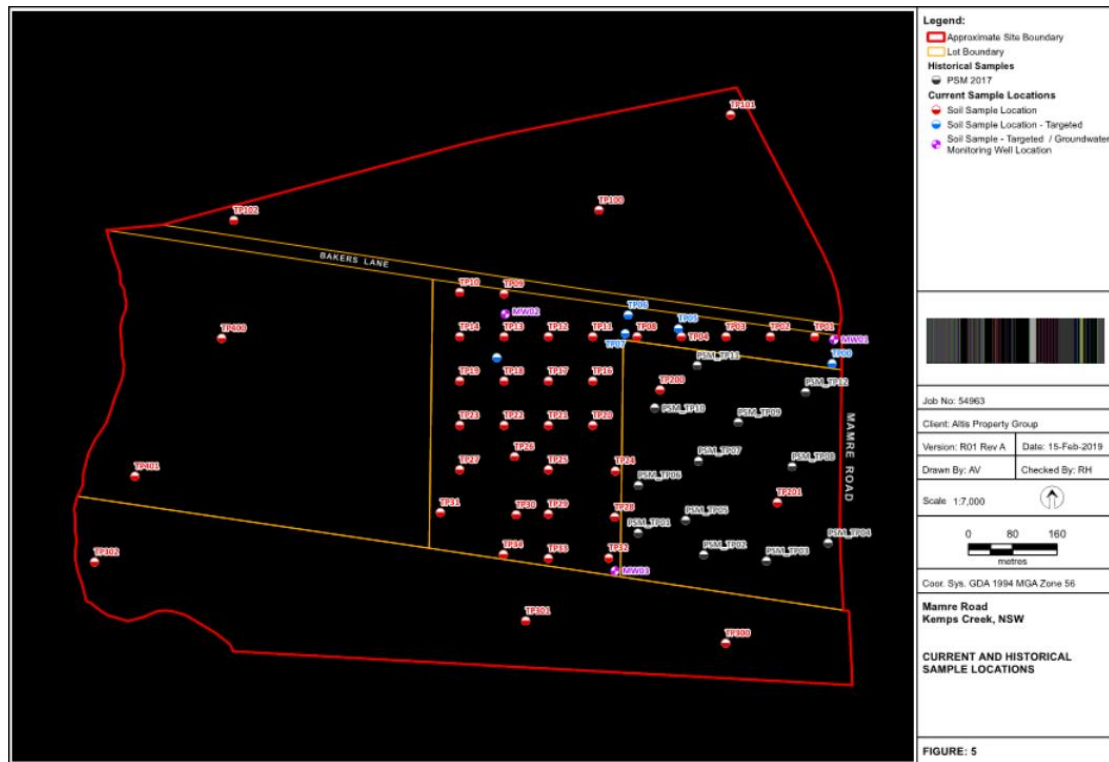


Figure 12 Identified Boreholes and Sampling Locations taken by JBS&G (2019) Pursuant to undertaking an Environmental Site Assessment (Source: JBS&G, 2019)

Lithology and Soil Observations

Soil observations are presented in Appendix N of the ESA prepared by JBS&G (2019), which is located within **Appendix 16** of this EIS Submission. A summary of the observations of lithology and soil are summarised below, including:

- Limited fill material was present at the Site, generally in areas of former and / or current buildings. The material typically comprised reworked natural soils (clays), consistent with the soil encountered throughout the Site, and was generally absent of indicators of potential contamination.
- Disturbed natural soils were encountered at the majority of locations across the Site. Typically, the disturbed natural soils comprised mixed soils and organic matter (roots and rootlets);
- Natural soils varied between landforms, comprising of heavy-set silty clays, with scattered intermixed shale / ironstone gravels, overlying shale bedrock on upper slopes, and shallow sands / clayey sands (0-0.4 m BGL) overlying clay on lower slopes; and,
- Weathered shale bedrock was encountered at MW01 (2.2 m BGL) and MW02 (6.5 BGL).

Soil Asbestos Field Quantification and Laboratory Analytical Results

All soil samples collected were screened accordingly on-site for the presence of asbestos. Asbestos Containing Material (ACM) was observed within one (1) sample of soil, screened at TP01 (0-0.3 m) and assessed against the adopted site assessment criteria. It is noted, that the ACM sample was deemed at a concentration of 0.0.84% w/w, which is less than the adopted site assessment criterion.

In addition to field screening, a total of 15 soil samples were analysed for concentrations of asbestos finds and friable asbestos. No asbestos was detected in any of the analysed samples

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at the reporting limit of 0.001\$ w/w. It is noted, that one (1) of the samples analysed comprised soil surrounding the identified ACM sample that was assessed on-site, as discussed above.

Heavy Metals

A total of 56 samples (32 fill samples and 24 natural samples) were analysed for concentrations of heavy metals in soil. Individual heavy metal concentrations were all reported at concentrations less than the Site assessment criteria and were within typical background ranges.

Polycyclic Aromatic Hydrocarbons

A total of 15 samples (12 fill samples, of which one (1) sample was observed to contain slag and asphaltic gravels, and three (3) natural samples) were analysed for concentrations of PAHs in soil. Total PAH, B(a)P and carcinogenic PAHs as B(a)P Toxic Equivalence Quotient (TEQ) concentrations were not detected above the laboratory Limit of Reporting (LOR) or at concentrations in exceedance of the site assessment criteria.

Total Recoverable Hydrocarbons

A total of 29 samples (20 fill samples and nine (9) natural samples) were analysed for Total Recoverable Hydrocarbons (TRH) concentrations in soil. Concentrations of TRHs were not detected above the site assessment criteria.

Benzene, Toluene, Ethylbenzene and Xylene (BTEX)

A total of 32 samples (23 fill samples and nine (9) natural samples) were analysed for BTEX concentrations in soil. BTEX compound concentrations were not detected above the laboratory LOR or at concentrations in exceedance of the site assessment criteria.

Organochlorine Pesticides (OCP)

A total of 21 samples (16 fill samples and five (5) natural samples) were analysed for OCP concentrations in soil. OCP concentrations were not detected above the laboratory LOR or at concentrations in exceedance of the site assessment criteria.

Polychlorinated Biphenyls (PCBs)

A total of four (4) samples (three (3) fill samples and one (1) natural sample) were analysed for concentration of PCBs in soil. PCBs concentrations were not detected above the laboratory LOR or at concentrations in exceedance of the site assessment criteria.

Phenols

A total of 15 samples (12 fill samples and three (3) natural samples) were analysed for concentrations of phenols soils. Phenols concentrations were not detected above the laboratory LOR or at concentrations in exceedance of the site assessment criteria.

Groundwater

A Groundwater Monitoring Event (GME) was conducted on the 1st of February 2019. A summary of groundwater conditions encountered during the GME is presented in **Tables 10-12** below. Further, monitoring wells were installed to intercept perched water within unconsolidated site soils, overlying the weathered shale bedrock. The basal depth of the screened intervals ranged from 7.2-9.2 m Below Ground Level (BGL).

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Table 10: Groundwater Geospatial Characteristics

Well Reference	Easting (MGA56)	Northing (MGA56)	Surface Level (m) AHD	Top of Pipe (m) AHD	Screened Interval (m) AHD	Depth to SWL (m bTOC)	Standing Water Level (m AHD)
MW01	294632.8	6254300.6	43.65	43.65	32.65-35.65	4.435	39.22
MW02	294031.3	6254327.1	34.67	35.43	24.23-27.23	2.975	32.46
MW03	294232.2	6253881.8	36.12	36.89	26.39-29.39	2.677	34.21

Based on the data provided in **Table 10** above, and assuming relatively consistent subsurface conditions are present across the Subject Site, the inferred groundwater flow direction is approximately west direction with a gradient of 37 mm per metre.

Table 11: Groundwater Field Physicochemical Parameters

Well Reference	Dissolved Oxygen (mg/L)	Electrical Conductivity ($\mu\text{S}/\text{cm}$)	Total Dissolved Solids (mg/L)	pH (units)	Oxidation Reduction Potential (mV)	Temperature ($^{\circ}\text{C}$)
MW01	2.83	22,663	14,504	6.55	150.3	19.0
MW02	0.06	22,370	14,317	6.75	-35.2	21.3
MW03	0.37	33,590	21,498	6.55	124.1	19.9

Table 12: Groundwater Field Physical Observations

Well Reference	Odour	Sheen	Turbidity	Colour
MW01	None observed	None observed	Clear	Colourless
MW02	None observed	None observed	Highly turbid	Yellow
MW03	None observed	None observed	Turbid	Light brown

It is important to note, that no COPCs were detected above the laboratory LOR or the site assessment criteria in the analysed samples; however, it is noted, that low levels of mid-fraction TRHs were detected in sample MW02. Silica gel clean-up and subsequent reanalysis for TRHs, indicated that no TRHs were present above the laboratory LORs for relevant fractions.

Based on the scope of investigation undertaken by JBS&G (2019) and the proposed industrial land use proposed for the Site, the following conclusions are provided.

- Desktop assessment and detailed inspection of the Site has not identified the potential for gross and / or widespread contamination to exist at the Site. Potential for localised impacts were identified, consistent with the historical use of the Site for a combination of commercial (Mamre Produce), agricultural, recreational and rural residential purposes;
- Potential contamination impacts were assessed by advancement of 48 intrusive investigation locations, field screening of site media and subsequent laboratory analysis for COPCs. No COPCs were identified within site media samples analysed, which exceeded relevant site screening assessment criteria for industrial land use site suitability;

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- No background contamination, chemical mixtures or the potential risk of migration of contaminants from the Site have been identified;
- Potential aesthetic issues were identified at two (2) locations within the Subject Site; however, no trigger for further assessment of aesthetics were identified during the site investigation undertaken;
- A fragment of bonded ACM was identified in a single location (TP01). With respect to the concentration of ACM within the broader soil matrix, this occurrence does not comprise an exceedance of site suitability criteria, but will require management during site development under the *Work Health and Safety Regulation 2017*; and,
- From a contaminated land perspective, the Site is considered suitable for the Proposed Development.

It is noted, that a CEMP, including an unexpected finds protocol, should be developed for the Site to ensure that typical site management strategies are implemented, and no contamination is introduced to the Site during redevelopment.

The complete ESA undertaken by JBS&G (2019) can be located within **Appendix 16** of this EIS. It concludes, that the Subject Site is suitable for industrial / commercial uses as intended.

4.2.11 State Environmental Planning Policy No. 64 – Advertising Structures and Signage

Approval for signage is sought for both Estate and building identification signage, as the Proposal has also been assessed against the requirements of *State Environmental Planning Policy No 64 - Advertising and Signage* (SEPP 64). The Signage Plan for the Proposed Development is located in **Appendix 6** of this EIS and is further discussed in **Section 6.3.8** of this EIS. The assessment is summarised below in **Table 13** below:

Table 13: SEPP 64 Criteria	
Criteria	Compliance
1 Character of the area	
<i>Is the Proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?</i>	Yes, the Proposed Development would be undertaken south of an existing industrial precinct (First Estate and Erskine Business Park) that contains signage for Business Identification purposes on similar scale warehouse and industrial facilities to those proposed.
<i>Is the Proposal consistent with a particular theme for outdoor advertising in the area or locality?</i>	Yes, as above.
2 Special areas	
<i>Does the Proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?</i>	No, the Subject Site is suitably removed from sensitive receptors including residential areas, open spaces and heritage items.
3 Views and vistas	
<i>Does the Proposal obscure or compromise important views?</i>	No, signage would not be positioned to obstruct any important views.

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<i>Does the Proposal dominate the skyline and reduce the quality of vistas?</i>	No, the Proposed Development would be of a size and design suitable for the intended use and context. Signage would not be dominant on the skyline. The signage is typically for such facilities, located on the façade of the building, or in a location that is well below the roof level.
<i>Does the Proposal respect the viewing rights of other advertisers?</i>	Yes, the Proposed Development would not obstruct viewing rights of any other advertisers.
4 Streetscape, setting or landscape	
<i>Is the scale, proportion and form of the Proposal appropriate for the streetscape, setting or landscape?</i>	Yes, the signage is appropriate for the setting provided on the Site and the location of the Site within the proposed Estate.
<i>Does the Proposal contribute to the visual interest of the streetscape, setting or landscape?</i>	Yes, the signage is to be used to provide identification and direction in a manner that respects the landscape and architectural design.
<i>Does the Proposal reduce clutter by rationalising and simplifying existing advertising?</i>	Yes, the number of signs has been limited.
<i>Does the Proposal screen unsightliness?</i>	The signage would not be used as a visual screen or filter.
<i>Does the Proposal protrude above buildings, structures or tree canopies in the area or locality?</i>	No, the signage would not be dominant on the skyline. It would be located below the roof level.
<i>Does the Proposal require ongoing vegetation management?</i>	No.
5 Site and building	
<i>Is the Proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?</i>	Yes, the sign would be of suitable scale and design for its intended purpose. The signage would only occupy a small proportion of the building façade and overall Estate area.
<i>Does the Proposal respect important features of the site or building, or both?</i>	Yes, the signage would not be the dominant visual feature of the building and would remain below the roof line.
<i>Does the Proposal show innovation and imagination in its relationship to the site or building, or both?</i>	Yes, signage would be logically positioned to identify tenants and develop the Estate's profile. Proposed signage would also contribute to the industrial character of the proposed Estate.
6 Associated devices and logos with advertisements and advertising structures	
<i>Have any safety devices, platforms, lighting devices or logos been designed as an</i>	Appropriate lighting would be provided to illuminate the industrial Estate signage.

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<i>integral part of the signage or structure on which it is to be displayed?</i>	
7 Illumination	
<i>Would illumination result in unacceptable glare?</i>	Signage would be designed to avoid unacceptable glare.
<i>Would illumination affect safety for pedestrians, vehicles or aircraft?</i>	No impact on the safety of pedestrians, vehicles or aircraft is to result from the intended lighting.
<i>Would illumination detract from the amenity of any residence or other form of accommodation?</i>	The Site is suitably removed from sensitive receptors.
<i>Is the illumination subject to a curfew?</i>	No curfew would apply to the proposed sign lighting.
<i>Can the intensity of the illumination be adjusted, if necessary?</i>	Intensity of illumination would be adjusted through replacement of bulb wattage.
8 Safety	
<i>Would the Proposal reduce the safety for any public road?</i>	The signage would not be positioned to cause any hazard for any road.
<i>Would the Proposal reduce the safety for pedestrians or bicyclists?</i>	The signage is not considered to reduce safety for pedestrians or bicyclists.
<i>Would the Proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?</i>	The signage would not cause disruption of any sightlines from public areas.

Advertisements

Part 3 of SEPP 64 outlines a number of additional matters to be considered for certain signs. This Part does not apply to Business Identification Signage and is therefore not applicable to the Proposed Development.

Based on the above, should any general advertising signage be undertaken, it would be in accordance with all SEPP requirements. The Proposed Development would be consistent with the provisions of SEPP 64.

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4.3 STRATEGIC PLANNING CONTEXT

4.3.1 A Metropolis of Three Cities – Greater Sydney Region Plan

A Metropolis of Three Cities – Greater Sydney Region Plan divides the Sydney Region into three (3) Cities, with a vision of growth until 2056. 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”, namely:

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

The GSC’s division of Greater Sydney into three (3) Cities, aims to locate a greater proportion of the population closer to employment regions with more intensive jobs; ‘city-scale’ infrastructure & services; entertainment; and cultural facilities. By managing and retaining industrial land close to city centres and transport, the Plan aims to ensure that critical and essential services, are readily available to support local businesses and community members and residents. The Proposed Development would not only achieve new economic growth but would also encourage employment-generating opportunities, closer to residential communities, allowing for better access to job opportunities and a shorter commute time to and from work.

The Proposed Development also contributes to the four (4) standardised elements in the Plan, across all three (3) cities, including:

- **External Infrastructure and Collaboration** – The Proposed Development seeks to ensure that all future planned infrastructure can be accommodated to support the growth of the Western Parkland City and beyond. The Proposed Development, would contribute to the funding and construction of some key, identified infrastructure, including the SLR, an upgrade of Mamre Road, the Bakers Lane intersection. It will also fund in the provision of sewer and water services to the Site, thereby benefiting surrounding future development in the Mamre Road Precinct. Overall, the infrastructure value attributed to the project equates to \$12 Million which would be provided at No Cost to Government.

The Proposed Development, offers a platform for local businesses to co-locate near key infrastructure and ensure that the Western City is well connected and operates efficiently, making Western Sydney more competitive and promoting the concept of the “30-Minute City”.

- **Liveability** – the Proposed Development encourages employment-generating opportunities and economic prosperity by creating 800 full time jobs upon completion of this SSD Application alone and 500 construction jobs, which would have positive impacts on the greater Western Region, by promoting a sense of community engagement through the creation of local jobs. The Proposed Development also ensures the provision of public open space and recreation opportunities along the edge of South Creek with over 11-ha of land reserved and dedicated, that would ultimately contribute to improve the wellbeing of local residents and workers and enhance the natural environment. Potential land uses at the interface of the creek’s edge include:
 - Ancillary retail premises (such as Cafes);
 - Recreation facilities, including open parklands, walking and bicycle trails, outdoor gyms and picnic areas;
 - High-tech industrial facilities; and

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- Warehouse and logistics facilities.

A fundamental outcome of the Proposed Development is to provide public access to South Creek, which is presently unavailable given the ownership patterns which exist. Accordingly, the Proposed Development is considered to provide a substantial material benefit, which is in the public interest and increases the liveability of the area.

- **Productivity** – the Proposed Development is co-located in proximity to key existing and future planned infrastructure, including the SLR, WSFL and Outer Sydney Orbital. The ultimate location of the Subject Site, ensures that it can connect with the Central and Eastern City and remain competitive. It is expressly noted in the Plan, that it is essential to ensure that the three Cities are connected and more competitive. This competition would be facilitated unequivocally by the Proposed Development, through the creation of jobs and provision of space for high-tech industrial and logistics businesses. To this end, the objective of a 30-minute city can be realised under the Proposed Development which seeks to create 1,300 jobs (800 operational and 500 construction) under this SSD Application alone, in proximity to where people live, along with opportunity for outdoor recreation. The jobs created under by this development, would be diverse, including traditional warehousing, logistics, as well as advanced manufacturing promoting a mixed-skill base.

The development of the Site would also facilitate regional connectivity and would seek to utilise the Western Sydney Airport once it is operational in 2026. In this respect, the Proposed Development would be complimentary to the Western Sydney Airport, and would support its overall function and surrounding land uses. The development of the Site for employment purposes, therefore, further enhances productivity, as envisaged under the Plan.

- **Sustainability** – The role of South Creek and the overall Parkland setting, forms a key focal point of the Proposed Development as follows:
 - Reservation of 11-ha along the creek's edge to provide outdoor recreational opportunities and connectivity.
 - Extensive tree planting along the creek edge and throughout the Estate with an excess of 615 new trees planted.
 - Provision for walkways and cycle routes, to reduce dependency on motor vehicles, and encourage passive and active recreation and healthier population.

Through informed architectural design, the Proposed Development would target a Six-Star Green Star energy rating (NABERS) into the design solution, along with a comprehensive WSUD strategy for proposed Facilities. It will also deliver a fully-designed hydrological on-site detention system, further mitigating any potential flooding impacts at South Creek.

The following Ecologically Sustainable Development (ESD) measures are proposed by the Development:

1. Energy Principles

- All assets will feature the latest onsite renewable energy, allowing the minimisation of energy demand (by up to 41%) and introducing industry-best-practice, sustainable design initiatives. These include improving natural ventilation; incorporating passive solar design principles; investigating the potential for solar

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water-heating and solar panels; adopting an energy-efficient air-conditioning design; and, utilising an LED lighting strategy, to improve energy efficiency, whilst minimising peak electricity demand.

2. Water Principles

- The entire development will feature on-site water storage for a minimum 100,000 kL rainwater tank, per development site. All rainwater will be filtered and recycled for use in landscape irrigation and WC and urinal flushing, thereby reducing dependency on potable water use (by up to 36%).

3. Indoor Environment Quality Principles

- Using improved ventilation methods and technology, the design will deliver a high-level of air quality for the working environment, by increasing all minimum fresh air requirements in the ancillary spaces;
- Improving the indoor working environment through improved acoustics, lighting and increased outside views, as well as access to sunlight. These will be achieved by design of office articulation, to optimise solar views and the utilisation of concrete walls and door seals to limit internal noise transmissions;
- Using the latest Low Volatile Organic Compound (LVOC) and formaldehyde finishes and products. These are considered to be of the lowest impact and most sustainable for operational use.

4. Carbon Emission Principles

- Reducing the use of water-based Heat-Rejection-Systems (e.g. cooling towers) to limit the likelihood of legionella impacts.
- Using low-embodied-energy materials, e.g. timber bamboo and cloth.
- Having less noise-generating mechanical devices e.g. roller doors and exhaust systems, this also assists with saving energy and lowering electricity consumption and also emissions.

5. Material Principles

- Selecting materials and products that are sustainable e.g. timber-based or using, crushed aggregate. These range from recycled stone, timber and plastic content, and would be third-party certified for exemplar sustainability credentials;
- Minimising the environmental impact of the products used, by increasing the life-cycle of the building;
- Diverting at least 90% of all construction and demolition waste away from landfill, by implementing a Waste Management Plan that incorporates waste recycling methods; and
- Where appropriate, use locally-sourced materials, further lowering the total energy-content in all materials used and consumed on-site.

6. Management Principles

- Completing best-practice commissioning for every building on Site;
- Undertaking a Climate Risk Assessment, for the mitigation and adaptation of building and site design into a more resilient-development; and,
- Commit to ongoing efficient performance of the development through energy saving devices and green lease management tools.

In summary, the Proposed Development would substantially contribute to the objectives set out in the *A Metropolis of Three Cities - Greater Sydney Region Plan*, by providing employment-generating opportunities to the wider locality and community, and by being positioned and

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identified within SEPP (WSEA) 2009, with its concentration on employment, adding to the credentials of the new, intelligent economy and lending substantial supporting services to the new Western Sydney Airport, scheduled for completion in 2026.

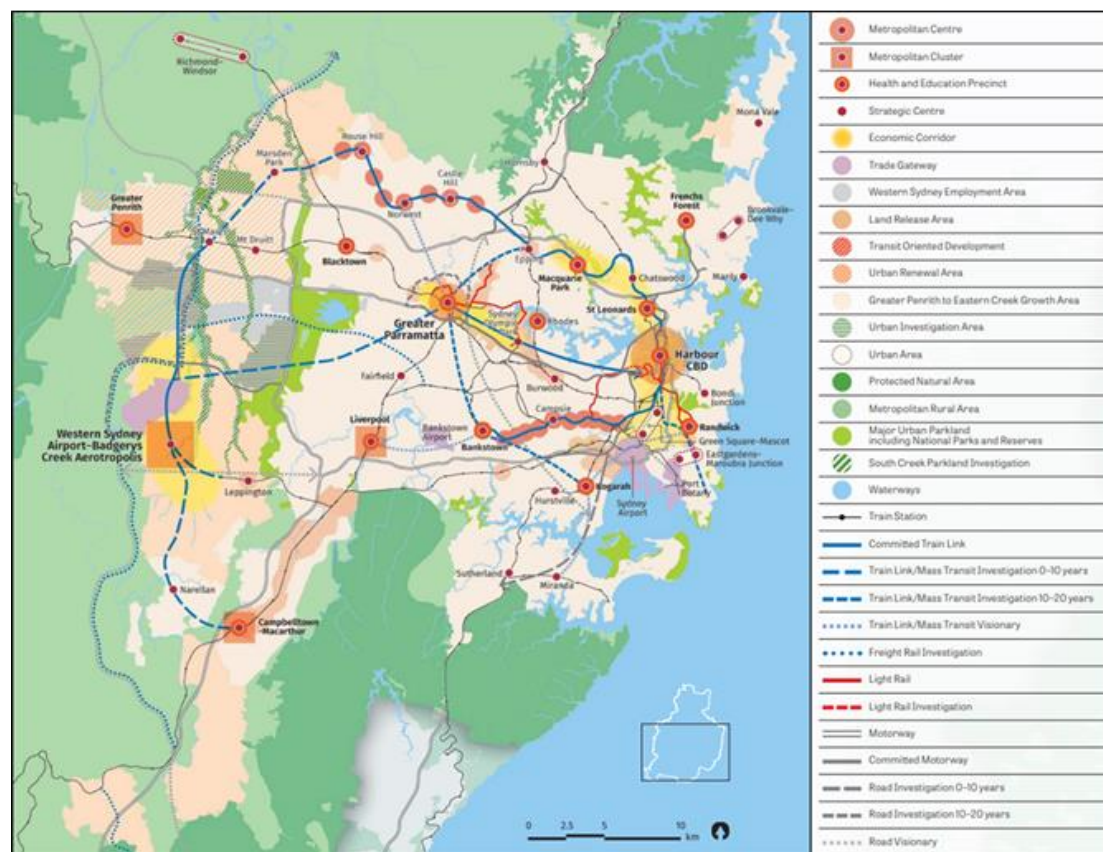


Figure 13 A Metropolis of Three Cities: A Vision to 2056 (Source: Greater Sydney Commission: Greater Sydney Region Plan, 2018)

4.3.2 Western City District Plan

The *Western City District Plan* covers all of Metropolitan Sydney, including the Penrith City Council Local Government Area (LGA) in which the Subject Site is located. The Plan sets out a twenty-year vision to help achieve the goals contained in *A Metropolis of Three Cities* - the GSC vision for developing Sydney as a world-class future city. The Plan agglomerates City, Regional and Local planning.

The Site is situated within the Western City District, which falls within the Western Parkland City.

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. It also emphasises connectivity to infrastructure, collaboration, liveability, productivity and sustainability. The GSC'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*

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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 Development, would contribute to the objectives set out in the *Western City District Plan* (of which the Site forms a part), by promoting a greater range of land uses of benefit to the community, including the Proposed Development (Warehouse, Logistics and Industrial Facilities Hub) and other associated land uses; facilitating the provision of greater and improved infrastructure; and promoting additional employment-generating opportunities, to the wider locality and community closer to home, whilst supporting economically and environmentally-sustainable development. These aims are specifically relevant to the Proposed Development.

Table 14 below sets out the main strategic objectives of the *Western City District Plan* and demonstrate how the Proposed Development would help achieve the vision set by the Plan.

Table 14: Consistency of Proposal with Western City District Plan	
Western City District Plan Objective	Proposed Development Response
A city supported by Infrastructure	Infrastructure to service the development will be at No Cost to Government . All capital works costs for connection to existing infrastructure, facilitating immediate development, will be funded by the Developer on land that would otherwise remain undeveloped. The total infrastructure cost funded by the Proponent is \$12 Million.
A Collaborative City and a City for People	The Proposed Development would provide community access to 11-ha of land adjacent to South Creek and activate the space, by implementing effective, biometric design elements. Future uses of this space will include bike and walking tracks, community facilities, such as sporting fields, as well State-of-the-Art facilities for the enjoyment of a substantial local workforce of over 2,500.

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Housing the City	The Proposed Development would provide immediate employment with 800 operational jobs and 500 construction jobs, within the local area, reducing the need for travel and supporting the vision for a 30-minute city.
A City of Great Places	<p>The Proposed Development aligns with the South Creek Strategy by inspiring a design of newly-activated open space, using elements of the natural vegetation, open space and riparian zone, to create new useable, passive and active, recreational zones including cycling and walking. Over 11 hectares of land has been set aside adjacent to South Creek, dedicated to walking tracks community facilities and sporting fields, in a pleasant, landscaped setting.</p> <p>The Proposed Development specifically responds to the Design Principles established for South Creek as follows:</p> <p>a) <u><i>Orientate urban systems towards the creek corridor</i></u></p> <p>The Proposed Development does not include any built-form works under this SSD Application within close proximity of the creek edge. It does however seek consent for earthworks, the provision of infrastructure and subdivision, to accommodate a variety of future land uses that encompass recreation facilities, including open parklands, walking and bicycle trails, outdoor gyms, picnic areas; and ancillary retail.</p> <p>In this respect, the creek edge is to remain flexible in terms of the form of development that can be accommodated in the future, whilst being embellished with landscaping and recreational spaces, to provide opportunity for outdoor activities, designed to celebrate the role South Creek plays in the precinct.</p> <p>This Proposal has specifically excluded any future indicative built-form layouts for this area, at the request of the NSW DP&E, as this Application does not seek consent for a Concept Approval.</p> <p>b) <u><i>Create a transect of creek-orientated place types and things to do.</i></u></p>

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	<p>The proposed, finished earthwork's levels and subdivision pattern, provide flexibility for a range of future land uses, that are complimentary and compatible with the core operation of the proposed Estate, and South Creek, which is envisaged to serve as a catalyst for new area designed specifically for recreation. This area is celebrated of high future ecological value.</p> <p>Both small format retail offerings and recreational facilities, may be constructed and operated in the future, to complement the aesthetics and setting at the Creek's edge.</p> <p>All future development within close proximity to the Creek, will be designed to have a direct interface with the natural environment of the creek and its amenity offerings.</p> <p><i>c) <u>Build a network of everyday uses within a walkable creek catchment.</u></i></p> <p>The earthworks design and proposed subdivision pattern also contemplates additional opportunity, for a range of future land uses that would be within the creek catchment. The primary objective of the overall development is to create highly functional and connected land uses, that are co-located to support both the function and enjoyment of a large workforce of up to 2,500 people.</p> <p>The planning and design of development proposed preserves the creek edge, making it a central feature of the overall precinct and maintaining its permeability, whilst being accessible at all times to both the occupiers the Estate and the community.</p> <p>Potential future land uses that may complement the current vision at the Site, include recreation facilities, including open parklands, walking and bicycle trails, outdoor gyms and picnic areas; and ancillary retail.</p> <p><i>d) <u>Provide creek connections and encourage waterfront activities.</u></i></p> <p>The earthworks design and proposed subdivision pattern of the site have been designed specifically to afford opportunity for future connectivity, especially as they</p>
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	<p>interface with water-related activities. It is noted that the condition of South Creek is currently poor. The Proposed Development provides an opportunity however, to ensure that a new form of waterfront activity can be accommodated in the future, thereby improving the amenity offering of the creek.</p> <p>Dedication of over 11-ha of land directly adjacent to South Creek will allow for future cycling and walking trails, along with associated infrastructure such as park benches and play equipment, which will assist in realising the social and recreational values of South Creek to its local community. The 11-ha area will be tastefully rejuvenated from its current poor condition, to revitalise and encourage waterfront activities by workers at the Site and the broader community.</p>
A Well Connected City	<p>The Proposed Development would participate in combining land-use and transport, creating new pedestrian and bicycle linkages to the proposed new North – South Rail Link, connecting St Mary's to the Western Sydney Airport. The Development will be designed to cater for and promote the use of public transport, with dedicated bus stops within the Estate and end-of-trip facilities. This will give greatly enhanced access to bus and rail for all employees. The facility would also have excellent road access; access to freight and passenger services; as well as proximity (less than 10 minutes by road or rail) to the new Western Sydney Airport.</p>
Jobs and Skills For The City	<p>The Proposed Development provides for advanced and intelligent freight, logistics and manufacturing opportunities. By planning and managing a range of new employment uses promoting greater and more valued job opportunities for an increasingly-international city, the Proposed Development will however cater for the next generation of industrial job opportunities.</p> <p>In total, the Proposed Development would create 800 full time operational jobs, created under this SSD Application, and up to 2,500 full time jobs once the Site is fully developed (subject to future development consent). New construction jobs would also be created in the short term, with up to 500 new jobs created under this SSD Application alone.</p>

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A City In Its Landscape	<p>The Proposed Development would be designed using best practice biometric design elements to protect and enhance the natural bushland increase tree cover within the Estate and promote the South Creek waterway.</p> <p>An extensive landscape plan has also been designed for the Site. In excess of 615 trees and shrubs would be planted under this SSD Application with a significant number of native plants and shrubs. All future development would also include comprehensive landscape treatments and extensive planting, to continue to enhance the value of the Site.</p>
An Efficient City	<p>Reducing transport-related emissions, by providing facilities that allow for different modes, inclusive of public transport will assist in reducing car dependency.</p> <p>Also, by reducing distances travelled to and from work both productivity and efficiency is improved for workers on a daily basis.</p>
A Resilient City	<p>Incorporation of climate-change measures that will allow adaptability in design and construction should future changes and environmental needs evolve.</p> <p>Also, by increasing the environmental credentials of the current Site, the new design enhances both the accessibility of walkable spaces, thereby contributing through siting, architecture and landscape design to the health and well-being of employers, employees and visitors to the area.</p>

4.3.3 Western Sydney Aerotropolis – Land Use and Infrastructure Implementation Plan – Stage 1: Initial Precincts

The Western Sydney Aerotropolis comprises 11,200 ha and is described as Greater Sydney's newest economic hub. The Western Sydney Aerotropolis is positioned at the core of the Western Parkland City, for which it consists of nine (9) Precincts, including:

- Aerotropolis Core;
- Northern Gateway;
- **South Creek;**
- North Luddenham;
- Rossmore;
- **Mamre Road;**
- Kemps Creek;
- Badgerys Creek; and, Agriculture and Agribusiness Precinct.

The Subject Site is located within the South Creek and Mamre Road precincts.

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The LUIIP 2018, draft Stage 1 Plan, provides the land use framework for the wider community and relevant industry sectors, which would ultimately form the strategic direction of the Aerotropolis and its function. The strategic direction for the Plan would be required to be aligned and consistent with the overarching Strategic Plans, including *A Metropolis of Three Cities* and the *Western City District Plan*.

The draft Stage 1 Plan provides six (6) main objectives as overriding themes to the Land Use Strategic Plan for the Western Sydney Aerotropolis. The Site is in the South Creek Precinct in the LUIIP. Therefore, the LUIIP is significant in terms of the planning guidelines for the Site. The main objectives and themes of the LUIIP are discussed in the context of the Proposed Development below in **Table 15**.

Table 15: Western Sydney Aerotropolis – Land Use and Infrastructure Implementation Plan (LUIIP) – Draft Stage 1 Plan (Initial Precincts)	
LUIIP Objectives	Proposed Development Outcomes
<p><u>Productive:</u></p> <p><i>The Aerotropolis would be an accessible innovative 24-hour city, connected globally, nationally, locally and digitally and prime location for investment. The Aerotropolis would make a significant contribution to 200,000 jobs for Western Sydney, creating an innovation precinct and a home for technology, science and creative industries.</i></p>	<p>The Proposed Development is considered consistent with this objective, as it provides an employment-generating development through both its construction and operational phases. In total, 1,300 full time jobs (800 operational and 500 construction jobs) will be created under this SSD Application alone. When future stages of the development are completed, this number would equate to 2,500 operational full-time jobs. The employment on-site will be complimentary to the future Western Sydney Airport and its functions, as it would provide warehousing, logistics and manufacturing facilities that are able support the main operations of the airport. It will also support the high-tech manufacturing and research support facilities related to future health, education and high-technology uses proposed within the Aerotropolis.</p>
<p><u>Compact and Connected:</u></p> <p><i>A compact urban form would minimise the urban footprint, preserve environmentally valuable lands and allow for a diversity of housing within 10 minutes of centres and five minutes of parks and open space.</i></p>	<p>Ecologically Sustainable Development design measures designed for the Site also contains its own activated open space, creating a new public and private space for workers and visitors, as well as accommodating both pedestrians and cyclists. The land is not environmentally significant and will improve commuting times for a proportion of the workforce, thereby improving productivity and improving air quality for the growing Parkland City.</p> <p>The open space would be revegetated along the riparian zone of South Creek ultimately increasing the overall bank stability, with dispersed planting throughout the activated area providing an increase in the overall canopy cover of the area.</p>
<p><u>Liveable:</u></p>	<p>The Proposed Development will create a diverse range of new jobs, providing</p>

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<p><i>A diversity of jobs and homes including affordable housing, high-quality public transport, vibrant urban centres and unique amenity, creativity and recreation would attract a new, highly skilled and diverse community.</i></p>	<p>employment for some 1,300 jobs under this SSD Application (800 operational jobs) and up to 2,500 full time jobs when fully completed (subject to separate development consent in the future). In the early phases of the approval and delivery process, roles will centre around professional services. These will convert to engineering, building and trades tasks during the construction phase. There are also many more ancillary and support sales both during construction and in the operational phase of the Development.</p> <p>Flexible land uses are also able to be provided over the Site.</p> <p>These may include:</p> <ul style="list-style-type: none"> a) Ancillary retail premises (such as Cafes); b) Recreational facilities, including open parklands, walking and bicycle trails, outdoor gyms and picnic areas; c) New age technologies; and d) Industries built around sustainability. <p>The contemporary and State-of-the-Art design of the Estate, will attract a new-age workforce employed in a range of traditional as well as future-looking enterprises, designed to service the needs of the new economy in the 21st Century.</p>
<p><u>Sustainable:</u></p> <p><i>Planning in each of the Aerotropolis's precincts would create opportunities to introduce aspirational energy and water solutions, and sustainable approaches to the creation of public areas, new built form and social infrastructure.</i></p>	<p>Through informed architectural design, the Proposed Development aims to deliver target a Six-Star-Green-Star energy rating, along with a comprehensive WSUD strategy for all proposed facilities.</p> <p>The following sustainability measures are proposed:</p> <p>1. Sustainability Management Principles</p> <ul style="list-style-type: none"> ▪ Complete best-practice commissioning of all equipment and plant in the Proposed Development. ▪ Complete a Climate Risk Assessment with enacting sustainability design principles, to enable a more resource-resilient development. ▪ Commit to the ongoing efficient performance of the Proposed

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	<p>Development on energy and water grounds.</p> <p>2. Indoor Environment Quality Principles</p> <ul style="list-style-type: none">▪ Increase the amount and quality of fresh air within the working environment.▪ Provide a quieter acoustic and softer lighting environment and enhance views and daylight.▪ Use low embodied-energy materials and more durable product with a longer lifespan. <p>3. Energy Principles</p> <ul style="list-style-type: none">▪ Create major new initiatives to lower peak power demands and reduce energy consumption at both peak and off-peak parts of the day. <p>4. Water Principles</p> <ul style="list-style-type: none">▪ Improve and increase all recycle onsite water storage and rainwater for landscape irrigation and WC and urinal flushing. This will improve efficiency and lower usage of potable water. <p>5. Material Principles</p> <ul style="list-style-type: none">▪ Build using materials that are more sustainably sourced or have sustainability credentials. Recycled material should be used wherever possible.▪ Minimise the environmental impact of the products used through the life cycle of the building.▪ Divert 90% or more of water at the Site away from landfill. <p>6. Emission Principles</p> <ul style="list-style-type: none">▪ Fit the buildings with new-age technology away from such devices as cooling towers, thereby reducing workers exposure to airborne ailments such as legionella.
<p><u>Aligned with Infrastructure and Funding:</u></p> <p><i>Sequenced precinct planning would align population and economic growth, with the planning and construction of new transport, services and community facilities for residents and workers.</i></p>	<p>As the Proposed Development can be serviced immediately by existing infrastructure at No Cost to Government, it has a unique ability to deliver immediate economic outcomes.</p>

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The timely and efficient provision of enabling infrastructure is a key consideration to activate precincts. In the context of the major investments by the Commonwealth and NSW, particularly in Stage 1 of North–South Rail Link, the use of additional value sharing mechanisms would also be considered. This plan represents the beginning of a discussion regarding the potential mechanisms available to the government while the specifics of potential and practical value sharing mechanisms would be explored and developed for reporting in the second stage of the Land Use Plan.

Compatible with a Landscape Led Approach to Urban Development:

South Creek and its tributaries would shape an open space network that combines recreation, stormwater management and biodiversity, making water an important part of the Aerotropolis's character. As one of the warmest parts of Greater Sydney, where heat can influence the health and lifestyle of residents and workers, the Aerotropolis would be planned around the network of waterways to create greater environmental, social and amenity benefits. This includes responses to mitigate urban heat, flooding and intense storm events and locating noise sensitive land uses in areas considered acceptable to liveability outcomes to allow unencumbered airport operations.

It therefore does not rely on other infrastructure being built and provided in the LUIIP or WSEA for its delivery and operation.

This Development has considered both the LUIIP and the strategic context of the Site and its surrounds. The Proposed Development will occur ahead of time, if permission is granted through this process. If so, the job targets can be delivered 2 years ahead of time.

The Proposed Development demonstrates a commitment to the effective management of water, including a comprehensive WSUD strategy to manage the use of water, rainwater harvesting, stormwater bio-retention as well as providing and enhancing a 11-ha area of land adjacent to South Creek to be used for future public recreation facilities.

In doing so, the development will reduce gross pollutant, suspended solids and chemical leaching into South Creek by up to 90% in accordance with the following estimates:

- Gross Pollutants 90%
- Total Suspended Solids 85%
- Total Phosphorus 60%
- Total Nitrogen 45%
- Total Hydrocarbons 90%

Landscape design would contribute to a cool working environment, by reducing the Development's Heat Island Effect and ameliorating the work-space environment for employees and the public.

There will also be an Estate-wide bio-retention-basin for the efficient management of stormwater within the Site and beyond.

Compliance with the BCA's Section J requirements will also ensure better energy and heat outcomes.

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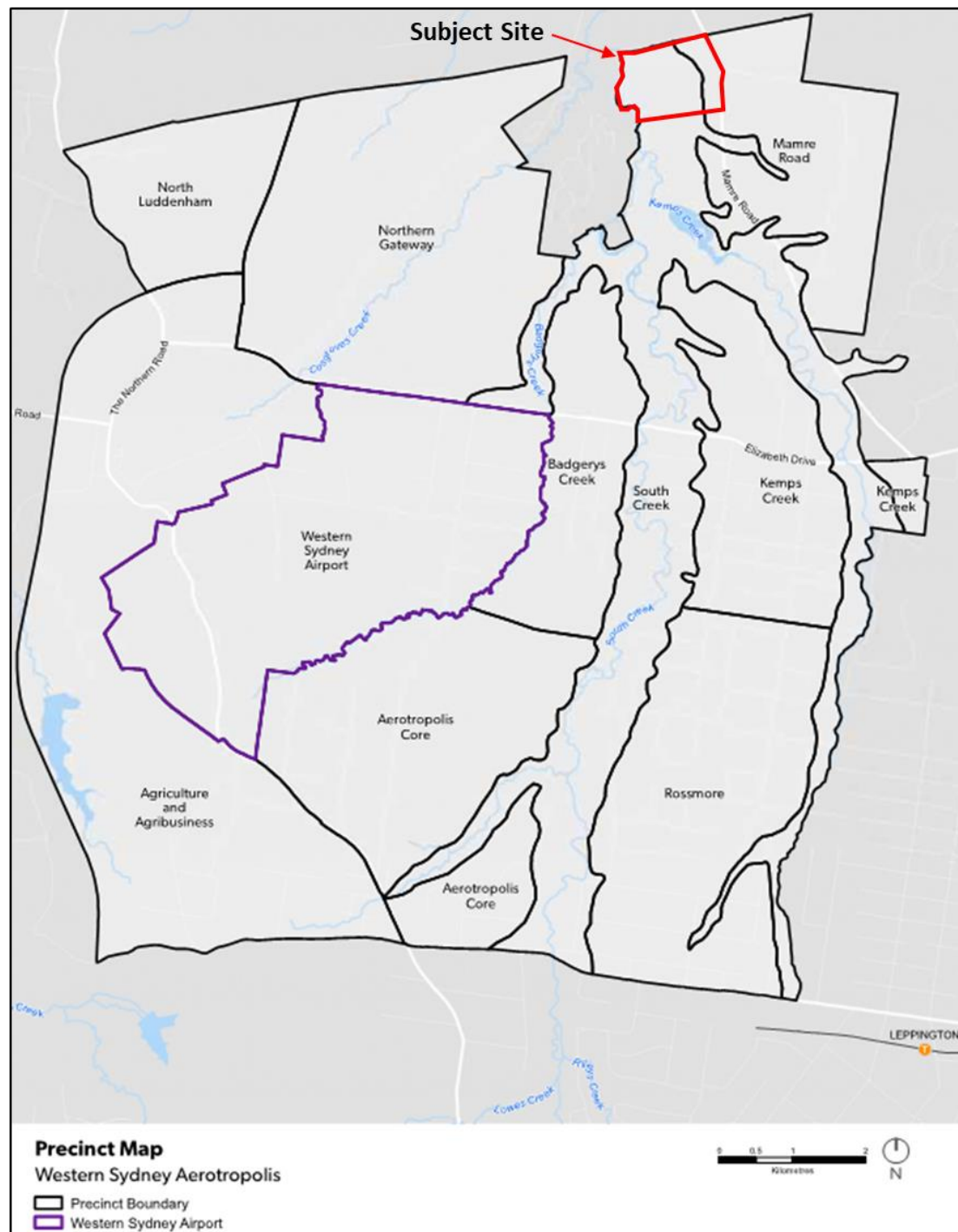


Figure 14 Western Sydney Aerotropolis Precinct Map (Source: NSW DP&E, 2018)

As can be seen from **Figure 14** above, the Subject Site is part of the Aerotropolis Precinct, forming part of the Mamre Rd Precinct.

Presently, the Sector Strategy is being prepared by Infrastructure NSW to determine the extent of land which needs to be reserved for infrastructure within South Creek. Notwithstanding the outcomes of the Sector Strategy, the Proposed Development has been designed to comply with the objectives of the *LUIIP* and will contribute to the vision for South Creek becoming a new focus for the region supplying the area with a better natural environment and an improved green open space at the Creek's edge.

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The LUIIP 2018 prioritises the planning and development of three (3) initial precincts (refer to **Figure 15**). This encompasses the full extent of South Creek and its associated tributaries, which is envisaged to act as a thoroughfare of activated open space, for both pedestrian and cycle paths. It also includes with community facilities, restaurants and cafes, as-well-as water management. The Proposed Development considers this requirement and responds by making provision for future green open space along the creek's edge.

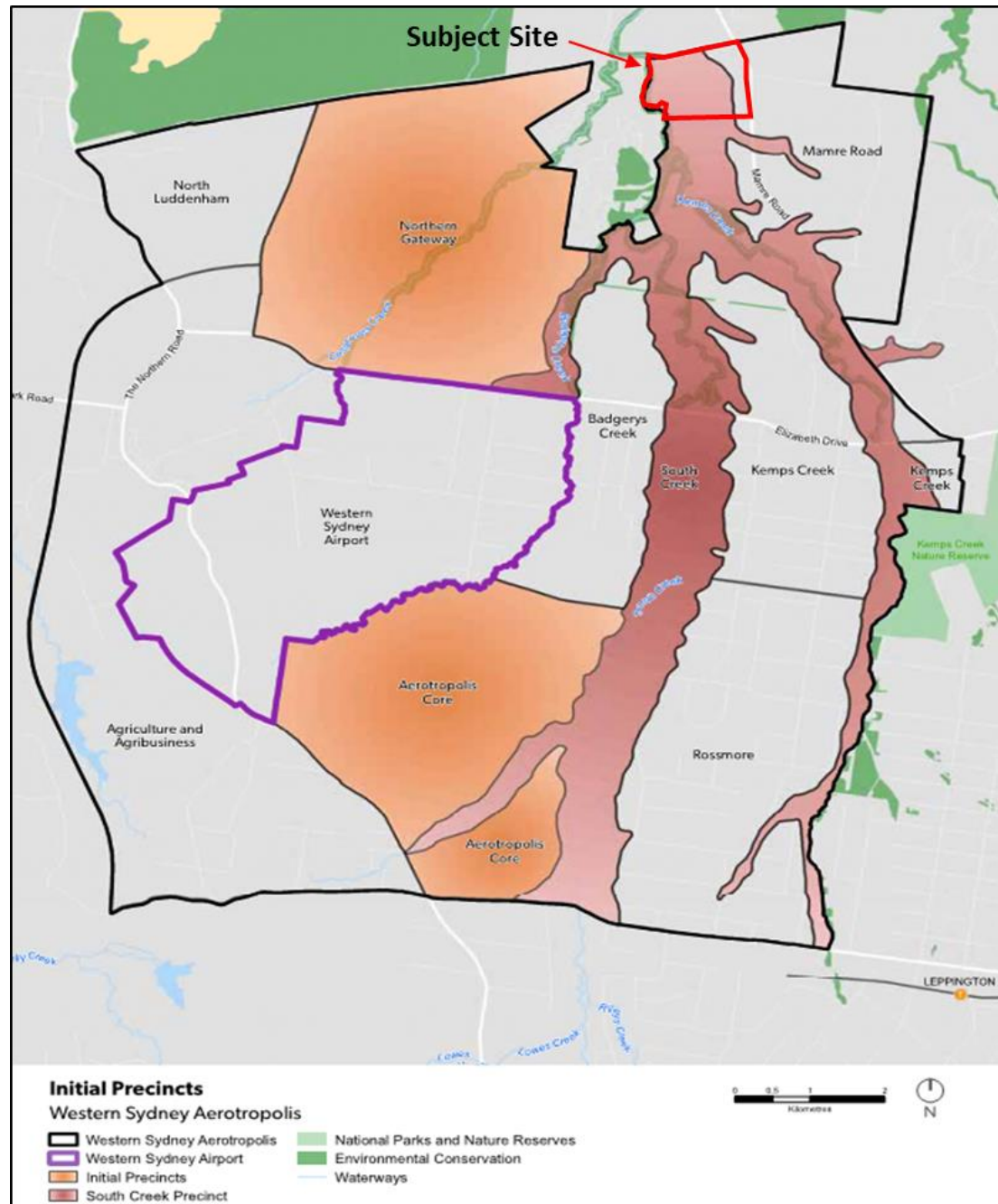


Figure 15 Western Sydney Aerotropolis – Initial Precincts (Source: NSW DP&E, 2018)

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South Creek Precinct

The Subject Site is positioned at the northern-most point of the South Creek Precinct (refer to **Figure 15** above and **Figure 16** below), as-well-as being intersected by the Mamre Road Precinct. It is understood that the current South Creek Precinct boundary may change pursuant to the release of the Final Plan. Given that the Subject Site (according to Ecoplanning), does not include any areas of outstanding biodiversity values, as defined under the BC Act, 2016, the likelihood of development occurring on the Site, appears high.

The BDAR notes, that given the highly-modified nature of the Subject Site and broader locality, and its proximity to industrial land use and large urban roads, the Proposed Development is considered unlikely to reduce viability of any adjacent native vegetation or habitat due to edge effects, noise, dust or light spill, or disturbance to breeding habitats.

Additionally, the Report concludes that no prescribed biodiversity impacts subject to the BC Act 2016 are anticipated as a result of the Proposed Development. As described above, the majority of impacts anticipated will be incurred to cleared land exotic grassland. Several mitigation measures will be implemented to reduce impacts where possible, such as appropriate pre-clearance protocols and a CEMP.

The Proposed Development also recognises the Plan's requirement for water management and incorporates a WSUD strategy into the overall scheme. This includes provision for on-site detention, and rainwater reuse and reticulation, through the incorporation of rainwater tanks for each proposed warehouse or distribution facility alike.

Importantly, the long-term role of South Creek is to provide an enhanced green space and water management within the catchment. This Proposal takes full cognisance of South Creek's importance, with future stages allowing up to 11-ha of green open space fronting South Creek. This is designed to complement the Government's initiatives of greening the region and improving the currently-poor water cycle management.

In the BDAR prepared by Ecoplanning, some impacts to native vegetation are anticipated for the Subject Site. It should be noted, that proposed clearing of approximately 11.31 ha of native vegetation, represents only 9.6% of the total Site. This includes the 6.84 ha of Alluvial Woodland in an under scrubbed condition, 4.04 ha of Alluvial Woodland in a Derived Native Grassland (DNG) condition, and 0.24 ha of Shale Plains Woodland in an under scrubbed condition. Direct clearing of the Subject Site does however represent a permanent loss of this native vegetation and habitat. A further 0.72 ha of exotic plantings and 83.27 ha of cleared land (exotic grassland), including only occasional native species would also be cleaned by the Proposed Development. These are exotic plantings however and are considered to be of minimal ecological value.

The following Urban Design Principles have been considered with respect to South Creek as follows:

a) Orientate developments to face towards the creek corridor.

Response: The Proposed Development does not include any built-form works under this SSD Application within close proximity of the creek edge. It does however seek consent for earthworks, the provision of infrastructure and subdivision, to accommodate a variety of future land uses that encompass recreation facilities, including open parklands, walking and bicycle trails, outdoor gyms and picnic areas; and ancillary retail premises (such as Cafes).

In this respect, the creek edge is to remain flexible in terms of the form of development that can be accommodated in the future, whilst being embellished with landscaping and recreational

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spaces, to provide opportunity for outdoor activities, designed to celebrate the role South Creek plays in the precinct.

This Proposal has specifically excluded any future indicative built-form layouts for this area, at the request of the NSW DP&E, as this Application does not seek consent for a Concept Approval.

b) Create a transect of creek-orientated place types and things to do.

Response: The proposed, finished earthworks levels and subdivision pattern provide flexibility for a range of future land uses, that are complimentary and compatible to the core operation of the proposed Estate and South Creek, which is envisaged to serve as an area for recreation, with a high ecological value.

Both small-format retail offerings and recreational facilities, may be operated in the future, in this area such as coffee shops and sandwich bars, primarily as an amenity offering to workers and the public. The area reserved around the creek's edge supports a range of active land uses, including bike paths, walking tracks, and outdoor recreation in line with the new land-use intentions for the Creek.

It is also envisioned that all future development in close proximity to the Creek, will have a direct interface with the natural environment and the water's edge, including the amenity and recreational and enjoyment benefits entailed with such an amenity.

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657-769 Mamre Road, Kemps Creek (Lot 34 DP 1118173, Lot X DP 421633, Lot 1 DP 1018318, Lot Y DP 421633 & Lot 22 DP 258414)

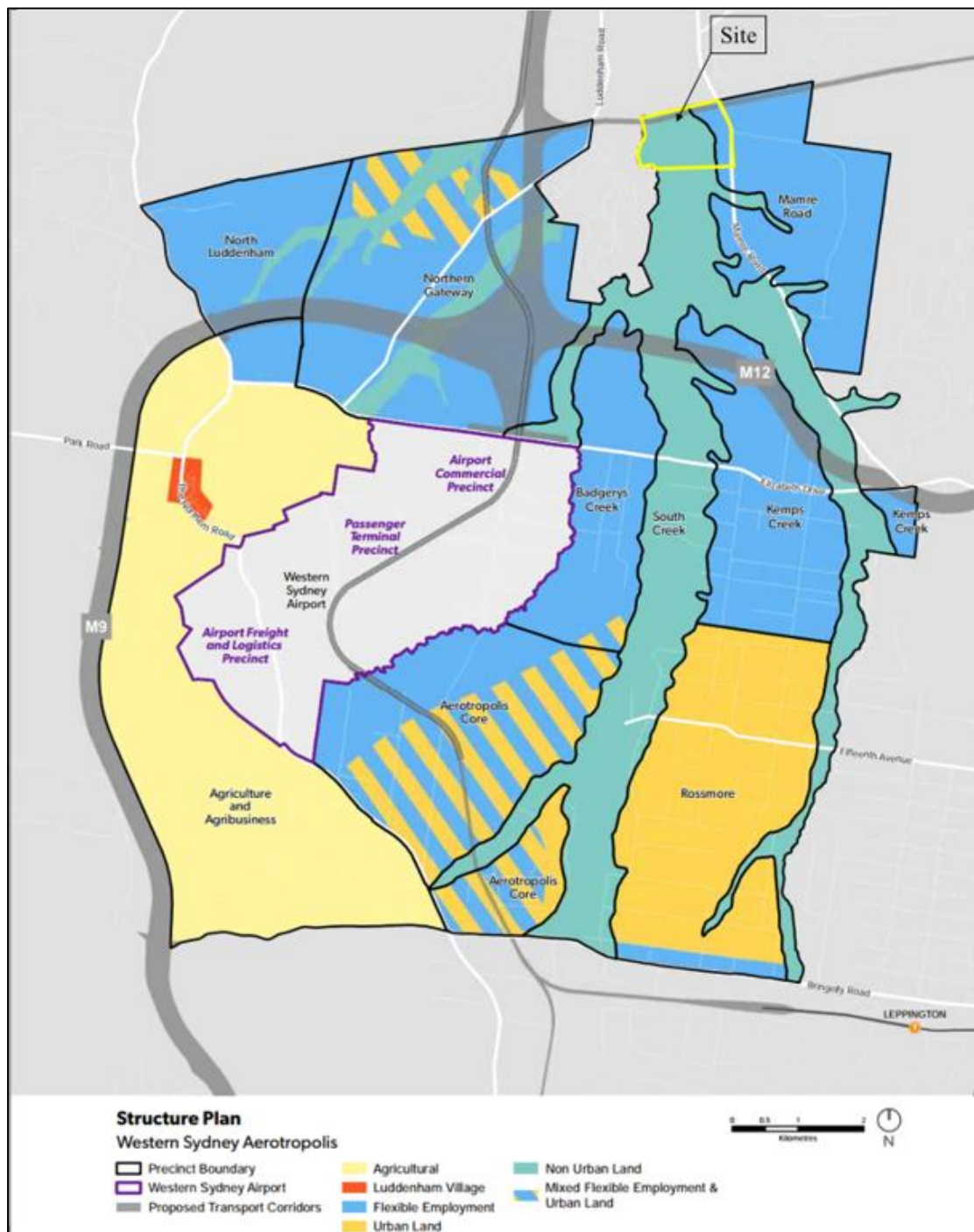


Figure 16 Western Sydney Aerotropolis – Structure Plan (Source: NSW DP&E, 2018)

c) Build a network of everyday uses within a walkable creek catchment.

Response: The earthwork's design and proposed subdivision pattern provides the ability for a range of land uses. The primary objective of the overall Estate is to create an abundance of land uses that are co-located and support each other in their day-to-day operation.

The extent of development proposed under the subject application, preserves the Creek's edge (11-ha of land fully reserved for open space and outdoor recreation) in an appropriate manner

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to ensure that it remains a central feature of the overall precinct and retains high accessibility to both occupants of the estate and the wider community, at all times.

d) Provide creek connections and encourage waterfront activities.

Response: The earthwork's design and proposed subdivision pattern, both provide opportunity for future connectivity and the augmentation of infrastructure to accommodate waterfront activities. It is noted that the condition of South Creek is currently poor, however the Proposed Development provides new opportunities to ensure that an acceptable level of waterfront activity can be accommodated in the future to improve the amenity offering of the creek.

The Proposed Site Plan makes ample provision for recreational activities such as cycling and walking trails, along with associated recreational settings such as park benches and play equipment. These will assist to realise the recreational value of South Creek both in the short and long term. The natural reserve area is proposed to be heavily rejuvenated from its current poor condition and revitalised to encourage waterfront activities.

PMF Flood Standard

With regard to the Proposed Development, it is considered that the LUIIP Draft Stage 1 Plan significantly restricts the opportunity to undertake development on the Subject Site, as the vast majority of the Site is proposed to be zoned for environmental conservation and non-urban purposes. This is considered unfounded, as the Site is included within 'Precinct 11 – Broader Western Sydney Employment Area' and is entirely consistent with the overarching aims of SEPP (WSEA) 2009, which focuses on generating employment for the region in the immediate term. The "unwavering" focus of the LUIIP is also to provide employment.
]

The fill platform modelled in the post development scenario for the Proposed Development was set approximately at the level of the PMF in South Creek. As such, only a limited number of the western lots fronting South Creek would experience some minor flooding in a PMF. The remainder and majority of the site would generally be flood free in this event.

In accordance with the flood assessment undertaken by Costin Roe Consulting, the assessment reveals that the PMF, as-well-as other flood related behaviours including the 1% AEP) would not affect the overall development potential of the Subject Site and / or other surrounding properties or reduction in flood immunity to other properties. The complete comprehensive flood assessment undertaken by Costin Roe Consulting is detailed within the Overland Flow Report located within **Appendix 11** of this EIS.

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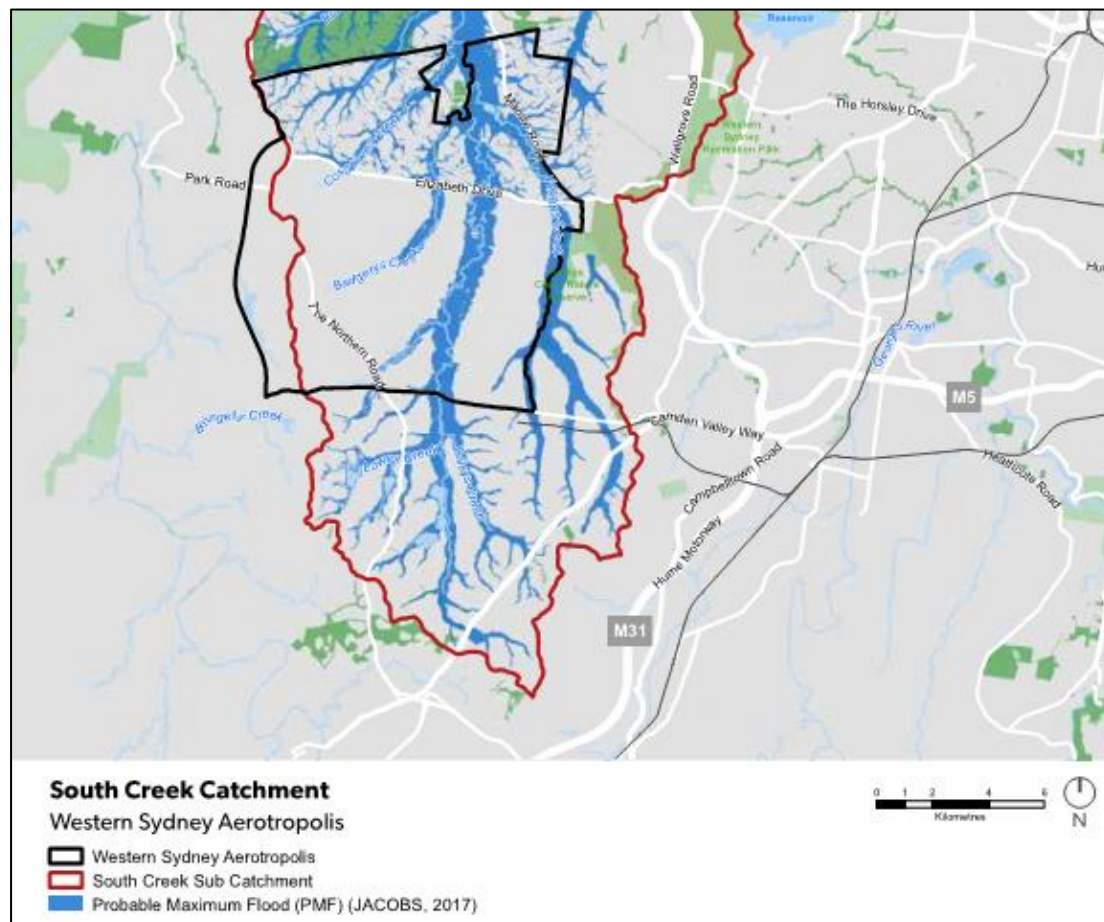


Figure 17 Western Sydney Aerotropolis – South Creek Catchment (Source: NSW DP&E, 2018)

Whilst the LUIIP Draft Stage 1 Plan pays homage to the associated environmental constraints within the Aerotropolis, it also makes provision for the future delivery of key transport infrastructure assets (refer to **Figure 18**). This includes the provision for the future WSFL Corridor and SLR Corridor, both of which are required to service the Western Sydney Airport. Provision for all planned infrastructure, has been accounted for as follows:

- The WSFL corridor with a 60-m width has been reserved to the north;
- The western extension of the SLR has been shown on the plans, consistent with all publicly exhibited plans and documents;
- The Mamre Road upgrade has been accounted for on the plans;
- A large land parcel has been reserved (11-ha) for future public open space.

It is also stated in the *LUIIP* that the Aerotropolis would make provisions for the M9 & M12 Motorways; and the North South Rail Link. Specifically, the *LUIIP* states:

"Away from the rail line a broader and flexible approach to employment and industrial activity may occur."

The Proposed Development responds to this consideration by being located a considerable distance away from the proposed rail infrastructure network; however, it is considered ideal with regard to its proximity to the existing and proposed regional road network. There is sufficient flexibility to allow for several permutations of the planned infrastructure, to be successfully delivered as anticipated, in time for the opening of the new Airport in 2026.

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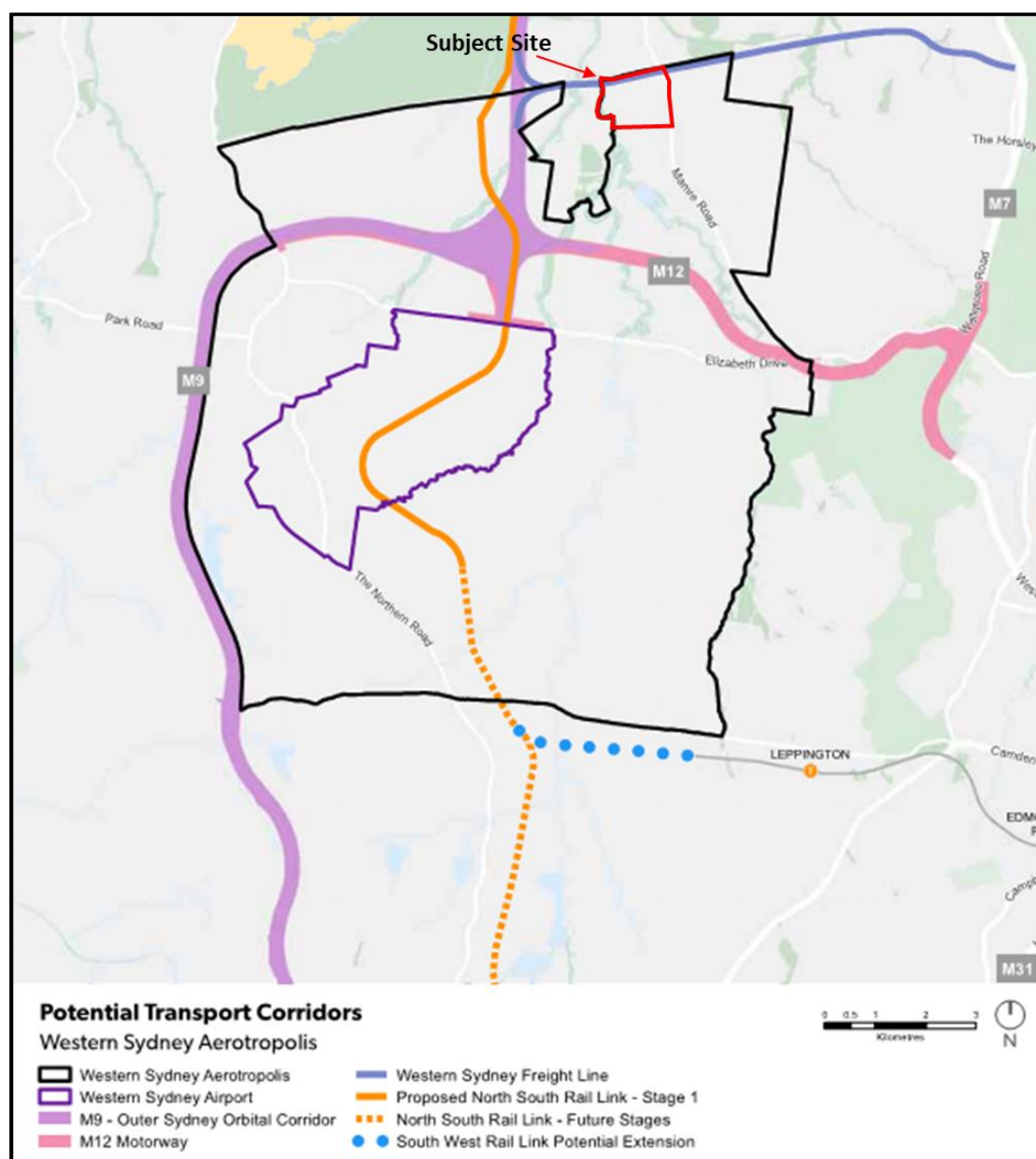


Figure 18 Western Sydney Aerotropolis – Potential Transport Corridors (Source: NSW DP&E, 2018)

The Proposed Development for the purposes of a Warehouse, Logistics and Industrial Facilities Hub, is considered consistent with the overall intention of the LUIIP as it seeks to provide employment generating development that can be delivered at No Cost to Government, with adequate servicing arrangements in place.

Statutory Weight of LUIIP

Despite the overwhelming evidence that the Proposed Development satisfies all of the objectives of the LUIIP 2018 and is of an appropriate scale and form having regard to the locality as envisaged under this Plan, the LUIIP 2018 itself carries no statutory weight on the following basis:

- The LUIIP 2018 is not an EPI or a proposed EPI. It is a high-level document for the purposes of identifying potential land uses and the sequence of development

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surrounding the new Western Sydney Airport. Therefore, a Consent Authority is not required to consider the provisions of the LUIIP 2018 under Section 4.15 of the EP&A Act, 1979 when determining whether to grant consent to the Proposed Development.

- It is open to the Consent Authority to have regard to the LUIIP 2018 in determining the suitability of the Site for the Proposed Development in accordance with clause 4.15(c) of the EP&A Act, 1979. However, the relevant law under which the development application is to be assessed is the law at the date of determination (*Soff v Wollondilly Shire Council (1975) 31 LGRA 416*) and the consent authority has no basis to delay its determination pending the outcome of the LUIIP 2018 or the making of any future EPIs.

Accordingly, the statutory weight of the LUIIP 2018 must be given its proper, weighted consideration in the determination of this SSD Application.

4.4 LOCAL PLANNING CONTEXT

4.4.1 Penrith Local Environmental Plan 2010

As the Subject Site is already part of the WSEA Land Application Area, the Proponent is seeking to invoke the provisions of SEPP (WSEA) 2009. The provisions of the PLEP2010, therefore do not require consideration.

4.4.2 Penrith Development Control Plan 2014

The PDCP2014 is a non-statutory policy used to guide development in the Penrith LGA, including land that is covered by SEPP (WSEA) 2009. It does not apply to the Subject Site however for the purpose of the Proposed Development.

As is noted in Part 2, Clause 11 of the SEPP (SRD) 2011 which governs this SSD Application:

Development control plans (whether made before or after the commencement of this Policy) do not apply to:

(a) State Significant Development

Notwithstanding, a Site Specific DCP has been prepared for the Proposed Development, which encapsulates key planning controls, such as setbacks, building heights and landscape requirements. The Site Specific DCP is located in **Appendix 38** of this EIS and discussed below in **Section 4.4.4**.

4.4.3 Penrith City Council Community Plan

As an initiative to help guide the future direction of PCC's Local Government Area, the *PCC: Community Plan* (2017) was developed to reflect the views and aspirations of the wider locality and community, situated within the PCC LGA.

The Proposed Development would furthermore be met by aligning with five (5) of the core themes and outcomes highlighted in the Plan. These are:

1. *We can work close to home;*
2. *We plan for our future growth;*
3. *We care about our environment;*
4. *We are healthy and share strong community spirit; and,*
5. *We have confidence in our council.*

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It is significant that the Proposed Development meets all of PCCs Key Community Outcomes by assisting growth and future growth, closer to home, improving the environment, as well as building a better local community spirit.

4.4.4 Proposed Mamre South Precinct Development Control Plan 2019

Compliance of the Proposed Development with the Mamre South Precinct Development Control Plan 2019 has been submitted as part of this SSD Application. This is located in **Appendix 38** of this EIS. **Table 16** below, provides an outline of the key numeric controls of the DCP as applicable to built-form and provides an assessment of the Proposed Development in relation to these controls.

Table 16: Proposed Mamre South Precinct Development Control Plan		
Issue	Control	Comment
Minimum Lot Size	2,000 m ²	<p>The proposed lots exceed 2,000 m² in area.</p> <p>Total Stage 1 Site Area: 376,177 m²</p> <ul style="list-style-type: none"> Proposed Lot 1: 51,591 m²; Proposed Lot 2: 51,304 m²; Proposed Lot 3: 38,821 m²; Proposed Lot 4: 32,245 m²; Proposed Lot 5: 44,970 m²; Proposed Lot 6: 87,377 m²; Proposed Lot 7: 26,377 m²; Proposed Lot 8: 21,757 m²; and Proposed Lot 9: 21,735 m². <p>It is noted, that there is no built-form proposed under this SSD Application on proposed Lots 7, 8 and 9. The total Site Area for the built-form proposed would be 306,308 m².</p>
Minimum Frontage	20 m	The frontage of the proposed lots exceed 20 m.
Building Setback	Mamre Road – 20 m (including a 10 m landscaped setback)	<p>The Proposal provides a 10 m landscaped setback and a 20 m building setback, thereby achieving consistency with the requirements of the DCP.</p> <p><u>Proposed Lot 1 (includes 60 m WSFL setback):</u></p> <p>Warehouse 1A: 5 m building / landscape setback; Warehouse 1B: 7.5 m building & 5 m landscape setback.</p> <p><u>Proposed Lot 2 (includes 60 m WSFL setback):</u></p> <p>Warehouse 2: 10 m Mamre Road dedication zone setback; 10 m landscape setbacks; and, 20 m building setback.</p> <p><u>Proposed Lot 3:</u></p> <p>Warehouse 3A: 7.5 m building & 5 m landscape setbacks; and,</p>

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		<p>Warehouse 3B: 10 m dedicated Mamre Road zone setback; 10 m landscape setbacks; and, 20 m building setback.</p> <p><u>Proposed Lot 4:</u></p> <p>Warehouse 4: 10 m landscape setback; 6 m wide fire trail (crushed rock); and, 20 m building setback.</p> <p><u>Proposed Lot 5:</u></p> <p>Warehouse 5A: 7.5 m building & 5 m landscape setbacks; Warehouse 5B: 7.5 m building & 5 m landscape setbacks.</p> <p><u>Proposed Lot 6:</u></p> <p>Warehouse 6: 10 m wide dedicated Mamre Road zone setback; 10 m landscape setback; 20 m building setback; and, 6 m wide fire trail (crushed rock).</p>
	Subdivision Road- 7.5m	The Site is adjoined by a 20.6 m wide access road to the north, south and west.
	Rear and Side – 5 m	<p>Side and rear setbacks exceed 5 m.</p> <p><u>Proposed Lot 1 (includes 60 m WSFL setback):</u></p> <p>Warehouse 1A: 5 m building / landscape setback; and, Warehouse 1B: 5 m building / landscape setback.</p> <p><u>Proposed Lot 2 (includes 60 m WSFL setback):</u></p> <p>Warehouse 2: 5 m building / landscape setback.</p> <p><u>Proposed Lot 3:</u></p> <p>Warehouse 3A: 5 m building / landscape setback; and, Warehouse 3B: 7.5 m building & 5 m landscape setbacks.</p> <p><u>Proposed Lot 4:</u></p> <p>Warehouse 4: 7.5 m building & 5 m landscape setbacks.</p> <p><u>Proposed Lot 5:</u></p> <p>Warehouse 5A: 7.5 m building & 5 m landscape setbacks and 6 m wide fire trail (crushed rock); and,</p>

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		Warehouse 5B: 7.5 m building & 5 m landscape setbacks and 6 m wide fire trail (crushed rock). <u>Proposed Lot 6:</u> Warehouse 6: (Side) 7.5 m building & 5 m landscape setbacks. (Rear facing SLR) 10 m landscape setback; and, 20 m building setback.
	Water Supply Pipeline – 5 m	The lots on which built form is proposed is not identified as adjoining a water supply pipeline.
Building Height	No Height Limit	<p>The proposed building heights vary from 13.7-26.37 m under the subject SSDA,</p> <p>Building heights for future stages of the Development which would be determined based on tenant enquiry and type of business proposed. Building heights would be assessed at the Development Application stage, based on their individual merits and would be accompanied by a Visual Impact Assessment, should they be proposed considerably higher than adjoining developments. Proposed building heights applicable to the subject SSDA, include:</p> <p><u>Proposed Lot 1 (includes 60 m WSFL setback):</u></p> <p>Warehouse 1A: 13.7 m; and, Warehouse 1B: 13.7 m.</p> <p><u>Proposed Lot 2 (includes 60 m WSFL setback):</u></p> <p>Warehouse 2: 26.37 m.</p> <p><u>Proposed Lot 3:</u></p> <p>Warehouse 3A: 13.7 m; and, Warehouse 3B: 13.7 m.</p> <p><u>Proposed Lot 4:</u></p> <p>Warehouse 4: 13.7 m.</p> <p><u>Proposed Lot 5:</u></p> <p>Warehouse 5A: 13.7 m; and, Warehouse 5B: 13.7 m.</p> <p><u>Proposed Lot 6:</u></p> <p>Warehouse 6: 13.7 m.</p>
Car Parking	1 space/ 300m ² warehouse GFA	The application of these rates would be applied with regard to the Proposed Development.
	1 space/ 40m ² office GFA	

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For clarity, the land to which the DCP would be applicable is shown below in **Figure 19** overleaf, encircled by the red line boundary

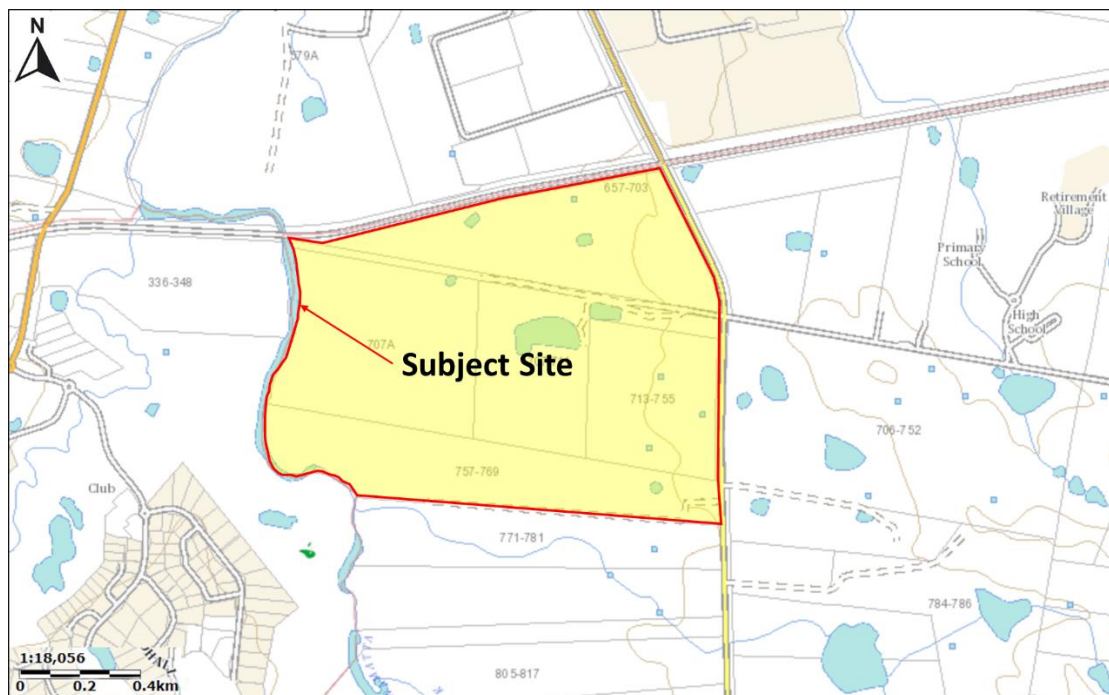


Figure 19 Land which the Proposed Mamre South DCP Applies (Source: SixMaps, 2018)

Section 11 of the SEPP (SRD) 2011 is the operable provision, which states that:

- 11 Exclusion of application of development control plans**
Development control plans (whether made before or after the commencement of this Policy) do not apply to:

(a) State significant development

Notwithstanding the above, the Proposed Development has been designed having full consideration for the herein-formulated Mamre South Precinct DCP. Though not yet formally adopted by PCC, the DCP has been designed to give more specific development controls to the Site. The DCP in its entirety (prepared by Willowtree Planning), can be found in **Appendix 38**. It takes into account the site-specific development controls, as well as providing objectives that aim to achieve compliance with any anticipated environmental parameters and constraints for both subject Site and its surroundings.

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PART E CONSULTATION

5.1 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

During the preparation of the SEARs, DP&E also consulted with stakeholders, and in the process obtained a list of their Key Issues for the proponent(s) to assess throughout this EIS. These Key Issues for assessment are contained in **Tables 17-26**.

Table 17: PCC Key Issues for Assessment	
Key Issues	How Addressed
General Requirements	
Strategic Planning, Permissibility and Orderly Development <ul style="list-style-type: none">▪ The applicant appears to be reliant on clause 12 of <i>State Environmental Planning Policy (Western Sydney Employment Area) 2009</i> to provide permissibility for the land use. However, clause 12 does not include provisions for permissibility for any land uses in unzoned land. Under the Policy -it states that (1) consent is required for development, and (2) the consent authority must consider adjoining land before granting consent. The surrounding land is predominantly zoned RU2 Rural Landscape under Penrith Local Environmental Plan 2010 and the proposed land use is currently expressly prohibited in the RU2 zone and is incompatible with the applicable zone objectives. As a result, it is therefore considered that, under the provisions of the SEPP, the Proposal is currently not permissible or suitable for the reasons outlined below;▪ While discussions between Council and the proponent in relation to rezoning of the land under SEPP (WSEA) 2009 were held earlier in 2018, it is understood that to date no Planning Proposals has been lodged; and,▪ As the property is identified within the Mamre Road Precinct of the <i>LUIIP</i>▪ Stage 1: Initial Precincts (Department of Planning and Environment, August 2018), any large-scale proposal that alters development capability and permissible land uses should be approached with caution until the <i>LUIIP</i> Stage 2 Structure Plan and associated land use directions under the <i>LUIIP</i> are established. Approval of the Proposal ahead of this direction has the potential to adversely impact the master planning of this area and the orderly development of the locality.	<p>Section 4.2.7 satisfactorily considers and addresses the Proposed Development's permissibility, compatibility and ultimate consistency with regard to SEPP (WSEA) 2009, in particular Clause 12; and, the overarching aims set out within, for which the Proposed Development is considered entirely consistent with.</p> <p>Additionally, Section 4.3.3 considers the LUIIP, for which the Proposed Development is considered consistent with its corresponding aims and objectives, with particular attention given towards the Probable Maximum Flood event and the South Creek Corridor Precinct, which is identified within the draft Structure Plan of the LUIIP, 2018.</p>

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<p>Internal Road Design and Infrastructure</p> <ul style="list-style-type: none">▪ The design and alignment of the Link Road is expected to continue to the west of the site over South Creek. The design of the Link Road should take into consideration the following constraints:<ul style="list-style-type: none">○ Future alignment and levels of the Link Road and bridge works over South Creek and the flooding impacts;○ Impacts of the future WSFL between the Link Road and Water NSW pipe lines;○ Temporary cul-de-sac at the western end of the Link Road for manoeuvring shall be provided for the largest vehicle access the site.▪ The Proposal needs to accommodate the future Western Sydney Freight (railway) line along the southern side of the Water NSW pipeline and may need to provide access for railway future maintenance work. This is yet to be resolved by RMS;▪ The parallel road of Bakers lane and the SLR shall be reviewed. The need for a separate Bakers Lane road carriageway is not considered necessary and access to the proposed lots adjacent to the pipeline could be off a new cul-de-sac with a controlled intersection with the new link road;▪ The proposed north/south Local Road should continue to the property boundary to set up access to future development to the south. The road should be upgraded to an industrial local collector road width and standard which would not isolate this development from future development to the south and minimise future access to Mamre Road. This would also remove the requirement for the proposed left in/left out onto Mamre Road. Consultation with RMS and Council would be required to determine the most appropriate road network strategy for the site with connectivity to future development to the south;▪ Proposed Development and subdivision works adjacent to the Warragamba Pipelines corridor shall conform to the Water NSW requirements as per Part C13 Infrastructure and Services of Penrith Development Control Plan 2014;▪ The section of Reserved Road 20.115 under DP 1118173 (also known as Bakers Lane) on the submitted plans is currently an unformed/sealed access track and may be classified as a Crown Road reserve. The developer is to seek confirmation from Crown Lands;	<p>The Proposed Development layout allows for a 38-m-wide corridor for the Southern Link Road, the location of which was based upon the plans provided to the DP&E by AECOM. This alignment is the most recent and is the most likely for the following reasons:</p> <ul style="list-style-type: none">▪ The alignment consolidates three (3) major infrastructure corridors, being the current Sydney Water Pipeline, the future Western Sydney Freight Line and the Southern Link Road;▪ Linking of the three (3) major infrastructure corridors allows for only one bridge structure over South Creek, which provides significant cost savings;▪ The Twin Creeks residential development is not adversely impacted, other alignments would have to go through Twin Creeks; and▪ This alignment would avoid the unnecessary fragmentation of land. <p>As seen on the plans of the Proposed Development located in Appendix 6, the Proponent has allowed a 60 m corridor for the future construction of Western Sydney Freight Line Corridor. This 60 m width was confirmed with TfNSW at a meeting held on the 21st of August 2018.</p> <p>The Traffic Impact Assessment prepared by Ason Group, has been informed by Penrith City Council and RMS requirements, as well as the relevant Australian Standards and concludes that:</p> <ul style="list-style-type: none">▪ The Subject Site will be accessed from the western leg of the existing Mamre Road / Bakers Lane signalised intersection.
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- Splay corners within the corner lots shall be provided at road intersections; and,
- Typical road types/cross-sections, footpath, cycleway, lighting have not been provided as part of this assessment.

- The SSDA is anticipated to generate approximately 405 veh/hr during the AM and 297 veh/hr during the PM peak hour. The estimated daily traffic generation of the proposed SSDA is 4,322 veh/day.
- With reference to the SIDRA Network results for the Proposed Development, Ason Group conclude, that the proposed SSDA traffic volumes can be accommodated through the existing intersections in the locality and that the proposed indicative signal layout envisaged for the Mamre Road / Bakers Lane can cater the additional traffic volumes.
- A review of the parking requirements for this SSDA confirms, that each land parcel will generally provide sufficient car parking spaces to satisfy the RMS parking requirements.

The Ason Group Study has been informed by consultation undertaken as part of the SEARs through formal meetings with the NSW DP&E, NSW RMS, TfNSW and Penrith City Council. In particular, the future Mamre Road Upgrade Project; proposed Southern Link Road; and Western Sydney Freight Line Corridor; have all been assessed as part of the overall Traffic Impact Assessment, which has been incorporated into the overall site design and layout for this Project.

Section 6.4 of this EIS summarises the findings of the Traffic Impact Assessment undertaken. A full copy is located in **Appendix 18** of this EIS.

Flooding impacts with regard to both South Creek and other proposed developments in close proximity to the Subject Site, including the proposed Southern Link Road (TfNSW) and the Western Sydney Freight Line Corridor, have been analysed by Costin Roe Consulting in an Overland Flow Report.

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	<p>Flooding impacts have also been considered, with regard to the alignment of the Southern Link Road, which remains flexible and can be adjusted in the future should the NSW DP&E or NSW RMS decide on an alternate alignment. Beyond the first stage buildings under this SSD Application, there is flexibility to change the alignment, not impacting on any built-form proposed. Furthermore, a concept alignment options review has been undertaken to demonstrate potential alternate alignments and South Creek crossing positions. This simplified plan shows potential geometry of the Southern Link Road, matching three (3) key locations, being the Mamre Rd intersection, across the Stage 1 frontage and the Twin Creeks Estate a barrier to alignment locations.</p> <p>A full copy of the Report is located in Appendix 11 and is further discussed in Section 6.3.4 and Figure 38 of this EIS.</p>
<p>Traffic Management</p> <ul style="list-style-type: none">▪ Suitable provision is made to accommodate and service the development in terms of traffic and transport. On-site car parking is proposed to support the use of the site, so as to not adversely affect the surrounding road network, and maintain all traffic flow within the RMS Environmental Amenity Standards;▪ It is noted that signalised intersections and left in/left out arrangements to Mamre road are sought, which are supported in principle; and,▪ Council is yet to resolve with RMS the critical issue being the SLR alignment, intersection with Mamre Road and the extension alignment of the SLR to the west of Mamre Road. Council is lobbying for the SLR and roads to the east of the site to be State classified roads due to their position in the road hierarchy.	<p>A Traffic Impact Assessment has been prepared by Ason Group, which considers the traffic impacts for both the Proposed Development, as well as future stages of development. The Traffic Impact Assessment prepared by Ason Group, has been informed by both Penrith City Council and RMS requirements, as well as the relevant Australian Standards. As mentioned above, the Traffic Impact Assessment prepared by Ason Group, has been informed by Penrith City Council and RMS requirements, as well as the relevant Australian Standards and concludes that:</p> <ul style="list-style-type: none">▪ The Subject Site will be accessed from the western leg of the existing Mamre Road / Bakers Lane signalised intersection.▪ The SSDA is anticipated to generate approximately 405 veh/hr during the AM and 297 veh/hr during the PM

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	<p>peak hour. The estimated daily traffic generation of the proposed SSDA is 4,322 veh/day.</p> <ul style="list-style-type: none">▪ With reference to the SIDRA Network results for the Proposed Development, Ason Group conclude, that the proposed SSDA traffic volumes can be accommodated through the existing intersections in the locality and that the proposed indicative signal layout envisaged for the Mamre Road / Bakers Lane can cater the additional traffic volumes.▪ A review of the parking requirements for this SSDA confirms, that each land parcel will generally provide sufficient car parking spaces to satisfy the RMS parking requirements. <p>In particular, the future Mamre Road Upgrade Project, proposed Southern Link Road and Western Sydney Freight Line Corridor have been assessed as part of the overall Traffic Impact Assessment, which has been incorporated into the overall site design and layout.</p>
Stormwater and Flooding <ul style="list-style-type: none">▪ The provision of basins and associated infrastructure within the floodway is not supported. Whilst some infrastructure may be suitable below the 1% AEP development within the floodway would not be supported;▪ The applicant shall consider water quality and quantity measures within each individual development. Water quality and quantity measures for stormwater runoff for the public roads shall also be considered and maintained by the registered proprietor and/or community Estate– not Council;▪ The development site consists of several lots located within South Creek floodplain. The Proposed Development would impact on flooding as filling (and constructing buildings) is proposed;▪ The flood map attached shows the floodway (red), flood storage (green), flood fringe (yellow), the PMF (light green) and the Flood Planning Area limits. As the proposed filling is well within the flood storage areas a detailed flood impact assessment report	<p>Costin Roe Consulting (2019) have prepared both a comprehensive Hydrological and Hydraulic assessment that consider all flood events including the Probable Maximum Flood (PMF) event for the South Creek Precinct Corridor in Section 4.3.3 of this EIS. Additionally, further flooding constraints have been considered throughout this EIS in Sections 6.3.4 & 6.4.2. These model the flooding behaviour of the Proposed Development across the entire estate, as well as the ultimate flood behaviour in the pre-and-post development scenarios. The results of the flood modelling are considered entirely consistent with the NSW Floodplain Management Manual (2005) and the Penrith Council DCP.</p> <p>Stormwater quality and management has also been carefully considered. Costin Roe Consulting have examined the</p>

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is required at planning stage that references adopted South Creek Flood Study and recognises areas that are not developable due to flood constraints. The majority of lots within the planning proposal are coded as FA lots and as such detail is required how water traverses through the site. The cumulative loss of flood storage across the South Creek catchment shall be addressed;

- The flood impact assessment must also assess the flood impacts to adjacent properties. When off-site flood impacts are assessed it should be considered a minimum of 2km upstream and 2km downstream to avoid effects at the boundaries of flood modelling. The assessment shall also take into consideration the recent land development under SSD 7173 – Mamre West Land north of the pipe lines;
- A peer review of the flood modelling and flood impact assessment should be undertaken by an independent flood modelling consultant to ensure the flood modelling undertaken is appropriate to the site;
- An overland flow analysis of the catchment upstream of Mamre Road shall be considered in the overall stormwater management of the site; and,
- We understand (without detail) that the Department of Planning are commissioning a study of the South Creek catchment to determine water quality and quantity targets including environmental impacts, development areas and constraints. Until Council have further detail of this study the Department should be consulted regarding development of this kind along the corridor.

stormwater quality and quantity-control management issues for the Site. The results of this Study were:

- The MUSIC modelling undertaken shows, that the proposed treatment train of Stormwater Treatment Measures (STM's) will provide stormwater treatment, which will meet Council's requirements in an effective and economical manner.
- Hydrocarbon removal cannot be easily modelled with MUSIC software. The proposed distribution / storage facility would be expected to produce low source loadings of hydrocarbons. Potential sources of hydrocarbons would be limited with leaking engine pumps or for accidental fuel spills / leaks and leaching of bituminous pavements (car parking only). The potential for hydrocarbon pollution is low and published data from the CSIRO indicates, that average concentrations from industrial sites are in the order of 10 mg/L. It is noted, that Costin Roe Consulting suggest, that source loading from the Subject Site would be near (or potentially below) this concentration. Hydrocarbon pollution would also be limited to surface areas, which will be treated by bio-retention swales, which are predicted to achieve a 90% reduction of this pollutant.
- Given the expected low source loadings of hydrocarbons and removal efficiencies of the treatment devices, Costin Roe Consulting, consider that the requirements of Council can be met.

The location of an estate-wide bio-basin and provided strategies associated with greater sustainable re-use of water on-site, have also been outcomes of the Costin Roe Study.

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	<p>It is noted, that Infrastructure NSW have to date declined to meet, regarding the Proposed Development, preferring instead to give their feedback to the NSW DP&E. As part of the overall stormwater quality and quantity control for the Subject Site, Costin Roe Consulting have proposed a new Erosion and Sediment Control Plan. The conditions of this are as follows:</p> <ul style="list-style-type: none">▪ <i>Clearly visible barrier fencing shall be installed as shown on drawing Co13362.00-DA200 & DA210 of the Civil Engineering Report and elsewhere at the discretion of the Site superintendent to ensure traffic control and prohibit unnecessary site disturbance. Vehicular access to the Site shall be limited to only those essential for construction work and they shall enter the Site only through the stabilised access points.</i>▪ <i>Soils materials will be replaced in the same order they are removed from the ground. It is particularly important that all subsoils are buried and topsoils (landscaped areas only) remain on the surface at the completion of works.</i>▪ <i>The construction program should be scheduled so that the period of time from starting land disturbance to stabilisation is minimised.</i>▪ <i>Land recently established with grass species will be watered regularly until an effective cover has been properly established and plants are growing vigorously. Further application of seeds might be necessary later in areas of inadequate vegetation establishment.</i>▪ <i>Where practical, foot and vehicular traffic will be kept away from all recently established areas.</i>▪ <i>Earth batters shall be constructed in accordance with the Geotechnical Report, prepared by Pells Sullivan Meynink (located within Appendix 14 of this EIS) or with as low a gradient as practical but not steeper than:</i>
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	<ul style="list-style-type: none">○ <i>2H:1V where slope length is less than 7 m;</i>○ <i>2.5H:1V where slope length is between 7 and 10 m;</i>○ <i>3H:1V where slope length is between 10 and 12 m;</i>○ <i>4H:1V where slope length is between 12 and 18 m;</i>○ <i>5H:1V where slope length is between 18 and 27 m;</i>○ <i>6H:1V where slope length is greater than 27 m.</i> <ul style="list-style-type: none">▪ <i>All earthworks, including waterways / drains / spillways and their outlets, will be constructed to be stable in at least the design storm event of 1 in 2-year ARI (Q2).</i>▪ <i>During windy weather, large, unprotected areas will be kept moist (not wet) by sprinkling with water to keep dust under control. In the event water is not available in enough quantities, soil binders and / or dust retardants will be used, or the surface will be left in a cloddy state that resists removal by wind.</i> <p>This has already been incorporated in the Civil Engineering Plans and detailed in Appendix 10 of this EIS.</p> <p>The Costin Roe Report located in Appendix 11 of this EIS is comprehensive and considers the flood impacts locally to the Site as well as adjoining land upstream and downstream of the Proposed Development.</p>
<p>Water Sensitive Urban Design</p> <ul style="list-style-type: none">▪ An overarching Water Sensitive Urban Design (WSUD) Strategy is to be prepared that details the WSUD objectives and how stormwater quality control measures would be implemented to meet pollutant retention targets. The WSUD Strategy must	<p>Costin Roe Consulting break the Subject Site's Water Cycle Management Strategies (WCMS) into five (5) main categories:</p>

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<p>include details of all proposed stormwater treatment measures (approximate size and location, type, configuration etc), and indicate whether the treatment measures would remain in private ownership. As discussed it is preferable that these treatment measures remain in private/community title ownership as per the approach taken for Erskine Business Park;</p> <ul style="list-style-type: none">▪ Any proposed stormwater treatment strategy would need to be informed by high level stormwater quantity and quality modelling using MUSIC. The modelling must use the parameters included in Section 4 of the WSUD Technical Guidelines, as developed for Penrith. A copy of the electronic MUSIC model (i.e.*sqz file) would need to be provided with the design meeting the following pollution retention criteria:<ul style="list-style-type: none">○ 90% Gross Pollutants;○ 85% Total Suspended Solids (TSS);○ 60% Phosphorous (TP);○ 45% Nitrogen (TN).▪ The WSUD Strategy for the site would need to document how potable water conservation targets would be met as per the WSUD Policy requirements. Details on how stormwater harvesting and reuse would be incorporated into the development should be provided. The development provides significant opportunities for stormwater harvesting and at least 80% of non-potable demand should be provided for by rainwater tanks;▪ Any changes to the flow rate and flow duration within receiving watercourses as a result of the development shall be limited as far as practicable. Evidence should be provided to show that natural flow paths, discharge points and runoff volumes from the site are retained and maintained as far as possible;▪ The subdivision plans for the site should include indicative areas set aside for drainage/WSUD measures, to ensure adequate site area is allocated for these functions early in the layout planning;▪ With regards to the riparian corridor, any changes to the existing drainage line would need to be in accordance with the requirements of the NSW Department of Industry – Natural Resources Access Regulator (NRAR). Further to this, a vegetation management plan which meets the Department's guidelines should be prepared which provides detailed guidance on the management requirements for this area; and,	<ol style="list-style-type: none">1. Water Quantity – aim is to maintain and improve the volume of stormwater flows to South Creek from the Subject Site;2. Water Quality – adopts pollution-reduction targets, as part of the Site's Stormwater Treatment Measures, to be implemented Estate-wide;3. Flooding – proposed buildings and roads have been set 500 mm above the 1% AEP;4. Water Supply – intentions to reduce demand on non-potable water uses. Additionally, each warehouse will provide a minimum of a 100,000 kL rainwater harvesting tank;5. Erosion and Sediment Control – an Erosion and Sediment Control Plan will be adopted for the Estate. <p>New Rainwater-harvesting techniques will be implemented into the Proposed design, which will promote reuse applications for potable and non-potable water, internally for warehouse amenities, as well as external applications for irrigation. The percentage of reuse is aimed by at least 35%, with a target of 50%, the highest for an industrial application under prevailing market practices.</p> <p>Sustainability is at the heart of the Proposed Development, with a Six-Star Green Star rating, industry-best-practice water management; the Proposed Development's rainwater harvesting initiatives (rainwater tanks for all buildings with a minimum capacity of 100,000 kL) will greatly improve sustainability and set a new bench mark for other industrial estates. Coupled with the latest technology in on-site detention (OSD) designed in full compliance with Penrith City Council's WSUD Principles, the Site will have the best water-harvesting techniques and credentials for an Industrial Estate. Further MUSIC modelling has been undertaken by Costin Roe</p>
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<ul style="list-style-type: none">Any impacts to South Creek should be minimised and the preference should be to restore the riparian corridor to the standards recommended by the NSW NRAR. Controlled activity approvals for all works within 40m of the creek would also need to be obtained.	<p>Consulting, for stormwater quality-control. The results of this Study were:</p> <ul style="list-style-type: none">The MUSIC modelling undertaken shows, that the proposed treatment train of Stormwater Treatment Measures (STM's) will provide stormwater treatment, which will meet Council's requirements in an effective and economical manner.Hydrocarbon removal cannot be easily modelled with MUSIC software. The Proposed Development would be expected to produce low source loadings of hydrocarbons. Potential sources of hydrocarbons would be limited with leaking engine pumps or for accidental fuel spills / leaks and leaching of bituminous pavements (car parking only). The potential for hydrocarbon pollution is low and published data from the CSIRO indicates, that average concentrations from industrial sites are in the order of 10 mg/L. It is noted, that Costin Roe Consulting suggest, that source loading from the Subject Site would be near (or potentially below) this concentration. Hydrocarbon pollution would also be limited to surface areas, which will be treated by bio-retention swales, which are predicted to achieve a 90% reduction of this pollutant.Given the expected low source loadings of hydrocarbons and removal efficiencies of the treatment devices, Costin Roe Consulting, consider that the requirements of Council can be met. <p>The design of the stormwater system has carefully considered the riparian area within South Creek and all measures have been taken to minimise impact to this area including the integration of Stormwater Treatment Measures, providing</p>
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	further mitigation, where possible, limiting the amount of runoff and prohibiting discharge from occurring to South Creek.
<p>Environment Management</p> <ul style="list-style-type: none"> ▪ The Environmental Impact Statement (EIS) prepared to support the SSD application should provide a detailed and comprehensive description of the Proposal. All environmental impacts of the Proposal would need to be identified in the EIS and supported by technical assessment reports prepared by appropriately qualified persons and in accordance with applicable legislation, guidelines and standards; ▪ It is noted that the document submitted commits to a range of investigations and assessments (contamination, air quality, etc.), however it does not confirm that a formal acoustic assessment would be carried out. Given the proximity to residential receivers (Twin Creeks), and other sensitive receivers (aged care facility and nearby schools), an Acoustic Report should be required to be prepared, with consideration given to construction and operational noise impacts, including those associated with traffic movements and the use of plant and equipment; ▪ In relation to land contamination, it is important to note that all remediation works in the Penrith local government area require development consent at present, in line with the requirements of SREP 20 and SEPP 55. Should any site investigations identify contaminated land, consent for remediation works should be sought as a part of this application; and, ▪ Appropriate consideration also needs to be given to the potential impacts to flora and fauna. As the site is bordered by South Creek to the west and is mapped as containing Cumberland Plain Woodland, the various state and federal requirements for assessment need to be met. The document has confirmed that investigations are already underway to address this aspect. 	<p>Willowtree Planning have undertaken a complete Environmental Assessment of the Proposed Development, informed by the relevant consultant and specialist reports within Part F of this EIS.</p> <p>The proponent has completed comprehensive consultant reports that include the following:</p> <ul style="list-style-type: none"> ▪ Noise Impact Assessment (Acoustic Report), prepared by Acoustic Works, which is located within Appendix 25 of this EIS; ▪ Environmental Site Assessment, comprising a Phase 1, Phase 2 Contamination Report and Site Salinity Assessment Report, prepared by JSB&G (2019), and is located within Appendix 15-17 of this EIS; ▪ Geotechnical Report, prepared by Pells Sullivan Meynink, which is located within Appendix 14 of this EIS; and, ▪ BDAR, prepared by Ecoplaning, which is located within Appendix 19 of this EIS. <p>A full copy of all consultant reports are located within Appendix 7-39.</p>

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Table 18: NSW Office of Environment & Heritage Key Issues for Assessment	
Key Issues	How Addressed
General Requirements	
<p>Aboriginal Cultural Heritage:</p> <p>OEH records indicate that a number of Aboriginal Cultural Heritage items are located on this site and the requirements attached must be addressed.</p>	<p>Biosis have satisfactorily addressed the requirements of the SEARs via the preparation of an Historic Heritage Impact Statement (refer to Section 6.14 of this EIS), corresponding Archaeology Report and Aboriginal Cultural Heritage Assessment Report (ACHAR) (refer to Section 6.13 of this EIS).</p> <p>Within the ACHAR prepared by Biosis (2019) they have provided recommendations, which respond specifically to the wishes of the RAPs. The recommendations are as follows:</p> <p><u>Recommendation 1: Further archaeological work in the form of surface salvage and salvage excavation at AHIMS site 45-5-5187/MSP-03 as part of the SSD approval</u></p> <p>Biosis recommend, that further archaeological work be conducted for AHIMS site 45-5-5187/MSP-03 in the form of salvage excavation to recover sub-surface artefacts, which will be impacted as a part of the Proposed Development. This would be able to provide further information relating to the artefact's typology and material type, as well as the nature of the activities taking place at AHIMS site 45-5-5187/MSP-03. Biosis recommend this be undertaken as a condition of consent subject to approval of the SSDA. The salvage work for this particular area of the Site would not hold up the development of the remaining areas of the Estate.</p> <p><u>Recommendation 2: Further archaeological work in the form of surface salvage AHIMS sites 45-5-5184/MSP-</u></p>

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	<p><u>01, 45-5-5185/MSP/02, MSP-07 and MSP-08 as part of the SSD approval</u></p> <p>Biosis recommend, that further archaeological work be conducted for AHIMS sites 45-5-5184/MSP-01, 45-5-5185/MSP-02, MSP-07 and MSP-08 in the form of surface salvage to recover any surface artefacts which will be impacted as a part of the proposed development. It is recommended that surface salvage be undertaken as a condition of the SSD approval.</p> <p><u>Recommendation 3: No further archaeological work is required for sites MSP-05, MSP-06, MSP-09 and MSP-10</u></p> <p>Biosis suggest no further archaeological investigations are considered to be required for Aboriginal sites MSP-05, MSP-06, MSP-09, MSP-10 and MSP-11 prior to development impacts.</p> <p><u>Recommendation 4: Update AHIMS site cards for AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02, 45-5-5189/MSP-03 ad 45-5-5190/MSP-04 and lodge AHIMS site cards for newly identified sites MSP-05, MSP-06 & MSP-07, MSP-08, MSP-09 and MSP-10</u></p> <p>It is recommended that the AHIMS site cards for previously identified AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02 and 5-5-5189/MSP-03 be updated to reflect the revised site descriptions following the test excavations discussed in within the ACHAR.</p> <p>AHIMS site cards should also be prepared and lodged with AHIMS for newly identified sites MSP-05, MSP-06 and MSP-07, MSP-08, MSP-09, MSP-10 and that the site numbers be included in the final version of the ACHAR.</p>
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	<p><u>Recommendation 5: Preparation and lodgement of AHIMS site impact recording forms for 45-5-5184/MSP-01, 45-5-5185/MSP-02, 45-5-5189/MSP-03, MSP-05, MSP-06, MSP-07 & MSP-08, MSP-09 and MSP-10 following development impacts</u></p> <p>It is recommended that AHIMS site impact recording forms are prepared and lodged with AHIMS for Aboriginal sites 45-5-5184/MSP-01, 45-5-5185/MSP-02, 45-5-5189/MSP-03, MSP-05, MSP-06, MSP-07 and MSP-08, MSP-09 and MSP-10 within four (4) months following completion of development impacts or as otherwise stated in SSD approval conditions.</p> <p><u>Recommendation 6: Unexpected finds</u></p> <p><u>Discovery of Aboriginal Objects</u></p> <p>All Aboriginal objects and places are protected under the NPW Act. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by OEH. Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.</p> <p><u>Discovery of Unanticipated Historical Relics</u></p> <p>Relics are historical archaeological resources of local or State significance and are protected in NSW under the <i>Heritage Act 1977</i>. Relics cannot be disturbed except with a permit or exception/exemption notification. Should unanticipated relics</p>
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	<p>be discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.</p> <p><u>Discovery of Aboriginal Ancestral Remains</u></p> <p>Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:</p> <ol style="list-style-type: none">4. Immediately cease all work at that location and not further move or disturb the remains.5. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.6. Do not recommence work at that location unless authorised in writing by OEH. <p>Within the <i>Statement of Heritage Impact</i> prepared by Biosis (2019) they have provided recommendations, which respond to client requirements and the significance of the Site. They are guided by the ICOMOS <i>Burra Charter</i> with the aim of doing as much as necessary to care for the place and make it useable and as little as possible to retain its cultural significance. The recommendations are as follows:</p> <p><u>Recommendation 1: No Further Assessment Required</u></p>
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	<p>The assessment undertaken has identified no items of heritage significance or archaeological potential within the study area, and no negative heritage impacts to surrounding heritage items. As such, no further assessment is required prior to the approval of the SSDA. Prior to any ground disturbance occurring within the study area, an unexpected finds procedure should be implemented as outlined in Recommendation 2.</p> <p><u>Recommendation 2: Development of an Unexpected Finds Procedure</u></p> <p>Relics are historical archaeological resources of local or State significance and are protected in NSW under the Heritage Act 1977. Relics cannot be disturbed except with a permit or exception/exemption notification. Should unanticipated relics be discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.</p> <p>Their proposed recommendations, in accordance with the NSW Office of Environment and Heritage Guidelines, will be implemented throughout the development.</p> <p>These will be implemented accordingly throughout the development, as well as on all future development in the Estate.</p> <p>The corresponding Reports prepared by Biosis are located within Appendix 24, 26 & 27 of this EIS.</p>
<p>Biodiversity:</p> <p>The <i>Biodiversity Conservation Act 2016</i> (BC Act) provides a framework and tools to avoid, minimise and offset impacts on biodiversity. Cumberland Plain Woodland (CPW) Critically Endangered Ecological Community (CEEC) exists on the site and is proposed to be cleared</p>	<p>Ecological investigations undertaken by Ecoplaning (2019) indicate, that the condition of the identified Cumberland Plain Woodland which is a Critically Endangered Ecological Community (CEEC) listed under the <i>Commonwealth Environmental Protection and Biodiversity Act 1999</i> (EPBC Act)</p>

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<p>across the site. The total area of CPW patches comprise approximately 5ha whereas the total area of the site is 118 ha. OEH considers that through better site planning that these areas of CPW can be protected and retained, rather than cleared. The development proposed currently fails to address the BC Act objectives of avoiding and minimising impacts,</p> <p>South Creek is located along the sites western boundary. The <i>State Environmental Planning Policy (Western Sydney Employment Area) 2009</i> (WSEA) Land Application Map shows that the Subject Site is not yet zoned nor is it located within an Industrial Release Area pursuant to Clause 29. The SEPP aims to protect and enhance land to which this Policy applies through appropriate environmental conservation zones, environmentally sensitive development and rehabilitation of remnant vegetation and areas with biodiversity value.</p> <p>The following SEPP aims are relevant to the Proposal and must be addressed in the siting and design of the Proposal:</p> <ul style="list-style-type: none">(c) to rezone land for employment or environmental conservation purposes;(e) to ensure that development occurs in a logical, environmentally sensitive and cost-effective manner and only after a development control plan (including specific development controls) has been prepared for the land concerned; and,(f) to conserve and rehabilitate areas that have a high biodiversity or heritage or cultural value, in particular areas of remnant vegetation. <p>Given the above SEPP aims, OEH recommends that the South Creek Corridor should be protected and conserved. It is noted that the existing zoning under this SEPP for nearby creeks such as Ropes Creek and its tributaries is E2 Environmental Conservation. Impacts to significant vegetation should be avoided with areas identified as high biodiversity and conservation value, including the riparian corridor along South Creek on the site and 40 m from the top of the bank, protected through a suitable conservation zoning and shown as reserved for future E2 Environmental Conservation Zone on the development proposal plans.</p>	<p>on the Subject Site, does not meet the relevant condition criteria to be considered a MNES. Consequently, referral to the Commonwealth is not required under the EPBC Act 1999, with regard to the Proposed Development.</p> <p>The BDAR prepared by Ecoplaning (2019) notes that clearing of native vegetation for the Proposed Development totals only 12.51 ha, or 10.6% of the Site area. Special care has been taken to avoid the largest impacts. However, due to the nature of the Proposed Development and the sparse nature of native vegetation on-site and the isolated and degraded condition of the vegetation, the Proposed Development is deemed to have a minimal impact on any significant vegetation on-site (Ecoplaning, 2019). The main areas of significance identified on site are:</p> <ul style="list-style-type: none">▪ Alluvial Woodland;▪ Shale Plains Woodland;▪ Cleared Land 'Exotic Grasslands'; and,▪ Planted 'exotics, native indigenous and non-indigenous'. <p>Though the Proposed Development removes potential foraging and sheltering and breeding habitat (small-tree hollows and stags) for fauna. Ecoplaning have concluded that the likelihood of any threatened fauna utilising the Study Area is low. This view was based on a detailed, recent Site assessment, and analysis of the likelihood of occurrence. The Eco-planning Report concurs with 'Atlas'⁷ records recorded over the past 20 years. Recommendations of the Ecoplaning Report (2019), as mitigation measures to be implemented, to reduce any impacts on the Site and surrounds, include:</p>
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⁷ The Atlas of Living Australia (ALA) is Australia's national biodiversity database (ALA, 2018)

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<p>Further, this would be consistent with the SEPP's aims and the following strategies and planning priorities that are directly relevant to this proposal in the <i>Western City District Plan</i>:</p> <ul style="list-style-type: none">▪ Planning Priority W13: Creating a Parkland City urban structure and identity, with South Creek as a defining spatial element. <p>This gives effect to the regional plan A Metropolis of Three Cities Objective 26: A cool and green parkland city in the South Creek corridor. A Metropolis of Three Cities' vision for South Creek Corridor is to transform its water management, while using the creek corridor to form the spine of the Western Parkland City. This conceptualises a green corridor that provides sites for parks, walking, and cycling trails, community facilities, and ecological services including nutrient capture, urban cooling, and local habitat. Innovative approaches would be needed to incorporate specific landscape and waterway features into the design of new urban communities.</p> <p>The district plan also notes that in recently established neighbourhoods, environment zones have been used along major waterways, making a step towards a green parkland city.</p> <p>The South Creek Urban Design principles (figure 21 of the <i>Western City District Plan</i>) require that for new business and industrial areas, the plan encourages creek facing employment hubs and recreation spaces for workers. For this site, OEH encourages retention of the CPW and that the area be protected and incorporated into the design of the development. This would also be consistent with the District Plans following two priorities:</p> <ul style="list-style-type: none">▪ Planning Priority W14: Protecting and enhancing bushland and biodiversity; and,▪ Planning Priority W15: Increasing urban tree canopy cover and delivering Green Grid connections. <p>The district plan states that South Creek is a priority Corridor on the green grid and it is intended to create a continuous open space corridor along the entirety of South Creek that provides ecological protection and enhancement, better stormwater treatment and a regionally significant corridor for recreation uses.</p>	<ol style="list-style-type: none">1. On-site supervision by an ecologist of all habitat relocation of fauna and tree felling;2. A programme of soft felling of hollow bearing trees would be implemented to avoid any injuries to undetected fauna;3. Appropriate erosion and sedimentation control plan would be in place, following best practice protocols such as Landcom (2004), to avoid potential indirect offsite impact during construction. This would also be included in a site-specific Construction Environmental Management Plan (CEMP), to be formulated and approved prior to any construction works taking place. The CEMP would be required to span the "pre", "during" and "post-construction" period, and would include, in full, both pre-clearance and fauna-management protocols. <p>Impacts associated with two (2) vegetation zones with regard to the Proposed Development would require offset under the Biodiversity Assessment Methodology. A total of 290 ecosystem credits are required to offset the Proposal.</p> <p>The total cost of ecosystem credits to be used to offset the potential impacts of the Proposed Development, have been estimated by Ecoplaning (2019) at \$5,207,471.08 for the entire Subject Site, which will be borne by the Proponent.</p> <p>In addition to the above, species credits would also be required for <i>Grevillea juniperina</i> subsp. <i>juniperina</i>. A total of 15 species credits are required for the complete loss of the species with regard to the Subject Site attributed to an estimated species credits cost of \$2,945.06.</p>
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	<p>The BDAR prepared by Ecoplaning is located within Appendix 19 of this EIS.</p> <p>The enhancement and rehabilitation of South Creek has also been fully integrated into the planning and design of the Proposed Development.</p> <p>Dedicating 11-ha of land directly adjacent to South Creek gives massive impetus to the protection of the natural habitat of the region. This is whilst providing a new, green area for public open space, parkland recreation and connectivity, along the South Creek waterway.</p> <p>New access points to South Creek, will also be built and maintained to allow access to such an important natural feature of Western Sydney. This is not currently provided.</p>
<p>Flooding:</p> <p>The flood requirements outlined in the table attached must be included in the SEARs.</p>	<p>Costin Roe Consulting (2019) have prepared a comprehensive Hydrological and Hydraulic Assessment, that considers the Probable Maximum Flood (PMF) event for the South Creek Precinct Corridor in Section 4.3.3 of this EIS. This has outlined the following:</p> <ul style="list-style-type: none">▪ The fill platform modelled in the post development scenario for the Proposed Development was set approximately at the level of the PMF in South Creek. As such, only a limited number of the western lots fronting South Creek would experience some minor flooding in a PMF. The remainder and majority of the site would generally be flood free in this event.▪ In accordance with the flood assessment undertaken by Costin Roe Consulting, the assessment reveals that the PMF, as-well-as other flood related behaviours including the 1% AEP) would not affect the overall development potential of the Subject Site and / or other

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	<p>surrounding properties or reduction in flood immunity to other properties.</p> <p>Additionally, further flooding constraints have been considered throughout this EIS in Sections 6.3.4 & 6.4.2, which consider the flooding behaviour of the Proposed Development across the entire estate, as well as the ultimate flood behaviour and associated characteristics, as a result of proposed road upgrades adjoining the Subject Site along Mamre Road and the proposed Southern Link Road. The results of the Overland Flow Report by Costin Roe were:</p> <p>Significant lead warning time would not be required to enable effective flood response plans to be initiated for this Site. The freeboard, set at 500 mm above the 1% AEP, means that all parts of the Site are a level higher than the 0.5% AEP flood level and are not flood affected, meaning that safe refuge in a major flood event is available. Further, given the travel distances from the western fringe of the Site, to the eastern flood free portions are less than 1,000 m, vehicular and pedestrian evacuation to flood free land above the PMF level may be completed in less than five (5) minutes. It is noted, that sufficient warning times are recommended; however, even if these were to be shortened to less than an hour, this would still result in ample time for safe evacuation to be made. Furthermore, parts of the Subject Site are clear of the PMF event and on-site refuge is available in these locations.</p>
<p>Sustainability:</p> <p>OEH also recommends that the NSW and ACT Governments Regional Climate Modelling (NARClIM) climate change projections development for the Sydney Metropolitan area are used to inform the building design and asset life of the project. These include over 100 climate variables, including temperature, rainfall, hot day and cold night, sever Forest Fire Danger Index (FFDI) and are publicly available online and at fine resolution (10km and hourly</p>	<p>Sustainability measures have been already been fully addressed throughout the entirety of this EIS, particularly through reinforcing the inclusion of the principles of Ecologically Sustainable Development as they might apply to both the natural and built environments.</p>

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<p>intervals) for 20-year time periods: 2020-2039 near future and long term 2060-2079. Further, sustainable design measures such as green roofs should be incorporated into the project design to maximise the long-term Ecologically Sustainable Development outcome of the Proposal.</p> <p>In this regard, under the heading Ecologically Sustainable Development of the draft SEARs, OEH recommends the following items are added.</p> <ul style="list-style-type: none">▪ The development incorporates green walls, green roof and/ or a cool roof into the design;▪ The climate change projections developed for the Sydney Metropolitan area are used to inform the building design and asset life of the project. <p>Relevant Data and Guidelines:</p> <ul style="list-style-type: none">▪ NSW and ACT Government Regional Climate Modelling (NARClIM) climate change projections are used to inform the building design; and,▪ OEH (2015) Urban Green Cover in NSW Technical Guidelines.	<p>The Proposed Development will be a state-of-the-art estate, targeting a six-star-green-star rating. Sustainability is at the heart of the current estate design, for both the infrastructure and buildings. The main sustainability measures to be adopted are:</p> <ol style="list-style-type: none">1. Sustainability Management Principles<ul style="list-style-type: none">▪ Complete best-practice commissioning of all equipment and plant in the Proposed Development.▪ Complete a Climate Risk Assessment with enacting sustainability design principles, to enable a more resource-resilient development.▪ Commit to the ongoing efficient performance of the Proposed Development on energy and water grounds.2. Indoor Environment Quality Principles<ul style="list-style-type: none">▪ Increase the amount and quality of fresh air within the working environment.▪ Provide a quieter acoustic and softer lighting environment and enhance views and daylight.▪ Use low embodied-energy materials and more durable product with a longer lifespan.3. Energy Principles<ul style="list-style-type: none">▪ Create major new initiatives to lower peak power demands and reduce energy consumption at both peak and off-peak parts of the day.4. Water Principles<ul style="list-style-type: none">▪ Improve and increase all recycle onsite water storage and rainwater for landscape irrigation and WC and urinal flushing. This will improve efficiency and lower usage of potable water.
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	<p>5. Material Principles</p> <ul style="list-style-type: none"> ▪ Build using materials that are more sustainably sourced or have sustainability credentials. Recycled material should be used wherever possible. ▪ Minimise the environmental impact of the products used through the life cycle of the building. ▪ Divert 90% or more of waste at the Site away from landfill. <p>6. Emission Principles</p> <ul style="list-style-type: none"> ▪ Fit the buildings with new-age technology away from such devices as cooling towers, thereby reducing workers exposure to airborne ailments such as legionella. <p>Detailed sustainability measures are located in Section 6.18 of this EIS and within the Ecologically Sustainable Development Report prepared by Frasers Property Australia, located within Appendix 29 of this EIS.</p>
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Table 19: Roads and Maritime Services Key Issues for Assessment	
Key Issues	How Addressed
General Requirements	
<ul style="list-style-type: none"> ▪ It is noted per the submission that there is multiple access points proposed on Mamre Road. Roads and Maritime reiterates that the Australian Guidelines "Planning for Road Safety" is based on the widely accepted principle of conflict reduction by separating the traffic movement and land access functions as much as possible. The number of access points should be minimised. Therefore the Proposed Development should have all its access from the SLR connection. 	<p>The proposed Masterplan has been informed by the NSW RMS. Comprehensive traffic analysis has been undertaken by Ason Group. The results of the analysis are as follows:</p> <ul style="list-style-type: none"> ▪ The Subject Site will be accessed from the western leg of the existing Mamre Road / Bakers Lane signalised intersection. ▪ The SSD Application is anticipated to generate approximately 405 veh/hr during the AM and 297 veh/hr

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	<p>during the PM peak hour. The estimated daily traffic generation of the proposed SSDA is 4,322 veh/day.</p> <ul style="list-style-type: none">▪ With reference to the SIDRA Network results for the Proposed Development, Ason Group conclude, that the proposed SSDA traffic volumes can be accommodated through the existing intersections in the locality and that the proposed indicative signal layout envisaged for the Mamre Road / Bakers Lane can cater the additional traffic volumes.▪ A review of the parking requirements for this SSDA confirms, that each land parcel will generally provide sufficient car parking spaces to satisfy the RMS parking requirements. <p>The entry and exits; and Site's proposed access roads has positioned to minimise any increase in traffic on the adjoining Mamre Road and wider regional road network. The options for accessing the Site have been strategically implemented based on the data collected. The design approach that has been employed to maximise road safety and facilitate traffic flow.</p> <p>See the Traffic Impact Assessment located in Appendix 18 of this EIS).</p>
<ul style="list-style-type: none">▪ Daily and peak traffic movements likely to be generated by the Proposed Development including the impact on nearby intersections and the need/associated funding for upgrading or road improvement works (if required). <p>The key intersections to be examined / modelled include:</p> <ul style="list-style-type: none">○ Site access road / Mamre Road	<p>The Traffic Impact Assessment prepared by Ason Group has considered the daily and peak traffic movements for the Stage 1 design. It examined the traffic flows relating to this SSD Application, as well as the traffic movements, for future stages of the Estate traffic movements have been considered with regard to the Proposed Development's compatibility with the regional road network, and regarding any future developments, for which it was considered compliant.</p> <p>SIDRA modelling has been completed for the current Bakers Lane intersection, as well as the future intersection of the SLR.</p>

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	<p>The SIDRA Modelling found that the SSDA traffic can be accommodated by the surrounding road network and intersections without any material traffic impact, subject to localised improvements to the Bakers Lane intersection.</p> <p>This is detailed in full in the Traffic Report provided by Ason Group in Appendix 18.</p>
<ul style="list-style-type: none">▪ Details of the proposed accesses and the parking provisions associated with the Proposed Development including compliance with the requirements of the relevant Australian Standards (ie: turn paths, sight distance requirements, aisle widths, etc).	<p>The Ason Group Traffic Impact Assessment has incorporated in its assessment the NSW RMS Guidelines, Australian Standards and the site-specific DCP when assessing parking and access provisions for the Proposed Development.</p> <p>The current design is fully compliant with access and parking requirements.</p> <p>The Site's parking and access provisions are clearly outlined within the report completed by Ason Group in Appendix 18.</p>
<ul style="list-style-type: none">▪ Proposed number of car parking spaces and compliance with the appropriate parking codes.	<p>The Traffic Impact Assessment has considered the NSW RMS Guidelines, Australian Standards and the site-specific DCP when assessing the parking and access provisions for the Proposed Development.</p> <p>Both access and parking provisions are clearly outlined within the report completed by Ason Group in Appendix 18</p>
<ul style="list-style-type: none">▪ Details of light and heavy vehicle movements (including vehicle type and likely arrival and departure times).	<p>The Traffic Impact Assessment has considered both the daily and peak-traffic movements for the Stage 1 Design, subject to this SSD Application, as well as the traffic movements, for the entire Estate (ultimate scenario). Traffic movements have been considered with regard to the Proposed Development's compatibility on the regional road network regarding any future developments, for which it was considered compliant.</p> <p>This assessment contains the details of both light and heavy vehicle movements. These movements were found to still fall</p>

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	<p>below all acceptable traffic limits for Mamre Rd and meet the RMS's Environmental Amenity Requirement in full.</p> <p>The Ason Group TIA can be found in Appendix 18 of this EIS.</p>
<ul style="list-style-type: none"> To ensure that the above requirements are fully addressed, the transport and traffic study must properly ascertain the cumulative study area traffic impacts associated with the development (and any other known Proposed Developments in the area). This process provides an opportunity to identify a package of traffic and transport infrastructure measures required to support future development. Regional and local intersection and road improvements, vehicular access options for adjoining sites, public transport needs, the timing and cost of infrastructure works and the identification of funding responsibilities associated with the development should be identified. 	<p>As above.</p>
<ul style="list-style-type: none"> Roads and Maritime requires the Environmental Assessment report to assess the implications of the Proposed Development for non-car travel modes (including public transport use, walking and cycling); the potential for implementing a location-specific sustainable travel plan (eg 'Travelsmart' or other travel behaviour change initiative); and the provision of facilities to increase the non-car mode share for travel to and from the site. This would entail an assessment of the accessibility of the development site by public transport. 	<p>The Traffic Impact Assessment has satisfactorily considered the potential for alternate modes of transport other than cars (i.e. walking, cycling & public transport) to and from the Subject Site.</p> <p>The Assessment concludes, that current bicycle lanes are provided along Erskine Park Road and sections of Mamre Road, as well as carriageways that can also be utilised by cyclists to travel between work and home. Pedestrian access to the Site has also been assessed by Ason Group and will be enhanced by the Proposal in the following ways:</p> <ul style="list-style-type: none"> Provision of full signalised pedestrian crossings in accordance with standard RMS practice for new signalised intersections. Upgrades to the Mamre Road / Bakers Lane intersection to improve pedestrian crossing opportunities. <p>Meeting with the NSW RMS to date (held on the 26th of July 2018) indicated intention to upgrade Mamre Road, including pedestrian footpaths on one side and a shared path (cyclist /</p>

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	<p>pedestrians) on the other side. This has been included in the Site's plan and connected to the Site's own facilities.</p> <p>The full analysis is contained in both Section 6.2.6 of the EIS and within Appendix 18.</p>
<ul style="list-style-type: none"> Roads and Maritime requires an assessment of the likely toxicity levels of loads transported on arterial and local roads to / from the site and, consequently, the preparation of an incident management strategy for crashes involving such loads, if relevant. 	<p>The Air Quality Impact Assessment (AQIA) Report prepared by Northstar has assessed the impacts of the likely toxicity levels of loads as a result of the Proposed Development, for which there were no exceedances of the relevant criteria, as assessed against the relevant NSW EPA Guidelines, which would warrant further assessment.</p> <p>The full Air Quality Impact Assessment (AQIA) is located within Appendix 21 of this EIS.</p>

Table 20: Transport for NSW Key Issues for Assessment	
Key Issues	How Addressed
General Requirements	
<p>Transport and Accessibility (Construction and Operation)</p> <ul style="list-style-type: none"> details all daily and peak traffic and transport movements likely to be generated (light and heavy vehicle, public transport, pedestrian and cycle trips) during construction and operation of the development; details of the current daily and peak hour vehicle, public transport, pedestrian and bicycle movements and existing traffic and transport facilities provided on the road network located adjacent to the Proposed Development; 	<p>The trip assessment rates adopted for the Proposed Development were as follows:</p> <ul style="list-style-type: none"> AM Rate – 0.247 trip per 100 m² of GFA; PM Rate – 0.182 trip per 100 m² of GFA; and Daily Rate – 2.64 trip per 100 m² of GFA. <p>It is noted that the approach taken is considered conservative for later development, allowing flexibility to incorporate changes over the lifespan of the Site.</p> <p>By applying the above rates, the traffic generation for this Proposed SSDA was determined as follows:</p> <ul style="list-style-type: none"> AM Peak (veh/hr) = 405;

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<ul style="list-style-type: none">▪ an assessment of the operation of existing and future transport networks including public transport, pedestrian and bicycle provisions and their ability to accommodate the forecast number of trips to and from the development;	<ul style="list-style-type: none">▪ PM Peak (veh/hr) = 297; and▪ Daily (veh/day) = 4,322. <p>At present, the Site is not directly serviced by public transport operations. Recommendations have been provided throughout this EIS, which suggest future improvements and extensions to the bus routes surrounding the Site.</p> <p>Bicycle lanes are provided along Erskine Park Road and certain sections of Mamre Road, with the addition of carriageway shoulders, that can be utilised by cyclists.</p> <p>Additionally, the Traffic Impact Assessment Report by Ason Group (2019) discusses potential additional infrastructure opportunities available for cyclists to access the Site via Mamre Road. Current bicycle lanes are provided along Erskine Park Road and sections of Mamre Road, as well as carriageways that can also be utilised by cyclists to travel between work and home as part of the future Mamre Road upgrade (refer to Figure 26 of this EIS).</p> <p>NSW RMS has declared publicly its plans to upgrade Mamre Road, including pedestrian footpaths on one side and a shared path (cyclist and pedestrians) on the other side. This is shown in Figure 26 of this EIS, which has been sourced from the RMS website. These shared and dedicated footpaths are deemed adequate to service the Proposed Development.</p> <p>There is adequate land area, within the current design of the Development, to accommodate the proposed Mamre Road Widening, including bus lanes and cycle lanes.</p>
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<ul style="list-style-type: none">▪ details the type of heavy vehicles likely to be used (e.g. B-doubles) during the operation of the development and the impacts of heavy vehicles on nearby intersections;▪ details of access to, from and within the site from the road network including intersection location, design and sight distance (i.e. turning lanes, swept paths, sight distance requirements);▪ impact of the Proposed Development on existing and future public transport and walking and cycling infrastructure within and surrounding the site;▪ an assessment of the existing and future performance of key intersections providing access to the site (Mamre Road and the First Estate Access Road), and any upgrades (road/ intersections) required as a result of the development;	<p>Access to the Site will be provided via Mamre Road and Bakers Lane, from which all types of vehicles including trucks would access the Subject Site, with the largest vehicle being a B-Double, attaining a length of approximately 19.9 m.</p> <p>Primary access from Bakers Lane (west) to the existing signalised intersection of Mamre Road / Bakers Lane, with appropriate upgrades to the Bakers Lane (west) approach and broader signal operations.</p> <p>As mentioned above, the intention of NSW RMS is to upgrade Mamre Road, including pedestrian footpaths on one side and a shared path (cyclist / pedestrians) on the other side. (See Figure 26 of this EIS).</p> <p>These are considered adequate to service the Proposed Development. The RMS upgrades are earmarked for 2020, for which construction is yet to formally commence; however, it is noted, that the Proponents has liaised with NSW RMS to confirm the design of the Proposed Development will be in line with the future road upgrade of Mamre Road.</p> <p>Detailed SIDRA analysis has been undertaken with regard to the Proposed Development, for which the current access scenarios and resultant traffic generation is considered supportable.</p> <p>It should be noted, that the RMS has already decided to improve Mamre Road, in preparation for future development and the construction of the Western Sydney Airport. One particular option being considered actively by the RMS, incorporates the road-widening of Mamre Road to a suggested three (3) lanes,</p>
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<ul style="list-style-type: none">▪ an assessment of predicted impacts on road safety and the capacity of the road network to accommodate the development;▪ demonstrate the measures to be implemented to encourage employees of the development to make sustainable travel choices, including walking, cycling, public transport and car sharing;▪ appropriate provision, design and location of on-site bicycle parking, and how bicycle provision would be integrated with the existing bicycle network;▪ details of the proposed number of car parking spaces and compliance with appropriate parking codes and justify the level of car parking provided on the site;	<p>in both the north and south directions. This can be made possible, by utilising the wide median already in place. Using the SIDRA modelling technique, it is anticipated that traffic volumes would significantly improve in terms of overall performance, after road widening takes place at Mamre Road.</p> <p>The SIDRA results of the Proposed Development have satisfactorily addressed the impacts of the Development on Road Safety. According to the analysis, the Site and this SSD can be supported on traffic safety grounds and are considered within Section 5.5 of the Traffic Impact Assessment prepared by Ason Group (See Appendix 18 of this EIS, and also Section 6.4.4), which considers the operational traffic safety impacts arising from the Proposed Development.</p> <p>Future upgrades to pedestrian and bicycle links, providing enhanced connectivity to the Subject Site would ultimately reduce the total Vehicle Trip Movements made to the Subject Site. This should be done in conjunction with the enhanced promotion of car-sharing / car-pooling, as recommended in this EIS. Furthermore, subject to extensions of the existing Bus Network, alternate transport options could be provided in the near future.</p> <p>All warehouses (as shown in the Architectural Plans located in Appendix 6 of this EIS) will provide on-site bicycle parking, in accordance with Council and RMS requirements, as suggested by the Traffic Impact Assessment prepared by Ason Group (2019).</p> <p>Relevant parking rates have been based on the NSW Roads and Maritime Services (RMS) <i>Guide to Traffic Generating Developments</i>. These are as follows:</p>
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<ul style="list-style-type: none">▪ details of access and parking arrangements for emergency vehicles;▪ detailed plans of the proposed layout of the internal road network and parking provision on-site in accordance with the relevant Australian Standards;	<ul style="list-style-type: none">▪ One (1) space per 300 m² of warehouse GFA; and▪ One (1) space per 40 m² of ancillary office GFA. <p>For proposed Lots 1, 2 & 3 (north of Bakers Lane) of the Proposed Development, the parking requirements amount to a total of 293 parking spaces, for which the Proposed Development provides 293 car parking spaces. For proposed Lots 4, 5 & 6 (south of Bakers Lane) of the Proposed Development, the parking requirements amount to a total of 432 parking spaces, for which the Proposed Development provides 465 car parking spaces, 33 spaces in excess of the requirements.</p> <p>Accessible rates have also been adopted, including:</p> <ul style="list-style-type: none">▪ One (1) space for every 100 car parking spaces or part thereof (rounded up). <p>Accordingly, this rate has been adopted for this proposed SSDA.</p> <p>Emergency vehicle access will be similar to all standardised access provisions, due to the lengths of emergency vehicles not exceeding that of a B-Double, for which the Subject Site, has already been designed. Each site within the overall Development will cater separately for emergency vehicle parking.</p> <p>The Architectural Plans (provided in Appendix 6 of this EIS) pay particular attention to the car park design. This has been designed in accordance with the relevant Australian Standards, Council requirements and RMS Standards. with the design complies with all the relevant standards, which it has been</p>
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<ul style="list-style-type: none"> ▪ details of any likely dangerous goods to be transported on arterial and local roads to/from the site, if any, and the preparation of an incident management strategy, if necessary; ▪ the existing and proposed pedestrian and bicycle routes and end of trip facilities within the vicinity of and surrounding the site and to public transport facilities as well as measures to maintain road and personal safety in line with CPTED principles; and ▪ preparation of a draft Construction Traffic Management Plan which includes: <ul style="list-style-type: none"> ○ details of vehicle routes, number of trucks, hours of operation, access management and traffic control measures for all stages of construction; ○ assessment of cumulative impacts associated with other construction activities; o an assessment of road safety at key intersections; o details of anticipated peak hour and daily truck movements to and from the site; o details of access arrangements for workers to/from the site, emergency vehicles and service vehicle movements; ○ details of temporary cycling and pedestrian access during constructions; o an assessment of traffic and transport impacts during construction and how these impacts would be mitigated for any associated traffic, pedestrians, cyclists and public transport operations. 	<p>assessed against. This is confirmed by highlighted within the Traffic Impact Assessment prepared by Ason Group and located within Appendix 18 of this EIS.</p> <p>Risk Eng have satisfactorily considered the Dangerous Goods applicable to the Proposed Development. This matter does not require further consideration. This is also confirmed by the SEPP 33 Report located in Appendix 13 of this EIS.</p> <p>As mentioned above, it is the NSW RMS's intention to upgrade Mamre Road, including pedestrian footpaths on one side and a shared path (cyclist / pedestrians) on the other side as exhibited by the RMS website. These paths are deemed to adequately service the Proposed Development. The Proposed Development has proposed end-of-trip facilities within each warehouse to accommodate all bicycle users needs. These facilities are fully documented in the Architectural Plans provided in Appendix 6 of this EIS.</p> <p>A Construction Traffic Management Plan will be prepared and provided as part of the formalised Conditions of Consent subject to this SSD approval.</p>
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<p>Consultation:</p> <p>During the preparation of the EIS, the applicant should consult with:</p> <ul style="list-style-type: none"> ▪ PCC; and, ▪ Roads and Maritime Services 	<p>The Proponents have successfully consulted with the identified State Agencies on several occasions. All consultation has been recorded in the Community Consultation Report (2019), prepared by Willowtree Planning, located in Appendix 33 of this EIS.</p>
<p>Proposed WSFL</p> <p>The public exhibition and the Statement of Environmental Effects for the Western Sydney Freight Line (WSFL) state the corridor in the vicinity of the proposed SSD to be 60-80m. The Preliminary Environmental Assessment identifies the future WSFL as a 40m corridor. Gazettal of the WSFL corridor is expected to be completed in the near future, and the proponent should continue to consult with TfNSW to ensure design of the Proposal has accounted for the gazetted corridor width.</p> <p>If the proposed SSD requires ground penetration and/or excavation to be done to a depth greater than 2m within a 25 metre proximity of the proposed WSFL, TfNSW would require geotechnical, construction and survey documentation to be prepared and submitted. While, concurrence does not apply to this development application TfNSW advises that the Proposal would be assessed in accordance with the requirements of clause 86(4) of the SEPP (Infrastructure) 2007.</p>	<p>A 60-m wide corridor has been set aside by the Development to allow for the proposed Western Sydney Freight Line Corridor. This is shown on the Infrastructure Staging Plan. This Western Sydney Freight Line Corridor runs along the northern boundary of the Subject Site. The width was decided and following the outcome of the Western Sydney Freight Line Corridor Options Assessment, dated March 2018 and after discussions held on TfNSW in meetings on 13th of April and 21st of August 2018. Minutes of these meeting are located in the Consultation Table (Table 23 of this EIS).</p> <p>A 60-m-wide corridor has been adopted in the design of the Proposed Development. The Applicant has also completed additional consultation with TfNSW on the 26th of July 2018. These discussions have confirmed that the 60-m-wide corridor is sufficient for both the proposed widening of Mamre Road and a potential grade-separated bridge over the WSFL Corridor and the Sydney Water Pipeline. This is best demonstrated within Appendix 5 of this EIS.</p>

Table 21: WaterNSW Key Issues for Assessment	
Key Issues	How Addressed
General Requirements	
<p>The WaterNSW publication 'Guidelines for development adjacent to the Upper Canal and Warragamba Pipelines' should inform the preparation of the environmental impact statement for the development. The Guidelines are available on WaterNSW's website.</p>	<p>The WaterNSW Guidelines have been considered in the overall design of the Proposed Development.</p>

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<p>The PEA (15th of August 2018; s3.5) states that consultation is occurring with WaterNSW. To date, WaterNSW has no record of consultation.</p>	<p>A Consultation Letter was issued to WaterNSW on 18th of September 2018. A formal response was received from WaterNSW on the 25th of September 2018, confirming the requirements. These were subsequently addressed within the SEARs issued on 14th of September 2018.</p>
<p>Bulk earthworks, civil infrastructure works and construction have the potential to damage the Pipelines corridor and the infrastructure. Care must be exercised when undertaking development works in proximity to the corridor, and a dilapidation survey and vibration monitoring may be required. The EIS should demonstrate how the works would be undertaken in a manner that would protect WaterNSW land and infrastructure, including details and plans of any retaining walls or supporting batters, stockpiling locations, and management measures to address sediment and erosion control and potentially contaminated water discharge from the dam dewatering process. All controls should be consistent with Landcom's 'Managing Urban Stormwater: Soils and Construction (Vol 1 4th ed. 2004)'.</p>	<p>A Construction Environmental Management Plan (CEMP), would be implemented as part of the Proposed Development, which would influence the proposed earthworks to be carried out in accordance with industry best-practice measures, so as not to cause any adverse impacts to the pipeline corridor. It should be further noted, that a 60-m-wide-setback along the northern boundary of the Subject Site, has already been allocated. This would act as a further mitigation measure and physical barrier between the development works and the Pipeline.</p>
<p>Stormwater from the site currently flows north and west either into South Creek or directly across the Pipelines corridor. A number of large dams on the site also capture stormwater. It is important bulk earthworks and final levels and design of the Proposal do not result in an increase in flows across the Pipeline corridor (including South Creek) of either quantity or quality. The EIS should identify how stormwater management systems for the development would be designed, operated and maintained to ensure post-development flows do not exceed pre-development flows into and through the Pipelines corridor. Dam dewatering methodology should also be designed and undertaken to ensure no flows are above the normal levels entering the Pipelines corridor. All stormwater management infrastructure must be accommodated within the development site and not encroach on WaterNSW land.</p>	<p>The Overland Flow Report prepared by Costin Roe Consulting (2019), confirms that the proposed final levels can accommodate the proposed design, for which no adverse impacts to the existing flows would occur, across the pipeline corridor.</p>
<p>The EIS must address security and fencing requirements along the boundary with the Pipelines corridor. Temporary construction fencing would be required while works are being undertaken, to be replaced by permanent security fencing to WaterNSW standards.</p>	<p>Noted.</p>
<p>Access to the Pipelines corridor is prohibited without the written access consent of WaterNSW. Information on obtaining access consents is available on the WaterNSW website and takes a minimum of 28 days to process.</p>	<p>Noted.</p>
<p>WaterNSW staff and contractors require a 24-hour access into and out of the Pipelines corridor through the gates on Mamre Road. This access must be maintained unimpeded for security, operational and maintenance purposes.</p>	<p>Noted.</p>

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WaterNSW operates scour valves at South Creek on the western edge of the development site for the purposes of dewatering the Pipelines during shut down periods. The water is discharged directly into South Creek but can be discharged at a controlled rate to prevent flooding. There are also two air valves located on the Pipelines between South Creek and Mamre Road, and a cross connection and valves adjacent to Mamre Road.	Noted.
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Table 22: Fire and Rescue NSW Key Issues for Assessment	
Key Issues	How Addressed
General Requirements	
<p>Fire & rescue NSW (FRNSW) have reviewed aspects of the documentation submitted. Based upon our review we advise that we did not identify any unique fire hazards associated with the Proposed Development. Consequently, FRNSW does not have any specific requirements or comment in regard to the PEA.</p> <p>It is our experience however that large developments such as these usually incorporate a number of alternative solutions to address compliance with the National Construction Code (NCC). Clause 144 of the Environmental Planning and Assessment Regulation 2000 requires certifying authorities to consult with FRNSW in specific circumstances – we envisage that any typical compliance matters, pertaining to fire and life safety, can be satisfactorily addressed within the C.144 and fire engineering brief processes.</p>	Noted.

Table 23: Department of Industry – Crown Lands and Water Key Issues for Assessment	
Key Issues	How Addressed
General Requirements	
A Land status investigation on Proposed Kemps Creek Warehouse and Logistics Hub (SSD 9522) shows that there is no Crown land features exist. Therefore, no comments.	There is a portion of land along Bakers Lane, which has been identified as a 'Crown Road Reserve', for which Land Owner's consent is being sought from Crown Lands. Signatory Declaration in the form of consent to carry out the Proposed Development works on the identified land portion is currently being sought and is expected within the next 8 weeks. Correspondence on the 6th & 8th of March 2019 confirms that, Crown Lands are actively investigating the possibility of formally handing this asset over to Penrith City Council. The Proponent

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	would then no longer require landowner's consent from Crown Lands. Rather landowner's consent would be obtained from Council instead. This process is considered more direct and effective, as the proposed access road, would eventually to be formally dedicated to Council, following the completion of the entire Estate.
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Table 24: Department of Industry Key Issues for Assessment	
Key Issues	How Addressed
General Requirements	
<p>DPI – Fisheries:</p> <p>South Creek forms important key fish habitat in Western Sydney and is a popular recreational fishing site. The key fish habitat values of South Creek are to be maintained or improved by:</p> <ul style="list-style-type: none"> ▪ Establishing an adequate riparian buffer zone to the creek. This buffer zone should be revegetated with native riparian species. The width of this riparian buffer zone is to comply with Crown Lands and Water buffer zone width requirements. ▪ Maintaining or improving the volume of stormwater flows to South Creek from this site. ▪ Improving the quality of stormwater flows to South Creek from this site. The use of water sensitive urban design measures to treat stormwater is recommended. These treatment measures should not be located within the riparian buffer zone. <p>The information requirements in section 3.3 of the NSW DPI Policy and Guidelines for Fish Habitat Conservation and Management 2013 are to be considered in the environmental assessment for this proposal. Note the riparian buffer zone widths from the top of the bank of South Creek and proposed riparian buffer zone treatment measures are to be detailed in this report.</p> <p>Appropriate erosion and sedimentation control measures must be described in the environmental assessment for all stages of construction to mitigate potential impacts to South Creek.</p>	<p>The Assessment of Riparian and Groundwater-Dependent Ecosystems Report (2019), prepared by CT Environmental, considers the stream order, key-fish habitat, groundwater-dependent ecosystems, riparian vegetation and the creek-channel condition of South Creek, with respect to the Development of the Site to which this SSD applies.</p> <p>The Report notes, that it is unlikely that the Proposed Development will have any significant impact on groundwater-dependent, aquatic and / or riparian ecosystems and improvement to these ecosystems will occur if the Report's recommendations are implemented. The Report recommends that the Proponents:</p> <ul style="list-style-type: none"> ▪ Establish an appropriately buffered Vegetated Riparian Zone. ▪ Develop an appropriate Vegetation Management Plan. ▪ Establish effective Water Sensitive Urban Design (WSUD).

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	<ul style="list-style-type: none"> Develop an appropriate Construction Environmental Management Plan (CEMP). <p>All the above recommendations are proposed to be implemented with the Proposed Development.</p> <p>The Report prepared by CT Environmental (2019) is located in Appendix 20.</p>
<p>DoI – Water:</p> <p>The identification of an adequate and secure water supply for the life of the project. This includes confirmation that water can be sourced from an appropriately authorised and reliable supply. This is also to include an assessment of the current market depth where water entitlement is required to be purchased.</p> <p>A detailed and consolidated site water balance.</p> <p>Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts. Proposed surface and groundwater monitoring activities and methodologies.</p> <p>Consideration of relevant legislation, policies and guidelines, including the NSW Aquifer Interference Policy (2012), the Guidelines for Controlled Activities on Waterfront Land (2018) and the relevant Water Sharing Plans (available at https://www.industry.nsw.gov.au/water).</p>	<p>All of the Subject Site's Infrastructure and Servicing Requirements, will be provided by the Proponents at No Cost to Government. A Service Infrastructure Assessment Report by Land Partners (2019) (accompanied by all correspondence from Sydney Water), both confirm the Site's ability to successfully augment all existing infrastructure (such as potable & waste water, gas, power and telecommunications) to successfully service the Subject Site.</p> <p>The Service Infrastructure Assessment prepared by Land Partners is located in Appendix 12 of this EIS.</p>
<p>DPI – Agriculture:</p> <p>Assessment of impacts to surrounding agricultural landuses and industries, including impacts resulting in a temporary or a permanent loss to land capability or agricultural productivity. This should include demonstration that all significant impacts on current and potential agricultural developments and resources can be reasonably avoided or adequately mitigated. The assessment should consider the guidelines for Infrastructure Proposals on Rural Lands available at</p>	<p>The Agricultural Impact Assessment, prepared by GHD (2018) provides a Land Use Conflict Risk Assessment (LUCRA), which has assessed the Proposed Development's impact on the potential agricultural surrounding properties, to pursue their current agricultural related activities, i.e. production.</p>

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<http://www.dpi.nsw.gov.au/content/agriculture/resources/lup/developmentassessment/infrastructure-proposals>

Complete a Land Use Conflict Risk Assessment (in accordance with the guideline www.dpi.nsw.gov.au/content/agriculture/resources/lup/development-assessment/lucra), including:

- Identification of potential land use conflict, in particular relating to separation distances and management practices to minimise dust, noise and visual impacts from sensitive receptors. For example, this may include outlining strategies to avoid land use conflict around agricultural aerial spraying and fertilising in the area.
- Consultation and negotiation with owners/managers of affected adjoining agricultural operations.

Include a biosecurity (pests, weeds and livestock disease) risk assessment outlining the likely plant, animal and community risks (as per the Infrastructure Proposal guideline below) including monitoring and mitigation measures.

The conclusions drawn from the Report, confirm that it is clear that the majority of land within the Subject Site has limited agricultural capability and viability in its current form and that the land is able to be developed for Industrial Employment purpose.

The Agricultural Impact Assessment is located within **Appendix 34** of this EIS.

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5.2 STAKEHOLDER CONSULTATION

The following stakeholders were required to be consulted with under this SSD Application:

1. PCC;
2. Greater Sydney Commission;
3. Roads and Maritime Services;
4. Transport for NSW;
5. Office of Environment and Heritage;
6. Environment Protection Authority;
7. Fire and Rescue NSW;
8. NSW Rural Fire Service;
9. Department of Industry – Crown Lands and Water;
10. Sydney Water;
11. WaterNSW;
12. Surrounding local residents and stakeholders; and,
13. Any other public transport or community service provider.

Extensive consultation has already been completed to date. The *Community Consultation Report* (Willowtree Planning) provides, details with a comprehensive analysis of the overall strategy undertaken to date. The matters addressed are summarised below in accordance with the requirements of the SEARs. The information provided herein, demonstrates that genuine consultation has already taken place with stakeholders seeking feedback for the Proposed Development and its proposed future benefits and possible impacts.

Consultation with adjoining landowners has taken place, prioritising proximity to the Proposed Development. As **Figure 20** illustrates, consultation was completed within a considerable geographical area, (coloured purple) which encompassed residents and landowners within a 1-2 km radius.

As part of the Community & Stakeholder and Participation Strategy, stakeholders and adjoining landowners, were all issued with consultation letters. The letters sent, summarised the Proposed Development from a neutral information perspective, allowing for questions and issues to be raised and dealt with. **Table 25** below details those landowners with whom contact occurred.

The consultation letters provided to relevant agencies and stakeholders, including adjoining landowners, provided a two (2) week turn-around-time for all response to be received. **Tables 25-27** detail all responses received from all parties contacted, as part of the Community and Stakeholder Consultation Process. It is important to note, that landowners were chosen because of the following:

- 1 Proximity to the Proposed Development, i.e. directly adjoining and / or opposing the Subject Site; and
- 2 Any residential dwelling located in close proximity along the following road interfaces:
 - 2.1 Mamre Road;
 - 2.2 Luddenham Road;
 - 2.3 Sarah Andrews Close;
 - 2.4 Bakers Lane (i.e. Mamre Anglican School, Trinity Primary School, Emmaus Catholic College, Emmaus Retirement Village & Catholic Healthcare Emmaus Village);
 - 2.5 Aldington Road;
 - 2.6 Comargo Lane;
 - 2.7 Twin Creeks Drive;
 - 2.8 Medinah Avenue;
 - 2.9 Pine Valley Crescent;

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- 2.10 Pennard Crescent;
- 2.11 Crystal Downs Close; and
- 2.12 Doral Grove

Also, noteworthy, is that the land located directly north of the Warragamba Pipeline and sharing all of the northern boundary with the Subject Site, is owned by Altis Property Partners (First Estate), a JV partner in this development.

Additionally, two (2) community consultation and information sessions were held at Twin Creeks Golf & Country Club on both the 22nd and the 25th of September 2018. These have also been included in the overall strategy. There were only three (3) attendees at these sessions with no objections raised to the Proposed Development.

All resident notification letters issued to members of the community, detailed the available consultation sessions. Furthermore, a newspaper advertisement was placed in the Penrith Press on the 13th of September 2018, informing the wider community of the Proposed Development and the corresponding consultation sessions taking place.



Figure 20 Proximity for which Landowners were Engaged for Consultation (Source: Nearmaps, 2018)

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Table 25: Consultation Record	
Stakeholder	Consultation Notes
NSW Department of Planning & Environment (DP&E)	A meeting was held with the NSW DP&E on the 14 th of June 2018 to discuss the proposed State SSD Application. The meeting focused on planning considerations with regard to the Subject Site and wider locality as-well-as any stakeholder engagement / consultation that is to occur throughout the application process; and, indicative timeframes surrounding the subject SSDA.
	Attendees included:
	Visitors: Paul Solomon (Frasers Property Australia) Ian Barter (Frasers Property Australia) Stephen O'Connor (Altis Property Partners) Shaun Hannah (Altis Property Partners) Andrew Cowan (Willowtree Planning) Shane Geha (EG)
	NSW DP&E: Bruce Colman Brett Whitworth Kelly McNicol Chris Ritchie
	The matters discussed at the meeting are further detailed in Appendix B of Appendix 32 and are considered throughout this EIS in further detail.
	In a letter dated 6 th of July 2018, directed to Brett Whitworth (DP&E), Dr Shane Geha (EG Advisory) confirmed the intentions to lodge a State Significant Development Application for a proposed Warehouse, Logistics and Industrial Facilities Hub. The letter addresses key issues that were raised by DP&E in a letter dated 24 th of May 2018.
	A meeting was held with the NSW DP&E on the 24 th of January 2019 to discuss the information provided as part of the adequacy review, which was submitted to the NSW DP&E on the 21 st of December 2018. The agenda items drawn from the meeting have been satisfactorily addressed and are captured within the entirety of this EIS.
Response: As a result of the meetings held with the NSW DP&E, SEARs were issued on the 14 th September 2018, for which have been considered and satisfactorily addressed within the contents of this EIS and corresponding consultant reports, detailed within Appendix 7-39 of this EIS. Further assessment regarding the satisfaction of the SEARs is provided within Table 1 of this EIS.	

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Penrith City Council	<p>A briefing meeting was held with PCC on 15th of March 2018 to identify the Site and obtain initial comments from Council prior to a formal Pre-DA Meeting with senior management.</p> <p>Attendees included:</p> <p>Visitors: Paul Solomon (Frasers Property Australia) Stephen O'Connor (Altis Property Partners) Andrew Cowan (Willowtree Planning)</p> <p>Council Officers: Nicole Dukinfield Carley Ryan</p> <p>The matters discussed in this meeting included an overview of the joint venture, the ability to service immediately and at no cost to government, and an update on technical investigations already completed.</p> <p>A briefing Meeting was held with PCC senior management on the 2nd of May 2018 to inform Council of the joint venture between Frasers Property and Altis Property Partners.</p> <p>Attendees included:</p> <p>Visitors: Paul Solomon (Frasers Property Australia) Stephen O'Connor (Altis Property Partners) Andrew Cowan (Willowtree Planning) Shane Geha (EG)</p> <p>Council Officers: Craig Butler Kylie Powell Natasha Baker</p> <p>The matters discussed at the meeting are further detailed in Appendix D Appendix 32 and are considered throughout this EIS in further detail.</p>
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	<p>A Pre-DA Meeting was held with PCC development team on 13th of August 2018 to discuss the Proposed Development. The attendees included the following:</p> <p>Visitors: Paul Solomon (Frasers Property Australia) Stephen O'Connor (Altis Property Partners) Andrew Cowan (Willowtree Planning) Shane Geha (EG)</p> <p>Council Officers: Peter Wood (Development Services Manager); Gavin Cherry (Development Assessment Coordinator) Robert Craig (Principal Planner) Natasha Baker (City Planning Manager) Abdul Cheema (City Planning Coordinator)</p> <p>The matters discussed in the meeting included discussion on flooding issues surrounding South Creek, access into the precinct via Bakers Lane, the SLR and site drainage.</p> <p>A further meeting was held with PCC on the 20th of August 2018 to discuss the Proposed Development and the overall vision of the site. The attendees of the meeting were;</p> <p>Visitors: Paul Solomon (Frasers Property Australia) Stephen O'Connor (Altis Property Partners) Andrew Cowan (Willowtree Planning) Shane Geha (EG)</p> <p>Council Officers: Craig Butler Kylie Powell</p> <p>The matters discussed in the meeting included the issues surrounding the industrial land shortage in the LGA, the potential employment generation of the site, the strategy for rejuvenation of South Creek and vision of the development.</p>
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	<p>A briefing note / letter was formally issued to PCC on 21ST of August 2018. The briefing note provides an overview of the proposed SSD Application.</p> <p>A meeting with Penrith City Council was attended by the Proponents in later November 2018, for which the following agenda items were discussed, including:</p> <ul style="list-style-type: none"> ▪ A complete Overland Flow Report was submitted to Council regarding the entire flood patterns experienced in and around the Subject Site, including properties up and down stream. ▪ Nicole Dunkinfield noted, that the Model utilised, must include increase in velocity in the Sydney Water Pipeline. ▪ Plans are to be submitted, which detail the degree of re-engineering required at South Creek. ▪ Detention Basin details and designs are to be provided for all areas below the 1:100 flood event levels. <p>The agenda items discussed have been considered throughout the contents of this EIS and respective consultant reports provided by Costin Roe Consulting within Appendix 10 & 11 of this EIS.</p>
<p>Response: As a result of the meetings held with Penrith City Council, and in accordance with the SEARs, that were issued on the 14th September 2018, the matters raised have been satisfactorily addressed within the contents of this EIS and corresponding consultant reports, detailed within Appendix 7-39 of this EIS. Further, Table 17 of this EIS provides a summary of the key matters for consideration, raised by Penrith City Council during the formal SEARs process. Each item for consideration has been satisfactorily addressed throughout the EIS, as described within Table 17.</p>	
<p>Greater Sydney Commission (GSC)</p>	<p>A briefing meeting was held with the Greater Sydney Commission on 29th of March 2017 to inform the GSC of the site, the Proposed Development and its employment-generating potential. The attendees included;</p> <p>Visitors: Shaun Hannah (Altis Property Partners) Stephen O'Connor (Altis Property Partners) Alastair Wright (Altis Property Partners)</p> <p>GSC: Sean O'Toole Greg Woodhams Lillian Charlsworth</p> <p>The matters discussed in the meeting included the issues surrounding the industrial land shortage in the WSEA, the potential employment generation of the site and the proposed state / regional infrastructure planned for the area.</p> <p>A meeting was held with the Greater Sydney Commission on the 10th December 2018 to discuss the Proposed Development. The attendees included:</p>

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	<p>Visitors: Dr. Shane Geha (EG) Diana Brajuha (EG) Stephen O'Connor (Altis Property Partners) Andrew Cowan (Willowtree Planning)</p> <p>GSC: Philip Graus</p> <p>The matters discussed throughout the meeting included the following agenda items, including:</p> <ul style="list-style-type: none">▪ The use of Non-Urban Land identified in the LUIIP;▪ The importance of achieving both, job creation and the "Parkland City";▪ The requirement to implement the South Creek Corridor;▪ Water Management Plan;▪ Use adjoining the South Creek Corridor;▪ Whether the land deemed to be Non-Urban Land will be compensable;▪ Queries regarding Penrith City Council's position on the Proposed Development;▪ GSC advised to liaise with Infrastructure NSW, whom they will provide a contact.
Roads and Maritime Services (RMS)	<p>A meeting was held at the RMS Offices on Argyle Street, Parramatta on 10th of April 2018 to discuss the Proposed Development and provide an overview of the access strategy, both internal and external to the site. The attendees at the meeting included;</p> <p>Visitors: Bruce Colman (DP&E) Lance Collison (DP&E) Ken Ho (TfNSW) Swathi Doddapaeni (TfNSW – Freight) Tim Lewis (Ason Group) Stephen O'Connor (Altis Property Partners) Paul Solomon (Frasers Property Australia)</p> <p>RMS:</p>

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	<p>James Hall Maria Swallow Ed Scully</p> <p>The matters discussed at the meeting included the widening of Mamre Road, the SLR, the WSFL and are further detailed in Appendix E of Appendix 32 and are considered throughout this EIS in further detail.</p> <p>A meeting was held at the RMS Offices on Argyle Street, Parramatta on 26th of July 2018 to discuss the proposed State Significant Development, specifically the associated impacts on traffic contrasted to various components of the Proposed Development.</p> <p>Attendees included:</p> <p>Visitors: Bruce Colman (DP&E) Mark Yee (DP&E) Lee Farrell (TfNSW) Marek Mularczyk (TfNSW – Freight) Tim Lewis (Ason Group) Stephen O'Connor (Altis Property Partners) Paul Solomon (Frasers Property Australia)</p> <p>RMS: James Hall Maria Swallow Louise Moran</p> <p>The matters discussed at the meeting are further detailed in Appendix E of Appendix 32 and are considered throughout this EIS in further detail.</p>
	<p>A meeting was held at the RMS Offices on Argyle Street, Parramatta on 7th of March 2019 to discuss the proposed State Significant Development, specifically the associated impacts on traffic contrasted to various components of the Proposed Development and access to the site off Mamre Road</p> <p>Attendees included:</p>

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	<p>Visitors: Bruce Colman (DP&E) (by phone) Mark Yee (DP&E) Stephen O'Connor (Altis Property Partners) Paul Solomon (Frasers Property Australia)</p> <p>RMS: James Hall Rachel Cumming Louise Moran Matthew Allen David Tawadros Chris King Brana Ravichelvan Nhu Doun Dush Senanayake</p> <p>The matters discussed at the meeting are further detailed in Appendix E of Appendix 32 and are considered throughout this EIS in further detail.</p>
Transport for NSW (TfNSW)	<p>A meeting was held with TfNSW on 13th of April 2018 to discuss the proposed freight rail corridor and understand the implications on the proposed SSD Application. The attendees included:</p> <p>Visitors: Steve O'Connor – (Altis Property Partners) Paul Solomon – (Frasers Property Australia) Jennifer Cooper – (Urbis) Lance Collison – (DP&E)</p> <p>TfNSW: David Hartmann Mark Ozinger Swathi Doddapaneni Geoff Cahill Denise Wilson</p>

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	<p>The matters discussed at the meeting are further detailed in Appendix F of Appendix 32 and are considered throughout this EIS in further detail.</p> <p>A meeting was held with TfNSW on the 21st of August 2018 to discuss the proposed freight rail corridor, to review the submission made by Altis and Frasers on the WSFL and understand the implications on the proposed SSD Application.</p> <p>Attendees included:</p> <p>Visitors: Stephen O'Connor (Altis Property Partners) Paul Solomon (Frasers Property Australia) Andrew Cowan (Willowtree Planning)</p> <p>TfNSW: David Hartman (TfNSW)</p> <p>The matters discussed at the meeting are further detailed in Appendix F of Appendix 32 and are considered throughout this EIS in further detail.</p>
Sydney Water	<p>A meeting was held with Sydney Water on 14th of June 2018 to discuss the proposed State Significant Development, specifically the planning considerations concerning Sydney Water.</p> <p>Attendees included:</p> <p>Visitors: Stephen O'Connor (Altis Property Partners) Paul Solomon (Frasers Property Australia) Sujit Pandey (Calibre) Peter Wiggan (Calibre) Mark Obuchowski (Calibre)</p> <p>Sydney Water: Kristine Leitch</p>

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	The matters discussed at the meeting are further detailed in Appendix G of Appendix 32 and are considered throughout this EIS in further detail.
Response:	In a letter dated the 8 th of November 2018, addressed to the Proponents, Sydney Water confirm, that the Subject Site can be adequately serviced to the available potable water and waste water services, via augmentation of available services within close proximity to the Subject Site. The Site Infrastructure Assessment Report located in Appendix 12 , prepared by Land Partners, includes the correspondence provided by Sydney Water, for which it considers all site infrastructure required for the Subject Site and the satisfactory arrangements required to implement these accordingly.
WaterNSW	<p>In a letter dated 25th of September 2018, the following was provided from WaterNSW with regard to the Proposed Development. This included:</p> <p><i>"WaterNSW owns and manages critical water supply infrastructure, the corridor for which forms the northern boundary of the development site. The Warragamba Pipelines corridor is a Controlled Area declared under the Water NSW Act 2014, and entry is prohibited without written consent from WaterNSW.</i></p> <p><i>It is noted from the Masterplan supplied with your letter that the built infrastructure is separated from the Warragamba Pipelines corridor by the 60 metre wide possible freight rail corridor, however the bulk earthworks are proposed up to the boundary at this point in time.</i></p> <p><i>The EIS should include consideration of all matters raised by WaterNSW in our submission to the SEARs request by the Department of Planning & Environment (our ref: D2018196427) and attached to your letter. These issues include, but are not limited to:</i></p> <ul style="list-style-type: none"> ▪ <i>changes in flooding behaviour and stormwater management;</i> ▪ <i>maintenance of WaterNSW access;</i> ▪ <i>erosion and sediment control;</i> ▪ <i>security of the corridor and fencing, including removal of any existing rural fencing;</i> ▪ <i>mitigation measures to avoid impacts on corridor and infrastructure, including a dilapidation survey and vibration monitoring;</i> ▪ <i>incident management;</i> ▪ <i>boundary landscaping; and,</i> ▪ <i>ongoing consultation with WaterNSW, including an opportunity to review the EIS."</i> <p>The contents of this letter have been taken into consideration and are satisfactorily addressed throughout this EIS.</p>
Crown Lands	There is a portion of land along Bakers Lane, which has been identified as a 'Crown Road Reserve', for which Land Owner's consent is being sought from Crown Lands. Signatory Declaration in the form of consent to carry out the Proposed Development works on the identified land portion is currently being sought and is expected within the next 8 weeks.

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	<p>Correspondence on the 6th & 8th of March 2019 from Stanley Rees (Natural Resources Management Project Officer – Crown Lands) confirms that, Crown Lands are actively investigating the possibility of formally handing this asset over to Penrith City Council. The Proponent would then no longer require landowner's consent from Crown Lands. Rather landowner's consent would be obtained from Council instead. This process is considered more direct and effective, as the proposed access road, would eventually to be formally dedicated to Council, following the completion of the entire Estate.</p> <p>The following correspondence includes commentary from Stanley Rees, which states, "<i>I write in respect of a Landowner's Consent application associated with State Significant Development Application - SSD 9522 for a proposed Warehouse, Logistics & Industrial Facilities hub with at 657-769 Mamre Road, Kemps Creek.</i></p> <p><i>The only Crown land involved in the proposal is a part of a Crown road, extending west from Mamre Road, as an extension of Bakers Lane.</i></p> <p><i>Part of this Crown road extension, near Mamre Road has already been transferred to Council in 2007.</i></p> <p><i>In order to progress the project SSD8552, DoI Lands considers that a satisfactory way forward is for the remaining section of this Crown road, which extends west from Mamre Road, (on the alignment of Bakers Lane) to be transferred to Penrith City Council.</i></p> <p><i>DoI Lands contacted Penrith City Council on 5 March 2019 by email, requesting advise on whether this section of Crown road can be readily transferred to Council management and whether additional information from DoI Lands is required to assist with this process.</i></p> <p><i>I expect to be able to advise further, once a response from Council is received."</i></p>
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Table 26: Consultation Undertaken with Adjoining Landowners		
Address	Letter Box Drop	Contact Date of Letter Box Drop
Bakers Lane		
21-43 Bakers Lane, Kemps Creek	Y	14/09/2018
Mamre Anglican School – 45-59 Bakers Lane, Kemps Creek	Y	14/09/2018
118/85 Bakers Lane, Kemps Creek (i.e. Trinity Primary School, Emmaus Catholic College,	Y	14/09/2018

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Emmaus Retirement Village & Catholic Healthcare Emmaus Village)		
Aldington Road		
1-23 Aldington Road, Kemps Creek	Y	14/09/2018
Sarah Andrews Close		
1-27 Sarah Andrews Close, Erskine Park	Y	14/09/2018
28 Sarah Andrews Close, Erskine Park	Y	14/09/2018
29-34 Sarah Andrews Close, Erskine Park	Y	14/09/2018
35-44 Sarah Andrews Close, Erskine Park	Y	14/09/2018
45-59 Sarah Andrews Close, Erskine Park	Y	14/09/2018
Luddenham Road		
202-210 Luddenham Road, Orchard Hills	Y	14/09/2018
212-214 Luddenham Road, Orchard Hills	Y	No contact made. Property is for sale.
216 Luddenham Road, Orchard Hills	Y	No contact made. Property is for sale.
222-224 Luddenham Road, Orchard Hills	Y	No contact made. Property is for sale.
226-228 Luddenham Road, Orchard Hills	Y	No contact made. Property is for sale.
230-234 Luddenham Road, Orchard Hills	Y	No contact made. Property is for sale.
236-238 Luddenham Road, Orchard Hills	Y	No contact made. Property is for sale.
240-244 Luddenham Road, Orchard Hills	Y	No contact made. Property is for sale.
246-248 Luddenham Road, Orchard Hills	Y	14/09/2018
250-254 Luddenham Road, Orchard Hills	Y	14/09/2018
256 Luddenham Road, Orchard Hills	Y	14/09/2018
262-266 Luddenham Road, Orchard Hills	Y	Spoke to resident about Proposed Development. No issues raised.
268-288 Luddenham Road, Orchard Hills	Y	14/09/2018
320-326 Luddenham Road, Orchard Hills	Y	14/09/2018
339-363 Luddenham Road, Luddenham	Y	14/09/2018
Comargo Lane		
2 Comargo Lane, Luddenham	Y	14/09/2018
4 Comargo Lane, Luddenham	Y	14/09/2018
6 Comargo Lane, Luddenham	Y	14/09/2018
8 Comargo Lane, Luddenham	Y	14/09/2018
10 Comargo Lane, Luddenham	N – Under Construction	14/09/2018

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Twin Creeks Drive		
2-8 Twin Creeks Drive, Luddenham (Twin Creeks Golf and Country Club)	Y – Sent by Post	14/09/2018
5 Twin Creeks Drive, Luddenham	Y	14/09/2018
7 Twin Creeks Drive, Luddenham	Y	14/09/2018
9 Twin Creeks Drive, Luddenham	Y	14/09/2018
11 Twin Creeks Drive, Luddenham	Y	14/09/2018
13 Twin Creeks Drive, Luddenham	Y	14/09/2018
15 Twin Creeks Drive, Luddenham	Y	14/09/2018
17 Twin Creeks Drive, Luddenham	Y	14/09/2018
19 Twin Creeks Drive, Luddenham	Y	14/09/2018
21 Twin Creeks Drive, Luddenham	Y	14/09/2018
14 Twin Creeks Drive, Luddenham	Y	14/09/2018
16 Twin Creeks Drive, Luddenham	Y	14/09/2018
18 Twin Creeks Drive, Luddenham	Y	14/09/2018
20 Twin Creeks Drive, Luddenham	Y	14/09/2018
22 Twin Creeks Drive, Luddenham	Y	14/09/2018
24 Twin Creeks Drive, Luddenham	Y	14/09/2018
26 Twin Creeks Drive, Luddenham	Y	14/09/2018
28 Twin Creeks Drive, Luddenham	Y	14/09/2018
30 Twin Creeks Drive, Luddenham	Y	14/09/2018
32 Twin Creeks Drive, Luddenham	Y	14/09/2018
34 Twin Creeks Drive, Luddenham	Y	14/09/2018
36 Twin Creeks Drive, Luddenham	Y	14/09/2018
Medinah Avenue		
1a Medinah Avenue, Luddenham	Y	14/09/2018
1 Medinah Avenue, Luddenham	Y	14/09/2018
3 Medinah Avenue, Luddenham	Y	14/09/2018
5 Medinah Avenue, Luddenham	Y	14/09/2018
7 Medinah Avenue, Luddenham	Y	14/09/2018
9 Medinah Avenue, Luddenham	Y	14/09/2018
11 Medinah Avenue, Luddenham	Y	14/09/2018
13 Medinah Avenue, Luddenham	Y	14/09/2018

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15 Medinah Avenue, Luddenham	Y	14/09/2018
17 Medinah Avenue, Luddenham	Y	14/09/2018
19 Medinah Avenue, Luddenham	Y	14/09/2018
21 Medinah Avenue, Luddenham	Y	14/09/2018
23 Medinah Avenue, Luddenham	Y	14/09/2018
25 Medinah Avenue, Luddenham	Y	14/09/2018
27 Medinah Avenue, Luddenham	Y	14/09/2018
29 Medinah Avenue, Luddenham	Y	14/09/2018
2 Medinah Avenue, Luddenham	Y	14/09/2018
4 Medinah Avenue, Luddenham	Y	14/09/2018
6 Medinah Avenue, Luddenham	Y	14/09/2018
8 Medinah Avenue, Luddenham	Y	14/09/2018
12 Medinah Avenue, Luddenham	Y	14/09/2018
14 Medinah Avenue, Luddenham	Y	14/09/2018
16 Medinah Avenue, Luddenham	Y	14/09/2018
24 Medinah Avenue, Luddenham	Under Construction	14/09/2018
26 Medinah Avenue, Luddenham	Y	14/09/2018
Pine Valley Crescent		
2 Pine Valley Crescent, Luddenham	Y	14/09/2018
4 Pine Valley Crescent, Luddenham	Y	14/09/2018
6 Pine Valley Crescent, Luddenham	Y	14/09/2018
8 Pine Valley Crescent, Luddenham	Y	14/09/2018
10 Pine Valley Crescent, Luddenham	Y	14/09/2018
12 Pine Valley Crescent, Luddenham	Y	14/09/2018
3 Pine Valley Crescent, Luddenham	Y	14/09/2018
5 Pine Valley Crescent, Luddenham	Y	14/09/2018
7 Pine Valley Crescent, Luddenham	Y	14/09/2018
9 Pine Valley Crescent, Luddenham	Under Construction	14/09/2018
11 Pine Valley Crescent, Luddenham	Y	14/09/2018
13 Pine Valley Crescent, Luddenham	Y	14/09/2018
15 Pine Valley Crescent, Luddenham	Y	14/09/2018
17 Pine Valley Crescent, Luddenham	Y	14/09/2018

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Crystal Downs Close		
2 Crystal Downs Close, Luddenham	Y	14/09/2018
3 Crystal Downs Close, Luddenham	Y	14/09/2018
4 Crystal Downs Close, Luddenham	Y	14/09/2018
5 Crystal Downs Close, Luddenham	Y	14/09/2018
6 Crystal Downs Close, Luddenham	Y	14/09/2018
7 Crystal Downs Close, Luddenham	Y	14/09/2018
8 Crystal Downs Close, Luddenham	Y	14/09/2018
Doral Grove		
3 Doral Grove, Luddenham	Y	14/09/2018
4 Doral Grove, Luddenham	Y	14/09/2018
5 Doral Grove, Luddenham	Y	14/09/2018
6 Doral Grove, Luddenham	Y	14/09/2018
7 Doral Grove, Luddenham	Y	Spoke to resident about Proposed Development. No issues raised.
8 Doral Grove, Luddenham	Y	14/09/2018
9 Doral Grove, Luddenham	Y	14/09/2018
10 Doral Grove, Luddenham	Y	14/09/2018
11 Doral Grove, Luddenham	Y	14/09/2018
Pennard Crescent		
3 Pennard Crescent, Luddenham	Y	14/09/2018
5 Pennard Crescent, Luddenham	Y	14/09/2018
7 Pennard Crescent, Luddenham	Y	14/09/2018
9 Pennard Crescent, Luddenham	Y	14/09/2018
11 Pennard Crescent, Luddenham	Y	14/09/2018
15 Pennard Crescent, Luddenham	Y	14/09/2018
2 Pennard Crescent, Luddenham	Y	14/09/2018
4 Pennard Crescent, Luddenham	Under Construction	14/09/2018
6 Pennard Crescent, Luddenham	Y	14/09/2018
8 Pennard Crescent, Luddenham	Y	14/09/2018
10 Pennard Crescent, Luddenham	Y	14/09/2018
12 Pennard Crescent, Luddenham	No Letterbox	14/09/2018
14 Pennard Crescent, Luddenham	Y	14/09/2018

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16 Pennard Crescent, Luddenham	Y	14/09/2018
Mamre Road		
654-674 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
676-702 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
754-770 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
772-782 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
788-804 Mamre Road Kemps Creek	N – Farmland (not residential)	14/09/2018
806-824 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
826-842 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
844-862 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
864-882 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
884-902 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
771-781 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
783-797 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
799-803 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
805-817 Mamre Road, Kemps Creek	N – Farmland (not residential)	14/09/2018
819-831 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
833-843 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
845-857 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
859-869 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
871-883 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
885-899 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
901 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
917 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
919-929 Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
931a Mamre Road, Kemps Creek	Y – Sent by Post	14/09/2018
Woodhall Place		
2 Woodhall Place, Luddenham	Y – Sent by Post	14/09/2018
4 Woodhall Place, Luddenham	Y – Sent by Post	14/09/2018
6 Woodhall Place, Luddenham	Y – Sent by Post	14/09/2018
1 Woodhall Place, Luddenham	Y – Sent by Post	14/09/2018
3 Woodhall Place, Luddenham	Y – Sent by Post	14/09/2018

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5 Woodhall Place, Luddenham	Y – Sent by Post	14/09/2018
7 Woodhall Place, Luddenham	Y – Sent by Post	14/09/2018
9 Woodhall Place, Luddenham	Y – Sent by Post	14/09/2018
11 Woodhall Place, Luddenham	Y – Sent by Post	14/09/2018

Table 27: Twin Creeks Golf & Country Club Community Consultation Information Session			
Name & Address	Time	Comments	Objections (Y/N)
22 September 2018			
David Bunyan – Medinah Avenue	11:00am	Questions were posed concerning proposed heights and traffic along the Bakers Lane and Mamre Road interfaces, specifically how the Proposed Development would impact on the notable school's further east of the Subject Site.	No
25 September 2018			
N/A	N/A	<ul style="list-style-type: none"> What is stored in the proposed warehouses? Who owns the land? 	No
Malama Psarianos – Penrith, NSW, 2750	6:00pm	<ul style="list-style-type: none"> Excellent concept plans – “ticks all of the boxes with me”. 	No
Wayne Kapp – Bossley Park, NSW, 2176	6:00pm	<ul style="list-style-type: none"> “Great concept, loved the plans. Hope it goes ahead.” 	No

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PART F ENVIRONMENTAL RISK ASSESSMENT

6.1 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

The SEARs were issued by the NSW DP&E on 14th of September 2018. The Key Issues included in the SEARs and addressed by this EIS are:

1. Strategic and Statutory Context;
2. Planning Agreement / Development Contributions;
3. Suitability of the Site;
4. Community and Stakeholder Engagement;
5. Urban Design and Visual Assessment;
6. Traffic and Transport;
7. Flooding;
8. Soils and Water;
9. Biodiversity;
10. Infrastructure Requirements;
11. Heritage;
12. Noise and Vibration;
13. Hazards and Risks;
14. Bushfire;
15. Waste;
16. Air Quality; and
17. Social Impact.

Other aspects evaluated throughout this EIS (for added due diligence) include the following:

18. Economic Impacts;
19. Agricultural Impacts;
20. Greenhouse Gas and Energy Efficiency; and
21. Ecologically Sustainable Development.

The above 21 matters have all been satisfactorily addressed in the various sections of this EIS, as detailed below.

6.2 URBAN DESIGN AND VISUAL

This part of the EIS considers the SEARs, specifically addressing the Urban Design and Visual assessment items, as-well-as the design principles outlined in Clause 31 of SEPP (WSEA) 2009. The design principles addressed are summarised below, including:

- *The development of a high-quality design;*
- *Incorporating a variety of materials and external finishes for the external facades;*
- *Providing a high-quality landscaping; and*
- *Having a scale and character of development that is compatible with other employment-generating development in the precinct.*

The layout and design of Site features and built-form, have been considered in terms of the visual amenity of both the Estate and the broader context, in order to facilitate a positive visual outcome. The Design Report, containing Architectural Design Report prepared by Nettleton Tribe, accurately illustrates this vision; analyses the materials and colour selections utilised; and describes the architectural treatment proposed for the Subject Site. These Guidelines ultimately reinforce the characteristics of a State-of-the-Art Warehouse, Logistics and Industrial Facilities Hub that is proposed to be built, which will aim to achieve a Six-Star-Green-Star rating.

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The complete copy of the Design Report prepared, can found in **Appendix 37** of this EIS. Specifically, the visual impact of the Proposed Development 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, Logistics and Industrial Facilities Hub, meet the operational requirements of end-users. 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 relating 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 parks and landscaping, has been strategically coordinated to provide a functional layout and coherent visual outcome. 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, characterised by native vegetation planting and green verges. Vegetation planting, including the introduction of 615 new trees, 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 provides direct access from Mamre Road to car parking and loading docks for the proposed warehouses and ensures all roads have been designed in accordance with Australian Standards.

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 Estate with an attractive appearance, in a manner that is consistent with the success of the intended Industrial Corridor. The proposed built-form, incorporates a high-quality design and fabric, to ensure a positive, visual outcome and sustainable development. Additionally, the Estate-wide architecture is envisaged to incorporate simple, rational, repetitious and 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 WSEA and is therefore considered highly appropriate for the Site. The proposed warehouse buildings exhibit a consistent design that would be reflected throughout the broader area upon the development of additional land in direct proximity to the Subject Site.

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 additional façade articulation, as-well-as opportunities for passive surveillance of the street and car park, 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

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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 directly adjacent (north) to the Subject Site, as-well-as throughout the wider WSEA. The heights proposed are considered consistent with facilities located to the north within Erskine Business Park, which allows for flexibility for users and high volumes of storage and operation. Additionally, the height and scale of the Proposed Development is further articulated within a comprehensive Visual Impact Assessment prepared by Geoscapes. The Landscape and Visual Impact Assessment Report is located within **Appendix 9** of this EIS.

The *Landscape and Visual Impact Assessment Report* prepared by Geoscapes (2019) based the potential visual impact on visual receptors that were perceived to potentially have the highest sensitivity to the Proposed Development. These included the following 18 viewpoints:

1. Old Macdonald's Child Care Centre;
2. Rear of 43 Mandalong Close;
3. Mandalong Stud Farm;
4. Public Reserve, Twin Creeks;
5. 799 Mamre Road, Kemps Creek;
6. Front of 707A Mamre Road, Kemps Creek;
7. 864 Mamre Road, Kemps Creek;
8. 201 Adlington Road, Kemps Creek;
9. 127 Adlington Road, Kemps Creek;
10. 784-786 Mamre Road, Kemps Creek;
11. Emmaus Catholic College; and
12. 654-674 Mamre Road, Kemps Creek.

Receptors which were regarded to have less sensitivity but were also assessed include:

13. 226 Luddenham Road, Orchard Hills;
14. 275 Luddenham Road, Orchard Hills;
15. 713 Luddenham Road, Luddenham;
16. 26 Medinah Avenue, Twin Creeks;
17. 826-842 Mamre Road, Kemps Creek; and
18. Bakers Lane in front of 706-752 Mamre Road, Kemps Creek.

The viewpoints utilised in preparation of the Landscape and Visual Impact Assessment, prepared by Geoscapes are illustrated in **Figure 21** below.

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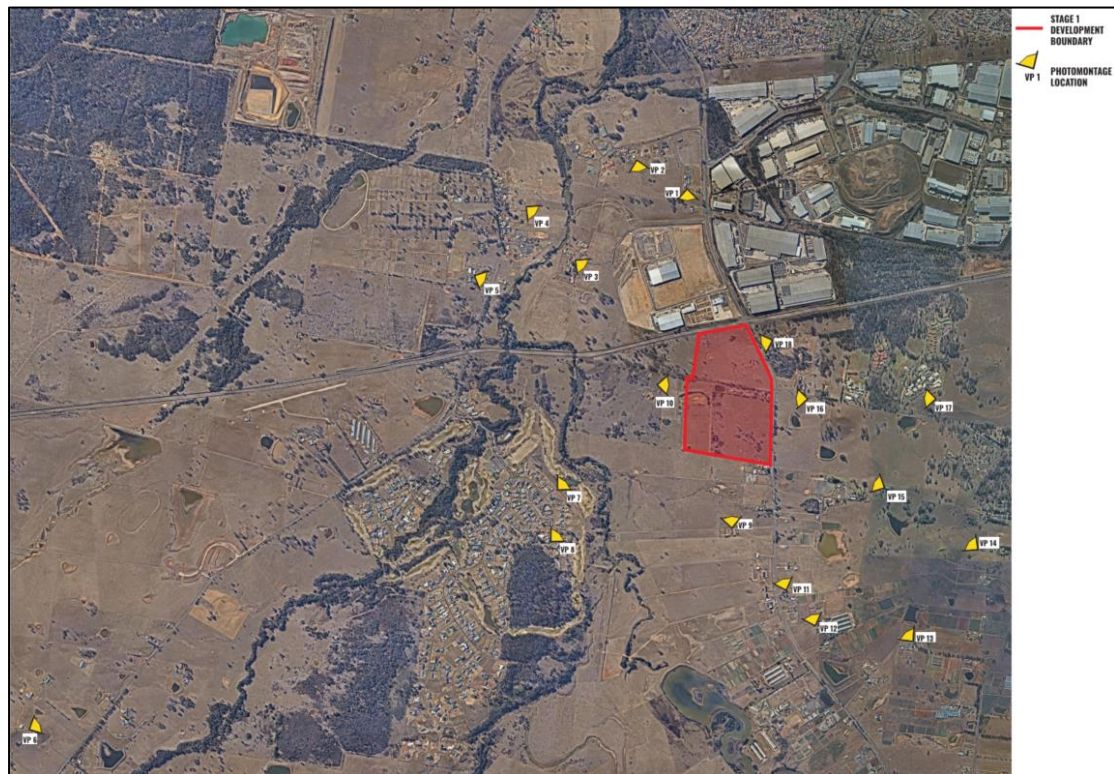


Figure 21 Viewpoint Locations utilised by Geoscapes to inform the preparation of the Landscape and Visual Impact Assessment (Source: Geoscapes, 2019)

The Subject Site would be screened by First Estate located to the north and by vegetation along the South Creek Corridor on the western side of the creek, along with planting proposed under the Proposed Development. All properties in St Clair are situated behind the existing Erskine Business Park and therefore the existing built form would obstruct view corridors to the Proposed Development. Images from critical viewpoints are identified **Figures 22-25** below. **Figures 22 & 23** represent viewpoints identified on the ground from eye level, whereas **Figures 24 & 25** represent viewpoints taken from a drone that was flown at a representative height of the proposed warehouses. The drone photographs were taken on 29th of August 2018.

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Figure 22 Eye-Level Position from the Subject Site Viewing the Northern Aspect (Top) and the Southern Aspect (Bottom) (Source: Geoscapes, 2018)

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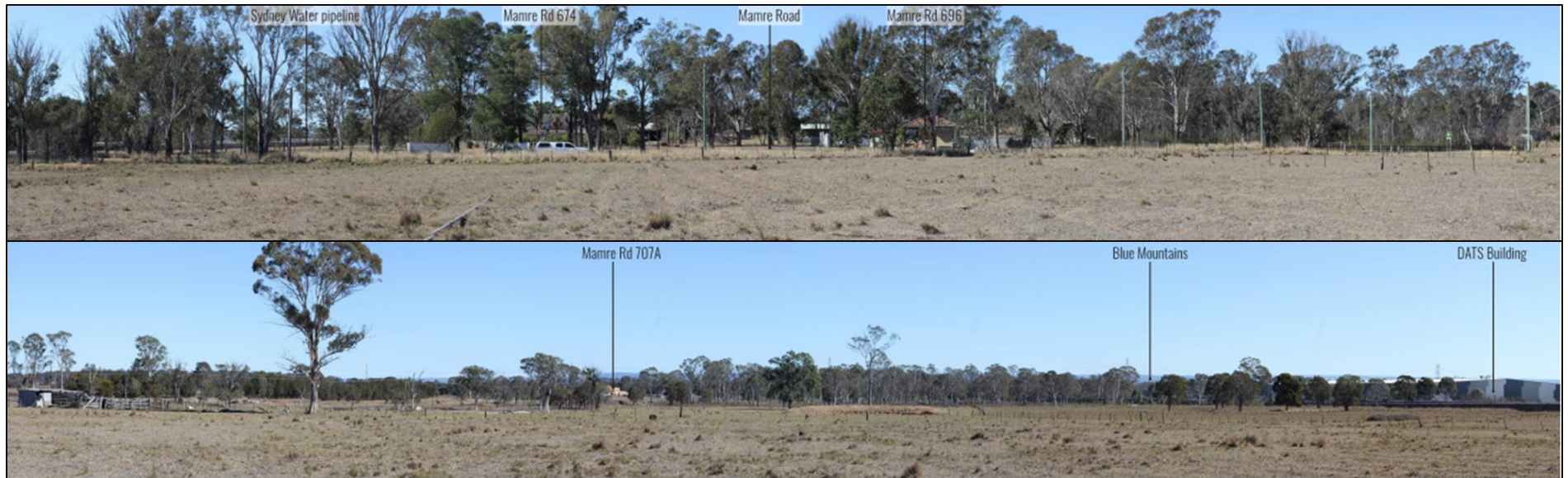


Figure 23 Eye-Level Position from the Subject Site Viewing the Eastern Aspect (Top) and the Western Aspect (Bottom) (Source: Geoscapes, 2018)

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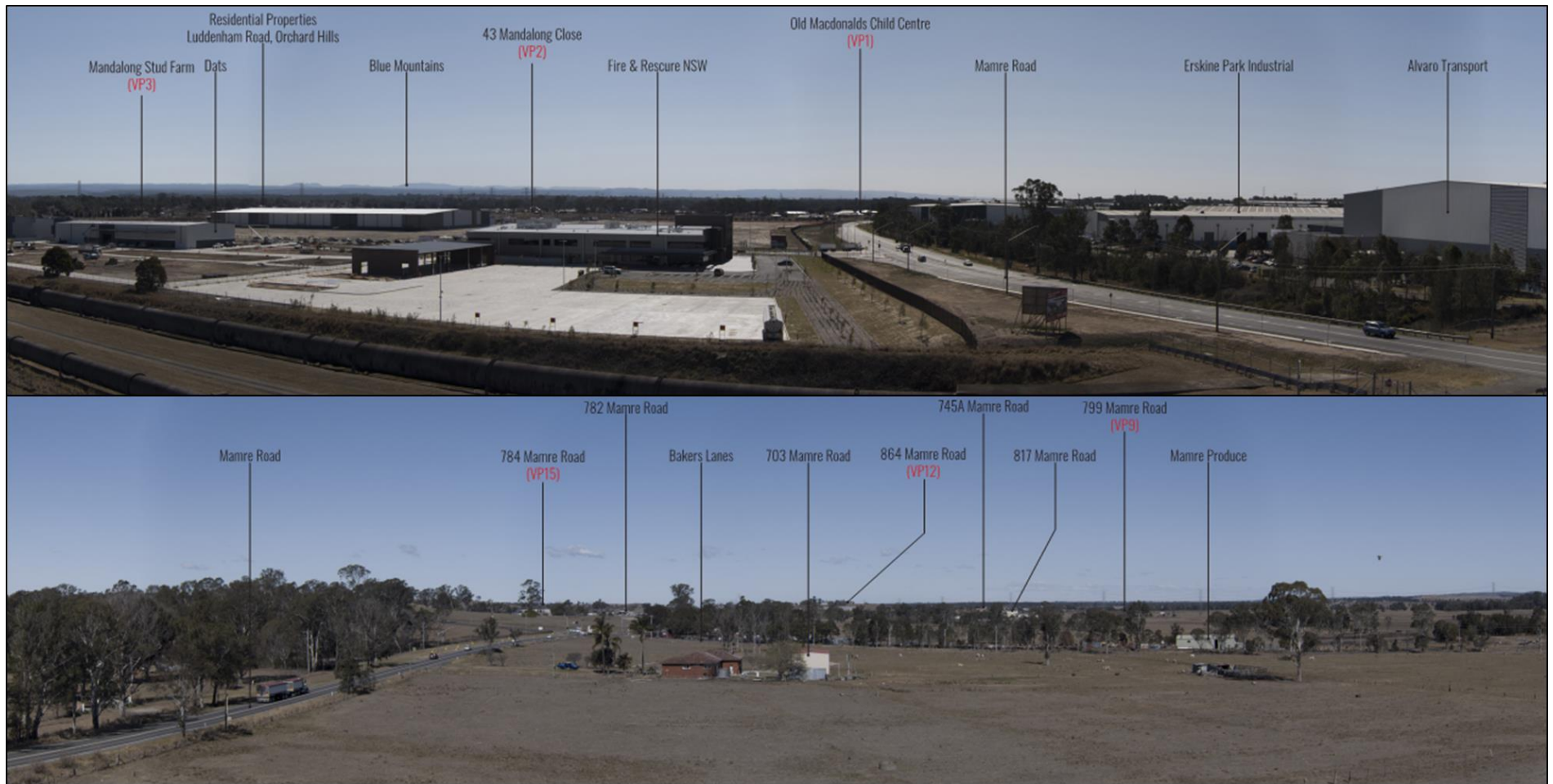


Figure 24 Drone Position from the Subject Site Looking at the Northern Aspect (Top) and the Southern Aspect (Bottom) (Source: Geoscapes, 2018)

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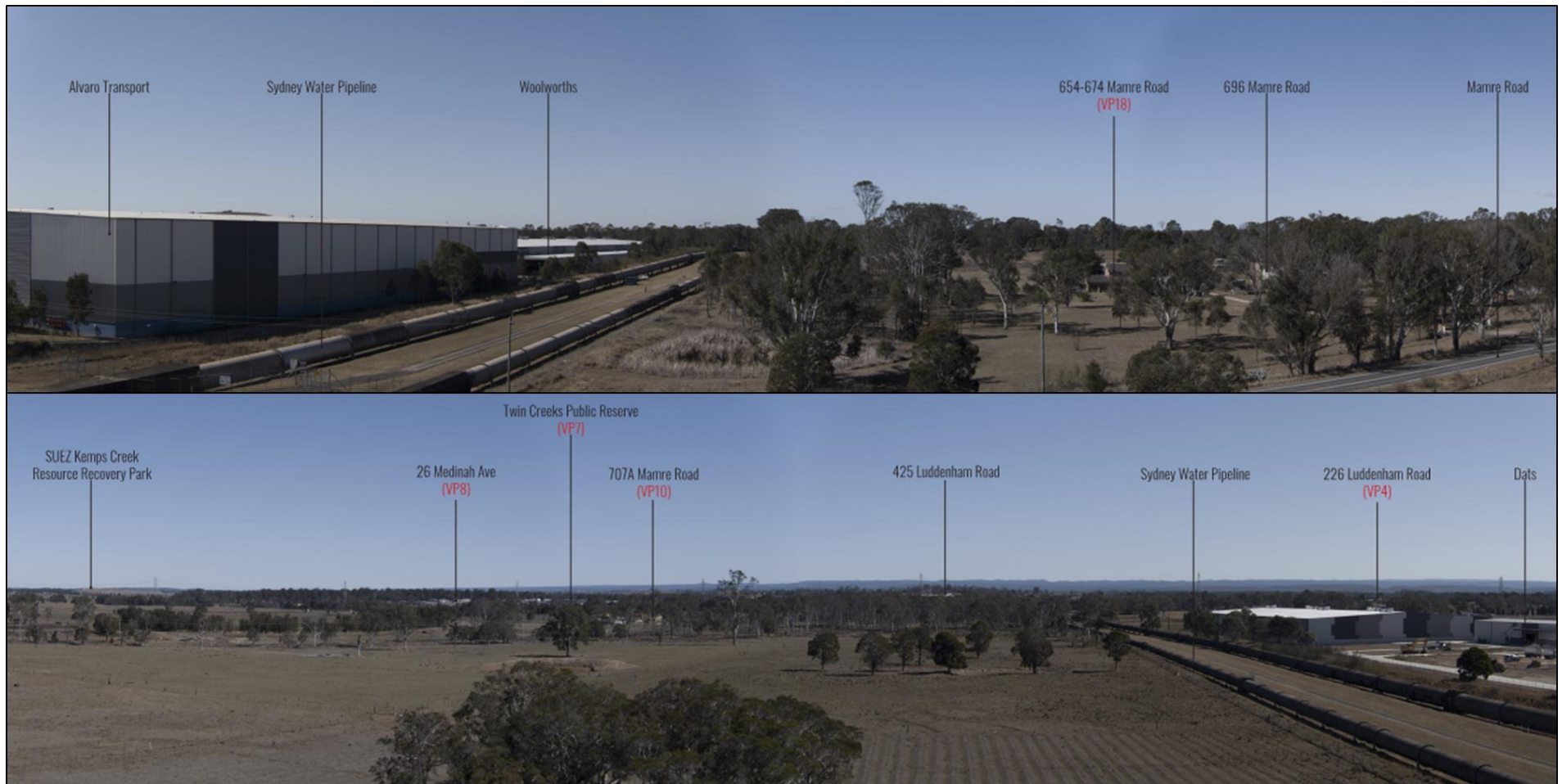


Figure 25 Drone Position from the Subject Site Looking at the Eastern Aspect (Top) and the Western Aspect (Bottom) (Source: Geoscapes, 2018)

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The VIA notes, that suburbs of Mount Vernon, Horsley Park, parts of Kemps Creek and parts of Orchard Hills were considered to be too far from the development to experience any adverse visual impacts.

As shown on the Architectural Plans appended to this EIS, the proposed building height of the facilities attains a maximum height of 26.37 m, with the majority of buildings at 13.7m, consistent with warehouse facilities that exist within the broader WSEA; therefore, the Proposed Development is considered to be of an appropriate scale and character having regard to the desired outcome for the locality.

The main warehouse walls 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.

The design of individual proposed buildings within would encapsulate high commercial and industrial standards by virtue of various configurations and colour which respond to the potential industrial character of the proposed precinct, as-well-as the intended industrial character of the wider WSEA.

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. High quality finishes will be applied to the office components to provide a striking break in the bulk of the warehouse buildings.

The Landscape and Visual Impact Assessment prepared by Geoscapes notes, that colour tones have been chosen to help site the proposed building's more comfortably into the surrounding context. To do so, a palette of whites and greys, including, Danpalon, Surfmist, Pale Eucalypt and Gully are typically utilised on the four (4) building facades. This colour scheme assists in making the buildings more recessive into the skyline and is considered consistent with regard to adjacent development, such as First Estate (directly to the north of the Subject Site). Furthermore, the use of a brown coloured accent materials at feature corners, which makes references to earthy tones and sits reasonably well against surrounding rural farm lands associated paddocks.

Additionally, the use of natural materials on office buildings, such as Corten (or similar) and timber would make the Proposed Development less visually obtrusive in close up, as well as distant views. Office entry frontages would include landscaping in and around carparking areas, for which glazing would also use tensile steel wires and climbing plants.

Overall, the colour scheme responds to the surrounding environment through the application of earthy tones. Materials used, consist predominately of pre-cast concrete, glazing and colourbond, consistent with contemporary industrial estates within the locality.

The overall design concept of this Warehouse, Logistics and Industrial Facilities Hub, 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 end user's needs and standards. It also sets a new industrial standard of amenity for visitors, well in advance of the current nature of industrial development practices and standards.

The complete Landscape and Visual Impact Assessment, prepared by Geoscapes (2019), is located within **Appendix 9** of this EIS.

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6.2.4 Land Use Conflict

The Subject Site is identified under the SEPP (WSEA) Land Application Area. Accordingly, the Site context may be described as an emerging industrial precinct, which the Proposed Development positively contributes to. Given the future industrial character of the Site's surrounds, any land-use conflicts would be minimal in the long-term. Notwithstanding, the rural-residential land uses which adjoin the Site can co-exist in perpetuity with the Proposed Development, as all related amenity impacts in terms of noise, traffic and visual bulk and scale, have all been accounted for under this SSD Application. Measures such as noise screening, visual articulation and setbacks to boundaries and the implementation of road upgrades ensures that the rural-residential amenity of existing properties used for this purpose, would not be undermined. Similarly, existing operative industrial sites, would retain their functionality and amenity and therefore successfully co-exist with the Proposed Development.

There are a range of land uses which surround the Site, all of which have been given due consideration in the design of the Proposed Development. Of particular relevance, the following land uses are noted within the vicinity of the Site:

- **East** - To the east there are a range of other land uses comprising Mamre Anglican School, Emmaus Catholic College, and the Catholic Healthcare retirement living community. It is considered that the separation distance (approximately 500 m from the corner of Mamre Road and Bakers Lane towards the Mamre Anglican School) between the Subject Site and the above land uses, would be sufficient to ensure that there would not be any unacceptable, visual, noise, air or traffic impacts.
- **North** – Erskine Business Park which contains various warehouse/logistics and industrial facilities that operate on a 24-hour, 7-day basis including CEVA Logistics, CSR, Woolworths and Alvaro Transport. Due consideration has been given to this industrial Estate and the existing/future planned land uses. Similar, to Erskine Business Park, First Estate to the north (under ownership of Altis) is under construction as approved for a Warehouse & Logistics Hub. Visual amenity would be retained along Mamre Road due to the vast separation distances incurred between both sites listed. This suggests that operations can co-exist, with vehicle movements on a daily basis able to operate successfully.
- **South** – Rural Residential development is located to the south, which is sufficiently, separated from the Proposed Development. By design, the land to the South has also been earmarked for future industrial and employment development under the Regional Plan "*A Metropolis of Three Cities*" the *Western City District Plan* and the *LUIIP*. Further south, beyond Kemps Creek, is the identified new Western Sydney Airport site.
- **West** – Located to the west and some 3 km away from the Site, is existing residential development in the suburb of Luddenham. Additionally, the meandering tributary identified as South Creek, runs along the Site's western boundary for its entirety. It is considered that the separation distance between the Subject Site and the above land uses, would be sufficient to ensure that there would not be any unacceptable, visual, noise, air and traffic impacts are created at the Site, with minimal impacts on residential amenity to the West.

In terms of the Site's perception from the public domain, Mamre Road is the main vantage point which affords a direct view of the Site. There is limited capacity for this road presently, in terms of both pedestrian movement and traffic volumes. Vehicles passing the Site would afford a direct view of the proposed facilities. It is therefore noted, with significant emphasis, that the design of the Proposed Development responds suitably to the surrounding context. Proposed materials, design innovation, architectural articulation and deep soil landscaping,

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remodels the visual amenity of the Site. The proposed architectural design and treatment, as further illustrated within the Architectural Design Report prepared by Nettleton Tribe (located within **Appendix 37** of this EIS), would further reduce any conflicts with adjoining landowners and limit any visual obtrusiveness occurring with regard to passers-by.

In terms of noise impacts, the Site's Noise Impact Assessment, prepared by Acoustic Works, has already designed the acoustic barrier (approximately 3 m high) at the eastern end, near such areas as the loading docks for Warehouse 3B, located on proposed Lot 3. The barriers which are designed to be 3 m above the finished driveway level, would be constructed using lapped timber (minimum 40% overlap), masonry, fibre-cement sheet, Hebel, Perspex, plywood, and with a minimum surface density of 10 kg/m². The barrier should be free of gaps and holes. It is important to strike a balance between a visually-pleasing barrier (with landscaping) and an effective sound attenuation measure along this boundary. The architectural design aims to achieve this. It is noted, that the acoustic barrier is required due to noise levels associated with on-site activities, for which compliance would be achieved with the relevant noise criteria assessed by Acoustic Works.

6.2.5 Geotechnical Assessment

No geotechnical or topographic constraints have been identified that would preclude or restrict the development of the Subject Site. A Geotechnical Report has been prepared which has concluded that the Subject Site provides an unconstrained platform for development to occur with the Site conditions being described and classified as "non-saline to moderately saline" with no potential for Acid Sulfate Soils to occur. The Geotechnical Report prepared by Pells Sullivan Meynink is located within **Appendix 14** of this EIS.

6.2.6 Surrounding Vehicular, Pedestrian and Cycling Networks

At present, the Site is not directly serviced by public transport operations. Recommendations have been provided which suggest future improvements and extensions to the bus routes surrounding the Site.

Additionally, the Traffic Impact Assessment Report by Ason Group (2019) discusses existing opportunities and infrastructure available for cyclists to access the Site via Mamre Road. Current bicycle lanes are provided along Erskine Park Road and sections of Mamre Road, as well as carriageways that can also be utilised by cyclists to travel between work and home as part of the future Mamre Road upgrade (refer to **Figure 26**).

NSW RMS' intention is to upgrade Mamre Road, including pedestrian footpath on one side and a shared path (cyclist / pedestrians) on the other side as shown in **Figure 26** below, which has been extracted from the RMS website. These would adequately service the Proposed Development.

This is considered an adequate area within the design of the Proposed Development to accommodate the proposed Mamre Road Widening, including bus lanes and cycle lanes.

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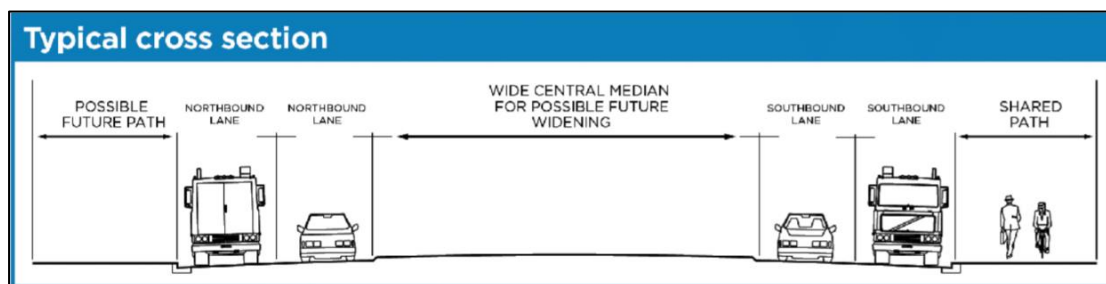


Figure 26 Typical Cross Section which would be utilised during the Mamre Road Upgrade (Source: RMS, 2018)

With regard to the Southern Link Road, the ultimate design would be prepared by NSW RMS and is expected to include necessary pedestrian and shared path facilities, similar to that detailed in **Figure 26** above.

It is noted, that all of the traffic signals along Mamre Road and the proposed SLR, would be designed to the NSW RMS standard, i.e. having pedestrian crossing facilities to facilitate a safe pedestrian and cyclist crossing areas. In this respect, the proposed design responds to the wider regional connectivity by providing internal access roads with a 20.6 m-wide road reserve, including a 3.8 m road verge. These verge widths are considered to comfortably accommodate pedestrian connections on one or both sides (if required). It is expected, that these shall be constructed to the satisfaction of Council and – as necessary – provide sufficient pedestrian and cyclist facilities. This can be dealt with by way of a suitable condition of consent, subject to approval from the NSW DP&E.

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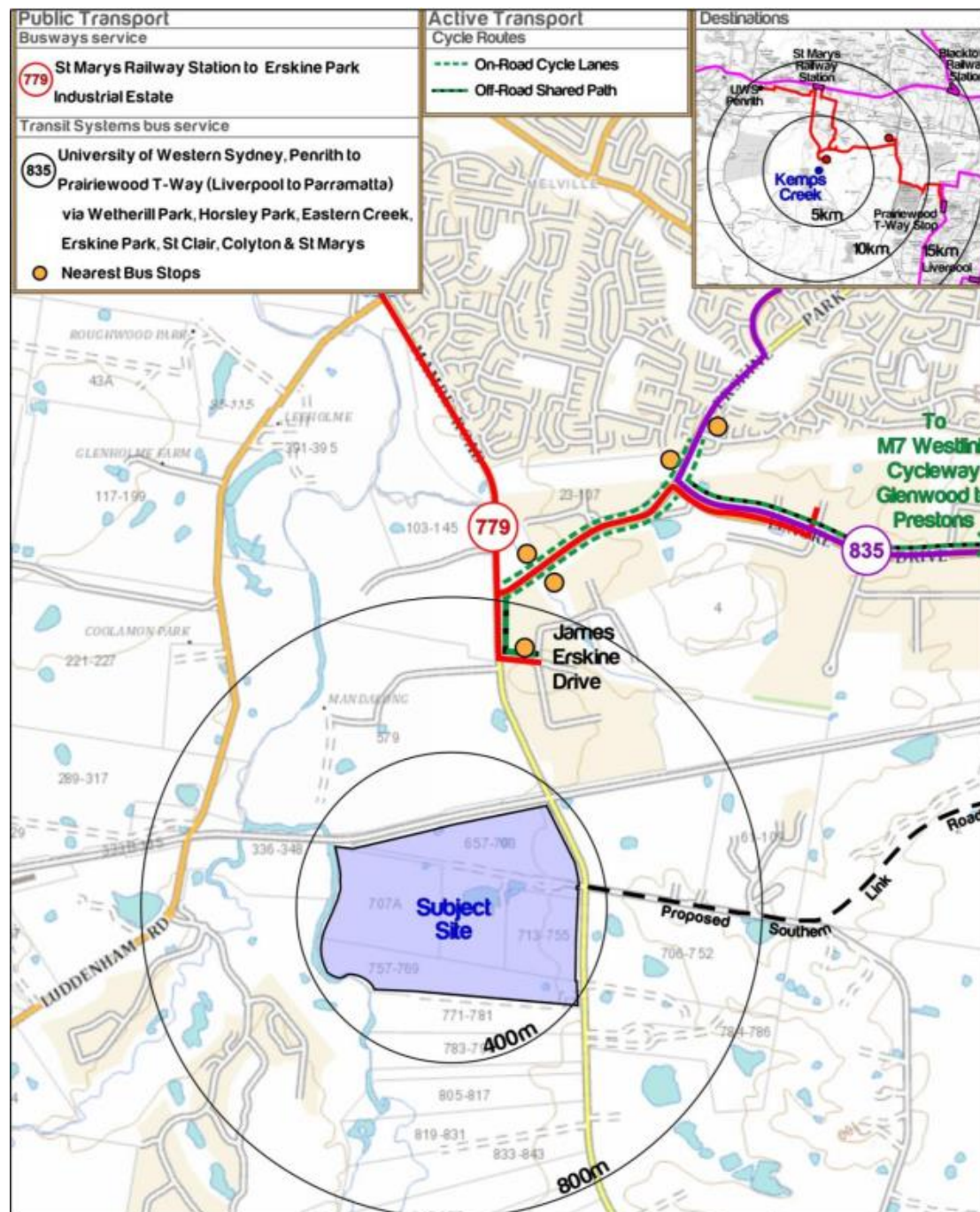


Figure 27 Available Infrastructure Routes (Bus, Trains and Cycle Connections) to the Subject Site (Source: Ason Group, 2018)

6.3.7 Signage

Proposed signage (Estate/ 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.

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 precinct. Signage

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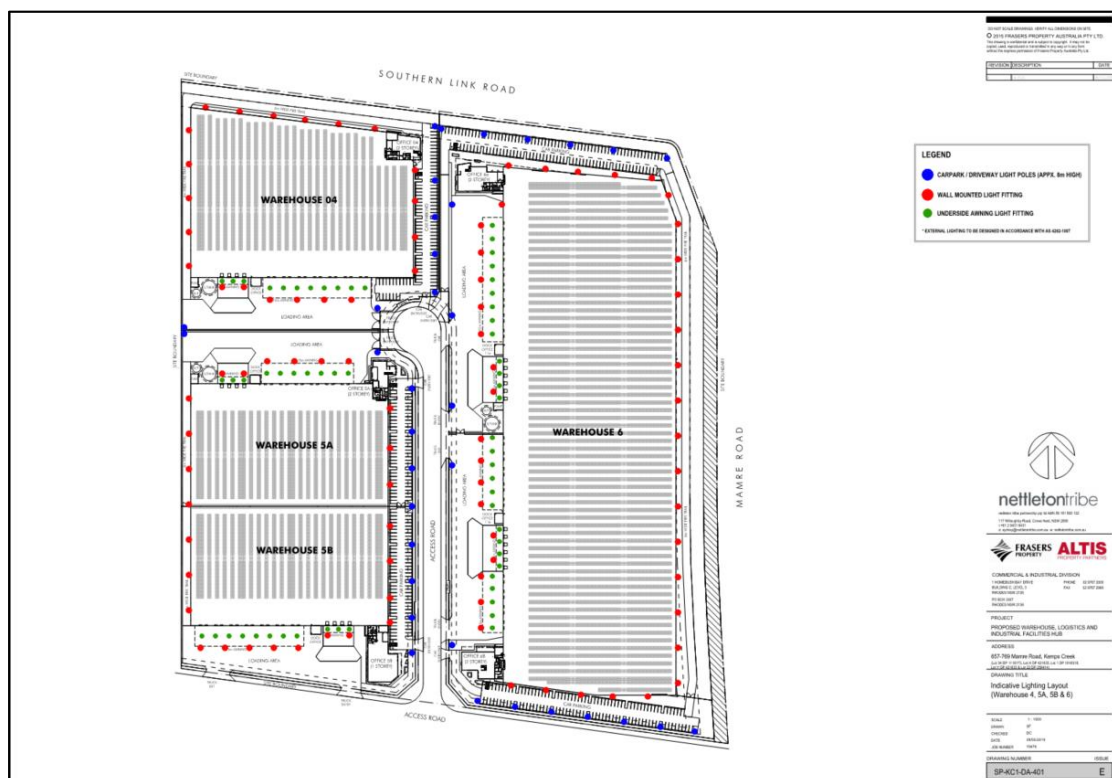
has been avoided where design and positioning could cause a safety hazard for motorists or pedestrians.

Compliance is achieved with the provisions of SEPP 64 as the signage would be limited to that for Estate and business identification, generally consistent with that which exists in First Estate and Erskine Business Park. The Signage Plans are contained within the Architectural Plans, located within **Appendix 6** of this EIS.

6.3.8 Lighting

Lighting has been designed to be in compliance with the latest version of AS1158 and AS4282 (INT) – Control of Obtrusive Effects of Outdoor Lighting. Lighting has also been provided in accordance with the requirements of Australian Standard 1158.3.1-1999 and the recommendations contain therein, for which are shown within **Figures 28 & 29**, which accurately demonstrates the proposed lighting scheme for the Stage 1 proposal.

Glare and spill lights have been limited by the selection of fittings and is in accordance with the Australian Standard 4282-1987. Additionally, light fittings are LED wall mounted, pole mounted and mounted on the face of the awning and directed in such a manner, that they do not cause nuisance to surrounding properties or the public road network.



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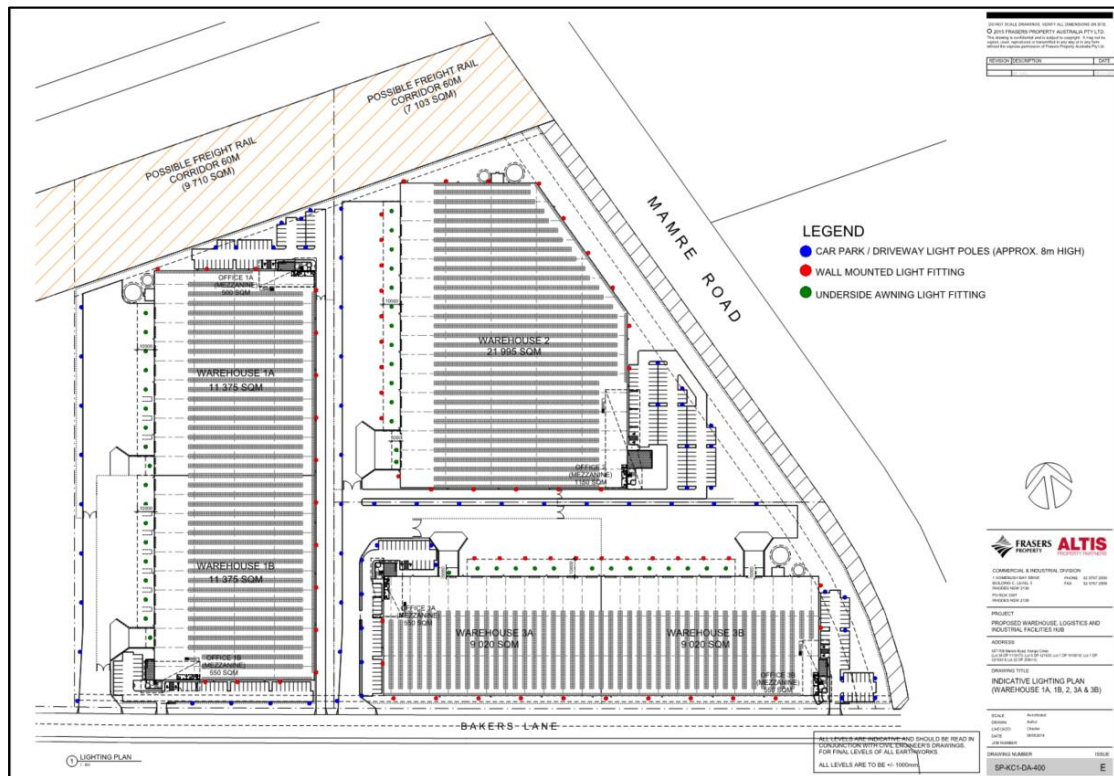


Figure 29 Proposed Lighting Plan Subject to Proposed Lots 1, 2 & 3 of the Subject Site (Source: Frasers Property, 2019)

6.3 SOILS AND WATER

The engineering objectives for the Proposed Development are to create a site that responds to the local topography and constraints of the land, whilst meeting flood planning requirements and providing a stormwater management system incorporating best practice in WSUD. In order to achieve these objectives, ensure a suitable development of the Site and respond to the SEARs, a Civil Engineering Strategy, a Stormwater Quantity and Quality Management Strategy and a Sediment and Erosion Control Plan have been prepared. The following sub-sections provide an overview of the content and recommendations of these Reports. Accordingly, the Civil Engineering and Overland Flow Reports, prepared by Costin Roe Consulting are located within **Appendix 10 & 11** of this EIS.

The Civil Engineering Report (Costin Roe, 2019) which includes Civil Plans, shows proposed infrastructure design, road geometry, site levels, retaining walls, batter treatment and stormwater drainage layout. The content of this Report is summarised below:

6.3.1 Infrastructure Services

Developing a Water Cycle Management Strategy (WCMS) at this stage of the Proposed Development provides guidance with regard to urban water management issues to be addressed for the Estate and Proposed Development as a whole. Essentially, the WCMS for the Proposed Development has been prepared to inform the NSW DP&E and Penrith City Council, that the Proposed Development is able to provide and integrate Water Cycle Management (WCM) measures into the stormwater management strategy for the Estate.

Notwithstanding, the *Kemps Creek – Service Infrastructure Assessment* (Land Partners, 2019) provides an overview of all existing and proposed water infrastructure with regard to potable water and waste water, including:

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Potable Water

- *A 200mm water main is laid in Mamre Road adjacent to the frontage of the site. The 200mm continues through an unformed road within the site to serve the Twin Creeks residential development.*
- *The site is within the Cecil Hills reservoir supply zone.*
- *Based on the GHD analysis of the Cecil Hills reservoir zone undertaken for the Oakdale Local Area Service Plan (L.A.S.P) for Water supply the existing Cecil Hills reservoir (and associated pumping station WP 0184B) has sufficient capacity to serve the entire Cecil Hills reservoir zone based on expected 2020 demands.*
- *As the subject development is at the extent of the Cecil Hills reservoir zone a pressure and flow enquiry has revealed that flows from the existing 200mm water main adjacent to the site are inadequate to serve the development.*
- *Ultimate servicing of the Priority Growth Area (employment zone) will require substantial amplification of Sydney Water assets. These assets would be:*
 - *Trunk supply water main constructed from the Prospect Water Filtration Plant to the Cecil Hills reservoirs site.*
 - *Construction of a new reservoir at Cecil Hills with the associated supporting infrastructure required for a reservoir.*
 - *Construction of "lead out" water mains from the amplified Cecil Hills reservoir to service the Priority Growth Area employment lands and the northern precincts of the S.W Growth Centre.*
- *Supply could be achieved by extension of existing 200mm water mains constructed in Mamre Road north of the Sydney Catchment Authority water supply pipes. This 200mm main is served from the Erskine Park reservoir zone. This would involve a rezoning of part of the Cecil Hills supply zone by insertion of a Dividing Valve (D.V) south of the existing 200mm main in Mamre Road and extension of the 200mm Erskine Park supply main to the Subject Site.*
- *Sydney Water in their correspondence to the proponent of the development dated 8/11/2018 have identified that the preferred servicing strategy is to supply potable water to the site from the Erskine Park Elevated System (refer to Appendix A). Further options planning as outlined in Sydney Waters' correspondence will identify existing and proposed demand as a component of the Initial Precincts for the area identified as "Western Sydney Aerotropolis".*

Waste Water Strategy for the Site

- *No Sydney Water waste water assets currently supply the Subject Site.*
- *Sydney Water have commenced studies for the preparation of an integrated servicing strategy for the Priority Growth Areas, particularly driven by the need to provide a waste water treatment solution to service the Western Sydney Airport.*
- *Meetings with Sydney Water planning staff have identified that a new Waste Water Treatment Plant (WWTP) is likely to be constructed and operational by late 2025 – early 2026. The preferred location of the new WWTP is along South Creek, north of Elizabeth Drive and south of the M12 corridor.*
- *Due to topographic issues the preferred waste water treatment strategy for the Subject Site is to direct waste water flows to the St Marys WWTP (see Appendix A – Sydney Water Detailed Planning – Requirements Package).*
- *Sydney Water have identified that the St Marys WWTP has sufficient capacity to treat flows from the Subject Site.*
- *Service options for the development site could include:*
 - *a) Initial pumpout solution through a Sec 68 approval process from Council.*
 - *b) Pressure sewer system to connect to the Mamre Road Carrier Sec 4 to the north of the Site.*

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- c) Installation of Sewer Pump Station and rising main to discharge to Mamre Road Carrier Sec 4.
- Sydney Water in their letter of 21 June 2018 indicate that the St Marys Waste Water Treatment Plant (WWTP) has adequate capacity to cater for flows from the proposed development and in their correspondence of 8/11/18 note their endorsed strategy is to transfer flows to St Marys WWTP. Therefore, the ultimate strategy for service for this site would be the construction of a Sewer Pump Station (SPS) to the Mamre Road, sewer carrier for discharge to St Marys WWTP or extension of a low-pressure sewer system to the Mamre Road carrier.
- Alternative treatment of waste water is available from private companies operating under the Water Industry Competition Act (WICA). Alternative treatment of waste water is available from private companies operating under the Water Industry Competition Act (WICA).

Conclusions are drawn from the Service Infrastructure Assessment, which indicate, that the Proposed Development can be satisfactorily serviced regarding potable and waste water, electricity, gas and telecommunications.

Confirmation regarding satisfactory arrangements for required potable and waste water with Sydney Water is located in **Appendix 12** of this EIS. The complete Service Infrastructure Assessment is located in **Appendix 12** of this EIS.

6.3.2 Site Works

The Proposed Development includes bulk earthworks with volumes of cut and fill summarised in **Table 28** below. Bulk earthworks will be required to facilitate the Proposed Development, for the purposes of industrial / commercial use. Proposed earthworks will be undertaken to provide large flat building pads; facilitate site access from Mamre Road and the proposed Estate access roads; to drain the Site stormwater (via gravity); and to keep building levels above the 1-in-100-year ARI flood level, by providing a minimum freeboard of approximately 500 mm.

It is noted, that the earthworks volumes are based on the proposed lot layout, to establish flat building pads. The primary drivers for the proposed earthworks levels, include access and draining the Site via gravity. This results in large amounts of imported fill to be required.

Table 28: Cut/Fill Balance	
Topsoil Volume	
214,000 m ³ (based on 200mm depth)	
Earthworks Volume	
Cut	-126,300 m ³
Detailed Excavation (1,250 m ³ /Ha)	- 135,000 m ³
Fill	+2,514,200 m ³
Balance	+2,252,900 m ³ (Import required)

A fully designed Water quality solution would account for batters and retaining walls which would be necessary to accommodate flat basins on-site.

6.3.3 Stormwater Management

The design of the stormwater system for the Site is in accordance with relevant national design guidelines, Australian Standard Codes of Practice, PCC Guidelines and accepted engineering practice. Runoff from buildings would be designed in accordance with AS 3500.3 National Plumbing and Drainage Code Part 3 – Stormwater Drainage. Overall, Site runoff and stormwater management, would be designed in accordance with the Institution of Engineers, Australia publication "Australian Rainfall and Runoff" (1987 Edition, Volumes 1 and 2 AR&R).

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Water quality and re-use is a very important aspect of Site design. Additionally, the design considers any increase in the detrimental effects of pollution, including special measures to mitigate these accordingly. The PCC 'Water Quality Objectives' have also been taken into account and are met, along with a significant reduction in the demand on potable water for the Site. For example, potable water would be reduced through internal re-use of non-potable rainwater harvesting applications such as toilet flushing, while external applications will be used for irrigation purposes.

Legal discharge for the entire Proposed Development Site, occurs at South Creek. The design and construction of the proposed outlet structure to South Creek, would be assessed in accordance with the NSW Office of Water document titled, *Controlled Activities: Guidelines for Outlet Structures*. South Creek stormwater outlets would need to consist of reinforced concrete pipes and "natural" energy dissipaters.

Based on the above, the Stormwater Management System proposed, would be based on an End-of-Line Management System being provided for the entire Estate, as part of the Estate Infrastructure Works.

Aligned with Council's Stormwater Management Policy, the system would be designed to reflect no increase in runoff from the Site as a result of the Development for all storm events, up to and including the 100-year Average Recurrence Interval (ARI) event, including for all storm durations. Based on the size of the Proposed Development, the Civil Engineering Report prepared by Costin Roe Consulting provides a Site storage rate (with regard to an on-site detention basin) of 300m³/ha. Two (2) main Site catchments, have been identified to facilitate active storage, including:

- Catchment 1 (North) – Size: 34.9 ha and Storage Volume: 10,500 m³; and,
- Catchment 2 (South) – Size: 74.2 ha and Storage Volume: 22,300 m³.

The location of the basin has been positioned on the western flank of the development adjacent to South Creek. The basin is positioned below the 1% AEP water level, but above the 5% AEP water level as required by PCC policy. It is further noted, that the basin has been positioned such that the majority of the system is located within the flood fringe and flood storage zones of the South Creek flood extent, with only a minor portion (around 10% on the north-west corner) within the defined floodway.

The basin is noted to be effective in managing the local storms and site runoff from the development area. This ensures, that not only frequent flows entering South Creek are managed, but also water quality and quantity requirements are met for a large range of storms. During regional flood events, it is expected that the majority of site runoff would have passed into South Creek prior to the arrival of the larger regional flooding of the Creek, and the combined hydrographs, would result in peak flows being managed within South Creek at volumes in post-development, equal or less than pre-development.

Discussions with PCC regarding the location and effectiveness of the basin in the South Creek floodway, have been undertaken during consultation. It was discussed and agreed that, due to timing differences between the local catchments (short time 1-2 hours) and flooding relating to South Creek (long time 20-24hours), the basin would be effective in meeting the intention of the council water quantity management requirements for localised storms, and during large regional floods due to timing effects the Proposed Development would not impact flooding within the creek.

The maintenance obligations relating to the basin, were also discussed and agreed with PCC. The intention is for the basin to be owned and maintained by the proponent or Estate lot owners and for the maintenance to be governed through a Community or Neighbourhood Plan

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(or similar acceptable method). This arrangement was approved and adopted in the now constructed detention system on the First Estate under SSD 7173.

Potential damage which may occur as a result of mainstream flooding from South Creek, would form part of the maintenance program for the basin. It is estimated (using the TUFLOW model of South Creek) that the inundation of the proposed basin, would occur during mainstream flooding events from ARI storms in the range of the 1 in 5-year ARI storm or greater. Further it is noted that the basin has been positioned generally clear of high hazard or high velocity flows, confirming that velocities of less than 1m/s can be expected across the basin footprint during a regional 1% AEP flood event.

It is expected that the approval conditions for the Estate would require either individual site development applications to be completed (for the lots not subject to built form under this SSD), in accordance with the approved Estate stormwater management requirements, and/or operational Stormwater Management Plans, prepared to the satisfaction of the Secretary. This is a normal and readily-adopted strategy by the NSW DP&E for industrial estates and similar approvals with same methodology have been granted recently including *Frasers - Eastern Creek Business Park Stage 5*, *Goodman - Oakdale Estate*, *Mirvac Calibre at Eastern Creek*, *Logos - Prestons Industrial Estate*, *Frasers/ Western Sydney Parkland Trust - Horsley Drive Business Park*.

Rainwater Harvesting

Sustainability is at the head of the Proposed Development with the Proponent targeting Six-Star-Green-Star Certification. Costin Roe Consulting have considered the requirements (as well as increased benefits) of proposing a rainwater (stormwater) harvesting system on the Subject Site, specific for each developable site. Accordingly, rainwater harvesting will be provided for the Proposed Development with re-use for non-potable applications as part of future individual building development applications. Internal uses include such applications as toilet flushing while external applications will be used for irrigation. The aim is to reduce the water demand for the Proposed Development and to satisfy the requirements of the PDCP2014 and to align with industry best practice for Industrial Developments.

In general terms, the rainwater harvesting system will be an in-line tank for the collection and storage of rainwater. At times when the rainwater storage tank is full, rainwater can pass through the tank and continue to be discharged via gravity into the stormwater drainage system. Rainwater from the storage tank will be pumped for distribution throughout the development in a dedicated non-potable water reticulation system. Rainwater tanks are to be sized with reference to the NSW DP&E and Conservation document *Managing Urban Stormwater: Harvesting and Reuse*, using a simple water balance analysis to balance the supply and demand, based on the base water demands.

Costin Roe Consulting have considered Climate Change and the assessment completed demonstrates the effect of climate change on the development and surrounding environment. The assessment confirms that an expected increase in rainfall intensity of 10% can be accommodated by the proposed infrastructure, that development lots would maintain flood immunity from increased flooding of South Creek and that the site would not be affected by sea level rise.

It is noted, that access to the on-site detention basin, would be required for maintenance purposes. A minimum, all-weather access would be provided at the Site, for a medium-sized rigid vehicle, allowing for turning, from the nearest roadway. The access way could follow overland flow easements, or similar egress pathways.

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The Proposed Development provides a design that incorporates the principles of WSUD. Furthermore, roof, hardstand, car parking, roads and other extensive paved areas would be treated using the latest Stormwater Treatment Measures (STMs). The STMs would be sized according to the whole catchment area containing the Site. Treatment for the Proposed Development WSUD would include:

- Primary treatment of all runoff via an end-of-line, gross pollutant trap prior to any discharge to the Estate's bio-retention basin;
- Secondary and tertiary treatment via rainwater reuse; and
- Tertiary treatment of all Site water, would occur via the latest filtration systems, through a bio-retention basin system.

Bio-retention basins generally require a maximum filtration area of approximately 1.5% of the catchment area draining to them. Applying this rate, the following filtration areas have been estimated for the Site, including:

- Catchment 1 (North) – Catchment: 34.9 ha and, Bio-retention filtration area: 5,200 m³; and,
- Catchment 2 (South) – Catchment: 74.2 ha and, Bio-retention filtration area: 11,100 m³.

6.3.4 Flooding

The Estate has been identified by PCC, in their *Updated South Creek Flood Study (rp6033rg_crt150128-Updated South Creek Flood Study (FINAL – Volume 1)*, as being affected by overland flows, associated with the adjacent South Creek. As part of this SSD Application for this Site, detailed flood studies have been undertaken and flood planning levels for all lots identified.

The PCC updated *South Creek Study*, includes hydrology and modelling ranging from the 5% AEP event to the 0.5% AEP event, and also the PMF event. The Study shows the Subject Site, located approximately midway along the South Creek tributary, is affected by flooding during the 1% AEP event and also the 5% AEP event. The overbank flooding from South Creek extends partially within the property, comprising low-hazard zones, with only a small area of high-hazard. Accordingly, the flood depths and flood-surface levels predicted by the South Creek Study, are nominated as being accurate to ± 200 mm.

The PCC updated *South Creek Study* demonstrates that the Site is within the zone of the 1% AEP event and the 5% AEP event (refer to **Figure 30** overleaf). Allowance for the Council-required freeboard of 500 mm and the corresponding flood planning level for the Proposed Development, therefore, varies between RL 35.5 m to 34.0m AHD. Additionally, the Report notes that, when South Creek is in flood, in the 1% AEP event, the proposed detention and water quality basins would be inundated; however, this would not affect flooding or flow rates within South Creek as Site runoff, being susceptible to short during intense storms, would have finished prior to the regional flood which requires longer duration storms over a larger area (Costin Roe Consulting, 2019).

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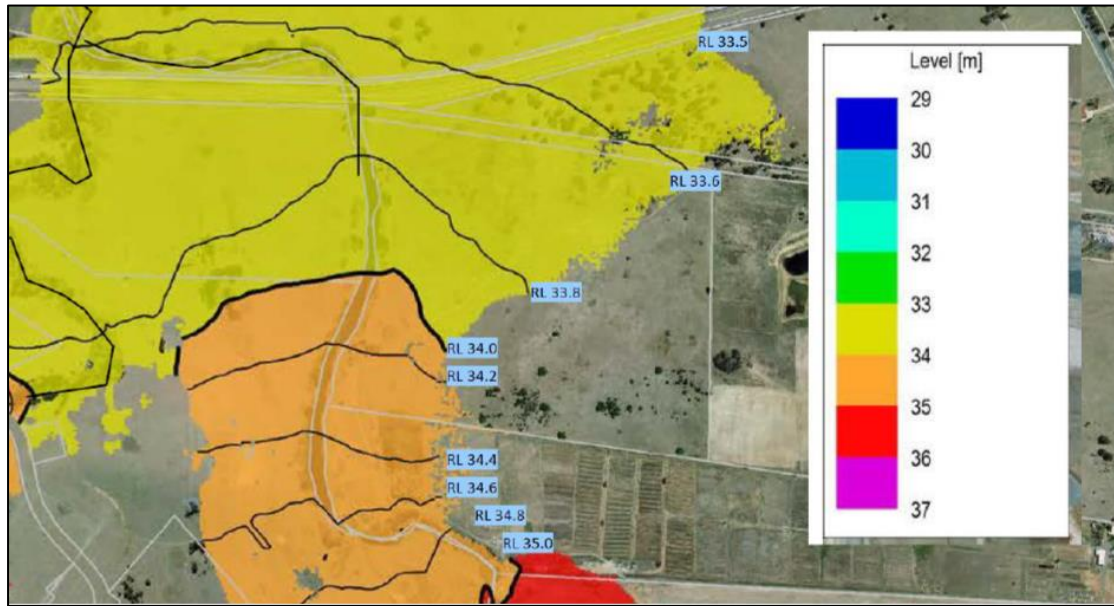


Figure 30 1% AEP Flood Surface Levels from South Creek Study, 2014 (Source: Costin Roe Consulting, 2018)

The design of the Proposed Development fully considers flooding and large rainfall events, both from the adjacent South Creek, and from Site-generated runoff and upstream properties. The following outcome has been determined in this respect:

- The Proposed Development does not result in any significant impact on flood levels, velocities (directional speed) or distribution of flows to any surrounding properties, as confirmed within the Civil Engineering Report prepared Costin Roe Consulting and as such, has no cumulative flooding effects on any surrounding land.

In addition, the following measures are incorporated:

- The requirements of PCC DCP Part C3, have been met regarding works in and around flooding areas;
- All buildings are sited 500 mm above the 1% AEP design flood level of South Creek;
- Stormwater detention measures have been included, to best manage pre and post-development runoff;
- Where filling in localised pre-developed flood-affected areas occurs, flood storage compensation has been provided;
- No filling is proposed in high hazard hydraulic flood zones;
- Overland flow paths to manage runoff in large-storm events, have been made including achieving at least 500 mm of freeboard to all building levels along the flow paths; and
- The flood strategy has been formulated in accordance with the NSW Floodplain Management Manual 2005.

Potential damage which may occur as a result of mainstream flooding from South Creek, would be incorporated in a maintenance program for the proposed basin. The Report estimates, that the inundation of the proposed detention and water quality basins, would occur during mainstream flooding events from ARI storms, in the range of the 1-in-5-Year ARI storm, or greater. It is noted, that current property owners, who have lived at the Site for over thirty years, have explained that overbank flooding, has not occurred in the last 30-35 years.

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The NSW Floodplain Development Manual (2005), recommends that the Flood Planning Level (FPL) generally be based on the 100-year ARI event. It is considered appropriate therefore, to adopt the 100-year ARI event, for the Proposed Development.

The Floodplain Development Manual recommends a freeboard of 500 mm for new industrial developments in NSW. It is considered appropriate therefore, that this recommended freeboard, be adopted for the Proposed Development.

In response to the SEARs, the proposed filling of the Site has been assessed from both a regional and local perspective against the NSW Flood Plain Management Manual 2005 and the current PDCP2014 requirements and deemed to satisfy all criteria from these documents.

The Report prepared by Costin Roe (Revision C – **Appendix 11** of this EIS) and associated modelling is considered to satisfactorily address all of the requirements and relevant criteria set out within Part C3 of the PDCP2014. The South Creek Study, shows that the Site is within the zone of the 1% AEP storm event, presented at the peak flow per the South Creek Flood Study, at the upstream boundary of the property can be seen to be 35.0 m and 33.5 m at the downstream boundary. Allowing for the Council required freeboard of 500 mm, the corresponding flood planning level for the development varies between RL 35.5 m to 34.0 m AHD. The outcomes of the modelling also confirm that the flood displacement from the recently constructed Twin Creeks Residential development (constructed within the South Creek flood plain) and the First Estate development immediately north of this proposal, can also be accommodated and comply with criteria from the NSW Flood Plain Management Manual 2005 and the current PDCP2014.

In respect of other key considerations, relating to the Proposed Development and the regional context, the following is noted:

- The modelling confirms that the outcomes of the flood assessments completed and approved for the First Estate under SSD 7173 (located directly adjacent to the north of the Subject Site) are generally maintained. A minor difference of between 0.010-0.020 m, is noted around the southern extent of the now constructed First Estate.
- With regard to the potential of cumulative impact as other sites within the catchment area are developed to the same (or similar) degree to the Proposed Development, the following is noted, including:
 - The Proposed Development does not provide for any significant incremental increase in peak flood levels offsite and relatively minor changes (less than 0.1 m) on-site. The increase off site (directly to the north west) is between 10-20mm and located within the high hazard hydraulic zone that cannot be developed.
 - The results of the flood modeling shows largely a reduction in water levels for the 1% ARI to the South and South West of the site.
 - In relation to the potential of cumulative impact as other sites within the catchment are developed to the same or similar degree to the proposal the following is noted:
 - The development proposal does not provide for any incremental increase in peak flood levels off-site and relatively minor changes (less than 0.1m) on-site.

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- If other future developments provide for similar relative impacts and management measures (including flood storage compensation) as required of Penrith DCP, the overall cumulative impact within the South Creek corridor would be effectively managed. Accordingly, the Proposed Development would not be considered to contribute to a future cumulative impact;
- There is sufficient capacity and time for either safe egress of occupants offsite or to an on-site refuge during a major flood event. The Proposed Development landform levels over the Site are proposed at greater than 500 mm above the 1% AEP storm event, which allows several hours of flood warning response time. Additionally, at least 80% of the Subject Site would be above the PMF Flood Event. It is further noted, that the pads within the PMF zone would experience maximum flood depths of only 0.5 m and velocities in the range of 0.5-1.0 m/s (locally up to 2 m/s at the development edge) during the PMF Flood Event. Given there is less than 0.5 km from the PMF affected zone to the PMF free area of the Site, occupants could move to flood free land in only minutes. It is noted, that the complete flood safety and evacuation plan are detailed within the Overland Flow Report, prepared by Costin Roe Consulting, particularly within Section 10 of **Appendix 11** of this EIS.
- The modelling analysed, confirms any effect to the flood waters associated with the Proposed Development are confined locally to the development area; hence, there is no effect on the proposed Western Sydney Airport in relation to the Proposed Development, which is located more than 8 km upstream.

It is noted, that the hydrology for the TUFLOW modelling performed for the Site, uses the contributing catchments and peak flows, described in the South Creek Study. Table H1 within the Report prepared by Costin Roe defines the 1% AEP flow of 1,015 m³/s upstream of the Sydney Water Supply Pipelines, a location which coincides with the location of the Study Area. Table H7 of the Report, defines the Cosgroves Creek 1% AEP peak flow, at 90 m³/s.

In order to undertake the TUFLOW modelling, the flood hydrograph results for the different flood events, were required to be confirmed. Utilising the peak flows and timing, included in the South Creek Study, a basic Two (2) Node Rafts Model, was setup to establish the hydrographs for use in the TUFLOW model. These were further refined using the recommendations and peak flow values provided by Advisian (Penrith City Council appointed peer review Engineers), during works associated with the First Estate development (SSD 7173) to the north on the opposite side of the Warragamba Pipeline. Additionally, rainfall and temporal patterns were derived from the Bureau of Meteorology online IFD tool and Australian Rainfall and Runoff (1987).

The assessment undertaken by Costin Roe for combined peak flows, was considered consistent with those approved under the overland flow study for the First Estate development.

The Report confirms that, the peak flow of 1,015 m³/s for the 1% AEP and 720 m³/s for the 5% AEP Storm, is consistent with the PCC South Creek Study (2018) and the peak flows for both storms occurs at 22 hours.

Additionally, the inflow boundaries have been positioned at distances of greater than 2.5 times the flow widths from the Subject Site. This is to ensure that any potential instabilities in the TUFLOW Model, that may be present at the inflow boundary entry points, are resolved in the model prior to the Study Area.

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The model extent has been continued for a distance of approximately 2,000 m downstream from the First Estate Precinct to a point downstream, where Luddenham Road crosses South Creek. The downstream-water-level boundary has been modelled using the boundary-control levels provided by Worley Parsons. The modelled-downstream boundary levels for the Site are provided in **Table 29** below.

Table 29: Downstream Boundary Water Surface Levels	
AEP (%)	Downstream Boundary Level (m)
5	29.20
1	29.75
0.5	30.00
PMF	31.80

The comparison of the flood level results shows good alignment of those produced in the TUFLOW Model, when compared with those of the South Creek Study. The Modelled Flood water levels were seen to have a difference of less than 100 mm and generally in the order of 30-50 mm through the overbank/flood plain area. The predicted flood extent is considered consistent between the two (2) models, as utilised for the different flood events (TUFLOW + South Creek Study) that were modelled under the assessment undertaken.

A summary comparison of flood results at five (5) key locations, is provided in **Table 30** and **Figure 31** detailed below. Flood-depth differences at these key locations, can all be seen to be less than 50 mm and within the predicted RMA flood accuracy of 0.2 m.

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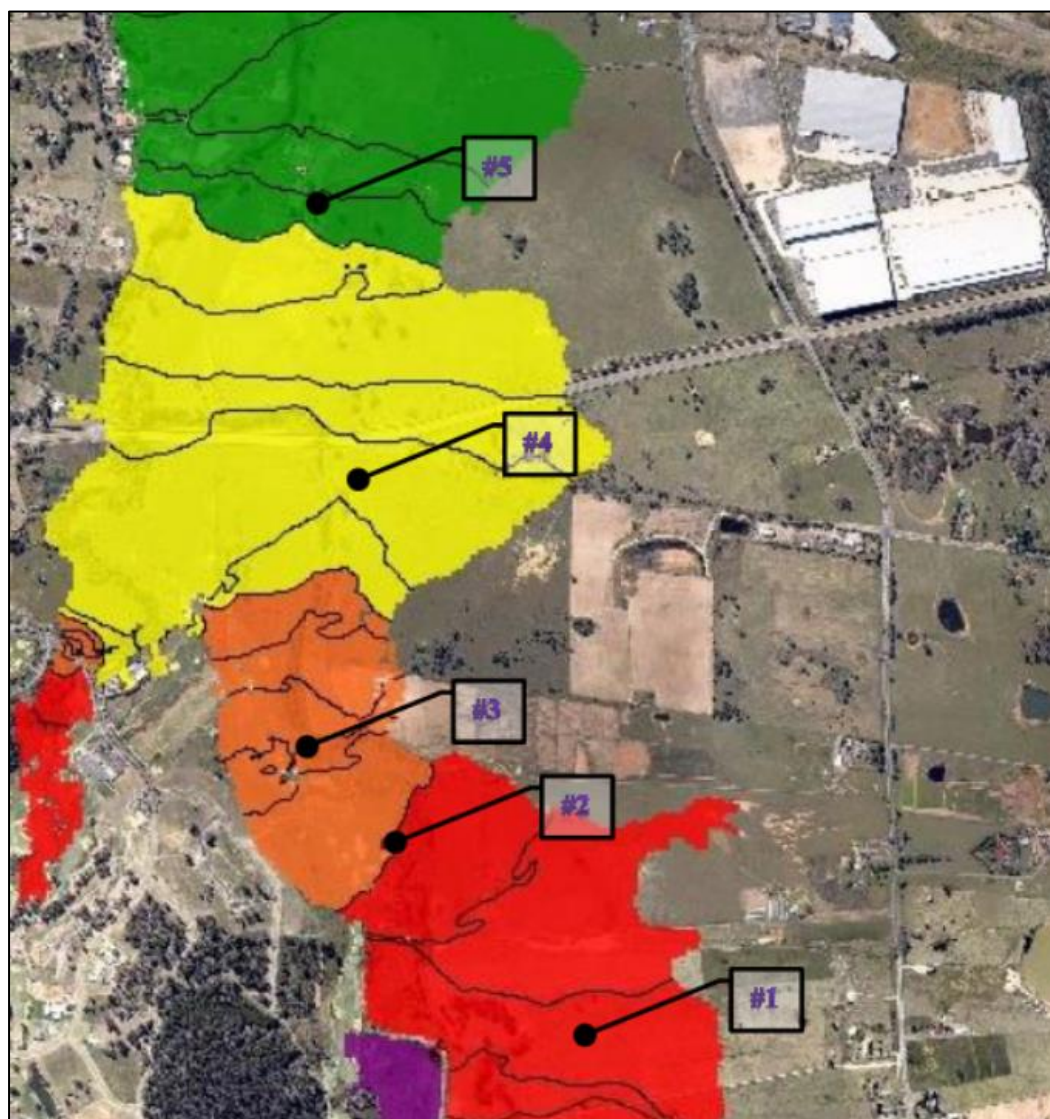


Figure 31 Predicted 1% AEP Peak Flood Level Profile (Source: Costin Roe Consulting, 2019)

Table 30: Predicted 1% AEP Peak Flood Parameters at Key Locations

No.	TUFLOW			South Creek Study		
	Ground Level (m)	Flood Depth (m)	Flood Level (m)	Ground Level (m)	Flood Depth (m)	Flood Level (m)
1	32.93	2.63	35.56	32.93	2.64	35.57
2	31.65	3.33	34.98	31.65	3.32	34.97
3	33.11	1.49	34.60	33.11	1.52	34.63
4	32.47	1.25	33.72	32.47	1.29	33.76
5	30.79	2.08	32.87	30.79	2.13	32.92

The predicted extent of flood inundation can be seen to extend across the floodplain for a considerable distance from the main channel of South Creek. This can be seen to comprise high and low hazard areas. The flood extent within the Site can be seen to be generally shallow and with low flow velocities. The exception to this is at the north-west corner of the Site where, although low velocity is present, depth of flow is in the order of 1.0-1.5m. This area has been categorised by Penrith City Council in the South Creek Study as being flood storage zone.

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Flood planning levels for future development would be based on the 1% AEP flood levels plus freeboard of 500 mm, and any minor change in flood levels as a result of development, as defined in Section 3 of Penrith City Council's Water Management DCP.

The post development TUFLOW modelling shows that filling within certain flood affected land portions could be made without impacting upstream, downstream and adjacent properties and which meet the specific criteria set out in the *PCC DCP Part C3*. The specific criteria include limiting the depth and velocity afflux; confirming no effect on development potential to other surrounding properties; and, no reduction in flood immunity with regard to surrounding properties. **Table 31** below accurately sets out the relevant criteria items, with confirmation provided, which ensures how the post-development scenario would be achieved.

Table 31: Confirmation of Proposed Development & Policy Criteria		
Criteria	Post Development Confirmation	Scenario
<p><i>Criteria 1</i></p> <p>Flood levels are not increased by more than 0.1m by the proposed filling.</p>	<p>1% AEP flood surface afflux mapping shows that the change in flood surface levels between pre and post development/ filling is less than 0.1m, within the extents of the Site boundaries.</p> <p>Offsite reductions presented show an improvement in flood levels upstream (south) of the development and it is noted flood afflux downstream (north) of the development site and west of First Estate are consistent with previously approved and now constructed development, noting a minor 10 mm difference to the previously approved afflux levels.</p> <p>Further, that afflux shown adjacent and to the west of Mandalong Close, are associated with a planned rezoning currently being assessed by the NSW DP&E and PCC. The afflux shown in these areas is not affected by or impacted on by the Proposed Development, nor is it impacted by the potential rezoning adjacent to Mandalong Close.</p>	
<p><i>Criteria 2</i></p> <p>Downstream velocities are not increased by more than 10% by the proposed filling.</p>	<p>The proposed filling does not increase velocities downstream of the filling areas by more than 10%.</p> <p>The afflux mapping submitted shows there is a minor change in velocity adjacent to the proposed filling area of 0.06-0.07m/s, and a maximum increase of 7.8%.</p> <p>There are no changes to the development potential of adjacent or downstream properties, those which are located within the Floodway Corridor and those external to the flood extent.</p>	

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<p><i>Criteria 3</i></p> <p>Proposed filling does not redistribute flows by more than 15%</p>	<p>The proposed filling does not redistribute flows by more than 15%.</p> <p>From Appendix B of the Costin Roe Consulting Report (December 2018) pre and post development flow comparisons sections for South Creek have been prepared. Flow rates for the total flood extents have been separated to show the flows distributed between the mainstream channel, the eastern overbank flood (right bank) and the western overbank flood (left bank) areas.</p> <p>The post development differences can be seen to be generally at or below 10%, with a maximum of 15% being seen within the eastern (right) overbank area of the creek. This increase of 15% is localised to the site and will not affect offsite properties. Further noting the maximum 15% change in the eastern bank, equates to less than 3% of the total flow in South Creek.</p> <p>It is noted that the cross sectional distribution methodology included are consistent with the approved methodologies with Council included in previous overland flow assessments associated with the adjoining approved development (SSD 7173).</p>
<p><i>Criteria 4</i></p> <p>The potential for cumulative effects of possible filling proposals in that area is minimal</p>	<p>The analysis shows that changes to flood surface levels and hydraulics are localised to the proposed filling areas.</p> <p>The afflux output shows an increase of up to 30-40 mm to the north west of the site, within areas of high hydraulic hazard grading to zero increase to the north and south. Section 8.2 of the Overland Flow Report states, that the change to flood surface levels occur over the eastern bank of the South Creek channel and are generally contained in this area; however, are noted to be generally less than 60 mm.</p> <p>The majority of afflux adjacent to the Proposed Development shows a decrease in water surface levels as a result of flood compensation provided as part of the development. To the north, that is downstream of the development area, the effects due to development grade out to zero through a defined extent. This area is also seen to be majority high hazard/ floodway where development is not permitted.</p>

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	<p>Further, the Proposed Development provides compensatory flood storage of 87,800m³ , noting that the displaced storage volume is 75,000 m³.</p> <p>Hence, the affect due to development is confined to a specific area, and not cumulative to upstream or downstream areas.</p>
<p><i>Criteria 5</i></p> <p>There are alternative opportunities for flood storage.</p>	<p>The flooding in South Creek comprises mainstream flooding with overbank topping and flow within the flood plain on the eastern and western sides of the creek.</p> <p>Compensatory flood storage is provided along the southwest corner and north-west corner of the Proposed Development, with additional volume available within the remaining flood plain.</p> <p>The Proposed Development provides compensatory flood storage in the nominated areas discussed above. The displaced volume is 75,000 m³. Hence additional flood storage (13,800 m³) has been provided to that displaced through the development.</p> <p>The Estate stormwater management basin proposed (refer drawing Co13362.00-F03 in Appendix A of the Costion Roe Consulting Report) as part of the Proposed Development has been included within the model and provides some flood storage.</p>
<p><i>Criteria 6</i></p> <p>The development potential of surrounding properties is not adversely affected by the filling proposal</p>	<p>There is no effect on development potential of surrounding properties as a result of the proposed filling which forms part of this Proposal.</p> <p>It is noted that several properties on the western side of South Creek are adjacent to an area which experiences a reduction of flood afflux, and the increase in afflux is restricted to an area adjacent to the development, where there are no properties. Based on this, surrounding properties would not be adversely affected by the filling proposed.</p>

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	<p>In relation to the development potential to these properties on the western side of South Creek, the high hydraulic/ floodway zone extends through the majority of the flood affected land on the western side of South Creek.</p> <p>Areas of high hydraulic hazard, as confirmed by Penrith Council, are restricted from filling or development, hence development potential through the majority of the land to west of South Creek and to the north west of the site is limited in scope. Further, developers or land owners proposing any additional development on the west of South Creek have the opportunity to also complete their own assessment and mitigation solutions to maximise their development footprint within the bounds of Councils DCP, including flood storage offsets or other solutions, through undeveloped portions of the land.</p>
<p><i>Criteria 7</i></p> <p>The flood liability of buildings on surrounding properties is not increased</p>	<p>Surrounding buildings and properties are not affected by flooding changes due to the proposed filling and no reduction in flood immunity has been shown in the analysis.</p> <p>A reduction in flood levels has been shown adjacent to the Twin Creeks Residential Estate and properties to the south of the Proposed Development, hence no increase in flood liability would occur in relation these properties. Furthermore, the residential properties along Medinah Avenue to the west of the Proposed Development are generally sited between 1.0-1.5m above the predicted 1% AEP flood level, hence flood immunity requirements (min 0.5m) are not impacted due to the Proposed Development.</p> <p>Review of the available survey data shows that existing dwellings along Luddenham Road are generally sited between 2-4m above the predicted flood levels, hence flood immunity requirements (min 0.5m) are not impacted due to the Proposed Development. It is also noted that several farm structures are located within the flood plain and existing flood extent. Afflux in the vicinity of these structures is in the range of 0.02-0.030 m.</p> <p>Refer drawing Co13362.01-F03 in Appendix 11 which shows afflux values and confirms freeboard to dwellings.</p>

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	It is also noted that afflux shown to the west of the First Estate (per SSD 7173) is not changed or affected by the current assessment. This area is not subject to the current assessment and approval submission, however it is noted again that the outcome of the modelling confirms this development does not associate any cumulative impacts or affect upstream downstream or adjacent properties as a result of the proposed filling works.
<i>Criteria 8</i> No local drainage flow/runoff problems are created by the filling	No local drainage flow/runoff problems are created by the proposed filling. All local tributaries and flow paths would either operate in a similar manner to the existing regime or form part of the overall stormwater management system for the Estate.
<i>Criteria 9</i> The filling does not occur within Floodway Corridor	All filling is proposed outside of Floodway Corridor as required of the Penrith DCP and council.
<i>Criteria 10</i> The filling does not occur within the drip line of existing trees	Filling is proposed within the Subject Site and existing trees outside of this area are not affected by proposed filling activities. Trees within the Site would be affected by the built form, consistent with the nature of the development.

The Proposed Development considers flood-free access, both to and from the Site, as well as onsite refuge.

Emergency Response Plan: It is noted, that significant lead warning time would not be required to enable effective flood response plans to be initiated for this Site. The freeboards set at 500 mm above the 1% AEP means, that all sites are a level higher than the 0.5% AEP flood level and are not flood affected, meaning that safe refuge in a major flood event is available. Further, given that the travel distances from the western fringe of the Site, to the eastern flood free portions are less than 1,000 m, vehicular and pedestrian evacuation to flood free land above the PMF level may be completed in less than five (5) minutes. It is noted, that sufficient warning times are recommended; however, even if these were to be shortened to less than an hour, this would still result in ample time for safe evacuation to be made. The Emergency Response Plan is located within the Overland Flow Report prepared by Costin Roe Consulting, which is located within Section 3.2.4 and Section 10 of **Appendix 11** of this EIS.

It is concluded, that the Proposed Development is located in the vicinity and within the predicted 1 in 100-year ARI South Creek flood extent. The floor levels of the proposed buildings near South Creek would be set at the 1% AEP flood level plus a 500 mm freeboard in accordance with the requirements of PCC and the NSW Floodplain Development Manual.

Appendix 11 includes the comprehensive report prepared by Costin Roe Consulting.

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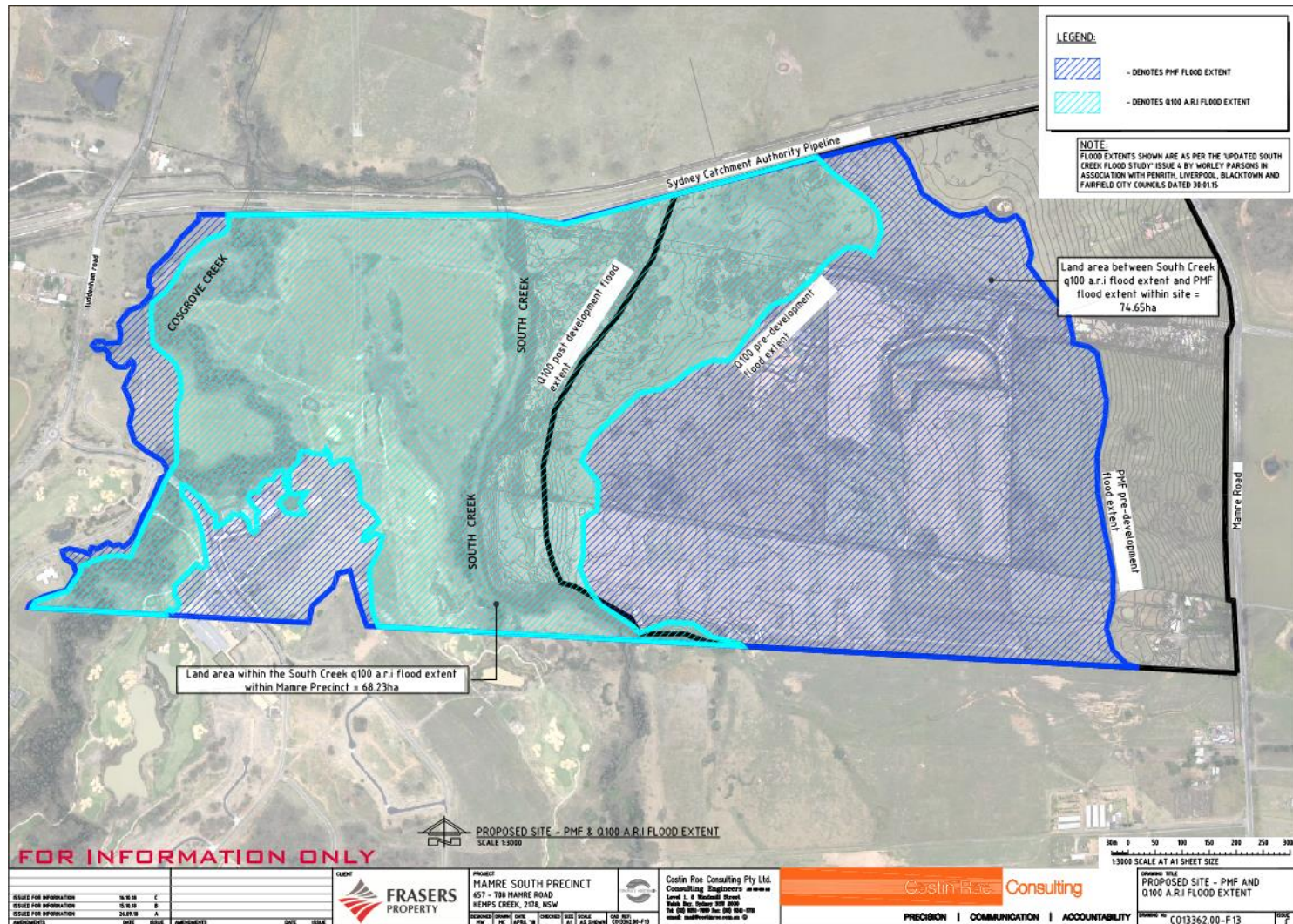


Figure 32 Flood Map Illustrating Extent of PMF and 1-100 Year Flood Event (Source: Costin Roe Consulting, 2018)

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6.3.5 Erosion and Sediment Control

The Report advises that soil erosion and sediment-control measures, including sedimentation basins, would also be provided for the development during the construction phase. Additionally, all soil and sediment-control measures, would be performed in accordance with PCC requirements and Landcom's Managing Urban Stormwater, Soils and Construction (1998) – The Blue Book.

The Erosion and Sediment Control Plan by Costin Roe Consulting, forms part of the Civil Engineering Report that will be adopted for the proposed design, subject to approval. Drawing **DA200**, **DA120** and **DA250** within the Civil Engineering Report prepared by Costin Roe Consulting, located within **Appendix 10** of this EIS satisfactorily address the proposed Erosion and Sediment Controls and conclude that:

Sediment Control Notes:

- Sedimentation basin sizing is based on recommendations from '*Soils and Construction, Managing Urban Stormwater*' (The Blue Book). Additionally, the basin capacity has been based upon a 5-day rainfall depth at the 85th percentile intensity, noted at 32.2 mm.
- Sedimentation basins have been designed to collect runoff in extreme rainfall events. Collected runoff is to be assessed by a qualified laboratory for dosing rates of alum or gypsum to ensure coagulation of sediments occurs prior to water being discharged to Council's Stormwater System.
- Each basin is to have a marker placed as per the detail to indicate when sediment is to be removed. Sediment that is removed, is to be classed and dewatered prior to being removed from the Site.
- During benching, allowance is to be made, to ensure runoff is directed to sedimentation basins.

Erosion Control Notes:

- All control work including diversion banks and catchment drains, v-drains and silt fences will be completed directly following the completion of the proposed bulk earthworks.
- Silt fences and silt fence returns will be erected in convex to the contour towards the pond water.
- Hay bale barriers and geofabric fences are to be constructed towards the toe of the batter, prior to earthworks commencing, and immediately after vegetation clearing has taken place.
- Diversion and silt dam embankments are to be machine compacted, seeded and mulched for temporary vegetation cover, as soon as they have been formed.
- Clear water is to be diverted away from disturbed ground and into the drainage system.
- All sediment trapping structures and devices are to be inspected after storms for structural damage or clogging. Trapped materials are to be removed accordingly, to a safe, approved location.
- All final erosion prevention measures, including the establishment of grassing are to be maintained until the end of the defect's liability period.
- All earthwork's areas will be rolled by appropriate machinery on a regular basis to seal the earthworks undertaken.
- All fill areas are to be left with a bund at the top of the slope. The height of the bund shall be a minimum of 200 mm.
- All cut and fill slopes are to be seeded and hydro-mulched within ten (10) days of completion of being formed.
- All topsoil stockpiles are to be suitably covered.

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- A 6 m buffer zone should be enforced between stockpile sites and any stream or flow path.

6.3.6 Geotechnical Assessment and Salinity

A Geotechnical Investigation and Site Salinity Assessment have both been prepared by Pells Sullivan Meynink (PSM) and JBS&G in accordance with relevant guidelines and standards.

Geotechnical Fieldwork informing the Report by PSM was undertaken on 23rd of March 2017. A total of 12 test pits (TP01 to TP12) were excavated at depths between 3.0 and 4.1 m. At the time of the indicative field exercise, the ground surface was described as being very wet and soft in some areas with regard to the western half of the Subject Site, due to prior rainfall. The subsurface conditions encountered within the test pits are summarised in **Table 32** below.

Note: Farm dams that were observed on the Subject Site were not targeted as part of the assessment.

Table 32: Summary of Inferred Subsurface Conditions Encountered in Test Pits within the Proposed New Facility Area		
Inferred Unit	Inferred Top of Unit Depth Below Ground Surface (m)	Description
Topsoil	0.0	Topsoil; clay with some sand and trace of gravel, medium to high plasticity, brown, fine grained sand, sub-angular gravel up to 5 mm, soft to firm consistency, moist to wet, rootlets and organics observed down to 0.2 m.
Natural Soil	0.1 to 0.2	Clay; high plasticity, reddish brown, firm to stiff consistency, moist. Clayey Sand to Sandy Clay; low to medium plasticity, mottled orange and pale grey, stiff to very stiff consistency, moist. Gravelly Sandy Clay; medium to high plasticity, orange and grey, fine to medium grained sand, sub-rounded to sub-angular ironstone gravel up to 30 mm, very stiff consistency, moist.
Bedrock	1.1 to 3.8	Shale; pale grey to dark grey, extremely to highly weathered, extremely low to low strength.

Table 33 overleaf shows the approximate elevation to the top of the inferred geotechnical units encountered in the test pits.

Table 33: Elevation to the Top of Inferred Geotechnical Units Encountered in Test Pits				
TP	Elevation to Top of Inferred Geotechnical Units (m)			
	Topsoil	Natural Soil	Bedrock	End of Hole (EOH)
TP01	36.3	36.2	32.6	32.3
TP02	36.5	36.3	Not Encountered	32.5
TP03	38.3	38.1	35.5	34.7
TP04	41.8	41.6	40.7	38.8

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TP05	36.3	36.1	Not Encountered	32.3
TP06	36.0	35.8	Not Encountered	32.2
TP07	36.5	36.3	33.9	33.3
TP08	40.4	40.2	36.6	36.3
TP09	37.6	37.4	Not Encountered	33.6
TP10	35.8	35.6	Not Encountered	31.8
TP11	35.8	35.6	Not Encountered	31.8
TP12	41.3	41.1	40.2	37.5

It is noted, that JBS&G (2019) conducted a detailed site inspection on the 1st February 2019. Pursuant to the site inspection undertaken, the validity of the Geotechnical Study, prepared by PSM was reviewed, for which a review of regional geology presented on *Penrith 1:100 000 Geological Sheet 9035* (DMR 1991⁸) indicates, that the western portion of the Site adjacent to South Creek is underlain by the Quaternary Period geological formation, comprising fluvial fine-grained sand silt and clay. The eastern portion of the Subject Site is inferred to be underlain by the Triassic Period Bringelly Shale of the Wianamatta group, comprising shale, carbonaceous claystone, claystone, laminate and fine to medium grained lithic sandstone.

Further, a review of eSPADE⁹ indicated, that the Site soils comprise residual Blacktown soils in the eastern portion of the Site and South Creek soils in the western portion of the Site. It is noted, that Blacktown soils consist of shallow-to-moderately-deep, hard-setting, mottle-texture contrast soils, red-and-brown podzolic soils on crests, grading to yellow podzolic soils on lower slopes and drainage lines. The findings are limited to localised seasonal waterlogging, localised water erosion hazard, moderately-reactive, highly-plastic subsoil and localised surface movement potential.

With regard to a review of eSPADE, South Creek soils consist of often very-deep-layered sediments, over bedrock or relict soils, structure-plastic clays or structured loams in and immediately adjacent to drainage lines, red and yellow podzolic soils with small areas of structured grey clays and yellow solodic soils.

Following the detailed site inspection undertaken by JBS&G (2019), the following observations were recorded with regard to the lithology and soil conditions of the Subject Site, including:

- Limited fill material was present at the Site, generally in areas of former and/or current buildings. The material typically comprised reworked soils (clays), consistent with the soil encountered throughout the Site and was generally absent of indicators of potential contamination. Anthropogenic inclusions comprising potential contamination sources were identified in fill locations TP01 (ACM 0.1-0.3 m Below Ground Level (BGL)) and TP03 (slag and asphalt, 0-0.4 m BGL). Anthropogenic materials were similarly identified at other locations on the Site, comprising low risk materials (primarily plastic and gravels).
- Disturbed natural soils were encountered at the majority of locations across the Site. Typically, the disturbed natural soils comprised mixed soils and organic matter (roots and rootlets);

⁸ *1:100 000 Penrith Geological Map Sheet 9030 Edition 1*. Department of Mineral Resources, Published 1991, DMR 1991

⁹ <http://www.environment.nsw.gov.au/eSpade2Webapp> Department of Environment and Heritage, NSW Government. Accessed 08/02/2019

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- Natural soils varied between landforms, comprised heavy set silt clays, with scattered intermixed shale / ironstone gravels, overlying shale bedrock on upper slopes, and shallow sands / clayey sands (0-0.4 m BGL) overlying clay on lower slopes; and
- Weathered shale bedrock was encountered at MW01 (2.2 m BGL) and MW02 (6.5 m BGL).

6.3.7 Groundwater

The Proposed Development does not propose to utilise surface or groundwater sources. Additionally, proposed cut earthworks over the Subject Site would be minor in nature, and no major changes or impacts to groundwater is expected because of these works.

Reference to the NSW Land & Water Conservation Acid Sulphate Soils Map 92_Liverpool shows the Subject Site is clear of any known occurrence of Acid Sulphate Soils.

Given, that the amount of cut on the Site is less than 5% of the overall fill import and placement, the cut material can be placed at least 1.5 m below the final fill levels and not exposed to the atmosphere or environment, any potential Acid Sulphate Soils found on-site can easily be managed through the earthwork's Construction Management Protocols.

Furthermore, a Groundwater Monitoring Event (GME) was conducted on the 1st of February 2019 by JBS&G (2019). A summary of groundwater conditions encountered during the GME is presented in **Tables 34-36** below. Further, monitoring wells were installed to intercept perched water within unconsolidated site soils, overlying the weathered shale bedrock. The basal depth of the screened intervals ranged from 7.2-9.2 m BGL.

Table 34: Groundwater Geospatial Characteristics

Well Reference	Easting (MGA56)	Northing (MGA56)	Surface Level (m) AHD	Top of Pipe (m) AHD	Screened Interval (m) AHD	Depth to SWL (m bTOC)	Standing Water Level (m AHD)
MW01	294632.8	6254300.6	43.65	43.65	32.65-35.65	4.435	39.22
MW02	294031.3	6254327.1	34.67	35.43	24.23-27.23	2.975	32.46
MW03	294232.2	6253881.8	36.12	36.89	26.39-29.39	2.677	34.21

Based on the data provided in **Table 34** above, and assuming relatively consistent subsurface conditions are present across the Subject Site, the inferred groundwater flow direction is approximately west direction with a gradient of 37 mm per metre.

Table 35: Groundwater Field Physicochemical Parameters

Well Reference	Dissolved Oxygen (mg/L)	Electrical Conductivity (µS/cm)	Total Dissolved Solids (mg/L)	pH (units)	Oxidation Reduction Potential (mV)	Temperature (°C)
MW01	2.83	22,663	14,504	6.55	150.3	19.0
MW02	0.06	22,370	14,317	6.75	-35.2	21.3
MW03	0.37	33,590	21,498	6.55	124.1	19.9

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Table 36: Groundwater Field Physical Observations

Well Reference	Odour	Sheen	Turbidity	Colour
MW01	None observed	None observed	Clear	Colourless
MW02	None observed	None observed	Highly turbid	Yellow
MW03	None observed	None observed	Turbid	Light brown

The results of field and laboratory analysis of groundwater properties regarding the above listed data analysis results is presented as follows:

- pH ranged from 5.8 to 7.2 pH units, as measured during field works and confirmed by laboratory analysis;
- Hardness ranged from 1,000 mg/L to 1,300 mg/L;
- Concentrations of chloride ranged from 8,400 mg/L to 14,000 mg/L;
- Concentrations of sulphate ranged from 820 mg/L to 1,100 mg/L; and,
- Electrical conductivity ranged from 21,000 $\mu\text{S}/\text{cm}$ to 40,000 $\mu\text{S}/\text{cm}$.

Further, Polycyclic Aromatic Hydrocarbons (PAH) compounds were generally not detected above the laboratory Limit Of Reporting and were not detected above the Site assessment criteria in the analysed sampled.

Notwithstanding, JBS&G (2019) concluded in their report that the Site is suitable for Commercial and Industrial use.

6.3.8 Water and Wastewater

Immediate potable water supply can be obtained from the Erskine Park Reservoir system. This would require an extension of the existing 200 mm water main in Mamre Road, north of the Site.

In a letter dated 21st of June 2018, and subsequent letter from Sydney Water dated the 8th of November 2018, Sydney Water have confirmed in writing that their servicing investigations show that the drinking water systems of Minchinbury Elevated and Erskine Park Elevated, both have adequate capacity to service the Proposed Development, and that supply will be provided for the Erskine Park Elevated system.

Currently, there is sufficient existing Waste Water infrastructure located to the north of the Subject Site. Sydney Water in the above-mentioned letter have advised that the Site can be serviced by existing infrastructure, from St Mary's Waste Water Treatment Plant.

A Service Infrastructure Assessment Report has been prepared by Land Partners and is provided at **Appendix 12** which is summarised above along with the letter from Sydney Water at **Appendix 12** of this EIS.

6.3.9 Fill

A Geotechnical Report prepared by Pells Sullivan Meynink, (2018) assesses the specifications and requirements, concerning fill, with regard to the Proposed Development, encompassing areas that provide clarity on the importation of fill material, inclusive of associated constraints such as contamination, geotechnical and salinity issues.

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With regard to the Proposed Development, imported engineered fill is to conform with the definition of Virgin Excavated Natural Material (VENM), or alternatively be Excavated Natural Material (ENM), as defined under the *Protection of the Environment Operations (Waste) Regulation 2005* – General Exemption under Part 6, Clause 51 and 51A, the excavated natural material exemption, 2012.

All engineered fill for the Site would be approved by the Geotechnical Inspection and Testing Authority (GITA), as being suitable for use as structural fill. Engineered fill should not compromise unsuitable material, as defined by Clause 4.2 of AS3798-2007 "Guidelines on earthworks for commercial and residential development" such as:

- *Organic soils, such as many topsoils, severely root-affected subsoils and peat;*
- *Materials contaminated through past site usage, which may contain toxic substances or soluble compounds harmful to water supply or agriculture;*
- *Materials containing substances which can be dissolved or leached out in the presence of moisture (e.g. gypsum), or which undergo volume change or loss of strength when disturbed and exposed to moisture (e.g. some shales and sandstones), unless these matters are specifically addressed in the design;*
- *Silts, or materials that have the deleterious engineering properties of silt;*
- *Other materials with properties that are unsuitable for the forming; and,*
- *Fill that contains wood, metal, plastic, boulders or other deleterious material, in sufficient proportions to affect the required performance of the fill.*

For this Site, it is anticipated that the Geotechnical Inspection Testing Authority (GITA) would assess the proportion of deleterious material in each lot within the Subject Site to ensure that it is not greater than 0.25% by weight. Additionally, all engineered-fill particles, should be incorporated within a single layer. Anything less than 30% of particles should be retained on a 37.5 mm sieve. Furthermore, engineered fill should be able to be tested in accordance with the Standard Compaction Method (AS1289.5.4.1) or Hilf Test Method (AS1289.5.7.1). These methods require less than 20% retained on the 37.5 mm sieve. Where between 20% and 30% of particles are retained on the 37.5 mm sieve, the above test methods should still be adopted, and test reports annotated appropriately.

All engineered fill used at the Site, would be placed and compacted to a Dry or Hilf Density Ratio (Standard Compaction method) of between 98% and 102%. The insitu density would be measured over the full depth of each layer placed. Additionally, the placement moisture variation would be controlled to be between 2% dry of optimum and 2% wet of optimum.

Furthermore, proof-rolling, along with minor boxing out and refilling, of the upper surface of the proposed bulk earthworks, would be formally undertaken as directed by PSM. The plant proposed to be utilised, would be dependent on the design loads adopted by the structural engineers for each indicative land portion with regard to the Subject Site. Plate load testing should also be undertaken at the direction of PSM at the final bulk earthworks level (BEL), for which, the expected test frequency is approximately a day of testing for each building pad.

Accordingly, the Report provides additional documentation and assessment criteria (particularly certification requirements) to ensure the suitability of all material imported to the Subject Site (refer to **Appendix 14** of this EIS for the full report).

6.3.10 Contamination

Contamination has been discussed in **Section 4.2.10** of this EIS, regarding the Proposed Development's compliance, concerning SEPP 55. Based on the scope of investigation undertaken by JBS&G (2019) and the proposed industrial land use proposed for the Site, the following conclusions are provided. These include:

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- Desktop assessment and detailed inspection of the Site has not identified the potential for gross and / or widespread contamination to exist at the Site. Potential for localised impacts were identified, consistent with the historical use of the Site for a combination of commercial (Mamre Produce), agricultural, recreational and rural residential purposes;
- Potential contamination impacts were assessed by advancement of 48 intrusive investigation locations, field screening of site media and subsequent laboratory analysis for COPCs. No COPCs were identified within site media samples analysed, which exceeded relevant site screening assessment criteria for industrial land use site suitability;
- No background contamination, chemical mixtures or the potential risk of migration of contaminants from the Site have been identified;
- Potential aesthetic issues were identified at two (2) locations within the Subject Site; however, no trigger for further assessment of aesthetics were identified during the site investigation undertaken;
- A fragment of bonded ACM was identified in a single location (TP01). With respect to the concentration of ACM within the broader soil matrix, this occurrence does not comprise an exceedance of site suitability criteria, but will require management during site development under the *Work Health and Safety Regulation 2017*; and,
- From a contaminated land perspective, the Site is considered suitable for the Proposed Development.

It is noted, that a CEMP, including an unexpected finds protocol, should be developed for the Site to ensure that typical site management strategies are implemented, and no contamination is introduced to the Site during redevelopment.

The complete ESA undertaken by JBS&G (2019) can be located within **Appendix 16** of this EIS Submission.

6.4 TRAFFIC AND TRANSPORT

A Traffic Impact Assessment (TIA), was carried out for the Proposed Development and included an assessment of future traffic generated from further stages of development. This included a full assessment of all traffic impacts arising from the development proposed under this SSD Application. The Traffic Impact Assessment by Ason Group (2019), has considered potential traffic impacts of the Proposed Development and concluded that the Proposed Development traffic volumes can be accommodated through the existing intersections in the locality and that the proposed indicative signal layout envisaged for the Mamre Road/Bakers Lane intersection, can cater for the additional traffic volumes. Also, a review of the parking requirements for the Proposed Development confirms that each land parcel would generally provide sufficient car parking spaces to satisfy the RMS parking requirements. The Report has modelled traffic for both the Proposed Development (SSDA) and the fully-Constructed Development (which contains potential further stages), as also described in the current SSD Application. The Assessment also included intersections in the immediate vicinity of the Site (refer to **Appendix 18** of this EIS).

6.4.1 SSDA Site Access Strategy

An overview of the proposed SSDA Access Strategy is presented in **Figure 33**. The SSDA Access Strategy, will comprise the following:

- Primary access from Bakers Lane (west) to the existing signalised intersection of Mamre Road and Bakers Lane, with appropriate upgrades to the Bakers Lane (west) approach and broader signalised operations.

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- A secondary Left In Left Out (LILO) access from Mamre Road is also proposed at the southern end of the Subject Site.



Figure 33 SSDA Access Strategy (Source: Ason Group, 2019)

Future Access Strategy (does not form part of this SSDA):

The TIA investigates the traffic and transport implications associated with a full warehouse and industrial facilities, developed in several stages and employing 2,500 people upon full development of the Estate. The TIA incorporates responses to specific issues raised by the RMS. These include a new access strategy for the precinct and the location of a new signalised intersection, along Mamre Road, crossing the proposed Southern Link Road, which straddles the western boundary of the Subject Site. The future built-form of the entire Subject Site, is expected to include:

- New internal roads;
- A new connection to the (future) external road network, being a new signalised connection to the proposed Southern Link Road (SLR), if it is proposed to be extended west of Mamre Road by NSW RMS and the NSW DP&E, in the future.
- Upon construction of the proposed Southern Link Road, the Bakers Lane/Mamre Road intersection would be closed accordingly, and access to the Site would be provided by the signalised intersection of Southern Link Road/Mamre Road. These are yet to be determined by the State and Local Government Agencies.

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It should be further noted, that this additional scope for modelling associated with this Masterplan (as listed above), does not form part of the subject SSDA, for which subsequent stages would be subject to future Development Applications – and has only been provided to outline context and inform the required future upgrades for the surrounding road network.

It is concluded that prior to the completion of the SLR, it is expected that primary access to the Subject Site (interim scenario), would be provided by an upgraded western approach, at the existing Mamre Road/Bakers Lane intersection, incorporating a signalised intersection. Upon the construction of the SLR, the Bakers Lane/Mamre Road intersection would then be closed. Access would instead be provided by a new intersection, that of the Southern Link Road and Mamre Road (refer to **Figure 34** below). A degree of flexibility is available for these linkages. The future configuration and design of this internal, signalised intersection can be amended should future changes occur to the future alignment and geometry of the Southern Link Road.

With regard to the above, the Applicant would provide, both interim and final access points into the Subject Site. On this basis the construction of internal roads would be staged to permit access in the initial 1-2 years. This would allow primary access points, following the construction of the SLR. The Plan contained in **Figure 35** overleaf demonstrates that the staging of all road infrastructure and **Figure 34** below demonstrates the timing of the proposed access staging, which includes both short-term (interim) and long-term (ultimate) elements of the proposed access roads, can be accommodated.

Location	Short-term ¹ (interim)	Long Term ² (ultimate)
Northern Access	Upgraded signals at Mamre Rd / Bakers Ln	Future signals at of SLR / Mamre Rd <i>NOTE: the existing Bakers Ln access under interim / short-term configuration will be decommissioned after construction and operation of the SLR, with no direct access from Bakers Ln to Mamre Rd. At this time the ends of Bakers Ln – near Mamre Rd – shall be turned into cul-des-sac.</i>
Southern Access	Left-in, left-out (LI/LO) access to Mamre Rd	Left-in, left-out (LI/LO) access to Mamre Rd

NOTES: 1) Short-term is built at commencement of the project
2) Long-term is following completion and operation of the SLR

Figure 34 Proposed Access Staging / Timing (Source: Ason Group, 2018)

- Stage 1 Development (subject SSD Application):
 - A total of 163,671 m² of building floor area (GFA of this SSD Application);
 - New access arrangement from the western portion of the existing signalised intersection of Mamre Road & Bakers Lane, with appropriate upgrades anticipated.

According to the traffic modelling undertaken in the submitted Ason Group Traffic Impact Assessment (2019), all Proposed Development traffic, can be accommodated through the proposed access arrangements, and would not need to have an additional road link connection to the southern portions of the Site.

Furthermore, the properties located immediately to the south of the Subject Site (Lots 23 and 24 in DP258414) have almost 280 m of frontage to Mamre Road and therefore are afforded their own access to the arterial road network.

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Regardless of the of the above, it is important to note, that unnecessary connections between the two (2) sites, would encourage rat-running movements between them, which as a consequence would unnecessarily increase the traffic movements within the Subject Site. This can by itself create number of different issues and is therefore not a desirable outcome.

With reference to the above, connection to the south is not required and therefore is not shown on the plans submitted with this SSDA. **Figure 35** below illustrates the access strategy proposed with regard to the Proposed Development under this SSD Application.

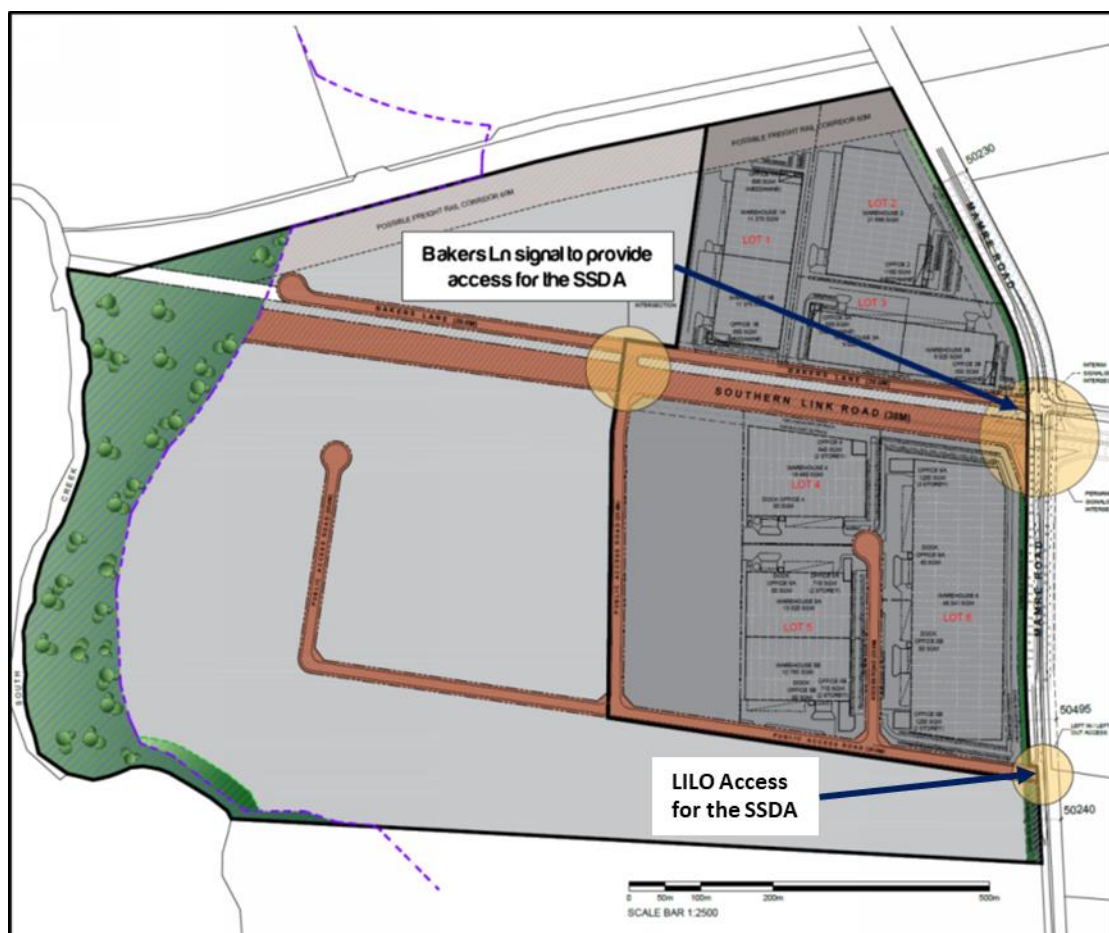


Figure 35 Proposed Stage 1 Access Arrangements for the Proposed Development (Source: Ason Group, 2019)

At present the Bakers Lane intersection effectively operates as a signalised T-intersection, with the Mamre Road and Bakers Lane (east) approaches under signal control. The minor Bakers Lane (west) approach operates under priority (stop) control. Bakers Lane (west) currently provides for a minimal amount of construction traffic only, with less than 3 veh/hour in both the AM and PM peak periods. The performance of this intersection during the AM and PM peak periods, has been assessed further with on-site observations and using SIDRA Network software, which is recorded within the Traffic Impact Assessment, located within **Appendix 18** of this EIS. Generally, the on-site observations have confirmed a significant school-traffic demand through the intersection, particularly during the PM peak period.

6.4.2 Subject SSD Application Operational Traffic Impact

The traffic generation rates for the operational phase of development for both AM and PM peak periods was determined by applying rates of industrial sites of similar context, including:

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- Erskine Park Industrial Estate, Erskine Park;
- Wonderland Business Park, Eastern Creek; and,
- Riverwood Business Park, Riverwood.

For purposes of contextual analysis, the rates attributed to the upper end of the spectrum (Wonderland Business Park) were applied to account for higher average rates (worst-case scenario). The traffic generation rates are as follows:

- AM rate – 0.247 trip per 100 m² of GFA;
- PM rate – 0.182 trip per 100 m² of GFA; and,
- Daily rate – 2.64 trip per 100 m² of GFA.

By applying the above rates, the SSDA yields the following results:

- AM Peak (veh/hr) – 405;
- PM Peak (veh/hr) – 297; and,
- Daily (veh/day) – 4,322.

The adopted trip distribution for the proposed SSD is summarised in **Figure 36** below.

Peak Period	Land Use	Total Generation (veh/hr)	%Inbound	%outbound	Inbound Movements (veh/hr)	Outbound Movements (veh/hr)
AM	Warehouse	385	70%	30%	270	115
	Office	20	70%	30%	14	6
PM	Warehouse	282	30%	70%	85	197
	Office	15	30%	70%	4	11

Figure 36 Traffic Distribution Anticipated from this SSDA (Source: Ason Group, 2019)

Furthermore, the resultant traffic distribution regarding the Proposed Development on the surrounding road network is shown in Appendix C3 of **Appendix 18** and the existing + SSDA traffic is found in Appendix C4 of **Appendix 18** of this EIS.

For contextual consideration, **Figure 37** overleaf summarises the total existing traffic volumes at key intersections during the AM and PM peak periods and the additional traffic increase as a result of the Proposed Development.

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Intersection	Period	Traffic Volumes (% Increase)	
		Existing	SSDA Traffic (%Increase)
Mamre Road / Bakers Lane (Signal Control)	AM	2,365	401 (+16.9%)
	PM	2,202	297 (+13.5%)
Mamre Road / Mamre West Precinct Access (Signal Control)	AM	na	247
	PM	na	178
Mamre Road / James Erskine Drive (Signal Control)	AM	2,557	247 (+9.7%)
	PM	2,349	178 (+7.6%)
Mamre Road / Erskine Park Road (Signal Control)	AM	3,113	247 (+7.9%)
	PM	2,878	178 (+6.2%)
Mamre Road / Mandalong Close (Stop Control)	AM	2,119	92 (+4.3%)
	PM	1,798	100 (+5.6%)

Note: (1) The existing Mamre Road West Precinct traffic has not been settled at the time of preparation of this report and as such the assessment of this intersection for existing scenario is not undertaken.

Figure 37 SSDA Contribution to the Existing and Future Traffic Volumes (Source: Ason Group, 2019)

The results of **Figure 37** above give rise to, the following observations:

1. The additional traffic added to the Mamre Road / Bakers Lane intersection in the interim scenario, are in the order of 13% to 17% during the road network peak hour periods.
2. Following construction of the Proposed Development, the additional AM and PM peak traffic on all other intersections (other than the signalised intersection of Mamre Road / Bakers Lane), is estimated to be less than 10%.
3. Typically, an increase of less than 10% does not warrant detailed intersection assessment (SIDRA analysis). Notwithstanding, for completeness, the performance of these intersections has been modelled using SIDRA Network, for both AM and PM peak hours, as part of this assessment. These are detailed in **Figure 39**.

The SIDRA analysis assumes, that in the interim, prior to the Mamre Road Upgrade works:

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- The configuration of the Mamre Road / Bakers Lane intersection is as shown below in **Figure 38**; and
- Other key intersections will be as per the existing network.

This intersection upgrade will be temporary only and is provided only to facilitate the Proposed Development traffic. Bakers Lane is proposed to be disconnected from Mamre Road and be realigned with the proposed Southern Link Road in the long-term.

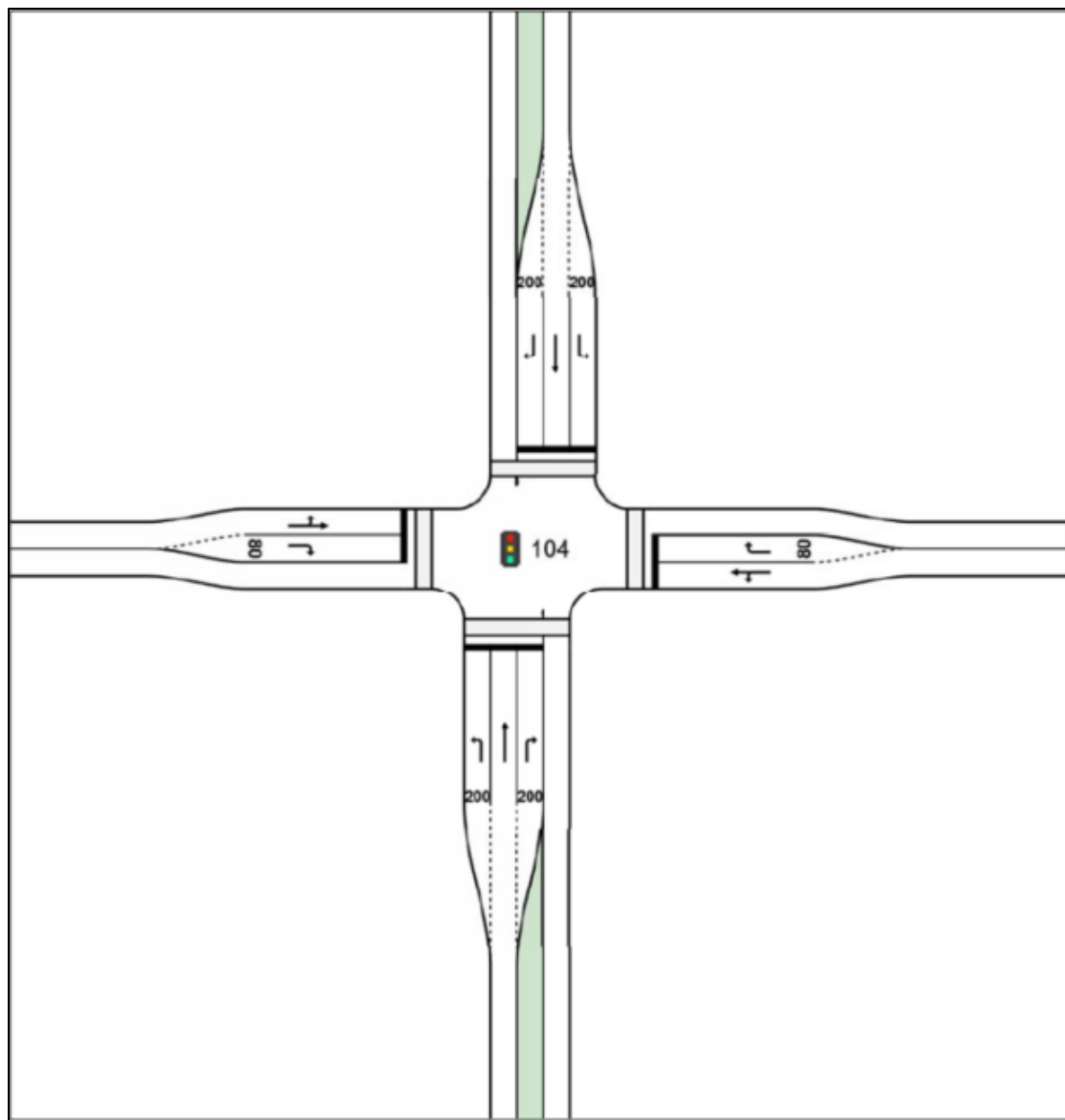


Figure 38 Signalised Intersection of Mamre Road / Bakers Lane – Interim Scenario
(Source: Ason Group, 2019)

Accordingly, the SIDRA results are provided below in **Figure 39** overleaf of this EIS.

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Intersection	Scenario	Period	Intersection Delay	Level of Service
Mamre Road / Bakers Lane (Signal Control)	Baseline	AM	29.6	C
		PM	121.1	F
	Existing + SSDA	AM	42.0	C
		PM	85	F
Mamre Road / Mamre West Precinct Access (Signal Control)	Baseline	AM	na	na
		PM	na	na
	Existing + SSDA	AM	13.5	A
		PM	16.5	B
Mamre Road / James Erskine Drive (Signal Control)	Baseline	AM	10.6	A
		PM	18.1	B
	Existing + SSDA	AM	13.8	A
		PM	14.9	B
Mamre Road / Erskine Park Road (Signal Control)	Baseline	AM	23.9	B
		PM	29	C
	Existing + SSDA	AM	31.4	C
		PM	30.0	C
Mamre Road / Mandalong Close (Stop Control)	Baseline	AM	1,083 (23.7)	F
		PM	235 (2.2)	F
	Existing + SSDA	AM	2,519.2 (22.4)	F
		PM	629.8 (4.3)	F
Note: 1) Figure in brackets () reflects average intersection performance for unsignalised intersection. 2) Full pedestrian crossing is assumed for the proposed design of Mamre Road / Bakers Lane signal in Existing + SSDA scenario, however, the pedestrian phase call is set at 20% in SIDRA. 3) The intersection of Mamre Road / Mandalong Close is an existing intersection. It is important to note that this intersection is proposed for LI/LO in future and will operate satisfactorily under future scenarios (refer Table 21).				

Figure 39 Local Network Performance Comparison (Existing vs. Existing + SSDA)
(Source: Ason Group, 2019)

After analysing the results contained in **Figure 39** above, the following conclusions have been made by Ason Group in respect to the subject SSD Application, including:

- The Proposed Development, will not have a material impact on the surrounding road network, as the average delay and Level of Service as a result of the "Existing + SSDA" traffic, is similar to the existing baseline scenario, except for the intersection of Mamre Road / Bakers Lane during PM peak hour, which is improved significantly.
- With respect to the intersection of Mamre Road / Bakers Lane, it is noteworthy that this intersection is currently a signalised intersection with a stop sign control on the

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western leg without a pedestrian crossing facility. However, the Proposed Development includes an upgrade of this intersection with appropriate signalised pedestrian crossings.

- In this regard the upgrades proposed for Mamre Road / Bakers Lane will improve the pedestrian crossing opportunities, which are considered as a positive outcome for the locality.
- Furthermore, the existing configuration of this signal does not provide right and left turn bays into the Subject Site, to / from Mamre Road of which the proposed upgrades intend to implement these additional upgrades.
- Accordingly, the proposed upgrades at the Mamre Road / Bakers Lane signal can improve the vehicular and pedestrian movements at this signal when compared to the existing baseline.
- Further review of the SIDRA results for the Mamre Road / Bakers Lane signal suggests that the estimated overall queue distance at this intersection will be reduced by approximately 260 metres as a result of the additional improvements.
- Furthermore, SIDRA results confirm that the additional upgrades at the intersection of Mamre Road / Bakers Lane will improve the overall degree of saturation for the post development scenario which is also deemed to be a positive outcome.
- Notwithstanding, it is emphasised that this arrangement will only be temporary as the proposed regional upgrades in the vicinity will supersede this arrangement and Bakers Lane will ultimately be closed off with no connection to Mamre Road.

6.4.3 Proposed New Road Infrastructure and Intersections

The new internal access roads will provide access to all Lots. These roads have all been designed in accordance with the proposed Mamre South Precinct DCP. It is important to note that the Mamre South Precinct DCP, has fully considered and incorporated all of Penrith City Council's existing DCP Guidelines with regard to the design of roads. These roads will be dedicated to Penrith City Council in the future, and designed in accordance with the requirements of Clause 10 Transport Access and Parking of the PDCP2014 which states the following requirements for an Industrial Road:

"Road Reserve: 20.6 metre road reserve, consisting of:

- 2 x 3.8 metre verge widths (including a 1.5 metre concrete footway within each verge);*
- 13.0 metre carriageway, comprising:*
 - 7.0 metres for travel lanes in both directions; and*
 - 2 x 3.0 metre parking lanes."*

The Proposed Development will benefit from the future Southern Link Road operating in parallel to Bakers Lane, built in accordance with Austroads and RMS standards. The soon-to-be constructed portion of Bakers Lane will form the primary access to the Development, once completed.

New Bus Services and Cycling in the Precinct

Bicycle lanes are provided along Erskine Park Road and certain sections of Mamre Road, with the addition of carriageway shoulders that can be utilised by cyclists. The future upgrade of Mamre Road being investigated by the RMS has provision for bus lanes and bicycle lanes that will connect to the site.

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Planned Road Upgrades

There are significant road network upgrades currently being planned in the general vicinity of the Subject Site. The Site is due to receive significant road upgrades in the future, as part of the Mamre Road Upgrade strategy. A "Base Case" has been adopted that includes those planned road and intersection upgrades (as well as additional traffic flows) to appropriately measure the potential impacts of the traffic generated by the Proposed Development from both Stage 1 of the Proposed Development and when fully developed and operational, which forms the 'Ultimate Scenario'.

The future widening of Mamre Road has already been thoroughly considered by the NSW RMS and exhibited on the NSW RMS website as part of the Mamre Road Upgrade Project. The plans submitted by the NSW RMS show a 50-m-wide corridor, which the Applicant has adopted in the design of the Proposed Development. The Applicant has completed further consultation with the RMS on the 26th of July 2018 and 7th of March 2019, which confirmed that the 50 m wide corridor is sufficient for both the proposed widening of Mamre Road and a potential grade separated bridge over the WSFL Corridor and Sydney Water Pipeline.

It is forecast that the Mamre Road Upgrade would be completed, prior to completion of future stages of the Development. The Site Masterplan in the Ason Group Report is presented for informative purposes only and it is expected that all future development applications, would include further traffic studies which would identify any necessary 'interim' upgrades required, with consideration given to the progression of the Mamre Road Upgrade Project.

On the 8th of February 2019, the Premier of NSW announced, that funding had been approved for Stage 1 of the Mamre Road Upgrade. It is therefore logical that Stage 2 of the infrastructure upgrade project would follow shortly after to provide enhanced connectivity to the Badgerys Creek Airport site and surrounding Aerotropolis. In the media release issued by the Premier of NSW, it notes:

"Mamre Road will be upgraded along a 3.8 kilometre section to a four-lane dual carriageway between the M4 Motorway and Erskine Park Road, with an investment of \$220 million."

The abovementioned confirms consistency with the Stage 1 Site access strategy for the Proposed Development, for which Ason Group have satisfactorily addressed within the TIA. Furthermore, the Premier of NSW has confirmed, *"The Mamre Road Upgrade will also be future proofed, allowing another two lanes to be added down the track."* This is considered to form a direct correlation with the traffic volumes predicted for ultimate scenario, once the Estate is fully developed, further complementing the overall Estate design and any anticipated impacts concerning traffic volumes on the immediate road network along Mamre Road in the future.

Subdivision itself would not generate traffic; hence, it is only future development for the purpose of specific land uses that would require further modelling to be undertaken, as and when that development is likely to take place. It should be noted, that the Proposed Development has considered the traffic volumes and intersection performance based on Mamre Road in its current operational state.

Therefore, a suitable planning approval mechanism is available to ensure adequate assessment of future stages can be undertaken in due course. Following discussions with the NSW RMS and referring to the NSW Government 'Media Release' letter, dated the 8th of February 2019 (as mentioned above) – the NSW Government (on behalf of the Premier of NSW) confirms that initial planning work for a future upgrade of a 10-km section of Mamre Road, between the M4 Motorway and Kerrs Road has already commenced. Though detail of this work is still not

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finalised, the NSW RMS has already publicly stated that the future upgrade features of Mamre Road will include:

- *two lanes in each direction with wide central median between the M4 Motorway and Kerrs Road – 10 kilometre length,*
- *provision for a future third lane in each direction,*

Accordingly, the Mamre Road Upgrade Project (proposed by the NSW RMS) has been declared a “priority” for the NSW RMS and the Strategic Design, has already been developed for this project. There has also been discussion with the NSW RMS about the need for a third lane on Mamre Road, as part of Mamre Road Upgrade and it is understood that this will be contemplated at some point in the future, which is earmarked to be completed by 2036, representing the completion of the Mamre Road Upgrade Project.

With regard to the SLR (SLR), the SLR alignment adopted has been based on the Draft Structure Plan 2013 and the following rationale, which includes:

- The current AECOM plans prepared for the NSW DP&E and connection to the point on the Eastern side of Mamre Road as shown (refer to **Figures 40 & 41** overleaf).
- The Mamre Road upgrade options report issued by the NSW RMS, shows the location of the SLR intersection.
- An alignment to co-locate regional infrastructure, being the Western Sydney Freight Rail Corridor and the Sydney Water Pipeline that avoids fragmentation of land between infrastructure corridors.
- To facilitate a more cost-effective crossing of South Creek by combining the SLR, WSFL and pipeline with only one bridge structure rather than multiple crossover points.
- To avoid the unnecessary fragmentation of land between infrastructure corridors

It is noted, that extensive consultation has been undertaken with the NSW RMS, TfNSW and the NSW DP&E in relation to the proposed SLR alignment.

The alignment of this road remains flexible and can be adjusted in the future should the NSW DP&E or NSW RMS decide on an alternate alignment. Beyond the first stage buildings under this SSD Application, there is flexibility to change the alignment, not impacting any built-form.

A concept alignment options review has been undertaken to demonstrate potential alternate alignments and South Creek crossing positions. This simplified plan shows potential geometry of the SLR, matching three (3) key locations, being the Mamre Rd intersection, across the Stage 1 frontage and the Twin Creeks Estate a barrier to alignment locations (refer drawing **Co13362.01-DA700** of **Appendix 10**, prepared by Costin Roe Consulting, which is illustrated further in **Figure 42** below).

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Figure 40 AECOM Concept Design Concerning the Proposed SLR Intersection at Mamre Road and Bakers Lane (Source: AECOM, 2018)

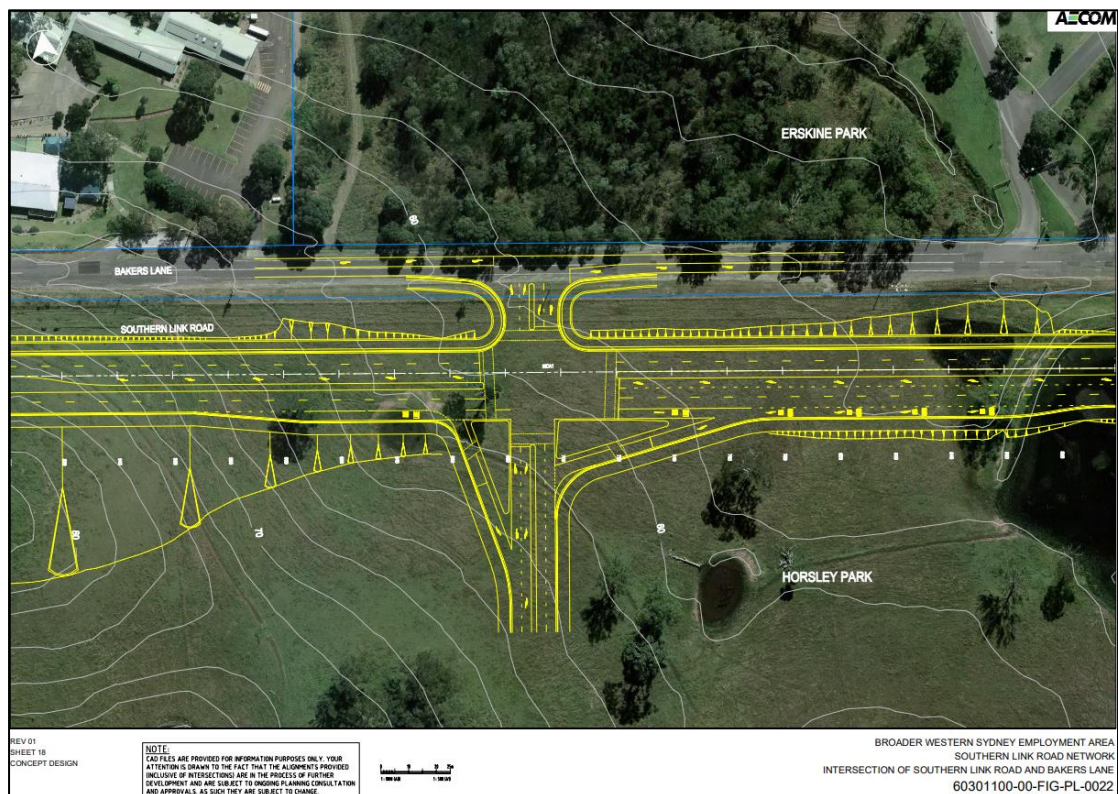


Figure 41 AECOM Concept Design Concerning the Proposed SLR at Bakers Lane (Source: AECOM, 2018)

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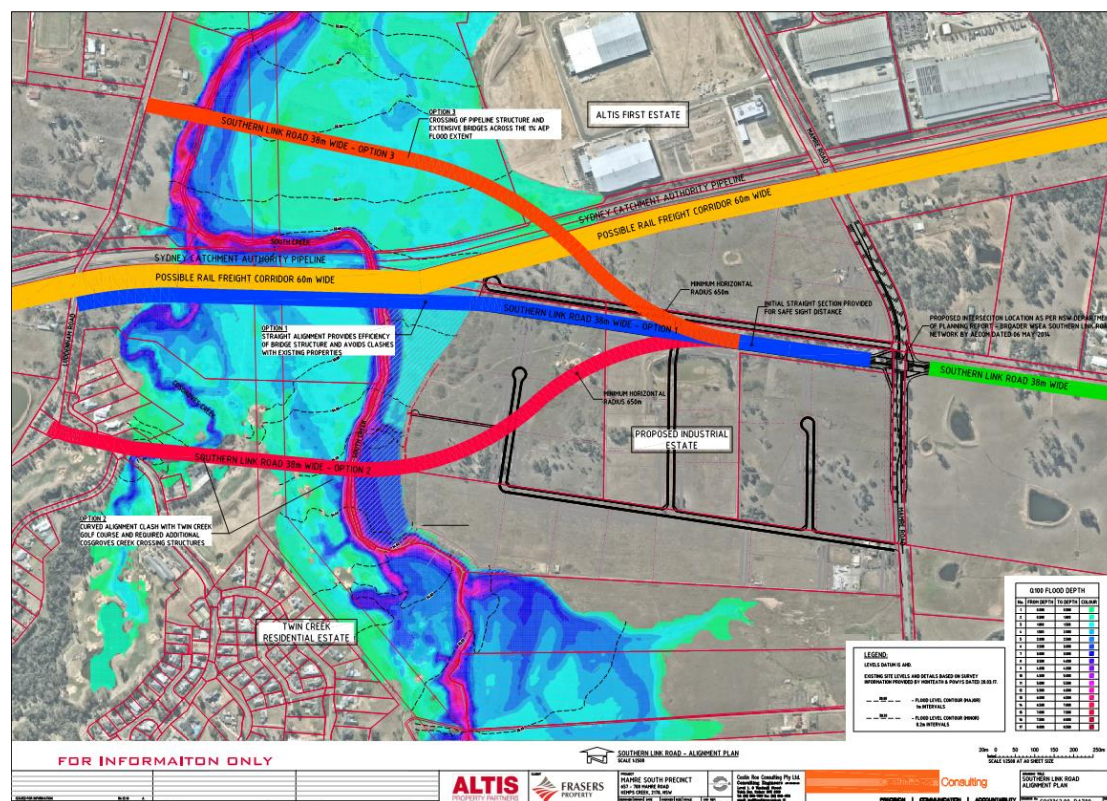


Figure 42 Southern Link Road Alignment Options (Source: Costin Roe Consulting, 2018)

As is shown in **Figure 42** above, three (3) options were considered by the NSW RMS:

1. Alignment 1: which requires two separate bridge crossings of South Creek - is not favoured on cost grounds.
2. Alignment 3: which must go through the densely-populated and established residential area of Twin Creek – is unlikely to be supported due to cost of land acquisitions and disruption to residential amenity.
3. Alignment 2: As is contemplated by this SSD, is the least costly, and most logical option exhibited by the RMS.

One advantage in pursuing Alignment 2, is flexibility in alignment which allows the SLR to move South, crossing the 1% ARI area of South Creek at its narrowest point, whilst not impacting the established Twin Creeks residential development. It is understood that this is the currently favoured option of the RMS.

Studies completed for the Site show that, the proposed access roads and future Southern Link Road both provide for the safest form of “traffic movement” as they prioritise T-intersections, in line with Austroads and RMS requirements. Accordingly, the proposed roads would provide “better and safer” access to the Subject Site for the development proposed under this SSD Application and subsequent development in the future (subject to separate development consent).

Ason Group have completed a swept path analysis for access arrangements to the Site, illustrated within the TIA, which demonstrates compatibility and compliance with the proposed 20.6-m-wide access road and applicable warehouses under this SSD Application.

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6.4.4 Ultimate Scenario Traffic Movements and Volumes

Existing traffic volumes were documented by Ason Group, by measuring the existing 2018 directional mid-block traffic volumes (7-day count) regarding Mamre Road and Bakers Lane in the immediate Subject Site vicinity. The results are summarised in **Table 37** below:

Table 37: Existing Mid-Block Traffic Volumes			
Road Section	Period (AM Peak)	Period (PM Peak)	Level of Service
Mamre Road north of Bakers Lane	2,215 vehicles	2,085 vehicles	NB = E (AM & PM) SB = E (AM & PM)
Mamre Road south of Bakers Lane	1,391 vehicles	1,541 vehicles	NB = D (AM & PM) SB = D (AM & PM)
Bakers Lane East of Mamre Road	1,085 vehicles	734 vehicles	NB = C (AM), D (PM) SB = C (AM), A (PM)

Note: NB = North Bound direction & SB = Southbound direction.

Table 37 listed above is based on the following assumptions:

- Mamre Road mid-block traffic volumes during the AM and PM peak hours are essentially already at capacity. This strongly suggests that the (planned) duplication of Mamre Road may need to be investigated sooner than envisaged based on current planning / timing.
- The above analysis of Mamre Road (prescribed in **Table 37**) nearing capacity was confirmed by on-site observations during AM and PM peak hours. Extensive queues were observed on Mamre Road in this vicinity of the Mamre South Precinct, particularly during the PM peak period.

These projected volumes in **Table 37** above for the Subject Site, have been analysed using the SIDRA Network applying modelling outputs to determine operational performance measures, particularly, the Average Vehicle Delay (AVD), and associated Level of Service (LOS). The SIDRA modelling was applied to the following five (5) key intersections in the immediate vicinity of the Proposed Development:

Table 38: SIDRA Network Results (May 2018)				
Road Section	Period (AM)	Level of Service (AM)	Period (PM)	Level of Service (PM)
Mamre Road / Bakers Lane	29.6 secs/veh	C – Satisfactory, but accident study required.	139.5 secs/veh	F – Unsatisfactory and requires other control mode or major treatment.
Mamre Road / Mamre West Precinct Access	n/a	n/a	n/a	n/a
Mamre Road / James Erskine Drive	10.6 secs/veh	A – Good operation	15.1 secs/veh	B – Acceptable delays & spare capacity.
Mamre Road / Erskine Park Road	23.9 secs/veh	B – Acceptable delays & spare capacity.	29.1 secs/veh	C – Satisfactory, but accident study required.
Mamre Road / Mandalong Close	2,545.3 secs/veh (23.7) secs/veh	F – Unsatisfactory and requires other control	283.5 secs/veh (2.5) secs/veh	F – Unsatisfactory and requires other control mode or major treatment.

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		mode or major treatment.		
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***Note:** With regard to the intersection of Mamre Road / Mandalong Road, the excessive delays as reported by SIDRA, were not observed either during the AM or PM peak hours during site visits. This intersection is proposed for LI/LO¹⁰ in the future and would operate satisfactorily under future scenarios. Figures in brackets reflect intersection performance for unsignalised intersections.

RMS data accounted for a future base case traffic projection for the year 2036, using the EMME Model. **Figure 43** outlined below depicts the projections anticipated.

Road Section	Period	Projected 2036 Traffic Volumes	LoS
Mamre Rd (north of SLR)	AM	4,076 NB = 1,908 SB = 2,168	NB = D SB = D
	PM	3,689 NB = 1,582 SB = 2,107	NB = C SB = D
Mamre Rd (south of SLR)	AM	3,961 NB = 2,109 SB = 1,852	NB = D SB = D
	PM	3,598 NB = 1,626 SB = 1,972	NB = C SB = D
Southern Link Rd (East of Mamre Rd)	AM	2,251 WB = 577 EB = 1,674	WB = A EB = C
	PM	2,525 WB = 1,785 EB = 740	WB = C EB = A

Figure 43 Future Predicted Traffic Volumes by Year 2036, RMS Modelling – EMME (Source: Ason Group, 2018)

***Note:** Level of Service (LOS) "D" denotes Near Capacity & Accident Study required.

According to the data shown in **Figure 43** above, the following outcomes are significant:

- While the future road upgrades envisaged for Mamre Road – and specifically carriageway widening to provide a 4-lane road – would accommodate the projected traffic flows, there is little, if any, spare capacity available north of the proposed Southern Link Road and then through the other key intersections to the north. A wide-median treatment is currently proposed by the RMS for the upgrade of Mamre Road, which would facilitate further widening in the future.
- The Capacity Assessment undertaken for the proposed Southern Link Road confirms that the proposed 4-lane carriageway (two-lanes per direction) can accommodate future demands of this Proposed Development (once fully built) with significant spare capacity.

In summary, the SSD Application traffic anticipated, as a result of the Proposed Development, can be accommodated by the surrounding road network and intersections without any material traffic impact, subject to the localised, planned improvements to the Bakers Lane intersection.

¹⁰ Left In Left Out Intersection (Ason Group, 2018)

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6.4.5 Intersection Performance

Based on the data displayed above, it is apparent that the current data would not achieve the RMS desired design, LOS, when the Proposed Development is fully built and operational by 2026.

RMS has already decided to upgrade Mamre Road, to cater both for future development and the construction of the Western Sydney Airport. One particular option being considered actively by RMS incorporates road widening of Mamre Road to a suggested three (3) lanes, in both the north and south directions. This can be made possible, by utilising the wide median already in place. Using SIDRA modelling confirms, that should this option be adopted and built by the RMS, traffic volumes would significantly improve in terms of overall performance, after road widening takes place at Mamre Road.

Intersection	Scenario	Period	Intersection Delay	Level of Service
Mamre Road / Southern Link	Project Future Case	AM	37.0	C
		PM	36.7	C
Mamre Road / Mamre West Precinct Access	Project Future Case	AM	9.2 (0.3)	A
		PM	10.2 (0.4)	A
Mamre Road / James Erskine Drive	Project Future Case	AM	30.2	C
		PM	35.1	C
Mamre Road / Erskine Park Road	Project Future Case	AM	24.1	B
		PM	24.5	B
Mamre Road / Mandalong Close	Project Future Case	AM	9.7 (0.4)	A
		PM	12.5 (0.5)	A

Figure 44 Network Performance Anticipated with the Addition of a 3rd Lane in Both Directions of Mamre Road (Source: Ason Group, 2018)

It is expected that Mamre Road would probably need to be upgraded to three (3) lanes in each direction as a long-term plan to support both the existing and proposed levels of development in the immediate vicinity and the new Western Sydney Aerotropolis.

6.4.6 Western Sydney Freight Line

Transport for NSW (TfNSW), are currently identifying land for the WSFL Corridor which is shown in **Figure 45**. The Investigative Corridor set out by TfNSW, would extend between the existing Southern Sydney Freight Line at Leightonfield and Villawood to the Outer Sydney Orbital's

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Freight Rail Corridor. This is aimed at the efficient future transfer of goods across Western Sydney.

Though TfNSW state publicly that the construction of the Freight Rail Line, may not be needed for many years, the Proposed Development has already planned for such a proposal, by incorporating a 60-m setback along its northern boundary, to allow for any such future development (refer to **Figure 46** overleaf).

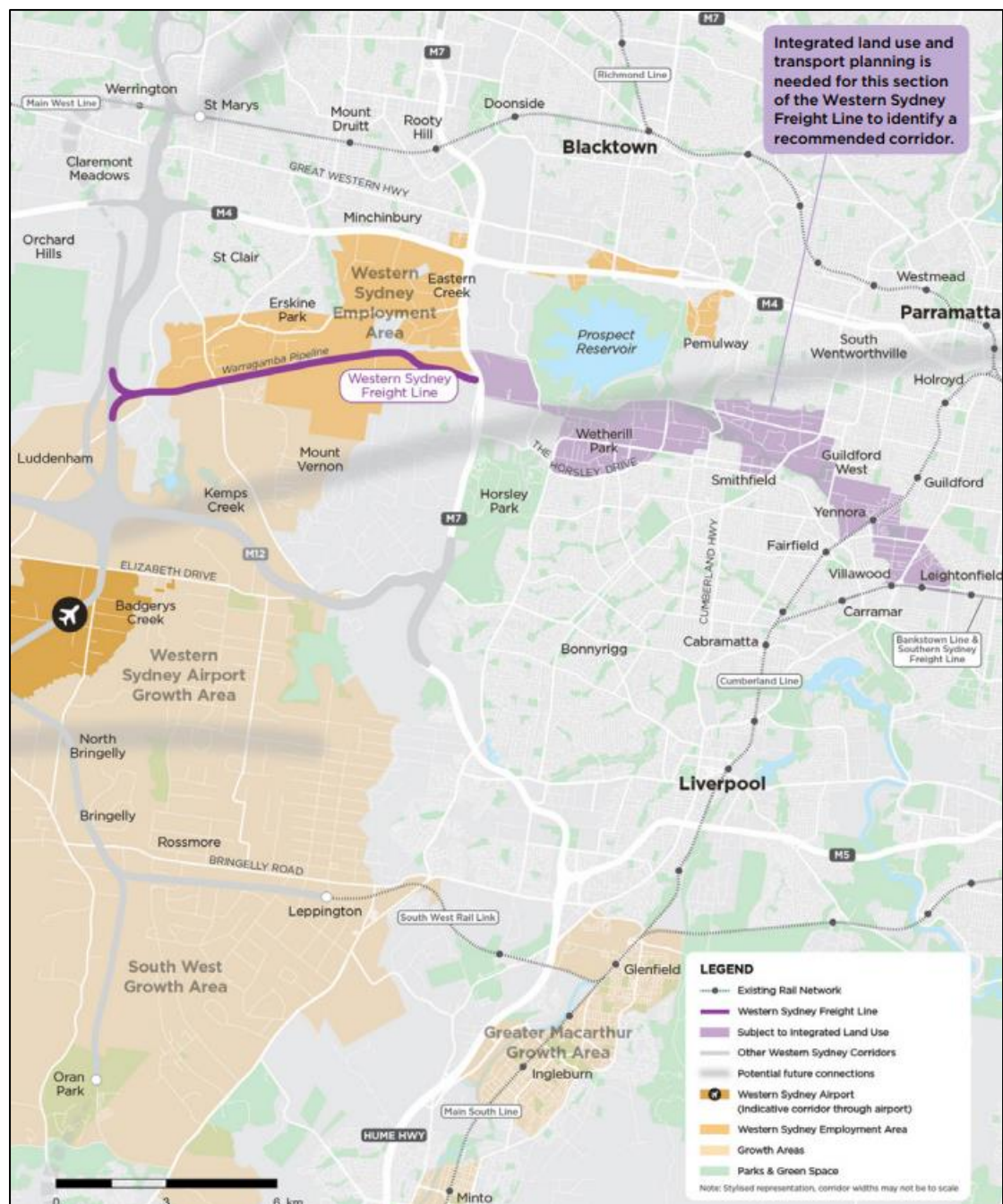


Figure 45 Potential WSFL (Source: Transport for NSW, 2018)

This Freight Line Corridor is shown more closely in **Figure 46** below and was exhibited by TfNSW following the outcome of the WSFL Corridor Options Assessment, dated March 2018 and confirmed in discussions held with TfNSW in a meeting on 13th of April and 21st of August

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2018. Minutes of these meetings are located in the Consultation Table (**Table 23**) which outlines more fully the items discussed.

Thus, a 60-m-wide exclusion zone corridor has been adopted in the design of the Proposed Development. The Applicant has also completed further consultation with TfNSW on the 26th of July 2018. This confirmed that the 60-m-wide corridor, will be sufficient for both the proposed widening of Mamre Road and a potential grade-separated bridge over the WSFL Corridor and the Sydney Water Pipeline.

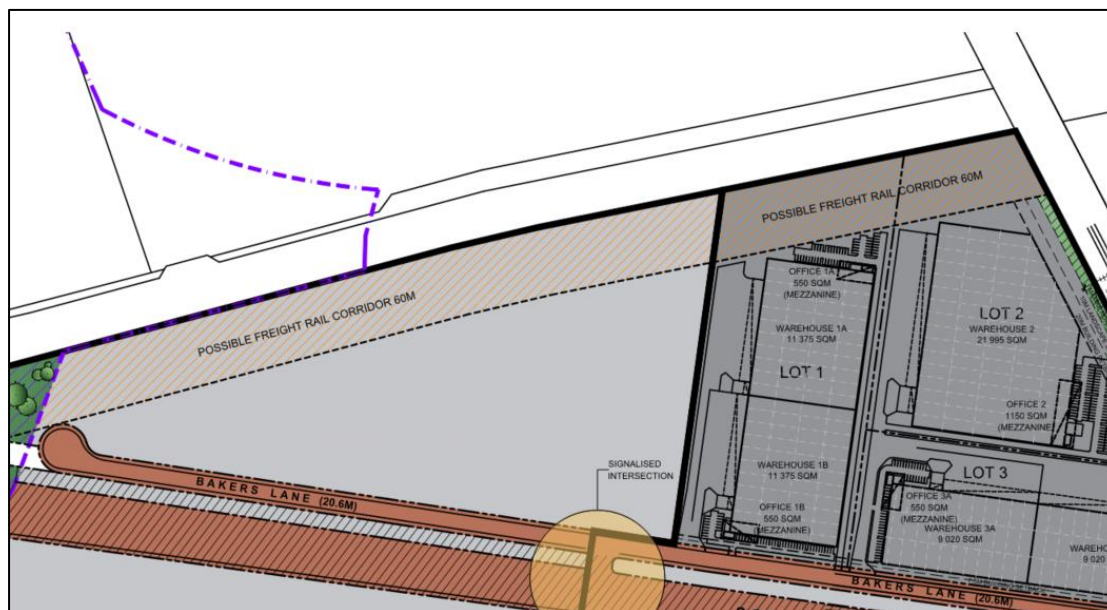


Figure 46 Proposed Setback Along Northern Boundary of the Subject Site (Source: Frasers Property, 2019)

6.4.7 Car Parking

All proposed warehouses (as per this SSD) would provide car parking in accordance with the RMS-Guide rates for warehouse car parking. This will ensure that the parking demand generated by the Proposed Development, is accommodated on-site, without placing additional demands on on-street parking in the area. The minimum parking rates sought for the Proposed Development, based on the RMS Guide rates are:

- One (1) space per 300 m² of warehouse GFA; and
- One (1) space per 40 m² of ancillary office GFA.

The provision of accessible parking is calculated in accordance with the Building Code of Australia's – Disability (Access to Premises – Buildings) Standards 2010 and its requirements are able to be fully accommodated for the Proposed Development.

Figure 47 overleaf provides a summary of the required parking for the Proposed Development under this SSDA.

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Lot	GFA m ² (land-Use)	Car Parking Requirement	Total Parking Requirement	Car Parking Provided	Surplus (+) / Shortfall (-)
Lot 1	22,750m ² (warehouse)	76	103	102 ¹	(-) 1
	1,100m ² (office)	27			
Lot 2	21,995m ² (warehouse)	73	102	105	(+) 3
	1,150m ² (office)	29			
Lot 3	18,040m ² (warehouse)	60	88	86	(-) 2
	1,100m ² (office)	28			
Total	62,785m ² (warehouse)	209	293	293 ¹	0
	3,350m ² (office)	84			
Lot 4	18,480m ² (warehouse)	62	84	92	(+) 8
	890m ² (office)	22			
Lot 5	25,805m ² (warehouse)	86	124	135	(+) 11
	1,520m ² (office)	38			
Lot 6	48,341m ² (warehouse)	161	224	234	(+) 10
	2,500m ² (office)	63			
Total	92,626m ² (warehouse)	309	432	461	(+) 29
	4,910m ² (office)	123			

Figure 47 Car Parking Provisions for Proposed SSD – Stage 1 (Source: Ason Group, 2018)

6.4.8 Access and Internal Design Aspects

The access, internal circulation and car parking provision complies with all the requirements for the Proposed Mamre South Precinct DCP and relevant Australian Standard requirements of AS2890.1, AS2890.2 and AS2890.6. The following Site Access Arrangements relate to the design of the Site access, car park design, driveways, loading docks and on-grade car parking.

Site Access Arrangements

1. Site access arrangements have all been designed with full safety measures in mind, all designed to be implemented at the Subject Site:

- All vehicles will enter the Subject Site, via access driveways connected to the proposed internal access road;
- All vehicles will enter and exit the warehouses in a forward direction;

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- Each warehouse provides separate driveways for light vehicles (cars) accessing the car parking areas and heavy vehicles (trucks) accessing the loading dock;
- All truck driveways have been designed in accordance with AS2890.2, either through strict application of the guide requirements or based on swept path analysis as is permissible by the guide. The swept-path analysis demonstrating acceptable access is presented on plans attached at **Appendix 18** of this EIS; and
- All car driveways have been designed to comply with the requirements of AS2890.1. Some driveways have been additionally widened, to accommodate the swept paths of fire trucks as shown on the plans.

2. Car Park Design

Car parking arrangements at the Subject Site, fully satisfy both RMS and PCC requirements, were designed with the following in mind:

- All standard staff and employee parking is provided (as a minimum) in accordance with AS2890.1 for a Class 1A user, which requires a minimum space length of 5.4 m, a minimum width of 2.4 m and a minimum aisle width of 5.8 m;
- All spaces located adjacent to obstructions of greater than 150 mm in height, have been provided with an additional 'clearance width' of 300 mm. This includes any landscaping that exceeds 150 mm;
- Dead-end aisles are provided with the required 1.0m aisle extension in accordance with Figure 2.3 of AS2890.1;
- All accessible parking spaces are designed in accordance with AS2890.6. Spaces are provided with a clear width of 2.4m and located adjacent to a shared area of 2.4m minimum width; and
- Relevant swept path analysis is provided on plans attached in **Appendix 18** of this EIS, which demonstrate compliance with relevant standards.

3. Commercial Vehicle Facilities

The Subject Site has been designed to provide safe access for a range of commercial vehicles. The following measures have been undertaken at the Site:

- The internal design of the service area, has been undertaken in accordance with the requirements of AS2890.2 for a "maximum length-vehicle" accessing each dock;
- A minimum clear-head height of 4.5 m is provided within all areas traversed by service vehicles;
- A minimum bay width of 3.5 m, has been provided for all service bays;
- The design includes consideration for emergency vehicles, in particular the provision of a fire trail around the perimeter of each warehouse building.

Swept-path analysis undertaken by Ason Group (2019) has considered the internal configuration of the Subject Site – including light and heavy vehicular access, car parking and servicing areas – which have been designed in accordance with Penrith Council's DCP, as well as Australian Standards: AS2890.1; AS2890.2; and AS2890.6.

6.4.9 Preliminary Construction Traffic Management Plan (PCTMP)

Formulating a Construction Traffic Management Plan for the Site is standard practice.

A Construction Traffic Management Plan (CTMP) would be provided as part of detailed construction planning. For the purposes of this EIS, the following general principles for managing construction traffic have been assumed and provide an understanding of the likely

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traffic impacts during the construction period. The main points comprising the considerations for the Site's Traffic Management Plan, are:

- The primary potential haulage route to and from the Site would be via Mamre Road, with trucks accessing the Site from the M4 Western Motorway either via the Erskine Park Road interchange from the northeast or the Mamre Road interchange in the north. Another potential route would be via Mamre Road and the Elizabeth Drive interchange with the M7 Motorway from the south. Given that these routes currently carry high volumes of heavy vehicles, construction of the development would not have a significant impact on their performance;
- The movement of materials would be managed through the scheduling of deliveries and would aim to minimise the number of heavy vehicles accessing the Site during peak network periods and weekends. Earthworks quantities would be balanced as far as practicable during detailed design to ensure that transfer of material to/from off-site and on the external road network is minimised;
- Light vehicle traffic generation would be generally associated with staff movements to and from the Subject Site. Staff would be comprised of project managers, various trades and general construction staff. Over the full construction period, the peak workforce represents the worst-case scenario for vehicle movements during the morning or evening road network peak hour. The workforce arrival and departure periods (6.30-7.00AM and 5.00-5.30PM) represent the peak construction traffic generation periods; and,
- The construction traffic volumes are expected to be lower than the volumes anticipated for the proposed SSD (Stage 1) once it becomes operational; therefore, recognising that the key intersection is anticipated to perform satisfactorily once the Proposed Development is completed, given the approach to adopt three (3) lanes in both directions along Mamre Road is considered.

6.5 WASTE

Details of construction and operational waste are provided within the *Waste Management Plan* (LG Consult, 2019) in **Appendix 30** of this EIS. The Waste Management Plan directs all construction materials to be recycled (where possible) either on-site through reuse or off-site at a licenced facility. Waste is to be transported and disposed of off-site by a licenced contractor in a licenced landfill facility.

Similarly, recyclable and non-recyclable materials generated during operation will be collected and disposed of by a licenced contractor. The ongoing management of waste, is promoted through the following:

- *Staff awareness of recyclable items, providing on-site training. This would include the company's Waste and Recycle Policy with clear objectives and expectations;*
- *Staff awareness and educational programs would be run which would supplement existing OH&S, and environmental programs on waste management;*
- *Suitable information would be supplied in staff inductions kits, which would require refreshers on a yearly basis;*
- *The recycle and waste areas would be clearly marked and bins suitably labelled; and,*
- *Cleaning staff would be responsible for day-to-day management and control of all waste and recycling stations.*

Construction Waste

The estimated construction waste quantities are summarised in **Table 39** below. These projected waste volumes have been based on other similar sized facilities constructed in the locality with regard to the Proposed SSD.

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Table 39: Estimated Construction Waste for the Proposed Development

Project	Site Area (m ²)	Bin Capacity (m ³)	Total No. of Bins	Total Waste (m ³)
Lend Lease	37,216	12	42	504
DB Schenker	48,682	9.5	49	465.5
Martin Brower	57,569	10	150	1,500
Nick Scali (forecast)	42,410	12	44	528
Total (average)	46,469	11	71	749
SSD Total	163,671	11	249	2,734

Waste-specific reduction measures, will also be employed during development construction stages, with the following specific procedures:

- *Applying practical building designs and construction techniques;*
- *Appropriate sorting and segregation of demolition and construction wastes to ensure efficient recycling of wastes;*
- *Selecting construction materials taking into consideration to their long lifespan and potential for reuse;*
- *Ordering materials to size and ordering pre-cut and prefabricated materials;*
- *Reuse of formwork (where possible);*
- *Planned work staging;*
- *Reducing packaging waste on-site by returning packaging to suppliers where possible, purchasing in bulk, requesting cardboard or metal drums rather than plastic, requesting metal straps rather than shrink wrap and using returnable packaging such as pallets and reels;*
- *Careful on-site storage and source separation;*
- *Subcontractors informed of site waste management procedures; and,*
- *Coordination and sequencing of various trades.*

The anticipated beneficial reuses of construction waste, are summarised as follows:

- *Concrete, tiles and bricks would be reused on-site or reused / recycled offsite;*
- *Waste oil would be recycled on-site or disposed offsite of in an appropriate manner;*
- *All solid waste timber, brick, concrete, tiles and rock that cannot be reused or recycled would be taken to an appropriate facility for treatment to recover further resources or for disposal to landfill in an approved manner;*
- *All asbestos, hazardous and / or intractable wastes are to be disposed of in accordance with Workcover Authority and EPA requirements;*
- *Portable, self-contained toilet and washroom facilities would be provided at the Site and would be regularly emptied and serviced by a suitably qualified contractor;*
- *Provision for the collection of batteries, fluorescent tubes and other recyclable resources would be provided on-site to enable offsite recycling;*
- *Drink container recycling should be provided on-site or these items sorted offsite for recycling at an appropriately licensed facility;*
- *All garbage would be disposed of via a council approved system; and,*
- *Opportunities for materials exportation and reuse with other local construction operations would be investigated.*

Waste storage locations have already been designed for enhanced accessibility and sufficient space has also allocated for storage and servicing requirements and integrated into the design. Where space is restricted, dedicated stockpile areas are to be delineated on-site and adequately contained.

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Additionally, all liquid and non-liquid wastes generated during the construction phase, will be classified in accordance with the requirements of the NSW EPA – *Waste Classification Guidelines, Part 1: Classifying Waste* (2014). This can also be carried out for soil samples too, for which the analytical data concerning heavy metals, TRHs, BTEX, PAHs, total pesticides (OCPs and OPPs), PCBs and TCLP in benzo(a)pyrene, lead and nickel (refer to **Table 40** below) should be compared against the NSW EPA – *Waste Classification Guidelines, Part 1: Classifying Waste* (2014).

Table 40: Summary of Waste Classification Criteria

Contaminant	General	Restricted	General	Restricted	General	Restricted
	CT1	CT2	SCC1	SCC2	TCLP1	TCLP2
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(µg/L)	(µg/L)
Heavy Metals						
Arsenic	100	400	500	2,000	5.0	20
Cadmium	20	80	100	400	1.0	4
Lead	100	400	1,500	6,000	5	20
Mercury	4	16	50	200	0.2	0.8
Nickel	40	160	1,050	4,200	2	8
BTEX						
Benzene	10	40	18	72	0.5	2
Toluene	288	1,152	518	2,073	14.4	57.6
Ethylbenzene	600	2,400	1,080	4,320	30	120
Xylenes (total)	1,000	4,000	1,800	7,200	50	200
Petroleum Hydrocarbons						
C ₆ -C ₉	N/A	N/A	650	2,600	N/A	N/A
C ₁₀ -C ₃₆	N/A	N/A	10,000	40,000	N/A	N/A
PAHs						
Benzo(a)pyrene	0.8	3.2	10	23	0.04	0.16
PAHs (total)	N/A	N/A	200	800	N/A	N/A
Pesticides (total)	N/A	N/A	250	1,000	N/A	N/A
PCBs (total)	N/A	N/A	<50	<50	N/A	N/A

Operational Waste

The estimated weekly operational waste quantities are summarised in **Table 41 below**. These estimates are based on other similar-sized facilities that have already been constructed in and around Kemps Creek.

Table 41: Estimated Weekly Operational Waste for the Proposed Development

Area Description	Waste (tonnes)	Conversion Factor	Total Waste (m ³)
Garbage Waste	28	0.15	187
Cardboard	14	0.13	108
Paper	14	0.1	140
Plastic	28	0.156	180
Pallets	210	0.156	1,346
SSD Total	294	-	1,961

Waste-type-specific reduction measures will be employed during the Proposed Development's operational phase, including the following procedures:

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- *Provision of take back services to clients to reduce waste further along the supply chain;*
- *Re-work / re-packaging of products prior to local distribution to reduce waste arising;*
- *Review of packaging design to reduce waste but maintain 'fit for purpose';*
- *Investigating leased office equipment and machinery rather than purchase and disposal;*
- *Establish systems with in-house and with supply chain stakeholders to transport products in re-useable packaging where possible;*
- *Development of 'buy-recycled' purchasing policy;*
- *Flatten or bale cardboard to reduce the number of bin lifts required; and,*
- *Providing recycling collections within each of the offices and tearooms (e.g. plastics, cans and glass).*

The anticipated beneficial reuses of construction waste can be summarised as follows:

- *Cardboard, paper, plastic, glass, cans and pallets and containers would be reused / recycled offsite;*
- *Provision for the collection of batteries, fluorescent tubes and other recyclable resources would be provided on-site to enable offsite recycling;*
- *All waste materials that cannot be reused or recycled would be taken to an appropriate facility for treatment to recover further resources or for disposal to landfill in an approved manner;*
- *Waste oil (if any) used in equipment maintenance would be recycled or disposed of in an appropriate manner; and,*
- *Opportunities for materials exportation and reuse with other local industrial operations would be investigated. This would have two (2) benefits: minimising energy through reduction of material reprocessing, encouraging material reuse.*

Waste-storage locations will all be provided within loading-dock areas that comply with BCA requirements and Australian Standards.

All waste removed from the Stage 1 Site (subject to this SSDA), will be transported in accordance with Road-and-Transportation regulatory requirements. Depending on the classification of wastes, appropriate licensed transport contractors will be commissioned for waste removal.

A full copy of the Waste Management Report is provided in **Appendix 30** of this EIS.

6.6 NOISE AND VIBRATION

The Noise Impact Assessment prepared for the Proposed Development has considered:

- Noise generated during earthworks, construction and operation;
- The location of sensitive noise receivers;
- Potential noise sources;
- Relevant acoustic criteria from PCC and the 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 48** overleaf:

1. Single storey residential dwellings are located south west of the site at Medinah Avenue, Luddenham;
2. A single storey residential dwelling is located east of the site at 654-674 Mamre Road, Kemps Creek;

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3. A single storey residential dwelling is located east of the site at 676-702 Mamre Road, Kemps Creek;
4. A single storey residential dwelling is located east of the site at 706-752 Mamre Road, Kemps Creek;
5. A single storey residential dwelling is located east of the site at 754-770 Mamre Road, Kemps Creek;
6. A single storey residential dwelling is located south of the site at 771-781 Mamre Road, Kemps Creek;
7. Residential dwellings are located north of the site at 579 Mamre Road, Orchard Hills; and,
- A. Industrial / warehouses are currently being constructed north of the site at Mamre Road, Orchard Hills.



Figure 48 Receiver and Noise Monitoring Locations (Source: Acoustic Works, 2018)

***Note:** Receiver 'A' best represents the Proposed Development.

Unattended noise monitoring was conducted (Rion NL42 noise monitors 1.4 m above ground) at 8 Medinah Avenue, Luddenham and 676-702 Mamre Road, Kemps Creek between the 11th and 19th of April 2018 to measure ambient noise levels. The noise levels were measured over 15-minute statistical intervals complying with Australian Standard AS1055:1997 *Acoustics – Description and measurement of environmental noise*. The varied weather conditions encountered during the monitoring had no effect on the data gathered (refer to **Table 42**), which was measured in accordance with the NSW Noise Policy for Industry.

Table 42: Measured L90 Noise Levels							
Day	Date	Receiver 1			Receivers 2 to 7		
		Background L90 dB(A)			Background L90 dB(A)		
		Day	Evening	Night	Day	Evening	Night
Wednesday	11/04/2018	-	36.1	35.4	-	44.2	38.4
Thursday	12/04/2018	-	32.4	30.4	44.3	47.3	46.9
Friday	13/04/2018	-	33.4	28.0	47.1	46.4	45.4
Saturday	14/04/2018	37.5	33.2	28.4	47.5	45.9	44.1
Sunday	15/04/2018	37.7	28.7	23.6	45.6	37.5	33.5

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Monday	16/04/2018	35.0	31.8	24.7	39.9	40.0	33.1
Tuesday	17/04/2018	36.1	30.3	26.8	38.0	36.3	28.8
Wednesday	18/04/2018	36.3	34.8	32.0	41.8	41.6	36.0
RBL		36	33	28	44	43	37

***Note:** Receiver 1 (daytime periods) on the 12th & 13th of April 2018 were affected by unnecessary noise constraints and were subsequently omitted from the measured data.

The data prescribed above in **Table 42**, specifically, the night time back level for Receiver 1 is below the minimum Rating Background Noise Level (RBL); therefore, an RBL of 30dBA is applied in accordance with the NSW Noise Policy for Industry (2017). The Policy has two (2) main components, including intrusiveness and amenity criteria. **Table 43** displays the data measured with regard to intrusiveness noise criteria, and pursuant of this **Table 44** analyses the amenity noise levels from the applicable receivers in the immediate vicinity.

Table 43: Intrusiveness Noise Levels			
Time Period	Receiver 1	Receivers 2-7	Receiver A
	Criteria $L_{eq}(15 \text{ min})$ dB(A)	Criteria $L_{eq}(15 \text{ min})$ dB(A)	Criteria $L_{eq}(15 \text{ min})$ dB(A)
Day (7am-6pm Mon-Sat; 8am-6pm Sun)	41	49	N/A
Evening (6pm-10pm)	38	48	N/A
Night (10pm-7am Sun-Fri, 10pm-8am Sat)	35	42	N/A

Table 44: Amenity Noise Levels			
Time Period	Receiver 1	Receivers 2-7	Receiver A
	Criteria $L_{eq}(15 \text{ min})$ dB(A)	Criteria $L_{eq}(15 \text{ min})$ dB(A)	Criteria $L_{eq}(15 \text{ min})$ dB(A)
Day	48	48	70
Evening	43	43	70
Night	38	38	70

The Proposed Development Noise Trigger Level (NTL) is the lower value of the intrusiveness and amenity noise levels; the noise trigger levels are identified in **Table 45** below.

Table 45: Proposed Development Project Criteria			
Time Period	Receiver 1	Receivers 2-7	Receiver A
	Criteria $L_{eq}(15 \text{ min})$ dB(A)	Criteria $L_{eq}(15 \text{ min})$ dB(A)	Criteria $L_{eq}(15 \text{ min})$ dB(A)
Day	41	48	70
Evening	38	43	70
Night	35	38	70

When assessing noise levels and associated impacts, the potential for sleep disturbance from associated maximum noise levels from premises during the night-time periods needs to be considered. Sleep Disturbance is determined / categorised by the noise levels exceeding the following criteria:

- $L_{Aeq, 15 \text{ min}}$ 40 dB(A) or the prevailing RBL plus 5 db, whichever is the greater; and / or,
- LAF_{max} 52 dB(A) or the prevailing RBL plus 15 dB, whichever is greater.

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The NSW Road Noise Policy specifies the criteria for any additional increase in the total traffic noise level with regard to the Subject Site due to either a proposed development or traffic generating development. Due to Mamre Road being deemed an arterial road, the following criteria outlined in **Table 46** applies.

Table 46: Increases in Total Traffic Noise Criteria			
Road Category	Type of project / development	Total traffic noise level increase – dB(A)	
		Day (7am to 10pm)	Night (10pm-7am)
Freeway / arterial / sub-arterial roads and transitways	New corridor / redevelopment of existing road / land use development with the potential to generate additional traffic on existing road	Existing traffic $L_{Aeq}(15hr) + 12dB$ (external)	Existing traffic $L_{Aeq}(9hr) + 12dB$ (external)

Noise associated with the Proposed Development was assessed based on previous measurements of similar activities. Any relevant shielding or building transmission loss was taken into account accordingly for the activities assessed. **Figure 49** depicted below shows the projected output from the 3D SoundPLAN modelling, which demonstrates the predicted noise impacts of the Proposed Development based on typical warehouse activities such as trucks, forklifts, reverse alarms and car park activities.

The noise impacts for the Proposed Development have been found to be acceptable (within all required statutory limits), based on this analysis.

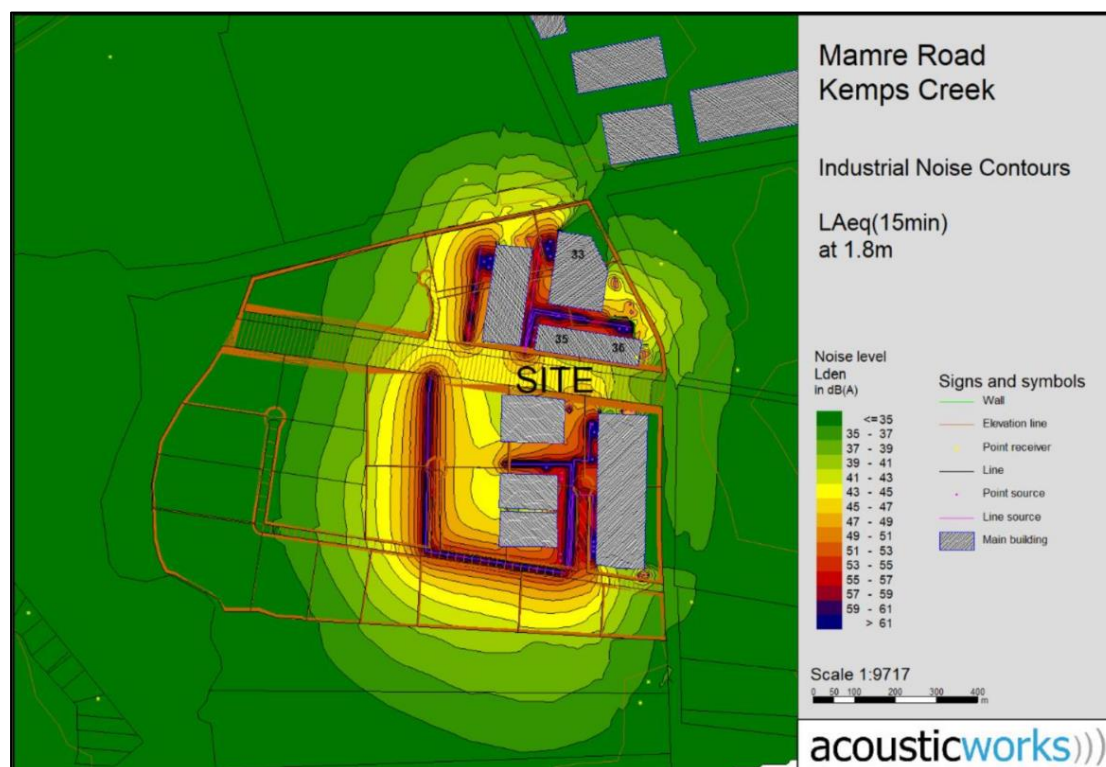


Figure 49 Noise Contours from Typical Warehouse Activities (Source: Acoustic Works, 2019)

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The Noise Impact Assessment Report by Acoustic Works (2019) states that the existing annual average daily traffic volume for Mamre Road is approximately 20,000 vehicle movements per day. With respect to the RMS *Guide to Traffic Generating Developments*, the proposed Warehouse and Logistics Hub is anticipated to produce up to an additional 4,322 vehicle movements per day at its fullest developed capacity. This volume is thus able to be accommodated.

Conclusions and Recommendations

The Noise Impact Assessment indicates that 24-hour operation of the Subject Site is supportable with the following recommendations:

- A Construction Noise Management Plan be prepared and submitted prior to the issuance of a Construction Certificate, in accordance with the *NSW Interim Construction Guideline*;
- *Construction of an acoustic barrier (approximately 3 m high) at the eastern end of the loading dock area for Warehouse 3B on proposed Lot 6. The height of the barrier will be 3 m above the finished driveway level and will be constructed using lapped timber (minimum 40% overlap), masonry, fibre cement sheet, Hebel, Perspex, plywood, or other material with a minimum surface density of 10 kg/m². The barrier will be free of gaps and holes to limit noise emissions (refer to **Figure 50**);*
- It is recommended that additional acoustic assessment should be conducted for any additional proposed warehouses earmarked for industrial use in the immediate vicinity;
- Any plant should be located at the furthest possible distance in conjunction with each warehouse and applicable receiver, and have the provision for the installation of acoustic screening (if required); and
- Vibration impacts are anticipated to comply with the relevant NSW Guidelines; however, it is recommended that any vibrating equipment, is adequately isolated to further improve vibration issues to nearby receivers.

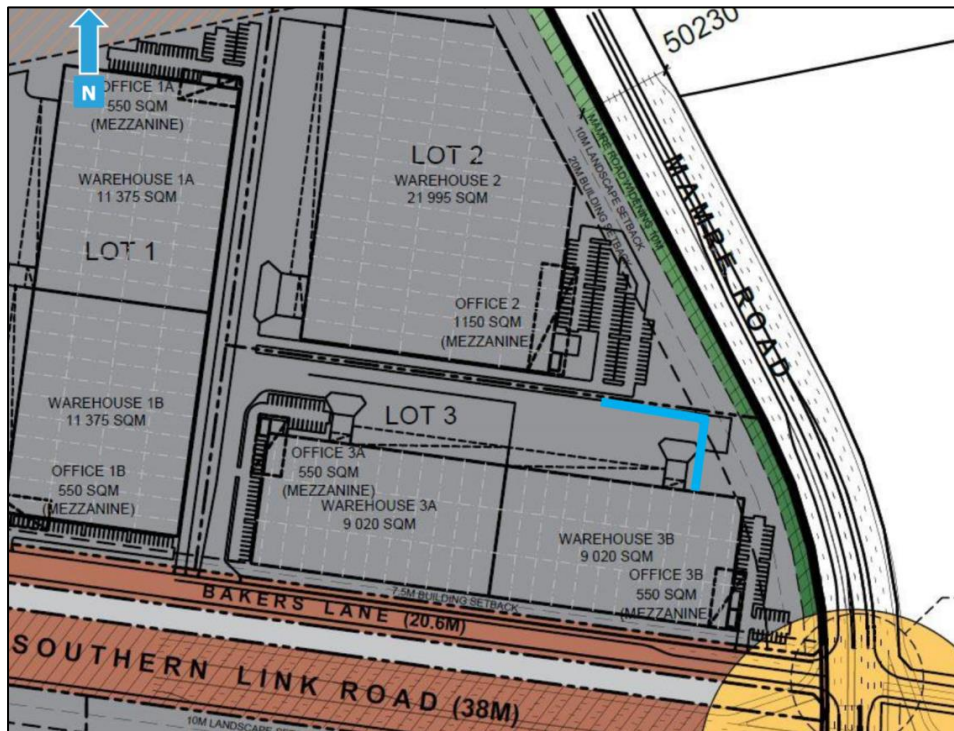


Figure 50 Proposed Location of the Indicative 3 m High Acoustic Barrier Proposed on Warehouse 3B (Source: Acoustic Works, 2019)

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In summary, the results of the noise impact assessment considered the proposed SSD with respect to the proposed Warehouse, Logistics and Industrial Facilities Hub at Mamre Road South Precinct, Kemps Creek, to be a viable option for 24-hour operation on the condition that the above listed recommendations are taken into account and adhered to accordingly.

6.7 AIR QUALITY AND ODOUR

The *Mamre Road South Precinct, 657-769 Mamre Road, Kemps Creek – State Significant Development Stage 1 – Air Quality Impact Assessment* (Northstar, 2019) considered the potential air quality impacts of the Proposed Development.

The Report explains that the construction phase activities planned would involve some demolition works and associated earthworks, construction works and associated vehicle traffic. The associated risks of impacts from demolition, construction, track-out and construction traffic, have all been assessed using the published guidance in *IAQM Guidance on the Assessment of Dust from Demolition and Construction*, developed in the United Kingdom by the Institute of Air Quality Management (IAQM). These have been adapted by Northstar Air Quality for use in Australia. That assessment has shown that there is a low risk of health or nuisance impacts during construction works. However, a range of standard mitigation measures have been recommended to ensure, that short-term impacts associated with construction activities are minimised.

The prediction of potential impacts associated with operational activities has been performed in general accordance with the requirements of the NSW Approved Methods (NSW EPA 2016) using an approved and appropriate dispersion-modelling technique. The estimation of emissions has been performed using referenced emission factors.

It has been demonstrated that the operation of the Proposed Development does not cause any exceedances of the air quality criteria, even with the addition of background air pollutant concentrations representative of the area.

Furthermore, to allow for assessment of the level of risk associated with the Proposed Development in relation to air quality, the AQIA has been performed in accordance with and with due reference to:

- Approved Methods for the Modelling and Assessment of Air Pollutants in NSW EPA (NSW EPA, 2016);
- Technical Framework – Assessment and Management of Odour from Stationary Sources in NSW (NSW DEC, 2006);
- Technical Notes – Assessment and Management of Odour from Stationary Sources in NSW (NSW DEC, 2006);
- POEO Act;
- *Protection of the Environment Operations (Clean Air) Regulation 2010*; and
- SEPP (WSEA) 2009.

Given, the nature of the Proposed Development, air emissions would likely be generated for the various project phases as described in the following sections.

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Construction Phase

Construction phase activities have the potential to generate short-term emissions of particulates. Generally, these are associated with uncontrolled (or 'fugitive') emissions and are typically experienced by neighbours as amenity impacts, such as dust deposition and visible dust plumes, rather than associated with health-related impacts. Localised engine-exhaust emissions from construction machinery and vehicles may also be experienced but given the very minor scale of the proposed works, fugitive dust emissions would have the greatest potential to give rise to downwind air quality impacts.

The method utilised to assess dust emissions during the construction phase, includes a six-step process for assessing dust impact risks from construction activities, and to identify key activities for control. The six (6) steps include the following:

1. Screening – a simple screening step accounting for separation distance between the sources and the receptors.

The screening criteria applied to the identified sensitive receptors were deemed acceptable if they are located in excess of:

- 50 m from the route used by construction vehicles on public roads;
- 350 m from the boundary of the Site;
- 500 m from the Site entrance; and
- Track-out is assumed to affect roads up to 100 m from the Site entrance.

Table 47 & 48 below provide further detail in respect of the location of sensitive receptors at surrounding properties.

Table 47: Construction Phase Impact Screening Criteria Distances					
Rec	Location	Land Use	Screening Distance (m)		
			Boundary (350 m)	Site Entrance (500 m)	Construction Route (50 m)
R1	Little Smarties Early Learning Centre	School	297	299	292
R2	Mamre Anglican School	School	497	500	493
R3	Trinity Primary School	School	712	722	707
R4	Emmaus Catholic College	School	902	904	896
R5	676-702 Mamre Road, Kemps Creek	Residential	175	177	169
R6	654-674 Mamre Road, Kemps Creek	Residential	138	355	135
R7	772-782 Mamre Road, Kemps Creek	Residential	366	804	804
R8	771-781 Mamre Road, Kemps Creek	Residential	244	751	751
R9	799-803 Mamre Road, Kemps Creek	Residential	425	932	933
R10	15 Medinah Avenue, Luddenham	Residential	912	1,632	1,624
R11	9 Medinah Avenue, Luddenham	Residential	969	1,665	1,666

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R12	3 Medinah Avenue, Luddenham	Residential	1,046	1,717	1,718
R13	Golf Course (Maintenance Facility)	Recreational	1,189	1,799	1,771
R14	320-326 Luddenham Road, Orchard Hills	Residential	1,436	1,999	1,688
R15	579A Mamre Road, Orchard Hills	Residential	1,021	1,590	970
R16	Old MacDonald's Child Care	School	998	1,504	122
R17	53-63 Mandalong Close, Orchard Hills	Residential	1,316	1,877	529

With reference to **Table 47**, sensitive receptors are noted to be within the screen distance boundaries, these are further tabulated in **Table 48** below.

Table 48: Application of Step 1 Screening			
Construction Impact	Screening Criteria	Step 1 Screening	Comments
Demolition	350 m from boundary; and, 500 m from site entrance	Not screened	Receptors identified within the screening distance.
Earthworks	350 m from boundary; and, 500 m from site entrance		
Construction	350 m from boundary; and, 500 m from site entrance		
Trackout	100 m from site entrance	Screened	Trackout screened as receptors >100 m from site entrance.
Construction Traffic	50 m from roadside	Screened	Construction traffic screened as receptors >50 m from road side.

2. Risk from Construction Activities – assess risk from activities based on the scale and nature of the works, which determines the potential dust emission magnitude.

The dust emissions magnitudes are depicted in **Table 49** below. The Air Quality Impact Assessment Report by Northstar (2019) assumes that construction would be performed across the entire area the subject of this SSD at one time; however, this is highly-unlikely worst case.

Table 49: Construction Phase Impact Categorisation of Dust Emission Magnitude	
Activity	Dust Emission Magnitude
Demolition	Medium
Earthworks and enabling works	Large
Construction	Large
Track-out	N/A
Construction traffic routes	N/A

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3. Sensitivity of the Area – assess risk dust effects from activities based on the sensitivity of the area surrounding dust-generating activities.

With regard to land-use value concerning the Subject Site, the Northstar Air Quality Report concludes that it is 'medium' for health impacts and for dust soiling. This is given that the distance between the receptors for the Subject Site; the nature of receptors surrounding the Subject Site; and the background PM₁₀ annual average concentration of 16.7 µg m⁻³, as measured at St Marys in 2014.

Additionally, the sensitivity of the surrounding area to health effects and dust soiling may be identified as being 'low'.

4. Risk Assessment (Pre-Mitigation) – based upon Steps 2 and 3, determine risks associated with the construction activities.

The Northstar Report explains that there would exist a 'low' risk of adverse dust soiling and human health impacts at all properties, even if no mitigation measures were to be applied to control emissions associated with construction phase activities.

5. Identify Mitigation – based upon the risks assessed at Step 4, identify appropriate mitigation measures to control the risks.

Table 17 within the Report gives a range of mitigation measures recommended by the IAQM¹¹ methodology for a low risk site for construction and construction traffic. These will be adopted by the Proposed Development.

6. Risk Assessment (Post-Mitigation) – Based upon the mitigation measures identified at Step 5, reassess risk.

Given the size of the Proposed Development, the distance to sensitive receptors and of the activities to be performed, residual impacts associated with fugitive dust emissions, have been assessed to be 'low'. Notwithstanding, all the mitigation measures identified in Table 17 of **Appendix 21** will be implemented by the Proposed Development in the Construction Environmental Management Plan (CEMP).

Operational Phase

An assessment of the impacts of the operation of activities at the Subject Site has been performed. This characterises the likely day-to-day (and hour-to-hour) operation, approximating average operational characteristics, which are appropriate to assess against longer-term (annual average) and shorter-term (24-hour and 1-hour) criteria for emissions to air.

The estimation of emissions from a process is typically performed using direct measurement or through the application of factors, which appropriately represent the processes under assessment. The assessment undertaken has adopted emission factors from the US EPA AP42 Emission-Factor-Compendium (US EPA, various) specifically Chapter 13 (Miscellaneous Sources) (USEPA, 2011), for the assessment of particulate-matter emissions (of NO_x/NO₂) and particulate matter, resulting from idling vehicles at the delivery bays at each warehouse and industrial facility. Emissions have been calculated using emission factors adopted from the US EPA document "*Idling Vehicle Emissions for Passenger Cars Light-Duty Trucks, and Heavy-Duty Trucks*" (USEPA, 2008).

¹¹ Institute of Air Quality Management (Northstar, 2018)

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Trip-generation rates for each warehouse and industrial facilities have been calculated using data adopted within the Traffic Impact Assessment. These indicate that an average of 2.38 vehicle trips per 100 m² of gross floor area per day, is likely to be generated by the Proposed Development.

A total of 116 loading bays across nine (9) warehouse and industrial facilities, have been calculated to be associated with the Proposed Development. The likelihood that all 116 bays would be occupied by vehicles at any one time is extremely low. The assessment examined potential likely worst-case scenario. These have allowed determination of the possible short-term (1-hour) impacts at nearby receptor locations.

An assumption has been made that all 116 bays would be occupied simultaneously and that the vehicles would be idling for a period of 10 minutes within each hour. Operators of trucks often actively seek to reduce operational costs and a reduction in vehicle idling time, as this will present associated reductions in fuel use and engine wear. Engine idling time can be reduced through:

- Implementation of operational efficiencies (booking systems, parking rather than queuing vehicles, expanded hours of operation to avoid peak periods);
- The use of idle-off devices; and
- The use of Auxiliary Power Units (APUs).

Given that a reduction in engine-idling is being targeted generally in Australia by the road transport industry, the assumptions outline above can be considered to be conservative (refer to **Tables 50-53** below).

Table 50: Emission Factors, Particulate Matter – Vehicle Transport							
Source	Activity Rate	Units	Emission Factor Source	Emission Factor			Units
				TSP	PM ₁₀	PM _{2.5}	
Trucks entering / leaving the Subject Site	Various (see Table 49 below)	VKT hr ⁻¹	AP42 – 13.2.1 Paved Roads Assumed silt loading of road is 0.015 gm ⁻² (ubiquitous baseline, >10,000 AADT flow, limited access (USEPA, 2011)). Average vehicle weight assumed to be 29 tonnes (70% Pick Up and Delivery vehicles at average of 20 tonnes, 30% B-Double at average of 50 tonnes.	2.42	0.46	0.11	VKT hr ⁻¹

Table 51: Emission Factors – Gaseous and Particulate Matter Emissions, Diesel Engines								
Source	Activity Rate	Units	Vehicle Type	Op. Hours	Emission Factor Source	NO _x Emission Factor (g hr ⁻¹)	PM ₁₀ Emission Factor (g hr ⁻¹)	PM _{2.5} Emission Factor (g hr ⁻¹)
	Various (see Table 50)	Veh hr ⁻¹	PUD	24	(USEPA, 2008)	3.705	-	-
			B-Double	24		33.763	1.196	1.1

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Trucks idling in bays at warehouse and industrial facilities			Average	24		24.746	0.837	0.77
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Table 52: Emission Estimation, Particulate Matter – Vehicle Transport

Facility Number	Area of Facility (m ²)	Number of Daily Trips	Distance if Road from Subject Site Entrance to Facility (m) (1-way)	VKT day ⁻¹ (A)	TSP Emission Rate (kg year ⁻¹) (A)	PM ₁₀ Emission Rate (kg year ⁻¹) (A)	PM _{2.5} Emission Rate (kg year ⁻¹) (A)
8	17,980	389	1,199	466.9	17.2	3.3	0.8
9	12,080	262	1,149	300.6	11.1	2.1	0.5
10	11,635	252	902	227.3	8.4	1.6	0.4
11	22,670	491	1,110	545.0	20.1	3.9	0.9
12	22,420	486	706	342.8	12.6	2.4	0.6
31	13,860	300	1,495	448.8	16.5	3.2	0.8
32	13,860	300	1,242	372.9	13.7	2.6	0.6
33	10,855	235	1,362	320.2	11.8	2.3	0.5
34	13,655	296	1,410	417.0	15.4	2.9	0.7
35	9,135	198	1,139	225.4	8.3	1.6	0.4
36	9,135	198	1,387	274.4	10.1	1.9	0.5

Table 53: Emission Estimation – Gaseous and Particulate Matter Emissions, Diesel Engines

Facility Number	Number of Vehicle Bays	NO _x Emission Rate (kg year ⁻¹) (A)	PM ₁₀ Emission Rate (kg year ⁻¹) (A)	PM _{2.5} Emission Rate (kg year ⁻¹) (A)
8	10	346.8	11.7	10.8
9	11	381.5	12.9	11.9
10	10	346.8	11.7	10.8
11	16	554.9	18.8	17.3
12	15	520.3	17.6	16.2
31	12	416.2	14.1	13.0
32	13	450.9	15.3	14.0
33	11	381.5	12.9	11.9
34	14	485.6	16.4	15.1
35	12	416.2	14.1	13.0
36	12	416.2	14.1	13.0

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Annual Average TSP, PM₁₀ and PM_{2.5}

The predicted annual average particulate matter concentrations (as TSP, PM₁₀ and PM_{2.5}) resulting from the Proposed Development's operations are provided in **Table 54** below. The results indicate that predicted incremental concentrations of TSP, PM₁₀ and PM_{2.5} at residential receptor locations are low. Particulate concentrations were assessed at <1.5% of the annual average TSP criterion, <1.5% of the average PM₁₀ criterion and <1.5% of the average PM_{2.5} criterion.

The addition of existing background concentrations results in predicted concentrations of annual average TSP being less than 4% and annual average PM₁₀ being less than 57% of the relevant criteria, at the nearest residential receptors.

The existing adopted annual average PM_{2.5} background concentration is shown in exceedance of the relevant criterion, even without the operation of the Proposed Development being added. Examination of the predicted PM_{2.5} impacts, which would result from the operation of the Proposed Development, indicates that these concentrations will be $\leq 0.1 \mu\text{g m}^{-3}$ at all surround receptors.

It is therefore possible to conclude that the performance of the Proposed Development does not result in any exceedances of the annual average particulate matter impact assessment criteria (Northstar (2019)).

Table 54: Predicted Annual Average TSP, PM₁₀ and PM_{2.5} Concentrations									
Receptor	Annual Average Concentration ($\mu\text{g m}^{-3}$)								
	TSP			PM ₁₀			PM _{2.5}		
	Incremental Impact	Background	Cumulative Impact	Incremental Impact	Background	Cumulative Impact	Incremental Impact	Background	Cumulative Impact
R1	0.4	34.3	34.6	0.1	16.7	16.8	<0.1	8.6	8.7
R2	0.2	34.3	34.4	<0.1	16.7	16.8	<0.1	8.6	8.7
R3	0.1	34.3	34.4	<0.1	16.7	16.8	<0.1	8.6	8.7
R4	<0.1	34.3	34.4	<0.1	16.7	16.8	<0.1	8.6	8.7
R5	0.7	34.3	34.9	0.2	16.7	16.9	<0.1	8.6	8.7
R6	1.0	34.3	35.2	0.4	16.7	17.0	0.1	8.6	8.7
R7	0.2	34.3	34.4	<0.1	16.7	16.8	<0.1	8.6	8.7
R8	0.9	34.3	35.2	0.3	16.7	17.0	<0.1	8.6	8.7
R9	0.7	34.3	34.9	0.2	16.7	16.9	<0.1	8.6	8.7
R10	<0.1	34.3	34.4	<0.1	16.7	16.8	<0.1	8.6	8.7
R11	<0.1	34.3	34.4	<0.1	16.7	16.8	<0.1	8.6	8.7
R12	<0.1	34.3	34.4	<0.1	16.7	16.8	<0.1	8.6	8.7
R13	<0.1	34.3	34.4	<0.1	16.7	16.8	<0.1	8.6	8.7
R14	<0.1	34.3	34.4	<0.1	16.7	16.8	<0.1	8.6	8.7
R15	0.1	34.3	34.4	<0.1	16.7	16.8	<0.1	8.6	8.7
R16	0.2	34.3	34.5	0.1	16.7	16.8	<0.1	8.6	8.7
R17	0.1	34.3	34.4	<0.1	16.7	16.8	<0.1	8.6	8.7
Criterion	-	90	-	-	25	-	-	8	-

Note: No contour plots of annual average TSP, PM₁₀ or PM_{2.5} are presented in **Table 54**, given the minor contribution from the Proposed Development at the nearest relevant sensitive receptors.

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Annual Average Dust Deposition Rates

Annual average dust deposition is predicted to meet the criteria at all receptors surrounding the Subject Site where the predicted impacts are less than 5% of the incremental criterion at receptor locations.

Maximum 24-Hour PM₁₀ and PM_{2.5}

Table 55 below presents the maximum 24-hour average PM₁₀ and PM_{2.5} concentrations predicted to occur at the nearest receptors, as a result of the operations concerning the Proposed Development. **Note:** **Table 55** does not include background concentrations.

Table 55: Predicted Maximum Incremental 24-Hour PM ₁₀ and PM _{2.5} Concentrations		
Receptor	Maximum 24-Hour Average Concentration (µg m ⁻³)	
	PM ₁₀	PM _{2.5}
R1	1.1	0.4
R2	0.7	0.3
R3	0.6	0.2
R4	0.5	0.2
R5	1.7	0.6
R6	1.7	0.7
R7	0.7	0.3
R8	1.9	0.6
R9	1.5	0.5
R10	0.3	0.1
R11	0.3	0.1
R12	0.3	0.1
R13	0.4	0.1
R14	0.3	0.1
R15	0.4	0.2
R16	0.5	0.2
R17	0.5	0.2

The predicted incremental concentration of PM₁₀ and PM_{2.5}, is demonstrated to be small. At the receptor where the maximum incremental 2-hour PM₁₀ impact is expected to occur (R8), the operation of the Proposed Development contributes 3.8% to the 24-hour PM₁₀ criterion and 2.8% of the 24-hour PM_{2.5} criterion, at Receptor R6.

The above analysis by Northstar (2019) demonstrates that no exceedances of the 24-hour average impact assessment criteria for PM₁₀ or PM_{2.5} are likely to occur, as a result of the operation of the Proposed Development.

The Report also notes that concentrations of particulate matter within the industrial area to the northeast of the Subject Site (Erskine Business Park) and to the immediate north (SSD 7173 – First Estate), are predicted to be similar to those experienced at Receptor R6. Concentrations above the criteria, with the addition of existing background concentrations, are not predicted to be experienced at the noted industrial locations.

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Nitrogen Dioxide

Emissions of NO_x were measured as part of the calculations utilised for the dispersion modelling techniques. Given that NO_x is a mixture of NO₂ and nitric oxide (NO), conversion of NO_x predictions to NO₂ concentrations are required. With regard to the assessment undertaken, the Ozone Limiting Method (OLM) has been adopted and is in accordance with method 2 (level 1) as outlined in the Approved Methods (NSW EPA, 2017). Furthermore, for calculation of annual average NO₂ concentrations, the annual average ozone concentration measured at St Marys AQMS, has been used. In the assessment of maximum 1-hour concentrations of NO₂, the daily maximum ozone concentration across the year, has been used within the OLM calculation (refer to **Table 56** below).

Table 56: Predicted 1 Hour and Annual Average Nitrogen Dioxide Concentrations						
Recept or	Nitrogen Dioxide (NO₂) Concentration (µg m⁻³)					
	1 Hour			Annual Average		
	Increme nt	Backgrou nd	Cumulati ve	Increme nt	Backgrou nd	Cumulati ve
R1	25.6	63.6	89.1	0.2	7.1	7.3
R2	17.1	63.6	80.7	<0.1	7.1	<7.2
R3	8.8	63.6	72.3	<0.1	7.1	<7.2
R4	7.7	63.6	71.2	<0.1	7.1	<7.2
R5	44.4	63.6	108.0	0.4	7.1	7.5
R6	30.0	63.6	93.5	0.9	7.1	8.0
R7	16.2	63.6	79.8	0.1	7.1	7.2
R8	29.9	63.6	93.4	0.4	7.1	7.5
R9	22.7	63.6	86.2	0.6	7.1	7.7
R10	6.8	63.6	70.3	0.4	7.1	7.5
R11	6.3	63.6	69.8	0.4	7.1	7.5
R12	5.8	63.6	69.3	0.3	7.1	7.4
R13	6.4	63.6	70.0	0.3	7.1	7.4
R14	6.2	63.6	69.7	0.2	7.1	7.3
R15	8.7	63.6	72.3	0.3	7.1	7.4
R16	12.3	63.6	75.8	0.5	7.1	7.6
R17	10.9	63.6	74.5	0.3	7.1	7.4

The results above show, that predicted incremental concentrations of combustion-pollutants (characterized by NO₂), are below the criteria at all surrounding receptor locations. At the worst affected receptor (R5) and for the pollutant with the highest-predicted concentrations (1-hour maximum NO₂), predicted increments are demonstrated to be less than 19% of the relevant criterion, as a result of the Proposed Development.

The Northstar (2019) Report concludes that there are no specific mitigations measures necessary to minimise impacts on surrounding receptor locations. Additionally, good site management practices, including observation of speed limits on-site, and the minimisation of vehicle use (through avoidance of engine idling) would be sufficient to ensure that no offsite impacts are encountered.

The Report concludes that the operations of the Proposed Development would not cause any exceedances of the Air Quality Criteria

The full Air Quality Impact Assessment by Northstar (2019) is provided at **Appendix 21**.

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6.8 HAZARDS AND RISKS

The *Frasers-Altis Mamre Road Redevelopment SEPP 33 Assessment* (Risk Eng, 2019) has been provided by Risk Eng (2019) and concludes that SEPP 33 would not apply to the Proposed Development.

The SEPP 33 Assessment included an overall review of the Proposed Development, specifically, the proposed warehouse layouts. This determined whether maximum permissible quantities could be stored in individual warehouses or whether the close proximity of warehouses, would require consolidation of the maximum permissible quantities distributed between the two (2) closest-located buildings.

The Risk Eng analysis was conducted based on the assumption that a limited quantity of Dangerous Goods (DGs) will be stored and safely handled at each identified warehouse. The analysis identified that the quantity of DGs held at each proposed warehouse, would not exceed the storage threshold levels listed in the application of SEPP 33. It also identified that the relatively-low quantity of DGs are likely to be stored and handled at the warehouses, and the type of operations proposed at each warehouse, would be unlikely to result in the exceedance of the maximum permissible transport quantity and overall number of vehicle operations listed in the application of SEPP 33.

The SEPP 33 Assessment undertaken by Risk Eng (provided in full in **Appendix 13** of this EIS Submission), includes tabular DG storage lists, detailing the maximum quantity of flammable materials (DGs) proposed for each portion of the Site. These lists will be used to identify those properties that may be close to bushfire or the grassfire-prone areas, surrounding the Proposed Development.

It is noted that each flammable materials storage (DGs), will comply with the requirements of AS1940-2017, The Storage and Handling of Flammable and Combustible Liquids. Compliance with this standard, will limit external impact potential on the storage as well as internal impacts from incidents within the storage areas. The requirement for compliance with AS1940, will also form part of all tenancy agreements. This will also minimise risks both on-site and offsite.

It is standard practice that if any future tenants require to store and handle additional DGs to those listed for the specific warehouses in the assessment, that a detailed review of the and application testing of SEPP 33 will be made. Examples of DGs analysed throughout the assessment are:

- Aerosols;
- Cylinders;
- Flammable Liquids;
- Flammable Solids;
- Oxidising Substances;
- Toxic Substances;
- Corrosives;
- Miscellaneous; and
- Combustible Liquids.

Accordingly, it is noted that SEPP 33 would not apply to the Proposed Development.

The full SEPP 33 Assessment by Risk Eng (2019) is provided at **Appendix 13**.

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6.9 BIODIVERSITY

A Biodiversity Development Assessment Report (BDAR) has been undertaken for the Proposed Development. The BDAR assesses the current condition and significance of a number of trees on the Subject Site, as well as assessing the potential impact of the Proposed Development on these trees.

A total of 78 flora species were identified within the Subject Site during a field survey (conducted on the 30th of April 2018). Some 45 were identified as native species and 32 were identified as exotic species. One (1) threatened flora species, *Grevillea juniperina* subsp *juniperina* was identified within the Subject Site and is listed as Vulnerable under the BC Act. A further twenty-nine (29) individual species of the identified threatened flora species, were counted to the north of the Subject Site.

Section 2.1.3 of the BDAR suggests that the Subject Site does not include any areas of outstanding biodiversity values as defined under the BC Act (Section 1.5). Definitions for 'biodiversity values' include:

- *vegetation integrity-being the degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state;*
- *habitat suitability-being the degree to which the habitat needs of threatened species are present at a particular site; and*
- *biodiversity values, or biodiversity-related values, prescribed by the regulations.*

Survey of the Subject Site has led to the identification and further floristic composition of two (2) native vegetation communities and two (2) exotic communities, experiencing varied condition classes (refer to fuller list in **Table 57 below**). These were:

1. Alluvial Woodland;
2. Shale Plains Woodland;
3. Cleared Land 'Exotic Grasslands'; and
4. Planted 'exotics, native indigenous and non-indigenous'.

Vegetation mapped in proximity to the Subject Site included a patch of Cumberland Shale Plain Woodland to the north east of the Subject Site on the eastern side of Mamre Road; and Cumberland River Flat Forest along South Creek to the west and north of the Subject Site (refer to **Figure 51**).

Table 57: Corresponding Vegetation Communities within the Subject Site				
Vegetation Communities (NPWS 2002)	Plant Community Types (PCTs)	Threatened Ecological Communities (TECs)	BC Act	EPBC Act
Shale Plains Woodland (MU10)	PCT 849 – Grey Box – Forest Red Gum Grassy Woodland on Flats of the Cumberland Plain Sydney Basin Bioregion	Cumberland Plain Woodland in the Sydney Basin Bioregion ('Cumberland Plain Woodland')	CE	CE
Alluvial Woodland (MU11)	PCT 835 - Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion	River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions ('River-flat Eucalypt Forest')	E	-

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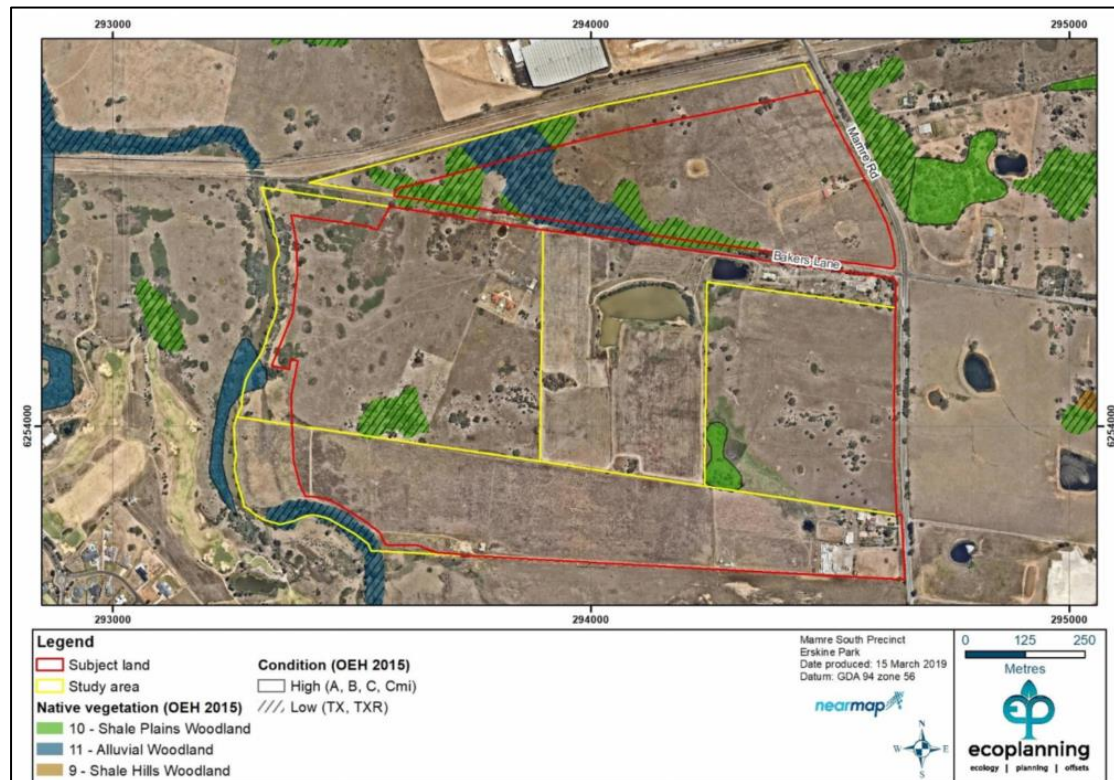


Figure 51 Vegetation Types Identified by Ecoplanning from NSW OEH Mapping (2015) Applicable to the Subject Site (Source: Ecoplanning, 2019)

The current lot layout with regard to the Proposed Development will result in some limited clearing of all native vegetation on-site. Clearing of native vegetation for the Proposed Development totals 12.51 ha of the Subject Site. Care has been taken to avoid impacts after considering the scattered location of the native vegetation on the Subject Site. This vegetation was deemed to be isolated and in a degraded condition state. A further 0.72 ha of exotic plantings and 87.06 ha of cleared land (exotic grassland) would also be subject to clearing by the Proposed Development.

It has been assessed that the Proposed Development would also remove some potential foraging and roosting/sheltering/breeding habitat (small tree hollows and stags) for fauna. There were no threatened fauna species identified within the Subject Site. The Ecoplanning (2019) Report recommends several measures to be implemented to reduce impacts. These are:

1. On-site supervision by an ecologist of habitat tree felling and relocation of fauna;
2. Soft felling of hollow bearing trees is encouraged to avoid unnecessary injuries to undetected fauna;
3. To avoid potential indirect offsite impact during construction, an appropriate erosion and sedimentation control plan should be in place following best practice protocols such as Landcom (2004). It is recommended that this is included in a site-specific CEMP, prior to any construction works taking place. The CEMP would be required to span the pre, during and post-construction period, and would include the above pre-clearance and fauna management protocols.

BDAR describes that, given the location of the Proposed Development adjacent to existing urban infrastructure, it is considered unlikely for the Site to have any involuntary impacts on areas adjacent concerning native vegetation and associated habitats.

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The BDAR concludes that the Proposed Development is considered unlikely to reduce viability of any adjacent native vegetation and associated habitats due to edge effects, noise dust or light spill and / or disturbance to breeding habitats. Identified vegetation types are illustrated in **Figure 52** below.

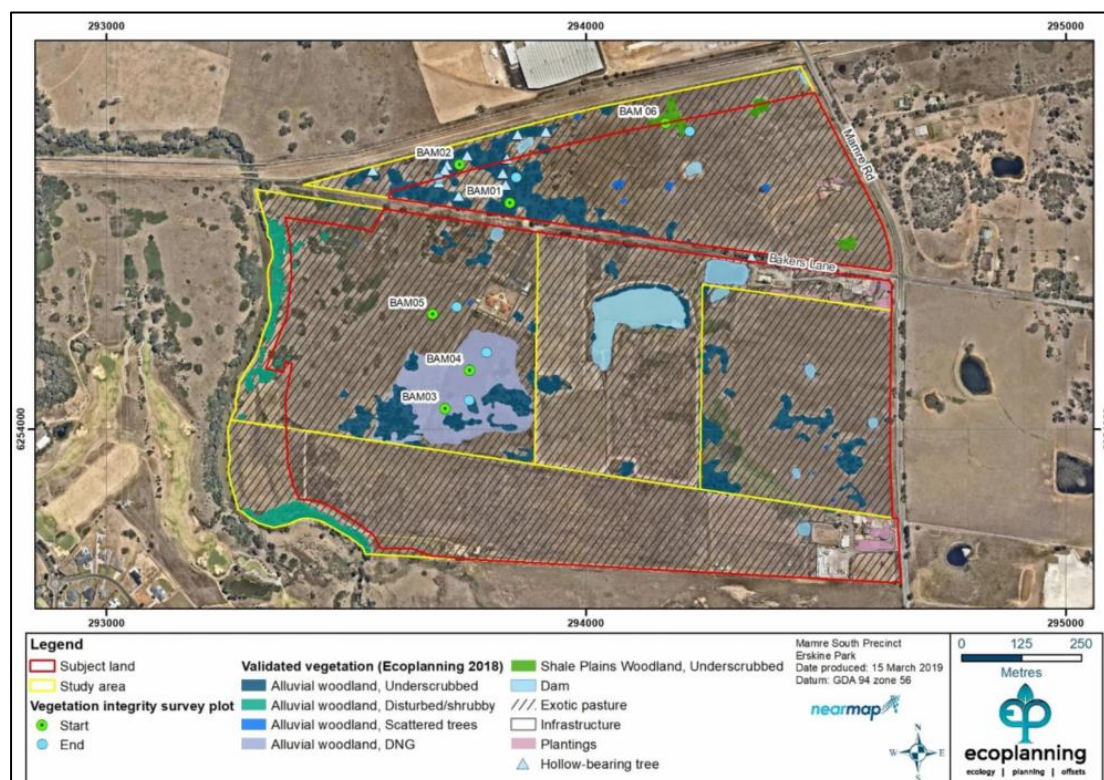


Figure 52 Field Results and Validated Vegetation (Source: Ecoplanning, 2019)

Impacts associated with two (2) vegetation zones with regard to the Proposed Development would require offset under the Biodiversity Assessment Methodology. A total of 267 ecosystem credits are required to offset the Proposal (refer to **Table 58** below).

Table 58: Ecosystem Credits				
Veg. Zone Number	Plant Community Type (PCT)	Condition Class	Total Impact (ha)	Credits required
1	PCT 835 – Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion	Underscrubbed	8.03	220
2		Derived Native Grassland	4.04	70
Total Native Vegetation Impact			12.07	290

Rules applying to particular vegetation types used to offset include the following:

- River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions;
- In the following subregions – Cumberland, Burragorang, Pittwater, Sydney, Cataract, Wollemi and Yengo or any IBRA subregion that is within 100 km of the outer edge of the Subject Site; and,
- Containing hollow bearing trees.

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The total cost of ecosystem credits to be used to offset the potential impacts of the Proposed Development, have been estimated by Ecoplaning (2019) at \$5,618,336.66 for the entire Subject Site, which will be borne by the Proponent.

In addition to the above, species credits would also be required for *Grevillea juniperina* subsp. *juniperina*. A total of 15 species credits are required for the complete loss of the species with regard to the Subject Site attributed to an estimated species credits cost of \$2,945.06.

Rules applying to the particular offset include the following:

- *Grevillea juniperina* subsp. *juniperina* / Juniper-leaved Grevillea in any IBRA subregion in NSW.

It is therefore concluded based on the BDAR that the required credits would be retired under this SSD Application. The Site's biodiversity impacts have therefore been deemed acceptable. The full BDAR is provided in **Appendix 19**.

6.10 ECONOMIC IMPACTS

The *Economic Impact Assessment: Kemps Creek Industrial Development* (Macro Plan Dimasi, 2019) was undertaken in consideration of the Proposed Development.

Based on an assessment of regional and local economic conditions, the Subject Site's potential market position (having regard to existing and proposed industrial developments), other relevant infrastructure projects and an industrial land supply assessment, the Economic Impact Statement by Macro Plan Dimasi (2019) has determined that:

- Industrial markets have been very active in Western Sydney, specifically, the WSEA;
- There has been growth in regional demand for industrial floorspace spurred by regional population growth (as part of a logistics supply-chain for the retail, construction, manufacturing and commercial sectors); and
- Demand for industrial floorspace is expected to be further heightened with the completion of the Western Sydney Airport and major road infrastructure upgrades throughout Western Sydney.

Accordingly, the Economic Impact Assessment predicts that over a 20-year period (2016-2036), demand for industrial floor space within the WSEA and wider Western Sydney locality, will increase due to cyclical and structural drivers, specifically the Western Sydney Airport being described as a primary catalyst. According to Macroplan, unless more zoned and serviced lots are provided in accordance with demand there would be associated pricing pressures on industrial land. The Economic Impact Assessment suggests that the location of the Subject Site, pursuant to approval, makes the Subject Site ideal for the Proposed Development.

The market opportunity derived from the Subject Site arises from:

- A superior connection to Sydney Orbital Road System via Mamre Road to the M4, upcoming M12, and M7, and further Western Sydney infrastructure Plan upgrades;
- Co-location with established industrial property to the north (Mamre West) and east (Erskine Park), with leverage from the amenity provided; and,
- Proximity to the newly proposed Western Sydney Airport at Badgerys Creek, and in the future, to the Western Sydney Intermodal Terminal.

Deriving from a series of assumptions, regarding the development potential of the Subject Site, the Assessment estimates that the Proposed Development of the entire Site results in a new 'upside' potential for growth due to the provision of substantial employment-generating opportunities, throughout both the construction and operational phases.

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It is therefore concluded that the Subject Site and associated Proposed Development is 'well-suited' for its intended use for large-scale warehousing and logistics purposes.

The full Macroplan Economic Impact Assessment is provided in **Appendix 22**.

6.11 SOCIAL IMPACTS

The *Social Impact Assessment* (HillPDA, 2019) considers the social impacts anticipated as a result of the Proposed Development, for the purposes of a Warehouse, Logistics and Industrial Facilities Hub. A "Social Impact" may be defined as the net effect of an activity on a community and the well-being of individuals and families (Refer to **Figure 53** overleaf).

The Social Impact Assessment provides and evaluates potential changes to existing social conditions, due to the Proposed Development. This included the assessment of direct and indirect benefits and impacts, as-well-as consideration of any cumulative impacts.

Potential social impacts estimated to arise from the Proposed Development are likely to be influenced by the Site's current surroundings; the eventual outcomes created by the Proposed Development; and those measures agreed to be put in place to mitigate against any negative impacts. Issues have been assessed based on their impact during the construction and operational phases of the Proposal. Social impacts can involve changes to the following nine (9) factors:

1. Way of life;
2. Community;
3. Access to and use of infrastructure, services and facilities;
4. Culture;
5. Health and wellbeing;
6. Surroundings;
7. Personal and property rights;
8. Decision making systems; and
9. Fears and aspirations.

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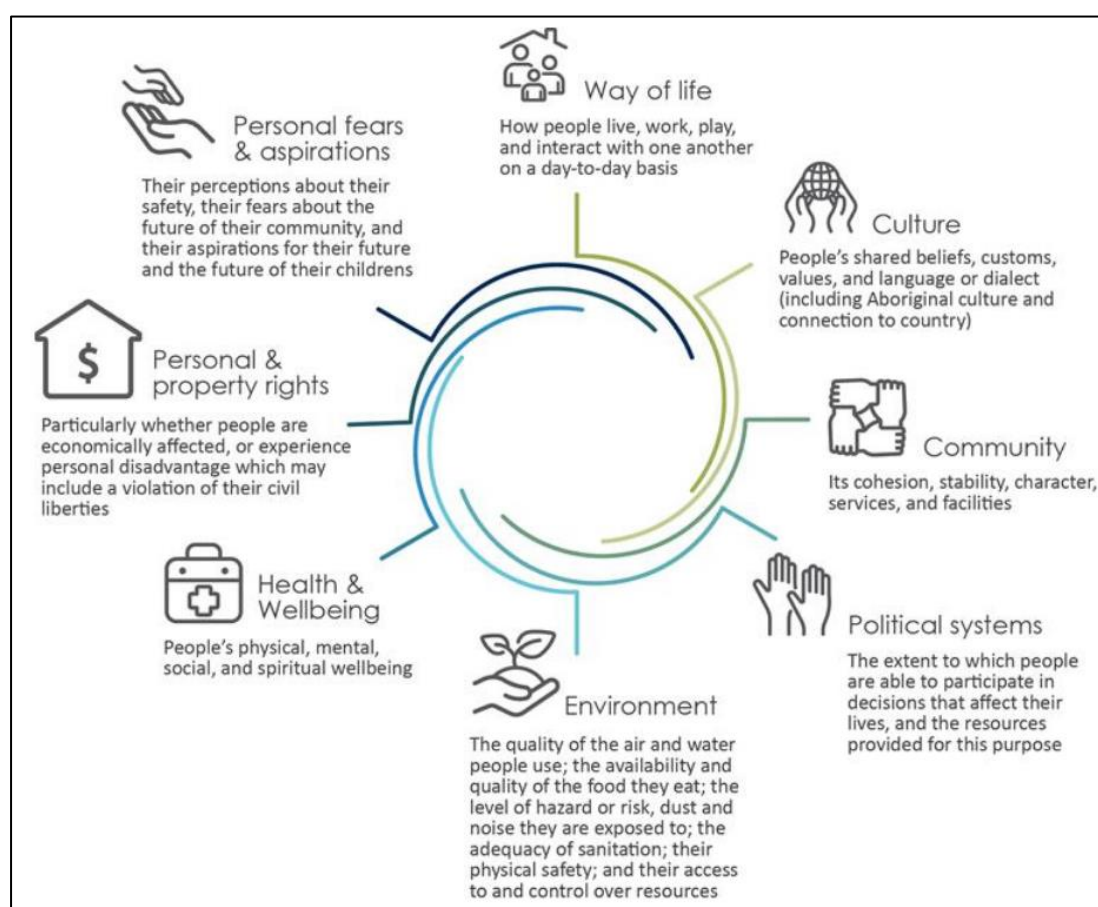


Figure 53 Social Impacts (Source: HillPDA, 2018)

Social impacts of the Proposed Development may extend beyond the immediate surrounds as qualified in **Table 59**.

Table 59: Area of Influence of Potential Impacts		
Impact Type	Local Community	Broader Community
Amenity	Noise, lighting & odours	Increased truck movements on road network
Access	New local roads	Increased access to goods and improved efficiencies in supply chains and distribution of goods.
Built Environment	Visual impact	Ongoing design improvements in logistics and warehousing.
Heritage	No known heritage items, however there are artefacts on-site	No impacts to European Heritage. Aboriginal artefacts to be appropriately salvaged.
Community	Health, safety and increased demand for services and facilities	Potential business opportunities, access to open space, supporting creation of the 30 minute city by bringing jobs closer to residential communities.
Economic	Job creation, livelihood and increased local spending	Significant increase in employment opportunities

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		with 800 operational jobs and 500 construction jobs
Natural Environment	Urbanisation of semi-rural land	Increased carbon emissions through increased truck movements.

6.11.1 Amenity

The Social Impact Assessment describes amenity as a combination of characteristics, including character and appearance of buildings, proximity to commercial or recreation facilities, quality of infrastructure and absence of noise, unsightliness or offensive odours.

Social Impact of Construction

The construction process has the potential to affect the amenity of sensitive receivers within the surrounding area. During the construction phase, the following may affect local amenity, including:

- The removal of established vegetation;
- The introduction of construction facilities to the environment;
- Noise and dust arising from construction activities;
- Unpleasant odours; and,
- Increased traffic volumes and / or congestion.

Short term reduction in amenity may impact the existing residential properties within the immediate vicinity of the Subject Site; however, due to the distance of nearby properties, disruption is likely to be minimised. The Construction Environmental Management Plan would provide mitigation measures where necessary.

Noise Arising from Additional Traffic

The properties most likely to be affected by increased vehicle noise are identified as those to the north and south of the Proposed Development on Mamre Road. Businesses along Mamre Road are largely industrial in nature. Housing along Mamre Road to the north of the Proposed Development is set back from the road and as such less susceptible to vehicle noise.

The Noise Impact Assessment prepared by Acoustic Works (located within **Appendix 25** of this EIS) identifies that the Proposed Development is predicted to produce an additional 4,322 vehicle movements per day. The existing annual average daily traffic volume for Mamre Road is approximately 20,000 vehicles per day. The acoustic assessment carried out an evaluation using the methodology outlined in RMS Guide to Traffic Generating Developments.

The Proposed Development will result in a significant increase in road movements compared to the current situation, such that there is likely to be a noticeable increase in traffic noise. However, based on the results of the acoustic assessment, the noise impacts arising from additional traffic are not likely to have an unacceptable impact to neighbouring businesses and residents.

As the predicted noise arising from the increase in traffic is within acceptable limits, the traffic noise arising from the Proposed Development presents an “unlikely” social risk using the criteria outlined in section 4 of the Social Impact Assessment, located within **Appendix 23** of this EIS. This is based on the findings of Noise Impact Assessment located within **Appendix 25** of this EIS, which indicates that at the sensitive receivers, including residences, traffic noise will be below the criteria for acceptable noise limits.

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Overall, the significance of potential impacts arising from traffic noise associated with the Proposed Development is considered to be “moderate” using the social risk matrix in section 1.4.3 within the Social Impact Assessment, located within **Appendix 23** of this EIS.

Monitoring of the impacts on surrounding residences could be undertaken to ensure that noise is not impacting on resident’s way of life and if so, that effective management steps be undertaken (e.g. imposing curfews on vehicle movements or the introduction of physical noise breaks). Future development of the Site will be subject to further Development Applications, providing an opportunity for further assessment and monitoring of traffic noise impacts. In the longer term, planning for noise mitigation devices will also be considered by NSW RMS as part of its proposed expansion of Mamre Road.

Light

The Proposed Development would not produce any significant adverse impacts on the amenity on surrounding properties in terms of light spill. Based on feedback received through the consultation process recorded to date, neither community nor government stakeholders raised any issues with proposed lighting, nor has it arisen as an issue on recently approved developments in the past.

The Lighting Plan for the Proposed Development is demonstrated within **Section 6.3.8** and within the Architectural Plans located within **Appendix 6** of this EIS.

Odour

The Proposed Development would not significantly impact on the amenity of the locality in terms of odour. No impacts from odours have been identified from the operations of the Proposed Development and no concerns in this regard have been raised as part of the consultation process. The nature of the proposed operations do not typically result in any such associated impacts. The Air Quality Impact Assessment prepared by Northstar is located within **Appendix 21** of this EIS.

6.11.2 Access

Access to Property

Regarding vehicular traffic, the warehouses with ancillary offices proposed for the Subject Site, would only be accessed via the internal Estate roads, meaning there would be no access impact on existing roads.

Pedestrian access would also be positively improved by the Proposed Development. The intersection of Mamre Road and Bakers Lane currently has no signalised pedestrian crossing facility. Works included as part of the Proposed Development, will result in the upgrade of this intersection and the addition of a signalised pedestrian crossing, thereby improving pedestrian access in the area.

Utilities

There are no undue impacts anticipated with regard to head works supplying the Site with utilities. All servicing will be completed at No Cost to Government, including services amplification to service future land supply and would serve to only improve the provision of infrastructure within the locality.

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Road, Rail and Public Transport

The Proposed Development would provide additional access to road and rail infrastructure within the region. Provision has been made for the following key infrastructure:

- The Southern Link Road;
- Western Sydney Freight Line Corridor; and,
- Mamre Road Upgrade, including intersection upgrade with Bakers Lane.

6.11.3 Built Environment

Public Domain

The Proposed Development would significantly improve the public domain by:

- Improving the local and regional road network;
- Providing pedestrian and cycleway links; and,
- Embellishing and improving the natural environment of South Creek, facilitating public access to this key piece of infrastructure.

The longer-term vision for the Site indicates the potential for significant positive enhancement to the public domain by dedicating the 11-ha portion adjoining South Creek for public open space and recreation. This land is presently inaccessible to the public and the Proposed Development would therefore activate it which is in the public interest.

Public Infrastructure

The Proposed Development would provide significant local and regional services upgrades and facilitate lead-in infrastructure to service future adjacent land releases. The proposed enhancements to the local road network with proposed landscaping along Mamre Road; and, improvements to the traffic lights at the intersection of Mamre Road and Bakers Lane offer substantial improvements to the existing infrastructure.

Additionally, the dedication of the 11-ha area adjoining South Creek for public open space and recreation would contribute to the provision of public infrastructure.

6.11.4 Heritage

Historic (European) Heritage:

The assessment undertaken by Biosis (2019) has identified, that there may be archaeological material present within the study area related to the historical use of the land, for pastoral and agricultural purposes, such as paddock and stockyard fencing, informal farm outbuildings and historical ploughing. It is noted, that the potential impacts to the study area for the Proposed Development works are considered acceptable, as there are no items of heritage significance with the study area, that will be impacted by these activities, provided that an unexpected finds policy is implemented to identify and record any archaeological material that may be encountered during the proposed works.

The following recommendations have been formulated to respond to the Proponents requirements and the significance of the Site. They are guided by the ICOMOS *Burra Charter* with the aim of doing as much as necessary to care for the place and make it useable and as little as possible to retain its cultural significance.

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Recommendation 1: No Further Assessment Required

The assessment undertaken has identified no items of heritage significance or archaeological potential within the study area, and no negative heritage impacts to surrounding heritage items. As such, no further assessment is required prior to the approval of the SSDA. Prior to any ground disturbance occurring within the study area, an unexpected finds procedure should be implemented as outlined in Recommendation 2.

Recommendation 2: Development of an Unexpected Finds Procedure

Relics are historical archaeological resources of local or State significance and are protected in NSW under the *Heritage Act 1977*. Relics cannot be disturbed except with a permit or exception/exemption notification. Should unanticipated relics be discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.

The complete *Statement of Heritage Impact* is found in **Appendix 24** of this EIS Submission.

Aboriginal Cultural Heritage:

Biosis have undertaken and prepared an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Proposed Development. The ACHAR provided includes the details of the investigation undertaken, Aboriginal community consultation, and the assessment of Aboriginal Cultural Heritage, undertaken for the purpose of the assessment provided by Biosis (2019), which is located in **Appendix 27** of this EIS Submission. The investigation undertaken has been carried out under Part 6 of the *National Parks and Wildlife 1974* (NPW Act). Additionally, it has been undertaken in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) (the Code).

Biosis (2019) have provided recommendations, which respond specifically to the wishes of the Registered Aboriginal Parties (RAPs). The recommendations are as follows:

Recommendation 1: Further archaeological work in the form of surface salvage and salvage excavation at AHIMS site 45-5-5187/MSP-03 as part of the SSD approval

Biosis recommend, that further archaeological work be conducted for AHIMS site 45-5-5187/MSP-03 in the form of salvage excavation to recover sub-surface artefacts, which will be impacted as a part of the Proposed Development. This would be able to provide further information relating to the artefact's typology and material type, as well as the nature of the activities taking place at AHIMS site 45-5-5187/MSP-03. Biosis recommend this be undertaken as a condition of consent subject to approval of the SSDA. The salvage work for this particular area of the Site would not hold up the development of Stage 1 of the Site and would be completed prior to Stage 2 commencement.

Recommendation 2: Further archaeological work in the form of surface salvage AHIMS sites 45-5-5184/MSP-01, 45-5-5185/MSP/02, MSP-07 and MSP-08 as part of the SSD approval

Biosis recommend, that further archaeological work be conducted for AHIMS sites 45-5-5184/MSP-01, 45-5-5185/MSP-02, MSP-07 and MSP-08 in the form of surface salvage to recover any surface artefacts which will be impacted as a part of the proposed development. It is recommended that surface salvage be undertaken as a condition of the SSD approval.

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Recommendation 3: No further archaeological work is required for sites MSP-05, MSP-06, MSP-09 and MSP-10

Biosis suggest no further archaeological investigations are considered to be required for Aboriginal sites MSP-05, MSP-06, MSP-09, MSP-10 and MSP-11 prior to development impacts.

Recommendation 4: Update AHIMS site cards for AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02, 45-5-5189/MSP-03 ad 45-5-5190/MSP-04 and lodge AHIMS site cards for newly identified sites MSP-05, MSP-06 & MSP-07, MSP-08, MSP-09 and MSP-10

It is recommended that the AHIMS site cards for previously identified AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02 and 5-5-5189/MSP-03 be updated to reflect the revised site descriptions following the test excavations discussed in within the ACHAR.

AHIMS site cards should also be prepared and lodged with AHIMS for newly identified sites MSP-05, MSP-06 and MSP-07, MSP-08, MSP-09, MSP-10 and that the site numbers be included in the final version of the ACHAR.

Recommendation 5: Preparation and lodgement of AHIMS site impact recording forms for 45-5-5184/MSP-01, 45-5-5185/MSP-02, 45-5-5189/MSP-03, MSP-05, MSP-06, MSP-07 & MSP-08, MSP-09 and MSP-10 following development impacts

It is recommended that AHIMS site impact recording forms are prepared and lodged with AHIMS for Aboriginal sites 45-5-5184/MSP-01, 45-5-5185/MSP-02, 45-5-518/MSP-03, MSP-05, MSP-06, MSP-07 and MSP-08, MSP-09 and MSP-10 within four (4) months following completion of development impacts or as otherwise stated in SSD approval conditions.

Recommendation 6: Unexpected finds

Discovery of Aboriginal Objects

All Aboriginal objects and places are protected under the NPW Act. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by OEH. Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.

Discovery of Unanticipated Historical Relics

Relics are historical archaeological resources of local or State significance and are protected in NSW under the *Heritage Act 1977*. Relics cannot be disturbed except with a permit or exception/exemption notification. Should unanticipated relics be discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.

Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

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7. Immediately cease all work at that location and not further move or disturb the remains.
8. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
9. Do not recommence work at that location unless authorised in writing by OEH.

6.11.5 Community

Health

The Proposed Development would not negatively impact upon the health and wellbeing of the wider community. Waste management procedures and efficient operational practices will be put in place to ensure that the potential for health impacts to workers is minimised. These measures will be readily implemented throughout the construction and operational phase of the Proposed Development.

Safety

Investigations of the community identified no crime in the immediate area, which was a likely outcome of the relative remoteness of the region and its character. The Proposed Development is unlikely to change this, with the proposed warehouses being secure and illuminated. The activation of the area as an active industrial and logistics precinct may also restrict the development of negative perceptions of safety in the area.

The TIA prepared by Ason Group as part of the EIS, confirms that the design conforms to standards required for emergency vehicle access, confirming that *"the design includes consideration for emergency vehicles, in particular the provision of a fire trail (where required) around the perimeter of each warehouse building."*

Potential flood impacts have been analysed as part of the Overland Flow Report by Costin Roe Consulting. This report includes modelling of flooding events with 5%, 2%, 1% and 0.5% AEP, including the PMF. This has enabled floor levels to be set to avoid flooding of new development with adequate evacuation routes provided and no impact on the surrounding properties. All development proposed is in accordance with the NSW Flood Plain Management Manual 2005 and Penrith Council DCP guidelines.

The Overland Flow Report states that there is sufficient capacity and time for either safe egress of occupants offsite or to an onsite refuge during a major flood event. The levels over the Site are proposed at greater than 500 mm above the 1% AEP storm event which allows several hours of flood warning response time. Also, at least 80% of the developed site will be above the PMF flood event. Given there is less than 1 kilometre from the flood affected zone to a PMF free area of the site, occupants could move to flood free land in only minutes.

On this basis, the Report prepared by Hill PDA, states the potential risks to safety with regard to the Proposed Development, are considered to be "unlikely" with "minimal" impact. Accordingly, the Proposed Development presents a low social risk in terms of safety concerning the social risk matrix utilised throughout the preparation of the Social Impact Assessment, which can be located in Section 1.4.3 of **Appendix 23** of this EIS Submission.

Services and Facilities

It is anticipated that the Proposed Development would have minimal impact on the use or access to community services and facilities in the region as it does not rely on them.

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Enhancements proposed under the LUIIP 2018 identify the importance of the South Creek corridor in providing a continuous green spine for the area. The Proposed Development makes provision to reserve a 11-ha area adjacent the creek for the enjoyment of the community.

Cohesion, Capital and Resilience

Based on feedback gathered through the community consultation process, the Proposed Development is perceived as creating positive outcomes for the community. Through the provision of employment-generating opportunities through the creation of 800 full time jobs and 500 construction jobs, the Proposed Development would positively impact on social cohesion. Coupled with the dedication of open space adjacent the creek edge for the benefit of the community, this would also create cohesion and contribute the level of social capital afforded.

Housing

The Proposed Development creates employment opportunities in that region, closer to workers' homes. Notwithstanding, the wider Western Sydney has an expanding population, and the Subject Site is strategically located in a region intended to supply employment for that predicted expansion with regard to housing.

6.11.6 Economic

The Proposed Development would have positive impacts on the regional and local economies during both the construction and operational phases of development, by provision of significant employment opportunities and providing space for new businesses.

Natural Resource Use

No significant natural resources have been identified on the Subject Site with the exception of South Creek along its western boundary. The Proposed Development includes management and mitigation measures, including the revegetation of areas along the creek bank and planting throughout the Site for the enjoyment of the community.

Livelihood

The construction and operation of the Proposed Development would have short and long-term benefits with regard to employment generation during construction and the purchase of materials. During construction, the Proposed Development would generate 500 new jobs. A total of 800 full time operational jobs would be created also that would cause local centres to benefit from increased construction and operation related trade.

Secondary benefits include money invested into business and services across the region. This new expenditure would benefit and grow local economies, generating further employment in service industries.

In summary, the Proposed Development will make a very positive contribution to the livelihood of residents across the wider region, creating new employment opportunities closer to residents' homes.

6.11.7 Mitigation Measures and Monitoring

Specific mitigation measures for the Proposed Development are recommended as follows:

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- **Construction:** The preparation of a Construction Management Plan to effectively manage any potential impacts to neighbours arising from construction.
- **Noise:** The construction of an acoustic barrier at the interface between easternmost loading dock and the setback adjoining Mamre Road at Warehouse 36.

Ongoing monitoring should be adopted, particularly for any future sensitive uses that might negatively impact upon the surrounding area.

It is concluded in the Social Impact Assessment that the potential for negative impacts to arise from construction, noise and increased traffic have been identified; however, these impacts are able to be appropriately managed and mitigated through management plans post approval.

The Social Impact Assessment identifies the following benefits that would arise from the Proposed Development, including:

- Job creation, being 800 operational jobs and 500 construction jobs;
- Improving work-life balance for residents in the region, having employment close to residential areas;
- Rehabilitation and enhancement of the natural environment, particularly through dedication of the 11-ha of land within the South Creek corridor; and,
- Further enhancement of the built environment with the full realisation of the Estate, which includes provisions for:
 - Additional community and recreation space; and,
 - Land uses, producing a benefit to workers in the area who are likely to be employed on-site.

The Proposed Development is considered supportable in terms of anticipated social impacts.

A copy of the Social Impact Assessment is provided at **Appendix 23** of this EIS Submission, which has been prepared by Hill PDA in accordance with the SEARs issued by the NSW DP&E on the 14th September 2018.

6.12 AGRICULTURAL IMPACTS

The *Kemps Creek Warehouse and Logistics Hub – Agricultural Impact Assessment* (GHD, 2018) considers the land capability and existing land use of the Subject Site. The Report provides a Land Use Conflict Risk Assessment (LUCRA), which assesses and determines the Proposed Development's potential agricultural impact on the continuing ability of potentially impacted and surrounding properties to pursue their current agricultural related activities, i.e. production.

The Report explains, that a key to sustainable agricultural production is to manage land in accordance with its capability to reduce the risk of degradation of resource both on-and-offsite, potentially leading to a decline in natural ecosystem health, agricultural productivity and infrastructure functionality. The '8-class classification' is shown in **Table 60 below** and **Figure 54** overleaf. The Subject Site is classed as either Class 5 (93 ha, 80%) or Class 6 (24ha, 20%) land. The Subject Site is classed as low capability land, and has high limitations for high impact land uses, and the associated land use is largely restricted to grazing.

Table 60: NSW OEH (2012) The Land and Soil Capability Assessment Scheme		
Broad Category	LSC Class	General Definition
Land capable of being regularly cultivated and used for a wide variety of land uses (cropping, grazing,	1	Extremely High Capability Land: Land has no limitations. No special land management practices required. Land capable of rural land uses and land management practices.

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horticulture, forestry, nature conservation)	2	Very High Capability Land: Land has slight limitations. These can be managed by readily available, easily implemented management practices. Land is capable of most land uses and land management practices, including intensive cropping with cultivation.
	3	High Capability Land: Land has moderate limitations and is capable of sustaining high-impact land uses, such as cropping with cultivation, using more intensive, readily available and widely accepted management practices. However, careful management of limitations is required for cropping and intensive grazing to avoid land and environmental degradation.
Land capable of a variety of land uses (cropping with restricted cultivation, pasture cropping, grazing, some horticulture, forestry, nature conservation)	4	Moderate Capability Land: Land has moderate to high limitations for high-impact land uses. Would restrict land management options for regular high-impact land uses such as cropping, high-intensity grazing and horticulture. These limitations can only be managed and specialised management practices with a high level of knowledge, expertise, inputs, investments and technology.
	5	Moderate-low Capability Land: Land has high limitations for high-impact land uses. Would largely restrict land use to grazing, some horticulture (orchards), forestry and nature conservation. The limitations need to be carefully managed to prevent long-term degradation.
Land capable for a limited set of land uses (grazing, forestry and nature conservation, some horticulture)	6	Low Capability Land: Land has very high limitations for high-impact land uses. Land use restricted to low-impact land uses such as grazing, forestry and nature conservation. Careful management of limitations is required to prevent severe land and environmental degradation.
Land generally incapable of agricultural land use (selective forestry and nature conservation)	7	Very Low Capability Land: Land has severe limitations that restrict most land uses and generally cannot be overcome. On-site and off-site impacts of land management practices can be extremely severe if limitations are not managed. There should be minimal disturbance of native vegetation.
	8	Extremely Low Capability Land: Limitations are so severe that the land is incapable of sustaining any land use apart from nature conservation. There should be no disturbance of native vegetation.

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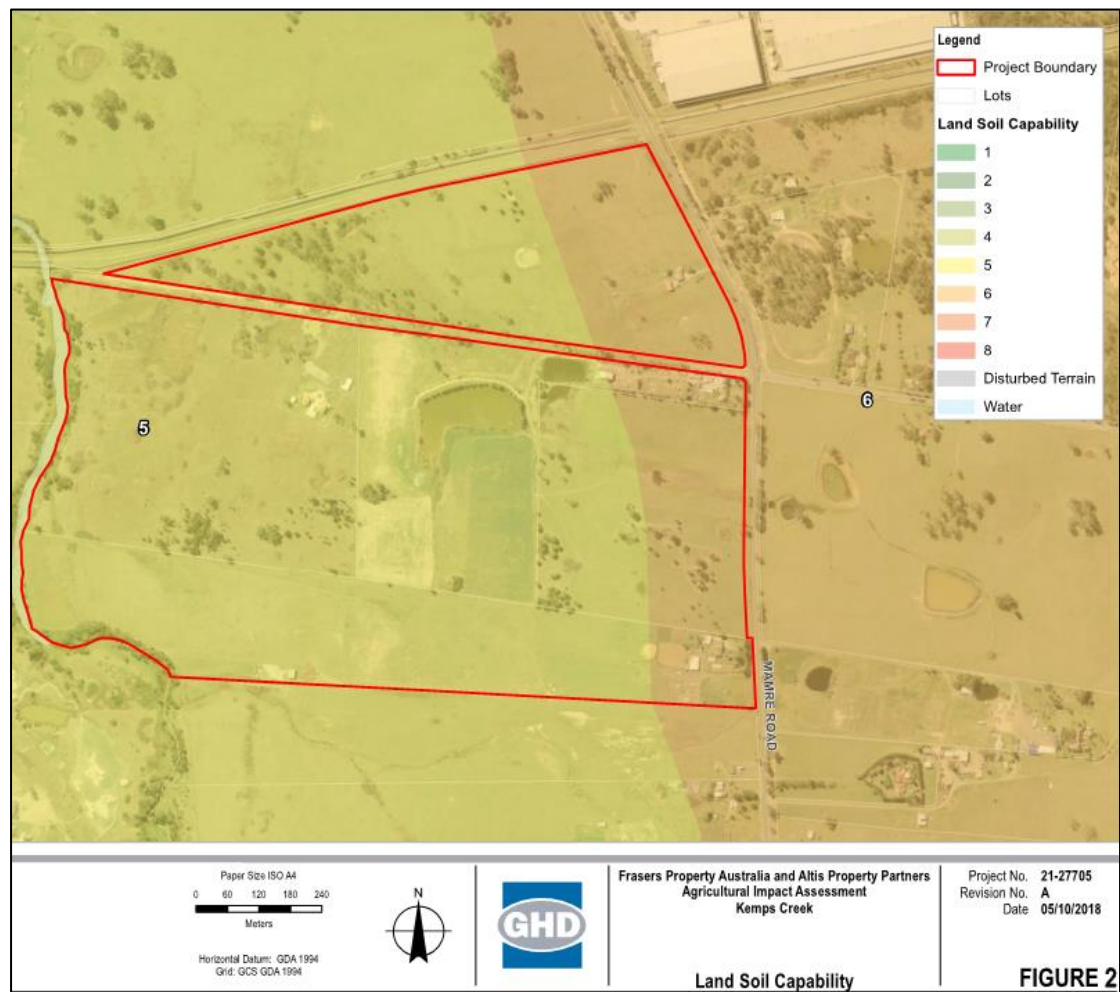


Figure 54 Land Soil Capability (Source: GHD, 2018)

The current land use was assessed during a site inspection on 6th of October 2018. The current land use is described as extensive beef cattle grazing on semi-improved pastures (noting the quality of pastures varies between allotments). Additionally, viewed from an aerial perspective, the Subject Site is described as having been used for opportunistic cropping for the production of hay and / or silage. Pasture improvement associated with past land uses has meant that the land has been predominantly cleared of trees throughout the Subject Site. **Figure 55** below depicts the indicative land use categories of experienced by the Subject Site and surrounding properties.

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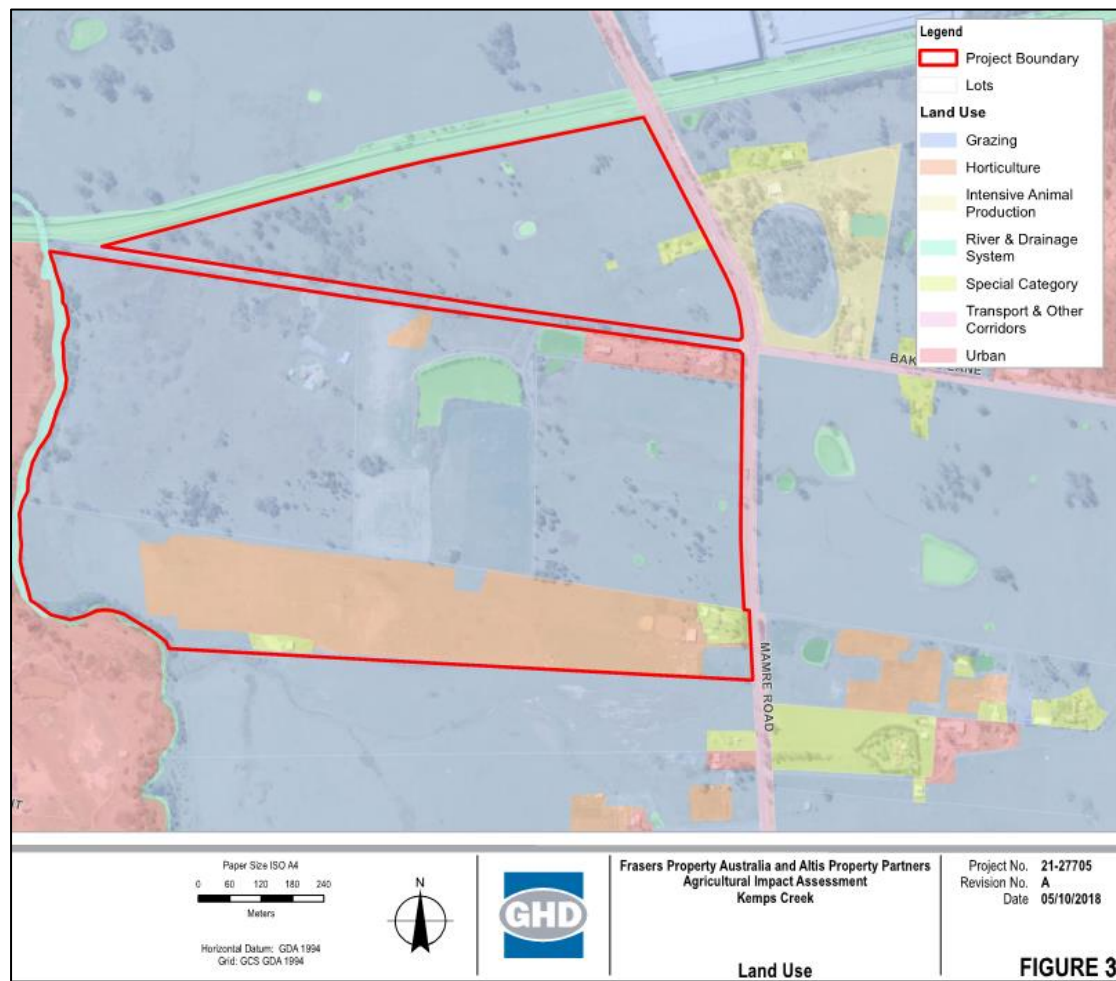


Figure 55 Historical Land Use of the Subject Site and Surrounding Area (Source: GHD, 2018)

Table 61 depicts a risk assessment matrix that was utilised to assess the potential land use conflict risk as a result of the Proposed Development.

Table 61: Land Use Matrix				
Likely consequence from a dispute or conflict arising over the land use or activity.		Likelihood of a dispute or conflict arising over the land use or activity		
		Very Likely	Likely	Unlikely
	Major consequences and impacts likely	High	High	Medium
	Modest or periodic consequences and impacts likely	High	Medium	Low
	Minimal consequences and impacts likely	Medium	Low	Low

Table 62 overleaf lists the potential sources of land use conflict from the Proposed Development, assesses the risk based on the above matrix in **Table 63**, and suggests management strategies to reduce conflicts.

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Table 62: Land Use Conflict Risk Assessment

Issue	Assessment	Issue Management
Agricultural Aerial Spraying	N/A	There are very limited cropping activities across the Sydney Basin that would require any aerial spraying.
Catchment Management	Medium	<p>The Proposed Development would have nil to minimal impact on natural resource management of surrounding agricultural properties.</p> <p>The Proponents are responsible for ensuring the site plans (e.g. stormwater) meet the guidelines for discharges into waterways. The Plan for the Proposed Development includes a riparian buffer zone to South Creek. A flood impact assessment has been prepared and concludes all impacts would be acceptable in this respect.</p>
Dogs	N/A	Stray dogs could disturb grazing livestock but the added risk from the development would be minimal considering the close proximity of existing residential/industrial areas. Future management would be achieved through Council regulations on dog control.
Drainage	Low	See catchment management above.
Dust	Low	Routine agricultural operations (e.g. cultivation for market gardens) could have an impact on new industrial areas. However, agriculture up to the southern and eastern boundary is predominantly cattle and horse grazing rather than cropping resulting in less dust. Management of potential conflict is via appropriate buffers (distance and vegetative screenings) to minimise impact. The 500 m distance from residences to the grazing area in the north and west combined with the riparian buffer along South Creek remove the risk of conflict. There is no buffer along the southern boundary (50 m is the recommended minimum), and although this is considered a low conflict risk area, consideration of a narrow vegetative screening along this boundary could be appropriate under future development proposals.
Dwellings	N/A	The development is adjacent to an existing rural-residential area to the west and industrial areas to the north and would have minimal additional impact on existing rural pursuits or routine land use practices on surrounding agricultural land.
Erosion	N/A	Topography of the site is relatively flat and these issues have been considered in the stormwater strategy for the Site.
Fencing	Low	Fences with adjoining agricultural land would need to be maintained in a condition to avoid the possibility of livestock straying. The maintenance of shared boundary

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		fencing is the responsibility of land owners. Consideration could be given to upgrading the fence along the southern boundary as part of development consent.
Flies	N/A	Surrounding land use is extensive grazing of beef cattle and horses and although their manure promotes the breeding of flies, the extensive nature means this would be low impact.
Lights	Low	Routine agricultural activities on the surrounding grazing areas would be mainly conducted during daylight hours. Lights from cultivation and haymaking at night could potentially be an issue but there does not appear to be any evidence of these activities on adjoining land. As the Subject Site would be used for a Warehouse, Logistics and Industrial Facilities Hub, any lights from agricultural activities means the potential conflict is assessed as low.
Noise	Low	As per above.
Odours	N/A	The extensive livestock grazing means that odours of any significance would be of little concern. It is unlikely that intensive livestock enterprises would be established in the future and the impact that such an activity would have on water quality flowing into South Creek. Livestock handling yards would be a source of some odour but there are appropriate distances and a vegetative buffer to reduce the impact.
Pesticides	Low	Extensive livestock grazing and market gardens to the south and east may require only occasional and infrequent use of pesticides for weed control. Application of pesticides need to be in accordance with the Pesticides Act 1999 such that only registered pesticides are used based on label instructions that are designed to minimise impacts on health, the environment and trade, and which are based on good agricultural practice.
Straying Livestock	Low	See Fencing above.
Theft / Vandalism	N/A	The extensive nature of large livestock grazing (cattle, horses) in surrounding agricultural land means there is a low risk of theft. Machinery and equipment are mainly located close to rural residences on Mamre Road.
Visual Amenity	Low	The Subject Site is adjacent to existing residential and industrial developments and it therefore has minimal additional impact on visual amenity. A separate visual impact assessment has been prepared which gives full consideration of all resultant visual impacts of the proposed warehouse facilities and demonstrates that the Proposal is acceptable in this respect.

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Weeds and Pests	Low	Weed and pest control, including for noxious weed and pests would be subject to ongoing routine monitoring and management.
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Note: A number of the issues listed in **Table 60** are considered to pose a negligible risk for the Proposed Development and were consequently assessed as not applicable (N/A).

The productivity and profitability of agricultural production depends in part on the management of pests and diseases, including the prevention of incursion of pests and diseases onto properties. Biosecurity is a term that is commonly used for such management and the set of measures adopted to protect a property from the entry and spread of pests, diseases and weeds. **Table 63** below outlines the potential biosecurity risks and potential measure that may mitigates the risks with regard to the Proposed Development.

Table 63: Biosecurity Risks and Mitigation Measures	
Biosecurity Risk	Potential Mitigation Measures
People	Limit entry points to the property Vehicles, machinery, equipment and work boots would be inspected and cleaned prior to moving to new locations. Limit worker contact with livestock or plant materials as much as possible and eliminate any unnecessary contact altogether.
Vehicles	Limit the number of entry and exit points (one is preferable). Clearly sign and lock restricted access areas. Ensure construction vehicles are clean and are parked in a designated area away from livestock. Establish a vehicle high pressure wash down facility well away from livestock and crops to clean vehicles and equipment which need to enter the property. Ensure construction vehicles remain on designated tracks.
Equipment	Clean machinery and equipment from the top down and dismantle it as far as possible to gain access to areas not readily visible.

The conclusions drawn from the Report, confirm that it is clear that the majority of land within the Subject Site has limited agricultural capability and viability in its current form.

Additionally, economic viability of agriculture in the area would likely be limited to intensive industries such as poultry and or “protected” – glasshouse – horticulture; however, these industries would be water intensive. Furthermore, the economic viability of more intensive agricultural enterprises is also likely to be constrained by the further potential capital costs required as a result of the need to acquire other suitable areas of high value land to achieve appropriate economies of scale.

The LUCRA completed (**Table 62**) indicates that the likelihood of potential conflict is considered to be low and that current agricultural land use on surrounding properties with regard to the Subject Site could continue to operate with minimal impact anticipated.

The Agricultural Impact Assessment Report is provided at **Appendix 33**.

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6.13 ABORIGINAL CULTURAL HERITAGE

Biosis have undertaken and prepared an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Proposed Development. The ACHAR provided includes the details of the investigation undertaken, Aboriginal community consultation, and the assessment of Aboriginal Cultural Heritage, undertaken for the purpose of the assessment provided by Biosis (2019), which is located in **Appendix 27** of this EIS Submission.

The investigation undertaken has been carried out under Part 6 of the *National Parks and Wildlife 1974* (NPW Act). Additionally, it has been undertaken in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) (the Code).

A search of the Aboriginal Heritage Information Management System (AHIMS) database identified six (6) Aboriginal sites, that have previously been recorded within the study area, which are summarised in **Table 64** below. Test excavations of the study area have also identified an additional six (6) Aboriginal sites, which are described further below. The AHIMS sites are identified in **Figure 56** overleaf.

Table 64: AHIMS Sites Located within the Study Area		
AHIMS Site No.	Site Name	Site Type
45-5-5187	MSP-01	Artefact
45-5-5188	MSP-02	Artefact
45-5-5189	MSP-03	Artefact
45-5-5190	MSP-04	Artefact
45-5-3028	EPTA3	Artefact
45-5-3032	EPTA10	Artefact
45-5-3033	EPTA11	Artefact

MSP-01 (AHIMS 45-5-5187)

MSP-01 (AHIMS 45-5-5187) consists of an artefact site can be found on the northern bank of a dam in Lot 34 DP 1118173. The site is located in a disturbed context and consists of a silcrete flake (Plate 3, Plate 4). It is noted, that the nearest recorded water source is South Creek, located approximately 900 m to the west of the isolated find. A large depression located approximately 350 m to its west also appears to have been subject to frequent inundation.

MSP-02 (AHIMS 45-5-5188)

MSP-02 (AHIMS 45-5-5188) is an artefact scatter located upon a flat within Lot 22 DP 258414. Based on the surrounding context, which features a large amount of construction fill, the site is considered to be present within a disturbed context. The site consists of two (2) silcrete flakes (Plate 5, Plate 6). It is noted, that the nearest natural water source is South Creek, located approximately 75 m to the west of the Site. There is also a second order ephemeral tributary of South Creek located approximately 90 m south of the Site.

MSP-03 (AHIMS 45-5-5189) / MSP-04 (AHIMS 45-5-5190)

MSP-03 (AHIMS 45-5-5189) consists of a surface artefact scatter, located across a flat and gentle slope landform within Lot 22 DP 258414 (Plate 7). The Site is located approximately 100 m west of the recorded location of AHIMS site EPTA10. Based upon the surrounding context, which featured a large amount of construction fill, the Site is considered to be present within a disturbed context. The site consists of one (1) silcrete complete flake and one (1) broken quartzite hammer stone.

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MSP-04 (AHIMS 45-5-5190) consists of an artefact site located across a flat within Lot 22 DP 258414. A total of three (3) stone artefacts were recorded. These artefacts consisted of one (1) silcrete complete flake, one (1) silcrete proximal flake fragment, and one (1) fragment of debitage. Based on the surrounding context, which featured a large amount construction fill. The Site is considered to be present within a disturbed context.

The nearest natural water source is a second order ephemeral tributary of South Creek, located approximately 90 m south of the Site. In addition to this, South Creek is located approximately 160 m west south of the Site.

Test excavations at these sites also identified a high density sub-surface artefact scatter located on a high point within the gentle slope landform. This Site extends down to the edge of South Creek and indicates that MSP-03 and MSP-04 are part of the same site. As a result, MSP-03 and MSP-04 have been combined into one (1) site MSP-03/MSP-04 for ACHAR, prepared by Biosis (2019). A total of 666 sub-surface artefacts were identified across these sites and it was found that artefact densities drop off closer to South Creek, with dispersed, low density deposits present along the alluvial flats.

MSP-05 (AHIMS Pending) (E: 294016, N: 6254604)

MSP-05 consists of a low density sub-surface artefact scatter located on a gentle slope landform in OA2 (Plate 10). The Site is located approximately 750 m east of South Creek. A total of five (5) artefacts were recovered from four (4) test pits across 5,793 m². These artefacts consisted of one (1) complete flake, one (1) longitudinal flake fragment and three (3) angular fragments. One (1) piece of angular fragment and two (2) pieces of angular fragment recovered from this site displayed evidence of potlidding and cremated fracturing, suggesting heat shatter.

MSP-06 (AHIMS Pending) (E: 294126, N: 6254552)

MSP-06 consists of a low density sub-surface artefact located on a gentle slope landform in OA2 (Plate 11). The Site is located approximately 800 m east of South Creek and covers 619 m². Two (2) artefacts were recovered from two (2) test pits and consisted of a silcrete angular fragment and a silcrete proximal flake.

MSP-07 (AHIMS Pending) (E: 294146, N: 6254469)

MSP-07 consists of an isolated sub-surface artefact located on a gentle slope landform in OA2 (Plate 12). The Site is located approximately 750 m east of South Creek and covers 162 m². One (1) artefact was recovered from this site consisting of an Indurated Mudstone Tuff (IMT) angular fragment.

MSP-08 (AHIMS Pending) (E: 294155, N: 6254417)

MSP-08 consists of an isolated sub-surface artefact located on a gentle slope landform in OA2 (Plate 13). The Site is located approximately 750 m east of South Creek and covers 152 m². One (1) artefact was recovered from this site consisting of a quartz bipolar flake.

MSP-09 (AHIMS Pending) (E: 294469, N: 6253984)

MSP-09 consists of a low density sub-surface artefact scatter located on a gentle slope landform in OA1. The Site is located approximately 1 km east of South Creek and has an area of approximately 4027 m² (Plate 14). A total of seven (7) artefacts were identified at this site. They consisted of one (1) complete flake, one (1) distal flake, one (1) proximal flake, three (3) angular fragments and one (1) Bondi point fragment.

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MSP-10 (AHIMS Pending) (E: 294548, N: 6253896)

MSP-10 consists of a low density sub-surface artefact scatter located on a gentle slope landform in OA1. The Site is located approximately one (1) km east of South Creek and has an area of approximately 2569 m² (Plate 15). A total of nine (9) artefacts were identified at this site, comprising one (1) complete flake, one (1) distal flake, one (1) proximal flake, and six (6) pieces of angular fragment.

EPTA3 (AHIMS 45-5-3028), EPTA10 (AHIMS 45-5-3032) & EPTA11 (AHIMS 45-5-3033)

It is noted, that the site cards for AHIMS sites EPTA3 (AHIMS 45-5-3028), EPTA10 (AHIMS 45-5-3032), and EPTA11 (AHIMS 45-5-3033) were reviewed and discrepancies were identified regarding the location of these AHIMS sites. According to the site cards, EPTA3 (AHIMS 45-5-3028), EPTA10 (AHIMS 45-5-3032), and EPTA11 (AHIMS 45-5-3033) were recorded in March 2005 by Navin Officer during the archaeological subsurface testing program carried out upon CSR Lands, at Erskine Park (Plate 16). The location of the AHIMS site was noted upon the site cards to be at Lenora Lane, Erskine Park, to the north-west of the study area. A field survey carried out by Biosis on the 30th of April 2018 attempted to relocate AHIMS sites EPTA3 (AHIMS 45-5-3028), EPTA10 (AHIMS 45-5-3032), and EPTA11 (AHIMS 45-5-3033) within the current SSD Application area (Biosis Pty Ltd 2018b). No evidence of previous test excavations were identified at the Site locations provided upon the AHIMS database. It can therefore, be determined that the coordination of these AHIMS sites are incorrect and they are not located within the current study area.

Test excavations undertaken within the study area have identified a high density, relatively intact subsurface deposit present at OA3. Long-term camp sites contain the most diverse artefact assemblages, as they were home to the widest range of activities such as food production, craft activities, and tool manufacture (McDonald et al. 2018, p.23). Accordingly, this suggests, that the Site was well situated in the landscape to support long-term occupation. The study area is located on an elevated landform situated in an alluvial creek terrace in close proximity to South Creek and contained possible evidence that confirmed manufacturing activities were likely occurring at the Site, suggestive of long-term occupation. Two (2) low density scatters were also identified at OA1 and OA2. These sites are located further away from South Creek, compared to AO3 and were therefore less suitable areas for occupation.

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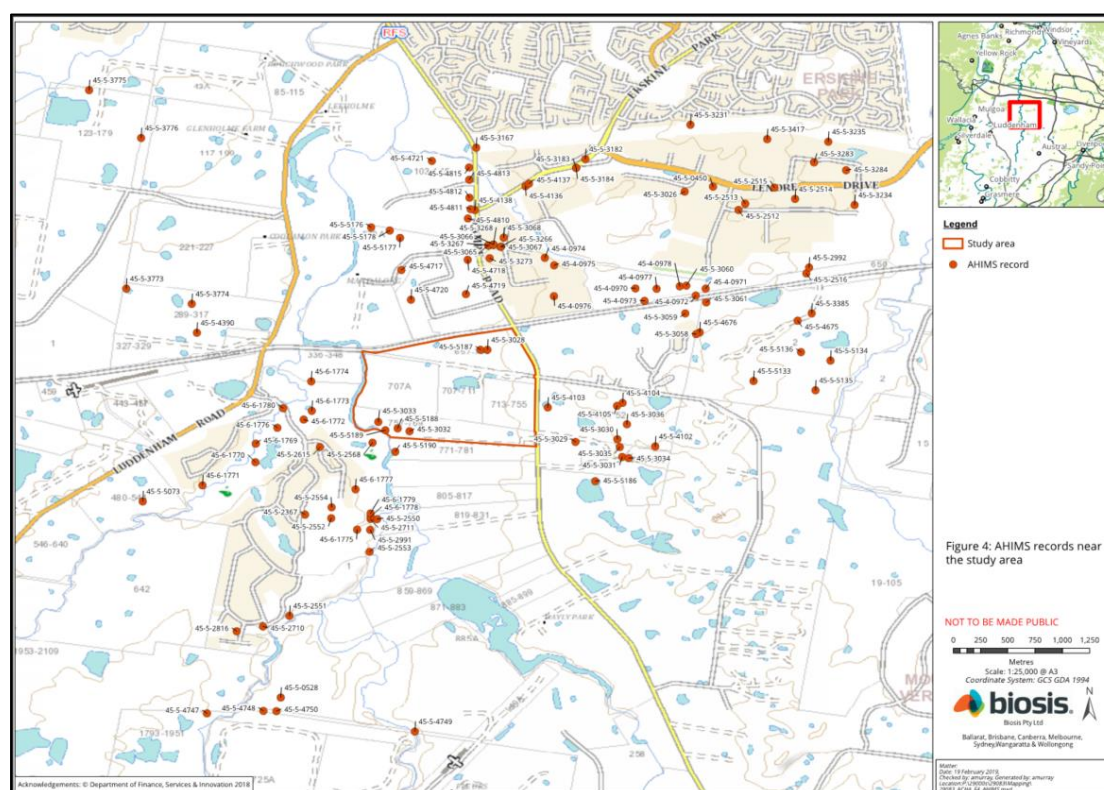


Figure 56 AHIMS Search Record Locations Near the Subject Site (Source: Biosis, 2019)

Consultation with the Aboriginal community has been undertaken in compliance with the consultation requirements, which included the following stages:

- Stage 1: Notification of project proposal and registration of interest
 - Identification of relevant Aboriginal stakeholders;
 - Public notice; and
 - Registration of Aboriginal parties.
- Stage 2: Presentation of information about the Proposed Development.
- Stage 3: Gathering information about cultural significance.
- Stage 4: Review of draft Aboriginal Cultural Heritage Assessment Report (ACHAR).

The complete findings for the consultation undertaken is further documented within **Appendix 27** of this EIS Submission.

The two (2) main values addressed when assessing the significance of Aboriginal sites are cultural values to the Aboriginal community and archaeological (scientific) values. It is acknowledged, that Aboriginal people are the primary determiners of the cultural significance of Aboriginal Cultural Heritage. It is noted, that during consultation, no specific information was provided by Registered Aboriginal Parties (RAPs) in regard to the cultural values of the study area.

The Proposed Development works will include impacts to Aboriginal sites from vegetation clearance, demolition, bulk earthworks, subdivision, construction of industrial infrastructure and buildings, and civil engineering works such as the construction of roads, stormwater drainage sewer works and water supply works. A summary of the potential archaeological impacts is provided below within **Table 65**.

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Table 65: Summary of Potential Archaeological Impacts

AHIMS Site No.	Site Name	Significance	Type of Harm	Degree of Harm	Consequence of Harm
45-5-5187	MSP-01	Low	Direct	Total	Total loss of value
45-5-5188	MSP-01	Low	Direct	Total	Total loss of value
45-5-5189 / 45-5-5190	MSP-03 / MSP-04	High	Direct	Partial	Partial loss of value
Pending	MSP-05	Low	Direct	Total	Total loss of value
Pending	MSP-06	Low	Direct	Total	Total loss of value
Pending	MSP-07	Low	Direct	Total	Total loss of value
Pending	MSP-08	Low	Direct	Total	Total loss of value
Pending	MSP-09	Low	Direct	Total	Total loss of value
Pending	MSP-10	Low	Direct	Total	Total loss of value

Avoidance of potential impacts to archaeological and cultural heritage sites with regard to the Proposed Development, should be considered as the primary mitigation and management strategy, for which it should be implemented where practicable. As noted, in the ACHAR prepared by Biosis (2019), the Proposed Development works cannot avoid impacts to the archaeological sites identified within the study area.

Following review of the Architectural Plans concerning the Proposed Development, Biosis confirm, that impacts to the archaeological sites identified during the assessment cannot be avoided by the Proposed Development. However, it should be noted, that the majority of the Proposed Development footprint is contained to areas of low archaeological potential and previous disturbance.

Further archaeological work should be undertaken prior to the Proposed Development works being undertaken, in the form of salvage excavations and surface salvage for AHIMS site 45-5-5187/MSP-03, which has been assessed with high scientific significance. The Site comprised a high density of sub-surface artefacts within transects 1-14, indicating that this area may have been subject to either repeated use of the area over time or a focused concentration occurring within this one identified area. In addition, the Site showed a high density of artefacts which are commonly seen on the Cumberland Plain. The southern portion of the Site (transects 1-14) revealed high artefact density as well as a higher proportion of non-silcrete artefacts and formal tool types. This possibly indicates specific activities concentrated within one portion of the Site and should be further investigated.

Further investigation in the form of salvage excavation would also allow a larger assemblage to be recovered and analysed, which would not only increase the current understanding of the Site, but also increase the knowledge of Aboriginal occupation in the local area and on the Cumberland Plain. Biosis note, for this reason, that salvage excavation and surface salvage collection following the development of an appropriate salvage methodology in consultation with RAP groups is considered an appropriate management measure, given that the potential impacts anticipated from the Proposed Development are unavoidable in this location.

AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02, along with newly recorded sites MSP-07 and MSP-08 comprise either low density surface artefacts or single isolated artefacts, all of

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which have been assessed as being of low archaeological, scientific and cultural significance. It is recommended that surface salvage of these sites is undertaken.

Furthermore, Aboriginal sites MSP-05, MSP-06, MSP-09 and MSP-10 consist of low density artefact deposits. Impacts to these sites cannot be avoided by the proposed works. These sites have been tested as part the current test excavation programs. The artefacts recovered during the test excavations have been catalogued and analysed, which has further contributed to informing current knowledge of Aboriginal archaeological site types and distributions within the study area and on the Cumberland Plain. The test excavations have increased and informed the current understanding of Aboriginal occupation in the region and will contribute to the scientific and cultural information available to future generations. Further testing and salvage of these sites is not recommended.

Biosis (2019) have provided recommendations, which respond specifically to the wishes of the RAPs. The recommendations are as follows:

Recommendation 1: Further archaeological work in the form of surface salvage and salvage excavation at AHIMS site 45-5-5187/MSP-03 as part of the SSD approval

Biosis recommend, that further archaeological work be conducted for AHIMS site 45-5-5187/MSP-03 in the form of salvage excavation to recover sub-surface artefacts, which will be impacted as a part of the Proposed Development. This would be able to provide further information relating to the artefact's typology and material type, as well as the nature of the activities taking place at AHIMS site 45-5-5187/MSP-03. Biosis recommend this be undertaken as a condition of consent subject to approval of the SSDA. The salvage work for this particular area of the Site would not hold up the development of the remaining areas of the Estate.

Recommendation 2: Further archaeological work in the form of surface salvage AHIMS sites 45-5-5184/MSP-01, 45-5-5185/MSP-02, MSP-07 and MSP-08 as part of the SSD approval

Biosis recommend, that further archaeological work be conducted for AHIMS sites 45-5-5184/MSP-01, 45-5-5185/MSP-02, MSP-07 and MSP-08 in the form of surface salvage to recover any surface artefacts which will be impacted as a part of the proposed development. It is recommended that surface salvage be undertaken as a condition of the SSD approval.

Recommendation 3: No further archaeological work is required for sites MSP-05, MSP-06, MSP-09 and MSP-10

Biosis suggest no further archaeological investigations are considered to be required for Aboriginal sites MSP-05, MSP-06, MSP-09, MSP-10 and MSP-11 prior to development impacts.

Recommendation 4: Update AHIMS site cards for AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02, 45-5-5189/MSP-03 and 45-5-5190/MSP-04 and lodge AHIMS site cards for newly identified sites MSP-05, MSP-06 & MSP-07, MSP-08, MSP-09 and MSP-10

It is recommended that the AHIMS site cards for previously identified AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02 and 45-5-5189/MSP-03 be updated to reflect the revised site descriptions following the test excavations discussed in within the ACHAR.

AHIMS site cards should also be prepared and lodged with AHIMS for newly identified sites MSP-05, MSP-06 and MSP-07, MSP-08, MSP-09, MSP-10 and that the site numbers be included in the final version of the ACHAR.

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Recommendation 5: Preparation and lodgement of AHIMS site impact recording forms for 45-5-5184/MSP-01, 45-5-5185/MSP-02, 45-5-5189/MSP-03, MSP-05, MSP-06, MSP-07 & MSP-08, MSP-09 and MSP-10 following development impacts

It is recommended that AHIMS site impact recording forms are prepared and lodged with AHIMS for Aboriginal sites 45-5-5184/MSP-01, 45-5-5185/MSP-02, 45-5-5189/MSP-03, MSP-05, MSP-06, MSP-07 and MSP-08, MSP-09 and MSP-10 within four (4) months following completion of development impacts or as otherwise stated in SSD approval conditions.

Recommendation 6: Unexpected finds

Discovery of Aboriginal Objects

All Aboriginal objects and places are protected under the NPW Act. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by OEH. Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.

Discovery of Unanticipated Historical Relics

Relics are historical archaeological resources of local or State significance and are protected in NSW under the *Heritage Act 1977*. Relics cannot be disturbed except with a permit or exception/exemption notification. Should unanticipated relics be discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.

Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity the following protocol must be adhered to:

10. Immediately cease all work at that location and not further move or disturb the remains.
11. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
12. Do not recommence work at that location unless authorised in writing by OEH.

6.14 HISTORIC (EUROPEAN) HERITAGE

The *Mamre South: Historical Heritage Assessment and Statement of Heritage Impact* (Biosis, 2019) was undertaken to inform the Proposed Development in accordance with current heritage guidelines, including *Assessing Heritage Significance*, *Assessing Significance for Historical Archaeological Sites* and "Relics" and the *Burra Charter*¹².

¹² NSW Heritage Office 2001; NSW Heritage Branch, Department of Planning 2009; Australia ICOMOS 2013.

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An assessment of heritage significance encompasses a range of heritage criteria and values. The heritage values of a site or place are broadly defined as the 'aesthetic, historic, scientific or social values for past, present or future generations.' This means a place can have different levels of heritage value and significance to different groups of people. **Table 66** below presents an evaluation and subsequent statements of significance for the possible archaeological material located within the study area.

Table 66: Evaluation and Statement of Significance for Possible Archaeological Material within the Study Area									
Item	Significance Assessment Criteria							Level of Significance	Statement of Significance
Paddock and stockyard fencing, informal farm outbuildings	A	B	C	D	E	F	G	Nil	<i>The possible archaeological material associated with the historical pastoral and agricultural activities within the study area, such as postholes or building footings, remains of fence posts and wiring, are not considered an important component of the cultural history of NSW or the Penrith district, and they are not associated with the life or works of a person(s) of importance in local or state cultural history. These possible materials will not yield information that will contribute to a greater understanding of the cultural history of NSW or the Penrith district, and they unlikely to demonstrate aesthetic characteristics or a high degree of creative or technical achievement in the state or local area, They do not hold a strong or special association with a community or cultural group for social, cultural or spiritual reasons in NSW or the Penrith district. The possible archaeological materials are not considered to possess uncommon, rare or endangered aspects of NSW or the Penrith district's cultural history, nor do they demonstrate the principal characteristics of a class of cultural places or environments within the state or local area. The possible archaeological materials associated with the historical pastoral and agricultural activities within the study area do not hold heritage significance.</i>

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Areas of Historical Ploughing									Nil	<i>The possible archaeological material associated with historical agricultural activities within the study area, such as ridge and furrow, are not considered an important component of the cultural history of NSW or the Penrith district, and they are not associated with the life or works of a person(s) of importance in local or state cultural history. These possible archaeological materials will not yield information that will contribute to a greater understanding of the cultural history of NSW or the Penrith district, and they unlikely to demonstrate aesthetic characteristics or a high degree of creative or technical achievement in the state or local area. They do not hold a strong or special association with a community or cultural group for social, cultural or spiritual reasons in NSW or the Penrith district. The possible archaeological materials are not considered to possess uncommon, rare or endangered aspects of NSW or the Penrith district's cultural history, nor do they demonstrate the principal characteristics of a class of cultural places or environments within the state or local area. The possible archaeological materials associated with the historical agricultural activities within the study area do not hold heritage significance.</i>
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It is noted, that the potential impacts to the study area for the Proposed Development works are considered acceptable, as there are no items of heritage significance with the study area, that will be impacted by these activities, provided that an unexpected finds policy is implemented to identify and record any archaeological material that may be encountered during the proposed works.

The following recommendations have been formulated to respond to client requirements and the significance of the Site. They are guided by the ICOMOS *Burra Charter* with the aim of doing as much as necessary to care for the place and make it useable and as little as possible to retain its cultural significance.

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Recommendation 1: No Further Assessment Required

The assessment undertaken within the Statement of Heritage Impact (Biosis, 2019) has identified no items of heritage significance or archaeological potential within the Subject Site, nor any negative heritage impacts to surrounding heritage items. As such, no further assessment is required prior to the approval of the SSDA. Prior to any ground disturbance occurring within the study area, an unexpected finds procedure should be implemented as outlined in Recommendation 2.

Recommendation 2: Development of an Unexpected Finds Procedure

Relics are historical archaeological resources of local or State significance and are protected in NSW under the Heritage Act 1977. Relics cannot be disturbed except with a permit or exception/exemption notification. Should unanticipated relics be discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.

The complete *Statement of Heritage Impact* is found in **Appendix 24** of this EIS Submission.

6.15 BUSHFIRE

A *Bushfire Assessment Report: Proposed Industrial Development – Mamre Road, Kemps Creek* (Conacher Consulting, 2019) has been prepared for the Proposed Development.

The Bushfire Assessment Report describes the Subject Site as being classified as 'bushfire prone land with Category 2' vegetation rating with regard to the Proposed Development. This is given that the surrounding land constitutes predominantly well-maintained paddocks, with minimal grass fuel, to sustain the spread of fire (refer to **Figure 57** below).

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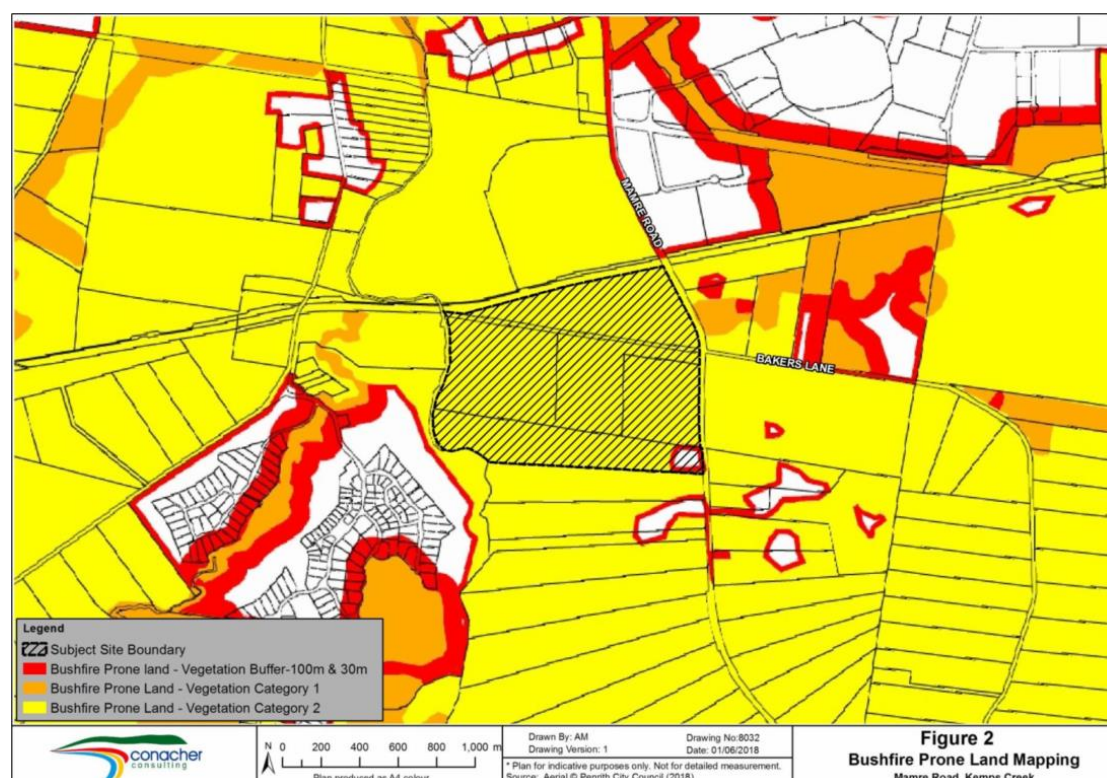


Figure 57 Bushfire Prone Land Mapping Concerning the Subject Site and Surrounding Area (Source: Conacher Consulting, 2019)

As the Proposed Development is not for a residential subdivision or residential buildings, the assessment of categories of bushfire attack and level of building construction under the AS3959-2009 and the Building Code of Australia, is not required for either the industrial subdivision or future buildings. A combination of Defendable Space and/or fire-retardant construction materials are most often employed to protect against the impact of a bush fire in these categorisations. A summary of the Defendable Space between the Proposed Development and the bush fire threat is provided below in **Table 67 below**.

Table 67: Defendable Space Between the Bushfire Threat and the Proposed Development			
Direction	Vegetation Classification (Greatest Threat within 140 m)	Effective Slope (within 100 m)	Existing or Proposed Defendable Space (m)
North	Reduced Vegetation Managed Land	Upslope (cross-slope)	Managed pipeline easement (30 m wide)
South	Grassland	0-5° downslope	5 m
West	Riparian Grassland / Woodland	0-5° downslope	5 m
East	Reduced Vegetation Mamre Road	Upslope	Managed Land Mamre Road

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With regard to the Proposed Development, the principal direction of bushfire attack has been assessed to be from the grassland/woodland vegetation to the west and south. Concerning the northern and eastern aspects, construction of proposed buildings should utilise fire-retardant materials and account for the provision of a 5-m-wide area of Defendable Space, between adjoining vegetation and future buildings. In turn, the Assessment (Conacher, 2019) suggests that this would provide adequate separation distance to prevent direct flame contact and material ignition to any future buildings.

In order to achieve compliance with *Planning for Bushfire Protection 2006* (PBP RFS 2006) the Conacher Report recommends the following with regard to reducing the potential for loss of life and property, through the impact of bushfire:

1. Implementation of a five (5) metre setback for buildings from the southern and western boundaries where these lots adjoin grassland / woodland vegetation;
2. Use of cladding materials for the external surfaces of the development which are fire retardant materials such as metal sheeting, pre-cast cement panels or masonry;
3. Regular inspections and maintenance of the managed land or curtilage / landscaped areas / hard standing areas within the Proposed Development is to be undertaken by the owner's (or representatives) according to the PBP RFS 2006;
4. Maintenance of any retained areas of managed lands or curtilage / gardens within the Proposed Development as an Inner Protection Area in accordance with the PBP RFS 2006; and
5. Any future landscape plantings within the Subject Site are to be undertaken in accordance within the requirements of Appendix 5 of PBP RFS 2006.

The Report concludes that the threat of bushfire attack from the surrounding vegetative characteristics to the south and west would be decreased by the use of fire retardant construction materials such as precast concrete panels, masonry and / or sheet metal and the provision of an area of defendable space of at least five (5) metres comprising roadways, car park and internal access driveways. Subsequently, the Conacher Report (2019) suggests with the implementation of the recommendations listed above that the objectives of the PBP RFS 2006 with regard to the Proposed Development can be achieved.

The Bushfire Risk Assessment is provided in full in **Appendix 31**.

6.16 INFRASTRUCTURE REQUIREMENTS AND CONTRIBUTIONS

The *Kemps Creek – Service Infrastructure Assessment* (Land Partners, 2019), considers the Proposed Development's infrastructure needs and requirements.

In a letter provided by Sydney Water (dated 8th of November 2018) and the Land Partners Service Infrastructure Assessment Report (2019), the Subject Site is assessed to be able to be fully serviced. Significantly this Site is able to connect to existing infrastructure without delay and at No Cost to Government. This is the conclusion of both the Sydney Water Letter and the Land Partners Service Infrastructure Assessment Report (2019).

A Precinct Water and Waste Water Servicing Strategy has also been prepared to compliment the various servicing studies completed for this SSD.

Protection of Warragamba Pipeline

WaterNSW in a letter dated the 25th of September 2018, have stipulated on this Site, a number of requirements, should development proceed, namely:

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- All stormwater management infrastructure must be accommodated within the development site and not encroach on WaterNSW land.
- Temporary construction fencing would be required while works are being undertaken, to be replaced by permanent security fencing to WaterNSW standards. Access to the Pipelines corridor is prohibited without the written access consent of WaterNSW. Information on obtaining access consents is available on the WaterNSW website and takes a minimum of 28 days to process; and
- WaterNSW staff and contractors require a 24-hour access into and out of the Pipelines corridor through the gates on Mamre Road. This access must be maintained unimpeded for security, operational and maintenance purposes.

The above requirements of WaterNSW are able to be satisfied in full and have been given due consideration in preparing the design of the Proposal to ensure the operation and function of the pipeline is not compromised.

The Service Infrastructure Assessment prepared by Land Partners lists the following service authorities who provide infrastructure services to the area, for which the Subject Site is located. The authorities and applicable services include:

- Sydney Water: Potable and Waste Water Infrastructure;
- Endeavour Energy: Electrical assets;
- Telstra (currently) or NBN Co: Telecommunications assets; and
- Jemena: Gas supply.

The above-mentioned services and their relevance regarding augmentation and compatibility, with regard to the Subject Site, are discussed below.

Potable Water

Potable Water is currently supplied to the Site from the Cecil Hills reservoir. Average Daily water Demand (ADD) for the Proposed Development is based on the development of the entire Estate. This calculation of ADD is also based on information contained in the GHD Local Area Service Plan (L.A.S.P) for Oakdale (a similar type of development) and is estimated at 887 kL/day for the ultimate development on the Site. Accordingly, initial demand in the 2019 - 2022 timeframe, concerning the Subject Site, is estimated at 381 kL/day.

A demand calculation has also been undertaken, based on Sydney Water publication "Average Daily Water Use by Property Type", but this is considered to be an overestimation of demand. Demand management, storm-water demand on Site, compared with harvesting and development of more efficient property types, will reduce the "traditional" demands encountered in other areas of Sydney.

It is noted, that demand on the Cecil Hills system by the Western Sydney Airport and associated Aerotropolis areas, will require the northern areas of the employment lands, including this Site, to be serviced by the Erskine Park or Minchinbury Elevated Systems.

A "Pressure and Flow Enquiry", reveals that the 200-mm water main adjacent to the Site, provides inadequate flows to service the Proposed Development, from the Cecil Hills system. Large-capacity fire-sprinklers tanks, would be required to cater for the Proposed Development, until system amplification occurs.

Sydney Water's correspondence, dated on the 8th of November 2018 states: "*Sydney Water's endorsed water servicing strategy for Mamre Road South, is supply from Erskine Park Elevated*". This will be achieved by a system-area rezoning of the Site from the Cecil Hills supply system to the Erskine Park Elevated system.

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It is understood, that the Oakdale West Precinct will be serviced by an extension of the Potable Water reticulation System serving the Erskine Park employment lands. A lead-in water main is proposed from Lenore Drive along the new North-South Link Road, through the Fitzpatrick lands into the Oakdale West Precinct. Extension of this main along Bakers Lane, to connect to a proposal extension of the water main in Mamre Road, would complete a “ring man” to allow bi-directional water flows to both the Subject Site and Oakdale West Precinct. This would provide, according to Landpartners (2019), a greater degree of supply certainty, to both Oakdale West and the Subject Site than a single directional water feed.

Coordination of Delivery for Potable Water:

Land Partners (2019) provide the following, regarding the delivery of potable water infrastructure, including:

- The lead-in trunk water main, will be sized and constructed to service the Proposed Development, as the initial construction.
- The cost of designing and constructing a properly-sized main, to service the Proposed Development, is no different than constructing an interim smaller-sized water main. Therefore, the lead-in water main, will be constructed as part of the initial stages of the Proposed Development.
- Lead time from the Proposed Development of a Basis of Planning Report (leading to an Options Study), associated modelling and approval by Sydney water, would be approximately 6 months. Following that approval (which will outline the system-area rezoning requirements) will be the design approvals, procurement processes, funding allocations, construction and transfer of ownership of the lead-in water main. This process will require a further 6 - 9 months.
- As part of the delivery of the new infrastructure to service the Proposed Development site, the existing 200-mm water main servicing the “Twin Creeks” residential development (currently serviced from Cecil Hills reservoir system), would be rezoned to the Erskine Park Elevated system. This can be achieved via a 4-hour connection shutdown (Land Partners, 2019).

Waste Water

Waste Water servicing of the Subject Site will be required, as no existing infrastructure currently exists. The Service Infrastructure Assessment, prepared by Land Partners notes the following:

- Sydney Water have commenced development of a Waste Water Servicing Strategy for the employment lands – driven by the need to address supply requirements for Western Sydney Airport by 2026.
- The Integrated Servicing Strategy that Sydney Water will develop following the release of the Structure Plan (as part of the *Western Sydney Aerotropolis: Land Use & Infrastructure Implementation Plan, 2018*), will need to reflect the strategies that Sydney Water are developing for the Western Sydney Regional Masterplan. This Masterplan will identify and set priorities for the delivery of infrastructure throughout Western Sydney. This Masterplan is programmed for delivery in 2019. This Strategy could take 12-18 months until it is formally adopted.
- Various options exist to adequately service the Subject Site, including both initial servicing and ultimate servicing strategies, which include according to Land Partners the following options:
 - Initial Site Servicing – Section 68:
 - Depending on approval timeframes, initial servicing could be achieved via a Section 68 Approval process, with the local authority to install a wet well and pump out/tankering arrangement. Waste Water demand for the initial period (2019 – 2022) is estimated at 262 kL/day or

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approx. 90 kL/day in the initial year of service (refer to Appendix A of **Appendix 12** of this EIS).

- Initial Site Servicing – Sewer Pump Station and Rising Main:
 - A pressure-sewer system could be constructed to discharge waste water to the Mamre Road Carrier; however, due to expected limitations on velocity and flow discharge rates (expected to be limited to 2 L/s), the pressure-sewer system option, would only cater for approx. 170 kL/day assuming a 24-hour working window. Odour & septicity studies, may require dosing of the waste water to control waste-water quality. Dosing with potable water/recycled water could limit the quantity of water to be discharged utilising this type of system.
- Initial Site Servicing – Sewer Pump Station and Rising Main:
 - Alternatively, a Sewer Pump Station (SPS) could be installed to cater for initial servicing of the Site. This could extend between 2019 -2023, when it is expected that implementation of the Sydney Water Servicing Strategy, would commence. The waste-water demand in 2019 – 2023 period, is estimated at 297 kL/day (or 3.5 L/s over a 24-hour period). These flows will be directed to the Mamre Road sewer carrier, which drains to St Marys Waste Water Treatment Plant (WWTP).
 - Sydney Water in their letter dated on the 21st of June 2018 have indicated, that the St Marys WWTP, does have adequate capacity to service the Proposed Development.
 - Sydney Water's correspondence on the 8th of November 2018, states that "Sydney Water's endorsed waste-water servicing strategy for Mamre Road South, is transfer to St Marys Waste Water Treatment Plant".
 - Odour and Septicity studies for pumped discharges, would be required to outline water-quality treatment measures to control the environmental standards of the pumped flows.
- Ultimate Servicing – Sydney Water:
 - Sydney Water's Integrated Servicing Strategy will reveal the preferred options for the waste water system to be delivered for the Priority Growth Areas within the WSEA, such as the Subject Site.
 - Sydney Water's initial concepts for the northern area of the S.W Growth Centre residential precincts, indicated that the long-term plan for waste water treatment could include the development of WWTP at South Creek north of Elizabeth Drive and south of the M12 corridor.
 - Discussions with Sydney Water staff, regarding development areas in the northern areas of the South West Growth Centre have indicated the development of sewer carriers discharging to the north i.e. towards the South Creek WWTP along South Creek, north of Elizabeth Drive.
 - Given the amount of development to occur in the northern areas of the South West Growth Centre, the Aerotropolis areas adjacent to the Western Sydney Airport and the southern areas of the WSEA, it would be expected that a WWTP would be constructed adjacent to South Creek. Timing of the delivery of that WWTP would be estimated at 6-7 years after resolution of Sydney Water Servicing Strategy.
 - As the Subject Site is at the northern extents of the WSEA and due to topographical issues, discharge to the Mamre Road carrier draining to St Marys WWTP is the preferred outcome by Sydney Water as described in their correspondence on the 8th of November 2018.
- Ultimate Servicing – Water Industry Competition Act (WICA) Licensee:

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- A WICA licence could be granted for the Site to develop a site-specific outcome for waste-water treatment. Commonly the type of plant developed by the WICA operator would be based on membrane technology, which produces a high-quality recycled water product.

Coordination of Delivery for Waste Water:

Land Partners provide the following comments, regarding the delivery of waste-water infrastructure to the Site:

- Delivery of waste-water infrastructure needs to be coordinated with the Proposed Development timing of the Subject Site
- Initial development could be provided with a low-pressure sewer system. Design and installation of an interim-supply solution would be approx. 6-9 months.
- Ultimate development, based on the likely scenario of a sewer-pump station and rising main, would involve:
 - Basis of Planning report, associated modelling, consideration of various options (i.e. Options Study) and approval by Sydney Water (6-9 months).
 - Design, funding, procurement processes, construction and commissioning of a sewer-pump station and associated rising main, is estimated at 12 months
- Internal waste water reticulation will be developed based on production sequencing of the built-form.

It should be noted, that funding would allow Sydney Water to enter a Commercial Agreement with the Proponents. The Commercial Agreement will ultimately outline, the responsibilities of the Proponents, for which, they will fully fund, and construct required trunk infrastructure and transfer those assets to Sydney Water, upon being completed. Additionally, the Commercial Agreement, will outline a payment regime based on development take-up with the Subject Site, to reimburse the Proponent the cost of the construction of lead-in infrastructure.

Furthermore, internal reticulation infrastructure within the Proposed Development Site will be fully funded by the Developer at No Cost to Government.

Telstra / NBN Co

According to Land Partners, Telstra currently has limited capacity in the area. A major development of land in the area will require the provision of and amplification of Telstra's service assets. Telstra generally plans well ahead to cater for urban release areas. Once the Priority Growth Area moves beyond the initial consultation phase and rezoning process begins, Telstra's network planners have begun to investigate all infrastructure and upgrades to the network, required to support the land release.

Whilst the Site is not within the current NBN rollout area, NBN Co have advised that supply can be made available to the Site as NBN services have recently been made available to First Estate, located north of the Site.

Electricity

Supply from the Site will be obtained from the zone substation located at John Morphet Place Erskine Park (Mamre Zone Substation). The zone substation has sufficient capacity to service the Proposed Development.

Initial demand for the development period 2019 - 2022 is estimated to be approx. 5 MVa, with total Site demand estimated to be 11 - 12 MVa by 2029, when full development of the Mamre South Precinct occurs.

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Gas (Jemena)

Usually, Jemena does not commit to new gas supply arrangements, until firm commitments are made regarding the timing and probability of the release and rezoning of land within the WSEA proceeds. Jemena will not supply gas "on spec". Jemena requires firm commitments from end-users to the quantity of gas to be purchased by end-users before it will commit to deliver substantial infrastructure to an area.

The Service Infrastructure Assessment prepared by Land Partners also describes the potential impacts imposed, as a result of the Proposed Development, as well as impacts on existing infrastructure surrounding the Site. This includes:

Impacts on Infrastructure Surrounding the Site:

- Potable Water – road re-construction along Mamre Road may require adjustment or deviation of the existing 200-mm water main; however, this is a function of civil design of the required road infrastructure. Infrastructure rezoning of the gas system area will require the insertion of a dividing valve (D.V) in the existing water main - location, to be advised by Sydney Water. Under the current proposed design for the Subject Site the 200-mm main in the "Reserve Road" area, may also be subject to an adjustment and deviation process dependent on the civil designs, which are currently developed for the Subject Site.
- Electrical Infrastructure - the electrical infrastructure along the Reserved Road is provided to supply the existing dwelling constructed on Lot 1 DP 1018318. These assets will be abandoned, and new underground reticulation will be installed to adequately service the Proposed Development.
- Telecommunications – the fibre optic and copper pair system located in Mamre Road may be subject to adjustment, which will be dependent on civil design of the Mamre Road corridor. The telecommunications facilities servicing the existing dwelling on Lot 1 DP 1018318 will be abandoned.
- Gas – civil design of the intersection of the Bakers Lane and Mamre Road may require adjustment and relocation of the existing gas main located on the eastern side of Mamre Road.

Voluntary Planning Agreement

In connection to the Proposed Development, Frasers Property and Altis, have already made a written offer to the Minister to enter into a formal Voluntary Planning Agreement.

The Planning Agreement is to be finalised on the basis that it that would require the Developer to make a monetary contribution of an amount per hectare of net developable area, for the Subject Site. This is, as per usual, subject to indexation in accordance with rules relating to Planning Agreements.

The objective of the Planning Agreement is to facilitate the delivery of Developer contributions, towards the provision of regional transport infrastructure and services, referred to in Clause 29 of SEPP (WSEA) 2009.

The Developer's offer to contribute towards the provision of regional transport infrastructure and services, will have a positive public impact as funds from the Developer would be available immediately and would be directed towards the provision of regional transport infrastructure.

The Land Partners Report and Sydney Water Letter are both annexed in **Appendix 12**, respectively.

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6.17 GREENHOUSE GAS AND ENERGY EFFICIENCY

The *Mamre Road South Precinct, 657-769 Mamre Road, Kemps Creek – SSD Application – Greenhouse Gas Assessment* (Northstar, 2019) has considered greenhouse gas emissions and energy efficiency, with regard to the Proposed Development. The Proposed Development will incorporate eight (8) main Ecologically Sustainable Development initiatives, to reduce waste, landfill, the overall consumption of potable water and therefore greenhouse-gas emissions. Initiatives relate to:

- Energy & Greenhouse Gas Emissions;
- Potable Water Reduction;
- Minimising Waste to Landfill;
- The Indoor Environment;
- Occupant Amenity and Comfort;
- Land Use & Ecology;
- Emissions; and
- Building Management.

The Australian Government Clean Energy Regulator, administers schemes legislated by the Australian Government for measuring, managing, reducing or offsetting Australia's carbon emissions. The main scheme administered by the Clean Energy Regulator, with regard to the Proposed Development is the National Greenhouse and Energy Reporting (NGER) Scheme, under the *National Greenhouse and Energy Reporting Act, 2007* (NGER Act).

The Northstar Report (2019) concludes that the Proposed Development, can be constructed and operated, so as not to prejudice the sustainability of the built-form, and to minimise impacts upon the environment. The assessment undertaken by Northstar, considers both direct and indirect emissions) resulting from the Proposed Development's construction and operational phases (refer to **Table 68** below).

Table 68: Greenhouse Gas Emission Types	
Emission Type	Definition
Direct	Produced from sources within the boundary of an organisation and as a result of that organisations activities (e.g. consumption of fuel in on-site vehicles).
Indirect	Generated in the wider economy as a consequence of an organisations activities (particularly from its demand for goods and services), but which are physically produced by the activities of another organisation (e.g. consumption of purchased electricity).

The assessment undertaken, indicated that emissions throughout the operational phase of the Proposed Development, are likely to be small and contribute to less than 0.003% of the NSW 2016 emission total. The Report also notes, that Frasers and Altis are targeting a Six-Star Green Star Design and As-Built v1.1 Rating, from the Green Building Council of Australia for the Proposed Development.

The Report by Northstar concludes, that after the assessment of potential impacts associated with operational activities has been performed, adopting GHG Emission Factors, (as outlined within the National Greenhouse Accounts Factors Workbook, 2017), emissions associated with all proposed warehouses / industrial facilities (based on development of the entire Estate), would only represent less than 0.003% of total NSW GHG emissions and less than 0.0008% of total Australian GHG emissions in 2016. Thus, the Development, as a whole, is highly-supportable on sustainability grounds.

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The comprehensive Greenhouse Gas and Energy Efficiency reports are provided in full in **Appendix 28 & 29**.

6.18 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

The *Ecologically Sustainable Development Report* (Fraser Property, 2019), considers Ecologically Sustainable Development opportunities and initiatives, with regard to the Proposed Development. The Proposed Development would incorporate into its design and operation, a number of ecologically-sustainable initiatives, to reduce the overall consumption of potable water and greenhouse-gas emissions of the facilities.

The key initiatives that relate to the sustainability of the Subject Site are outlined below in **Table 69**.

Table 69: Key Initiatives for Six-Star Green Star Proposal	
Energy	
Building Fabric	10% improvement on BCA – double glazing, increased façade and roof insulation.
Translucent Sheeting	10% of warehouse roof.
Hot Water System	Heat pump (air source or geothermal).
Office Heating and Cooling	Geothermal – reverse cycle ducted.
Office Outside Air	Min 50% increase on OA.
Lighting – Office	LED with individual control.
Lighting – Warehouse	LED with daylight control.
Lighting – External	LED with time clock control.
Renewable Energy	Solar PV system (100 kW).
Energy Storage	Customer dependent.
Electric Vehicle Charging	Included.
Water	
Water Fixtures	5-star & 6-star WELS rated.
Recycled Water	Rainwater for 80%+ irrigation and toilet flushing.
Fire Test Water Recycling	80%+ of fire test water recycled.
Sub-Metering	Electricity and water with web-based monitoring system.
Commissioning	Commissioning manager and plan.

The *Ecologically Sustainable Development Report* (Fraser's Property, 2019) outlines the initiatives that will be considered for every warehouse proposed under this SSDA. These findings are summarised in **Table 70** below and illustrated in **Figure 58** below.

Table 70: Summary of Energy Efficiency Measure to be Incorporated by the Proposed Development	
Project Aspect	Recommendations
Ventilation	Use natural ventilation in warehouse and mezzanine storage level to reduce mechanical ventilation costs.
Solar Design	<p>Incorporate passive solar design principles that reduce the air conditioning of office space and mechanical ventilation of warehouse space. This can be accomplished by using:</p> <ul style="list-style-type: none">▪ Limited glass on east and west facing office walls.▪ Enhanced glazing.▪ High solar performance tinted glass.▪ Block-out curtains on the interior of office windows.

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	<ul style="list-style-type: none"> External louvers/eaves on east and west facing office windows. Plant deciduous trees on east and west facing office walls to disperse direct sunlight during summer and promote sunlight in winter. Use a highly reflective roof or 'cool roof' to decrease internal thermal fluctuations. Wall insulation for office space.
Energy Sources	<p>Investigate the viability of the following energy sources to reduce bought electricity:</p> <ul style="list-style-type: none"> Solar water heating with gas boost. Solar panels (photovoltaics) or future proofing building for future installation.
Air Conditioning Design	<p>Adopt the use of the following air conditioning design features to minimise the associated bought electricity. This can be achieved through implementing:</p> <ul style="list-style-type: none"> Mixed mode air conditioning to any office space with openable windows where sensors determine if windows are open. Energy sub metering that is linked to tracking and monitoring systems to allow for self- assessment, problem solving and ongoing improvements during operations. Independent units being installed in board rooms and server rooms to deal with differing loads and operating hours within the office building. Separate operating systems for separate areas with different occupancy periods. Ensure temperature sensors are located in areas that avoid direct solar gain or heat transfer through walls. Adequately insulated pipework and ductwork to avoid further loads on air conditioning. Regular tuning and maintenance of the system to allow the system to function as per its original energy efficient intent.
Lighting	<p>Use LED lighting strategies with advanced controls systems to dim or turn off lights when not in use.</p> <p>Optimise natural light in warehouse by using clear roof sheeting to reduce lighting costs.</p>
Appliances and Equipment	<p>Adopt the use of energy efficient appliances and equipment used within the office and warehouse space.</p>

An example analysis concerning the integration of these initiatives into a dual tenancy warehouse and distribution centre is demonstrated in **Figure 58** below. The example utilised concerns a warehouse accruing a warehouse area of 13,050 m² and an office area of 952 m². The example utilised, finds that the warehouse has the potential to reduce energy demand by up 81% when compared to a BCA 2016 warehouse (Cundall Johnson and Partners, 2016).

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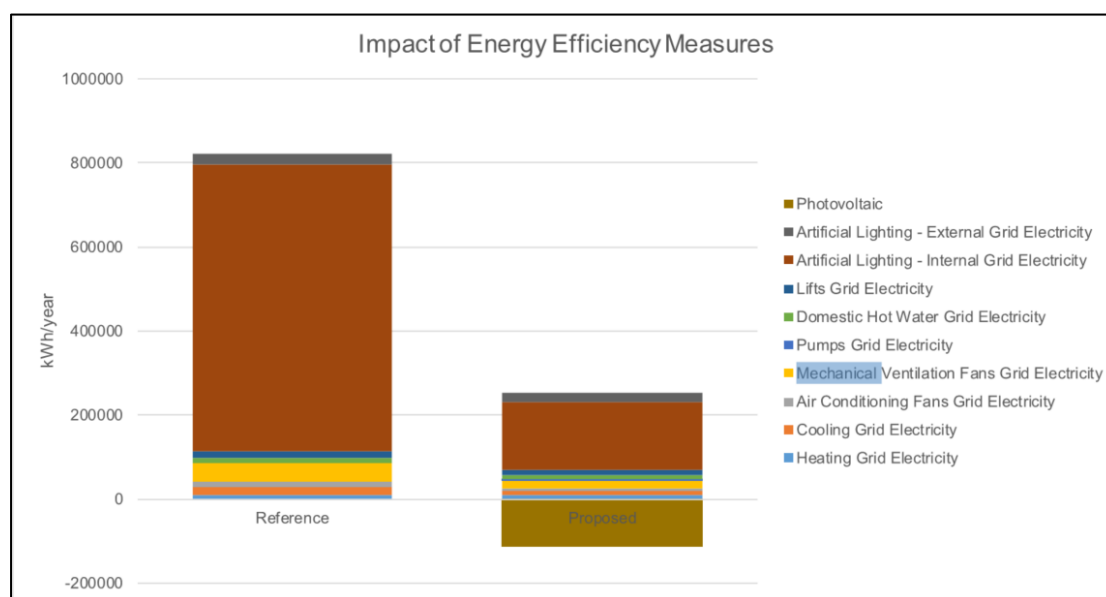


Figure 58: Impact of Energy Efficiency Measures with regard to the Proposed Development Subject to this SSDA (Source: Frasers Property, 2019)

The Green Building Council's Green Star tool was used to assess the sustainability of the design, construction and operation of buildings in the Proposed Development. The Subject Site has committed to a target Six Star Green Star Design and As-Built certification. Included within this certification the following ecologically sustainable design principles have been fully considered:

- a) Management Principles:
 - Engaging a Green Star Accredited Professional for all developments;
 - Completing best practice commissioning and turning of all facilities;
 - Undertaking a Climate Risk Assessment to prepare mitigation and adaption design principles to enable a more resilient development; and
 - Commit to ongoing efficient performance of the development.
- b) Indoor Environment Quality Principles:
 - Ensure there is a high level of good quality air within the working environments by increasing the minimum outdoor air requirements in the ancillary spaces;
 - Providing a comfortable working environment in respect to acoustic, lighting and views and daylight; and
 - Using low VOC and formaldehyde finishes and products.
- c) Energy Principles:
 - The assets would all feature on-site renewable energy to minimise energy demand and best practice sustainable design initiatives to improve energy efficiency, whilst minimising peak electricity demand.
- d) Water Principles:
 - All developments would feature on-site water storage and provide rainwater to be used for landscape irrigation and WC and urinal flushing to reduce dependency on potable water.
- e) Material Principles:
 - Select materials and products that are sustainable, which range from recycled content, are third party certified for exemplar sustainability credentials;
 - Minimise the environmental impact of the products used through the life cycle of the building; and
 - Divert at least 90% of construction and demolition waste from landfill.
- f) Emission Principles:
 - Reduce the use of water based heat rejection systems (e.g. cooling towers to limit the likelihood of legionella impacts).

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The Ecologically Sustainable Development Report concludes that, principles to reduce energy demand; lower greenhouse gas emissions; and minimise water consumption have been satisfactorily incorporated into the Proposed Development's overarching strategy for achieving an Ecologically Sustainable Development. The approach outlined will be applied to the building's proposed under this SSDA, as well as development in the future on the Subject Site, subject to separate Development Consent.

The Ecologically Sustainable Development Report is annexed in full and shown in **Appendix 29**.

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PART G PLANNED MANAGEMENT AND MITIGATION MEASURES FOR THE PROPOSED DEVELOPMENT

By:	Fraser's Property & Altis Property Partners
In relation to:	Proposed State Significant Development Application (Proposed Warehouse, Logistics and Industrial Facilities Hub)
Site:	657-769 Mamre Road, Kemps Creek (Lot 34 DP 1118173, Lot X DP 421633, Lot 1 DP 1018318, Lot Y DP 421633 & Lot 22 DP 258414)

Fraser Property & Altis Property Partners, plan to undertake the construction and operation of the proposed Warehouse, Logistics and Industrial Facilities Hub, in accordance with the following:

Below prescribes some of the terms and abbreviations used in this Statement, including:

Approval	The Minister's Approval of the Proposed Development
Altis Property Partners	Altis Property Partners Pty Ltd
BCA	Building Code of Australia
Council	Penrith City Council
Department	Department of Planning and Environment
EIS	Environmental Impact Statement
EP&A Act 1979	<i>Environmental Planning and Assessment Act 1979</i>
Fraser's Property	Fraser's Property Australia
Project	The Proposed Development as described in this EIS
Secretary General	Secretary General of the Department (or delegate)
Site / Subject Site	Land to which the project application applies
WorkCover	NSW WorkCover

7.1 ADMINISTRATIVE COMMITMENTS

Commitment to Minimise Harm to the Environment

1. Fraser's Property and Altis Property Partners will commit to implement all reasonable and feasible measures, to prevent and/or minimise any harm to the environment, that may result from the construction or operation of the Proposed Development.

Occupation Certificate

2. Fraser's Property and Altis Property Partners will ensure that a staged Interim and Final Occupation Certificate, are obtained prior to the occupation of all facilities.

Terms of Approval

3. Fraser's Property and Altis Property Partners would carry out the project generally in accordance with the:
 - a) Environmental Impact Statement;
 - b) Drawings prepared by Fraser's Property and Altis Property Partners;
 - c) Management and Mitigation Measures;
 - d) Any Conditions of Approval.

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4. If there is any inconsistency between the above, the Conditions of Approval shall prevail to the extent of the inconsistency.
5. Frasers Property and Altis Property Partners would ensure compliance with any reasonable requirement(s) of the Secretary-General of the Department of Planning and Environment arising from the Department's assessment of:
 - a) Any reports, plans, programs, strategies or correspondence that are submitted in relation to this Approval; and
 - b) The implementation of any recommended actions or measures contained in reports, plans, programs, strategies or correspondence submitted by the Project Team as part of the application for Approval.

Structural Adequacy

6. Frasers Property and Altis Property Partners would ensure that all new buildings and structures on the site are constructed in accordance with the relevant requirements of the BCA.

Operation of Plant and Equipment

7. Frasers Property and Altis Property Partners would ensure that all plant and equipment used on-site, is maintained and operated in proper and efficient manner, and in accordance with relevant Australian Standards.

Construction Traffic Management Plan

8. Frasers Property and Altis Property Partners would ensure that a Construction Traffic Management Plan is prepared and submitted to DP&E. This plan would:
 - a) be submitted to the Secretary-General for approval prior to the commencement of construction;
 - b) describe the traffic volumes and movements to occur during construction;
 - c) detail proposed measures to minimise the impact of construction traffic on the surrounding network, including driver behaviour and vehicle maintenance; and,
 - d) detail the procedures to be implemented in the event of a complaint from the public regarding construction traffic.

Construction Environmental Management Plan

10. Prior to the commencement of construction, a Construction Environmental Management Plan (CEMP) would be prepared that addresses the following:
 - a) Land Contamination;
 - b) Air Quality;
 - c) Waste Classification;
 - d) Erosion and Sediment Control; and,
 - e) Materials Management Plan

Monitoring of State of Roadways

11. The applicant(s) will monitor the state of roadways leading to and from the Subject Site and will take all necessary steps to clean up any adversely impacted road pavements as directed by Council.

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Waste Receipts

12. A permanent record of receipts for the removal of both liquid and solid waste from the site should be kept and maintained up to date at all times. Such records will be made available to authorised person upon request.

7.2 SPECIFIC ENVIRONMENTAL COMMITMENTS

Noise

13. Construction on the Subject Site would only be undertaken between 7am and 6pm Monday to Friday, and 7am and 1pm on Saturdays. No construction will be permitted at the Subject Site on Sundays or public holidays. The following specific measures are proposed throughout the construction and operational phases of development:
 - a) Prompt response to any community issues of concern;
 - b) Noise monitoring on-site and within the surrounding areas;
 - c) Refinement of on-site noise mitigation measures and plant operating procedures where practical;
 - d) Preparation of a formal noise management plan including noise monitoring program;
 - e) For equipment with enclosures (i.e. compressor rooms) ensure door and seals are well maintained and kept closed when not in use;
 - f) Keep plant and equipment well maintained, regular inspection and maintenance of equipment to ensure it is good working order;
 - g) Equipment not to be operated until it is maintained or repaired;
 - h) Regularly train workers (i.e. toolbox talks) to use equipment in ways to minimise noise;
 - i) Operate mobile plant in a quiet, efficient manner;
 - j) Switching off vehicles and plant when not in use; and,
 - k) Incorporate clear signage at the site including relevant contact numbers for community enquiries.
14. Prior to issue of an Occupation Certificate, a 3.0 m high acoustic screen will be erected along the eastern boundary of Warehouse 3B, located on proposed Lot 3, consistent with recommendations of the Noise and Vibration Impact Assessment (Acoustic Works, 2019).

Construction Traffic

15. During construction:
 - a) all trucks entering or leaving the Site with loads, will have their loads covered;
 - b) trucks associated with the project do not track dirt onto the public road network; and,
 - c) the public roads used by these trucks are to be kept clean.

Dust Management

16. During the construction phase of the project, all reasonable and feasible measures to minimise dust generation by the project. These include:

Source	Control Measures
General	
Visual Inspection	Carry out visual inspections of the Subject Site during site preparatory and construction activities and employ measures (where necessary) to minimise any visible air pollution generated by the Project.

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Regular Maintenance	Regularly inspect and perform maintenance on dust control using the latest technologies (i.e. water sprays nozzles) and measures to ensure the effectiveness of such controls.
Erosion Control Structures	Silt and other material removed frequently from around erosion control structures to ensure deposits do not become a dust source.
Vegetated Buffers	Retain existing vegetation, where appropriate and implementing additional vegetated buffers around the boundary of the Site to provide a physical barrier to the transportation of pollutants in the direction of sensitive receptors.
Waste Materials	<p>Cleared vegetation, demolition materials and other combustible waste material will not be burnt on-site.</p> <p>All waste materials be appropriately contained (in skips, bins) and covered during adverse weather conditions and handled in accordance with the Subject Site's Waste Management Plan.</p>
Wind Blown Dust Sources	
Disturbed Areas	<ul style="list-style-type: none"> – Disturb only the minimum area necessary. – Stabilise all disturbed areas as soon as practicable to prevent or minimise windblown dust. – Regularly assess weather conditions to identify adverse weather conditions that are unfavourable in terms of dust levels at receptor locations surrounding the Site (such as on dry days, during strong winds, particularly north easterly winds blowing in direction of the school(s) along Bakers Lane).
Stockpile/s	<ul style="list-style-type: none"> – Water sprays and/or covers will be employed for material stockpiles, particularly during adverse weather conditions, to minimise dust generation. – Stockpiles will be covered overnight. – Use of chemical dust suppressants will also be used where necessary. – Fencing, bunding or shelterbelts will be used to reduce ambient wind speeds (in some areas).
Transportation (Trucks)	<ul style="list-style-type: none"> – Truck loads will be covered with tarpaulin or lid prior to transport of dusty materials by road. – Minimise truck queuing and unnecessary trips through logistical planning of materials delivery and work practices. – Reduce vehicle / truck idling times. – Maintain a following distance of trucks of 20 seconds minimum to allow for dust clouds generated by the lead truck to dissipate. – Install a truck wheel wash or shaker grid to remove any loose dirt.
Activity Generated Dust Sources	
Internal Road Dust	<ul style="list-style-type: none"> – Roads and trafficked areas will be watered down using a water-cart and/or sprinklers to minimise the generation of dust. – Haulage vehicles will be restricted to the most direct route and minimal manoeuvring areas to prevent indiscriminate driving over non-active areas. – Haul roads and hard stand areas will have designated speed limits (i.e. generally 20 km/hour). – Enforce speed limits on all on-site vehicles to minimise wheel-generated dust.

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	<ul style="list-style-type: none">– Stabilise access roads and work areas as soon as practicable to prevent or minimise windblown dust.– Maintain roads on a regular basis to ensure roads are clearly marked, pot holes and corrugations are eliminated, and extra material build up is removed or redistributed on the road.– Chemical dust suppressants used where necessary.
External Road Dust	<ul style="list-style-type: none">– Vehicles causing dirt tracks out onto main roads would be cleaned on a regular basis to prevent this becoming an additional source of dust.– Material spillages would be cleaned up promptly.
Excavation	<ul style="list-style-type: none">– Apply water sprays to trucks and loading points for dust suppression.
Loading and Dumping	<ul style="list-style-type: none">– Dump heights will be minimised wherever possible (reduce to 8 m).
Plant and Equipment	<ul style="list-style-type: none">– All plant and equipment used during activities will be maintained and operated in a proper and efficient condition.– Reduce idling times of trucks and other machinery.– Fixed plant should be located as far from local receptors as possible.
Excessive Dust Events	
Internal Roads	<ul style="list-style-type: none">– Employ additional water spraying / water carts.– Further reduce speed on haul roads during high winds.– Halt traffic movements.
Stockpiles	<ul style="list-style-type: none">– Cover stockpiles of material.
Project Site	<ul style="list-style-type: none">– Temporarily halt activities and resume once weather conditions have improved.

Waste Management

17. Frasers Property and Altis Property Partners will ensure that all waste generated on-site during operation is classified in accordance with the Office of Environmental and Heritage's *Waste Classification Guidelines: Part 1 Classifying Waste* and disposed of to a facility that may lawfully accept the waste.

Erosion and Sediment Control

18. Frasers Property and Altis Property Partners will install silt traps during the construction phase to ensure there are no pollutants or sediments that exit the site or unacceptable impacts result on surrounding vegetation or waterways.

Protection of Vegetation

19. Frasers Property and Altis Property Partners will mark the clearance boundaries prior to commencement of construction to ensure that there is no unnecessary removal of vegetation.

Aboriginal Heritage

20. During works, Frasers Property and Altis Property Partners will notify the NSW Office of Environment and Heritage should an Aboriginal site and/or object be recorded in the Aboriginal Heritage Information Management System (AHIMS).

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Protection of Infrastructure – Water NSW

21. Frasers Property and Altis Property Partners will carry out the following as part of the development:
- Access Consent:** WaterNSW have separate access to the pipeline corridor. The Proposed Development would ensure it does not alter this;
 - Security fencing:** ensure a security fence is erected on the boundary of the development site and the Warragamba Pipelines (minimum 1.8-metre-high chain wire with three (3) barbed wire strands);
 - Stormwater:** ensure that any stormwater from the corridor is not impeded and is accommodated within the development site's stormwater system;
 - Protection from damage from any works adjacent to the Warragamba Pipelines:** When undergoing any earthworks, civil infrastructure works or when constructing any buildings adjacent to the pipelines, exercise care to ensure that no damage occurs to the water supply infrastructure; and,
 - Vehicular access points:** During the construction period ensure access remains free for use by WaterNSW staff and contractor vehicles on 24 hours a day basis.

Ecologically Sustainable Development

22. Frasers Property and Altis Property Partners would investigate the following ESD measures in respect of:

1. Sustainability Management Principles

- Complete best-practice commissioning of all equipment and plant in the Proposed Development.
- Complete a Climate Risk Assessment with enacting sustainability design principles, to enable a more resource-resilient development.
- Commit to the ongoing efficient performance of the Proposed Development on energy and water grounds.

2. Indoor Environment Quality Principles

- Increase the amount and quality of fresh air within the working environment.
- Provide a quieter acoustic and softer lighting environment and enhance views and daylight.
- Use low embodied-energy materials and more durable product with a longer lifespan.

3. Energy Principles

- Create major new initiatives to lower peak power demands and reduce energy consumption at both peak and off-peak parts of the day.

4. Water Principles

- Improve and increase all recycle onsite water storage and rainwater for landscape irrigation and WC and urinal flushing. This will improve efficiency and lower usage of potable water.

5. Material Principles

- Build using materials that are more sustainably sourced or have sustainability credentials. Recycled material should be used wherever possible.
- Minimise the environmental impact of the products used through the life cycle of the building.
- Divert 90% or more of waste at the Site away from landfill.

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6. Emission Principles

- Fit the buildings with new-age technology away from such devices as cooling towers, thereby reducing workers exposure to airborne ailments such as legionella.

Bushfire Protection

23. Frasers Property and Altis Property Partners will ensure that:

- a) Fire hydrants to be installed to comply with AS 2419.1 – 2005 Fire Hydrant Installations - System Design, Installation and Commissioning (AS 2419);
- b) Where overhead electrical transmission lines are installed no part of a tree should be closer to a powerline than the distance specified in "Guideline for managing vegetation near power lines" issued by Department of Energy, Utilities and Sustainability (ISSC 3, December 2005); and,
- c) Gas services are to be installed and maintained in accordance with AS/NZS 15962008.

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PART H PROPOSED DEVELOPMENT JUSTIFICATION

The Proposed Development is justified on environmental, social and economic grounds and is compatible with the locality in which it is proposed. Refer to Part F of this EIS, that provides detail regarding the justification of the environmental, social and economic impacts of the Proposed Development.

This SSD Application is considered supportable on this basis for the following reasons:

1. Supports State, Regional and Local Planning Objectives

The Proposed Development is consistent with the objectives, provisions and vision contained within *A Metropolis of Three Cities – Greater Sydney Region Plan*; *the Western City District Plan*; *Western Sydney Aerotropolis Land Use Infrastructure Implementation Plan*; and *State Environmental Planning Policy (Western Sydney Employment Area) 2009*. It demonstrates an ability to provide large scale employment (up to 2,500 new jobs) in an area already earmarked for employment through both State and Regional planning policies.

2. Demonstrates an Appropriate Use of a Permissible Development

The Proposed Development would retain and contribute to the growth of new industry for the immediate locale as well as the Aerotropolis and the wider region. The Industrial warehousing sector is an important economic driver and job generator for Western Sydney as a region, as well as the Aerotropolis and its surrounding area, supporting functional land uses. The Proposed Development complements significant government investment in infrastructure. Indeed, it delivers many of the strategic planning objectives enunciated throughout State Strategies e.g. SEPP (WSEA) 2009. The Proposed Development would be a highly appropriate and compatible (given its contiguousness to other existing industrial and logistics hubs) response to the strategic goals and objectives of the whole region as set out in *A Metropolis of Three Cities – Greater Sydney Region Plan*; *the Western City District Plan*; and *the Western Sydney Aerotropolis Land Use Infrastructure Implementation Plan*. These documents all envisage employment-generating land uses at this location. The Site also appropriately benefits from new planned infrastructure e.g. M9, M12. Freight Line, Airport and New Rail Link.

3. Minimises Environmental Impacts

Specialist consultants (Biosis; EcoPlanning; Costin Roe Consulting; JBS&G; Northstar; Acoustic Works; HillPDA; Conacher Consulting; Risk Eng; Land Partners; Pells Sullivan Meynink; GHD; Geoscpaes; Ason Group; CT Environmental; Macro Plan Dimasi; Frasers Property Australia (ESD Report) and LG Consult) have all assessed all of the potential impacts of the Development and determined that the Proposed Development can be undertaken with minimal impacts on South Creek; the regional road network; Flora and Fauna; and other neighbours. The commissioned reports have collectively concluded that no significant risk to the locality would result from the Proposed Development. Where impacts have been identified, these fully-developed strategies are set out in detail for mitigation. These measures are described in Part G of this EIS.

4. Creates Compatibility with Surrounding Development

Uses proposed by the new Development, have been assessed to be compatible with existing land uses on adjacent land, including First Estate and Erskine Park and Eastern Creek, all of which provide very similar employment-generating functions over an 800-ha area. All are within the immediate vicinity of the Proposed Development. Detailed investigations undertaken, as part of this Application, conclude that no significant environmental cumulative impacts, would occur from the proposed Warehouse, Logistics and Industrial Facilities Hub. Subsequent to Stage 1 (the subject of this SSD Application).

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Consent will be sought, via separate Development Applications, to develop the remaining components of the Estate. This would also include the provision to re-green the western portion of the Subject Site, as an activated open and recreational space, for active and passive, communal recreation. This will create an enhanced community benefit, to both workers and visitors.

5. Delivers Ecologically Sustainable Development

The principles of Ecologically Sustainable Development as outlined in Clause 7(4) of the *EP&A Regulation* have been carefully considered in the formulation of this Proposal and are addressed as follows:

Precautionary Principle

After careful assessment by both the Project team and Expert Consultants, it is concluded that no unmanageable threat or irreversible damage to the environment, would result due to the Proposed Development.

Inter-generational Equity

The Project Team and Consultants have examined the overall effects of the Proposed Development on the Natural Environment and the existing Built Environment at and around the Proposed Development. The project Team has examined Flora and Fauna; Bushfire; Traffic, Aboriginal and European Heritage Flooding, Water Quality and Quantity, Acoustics, Vibration, Air Quality, Social Impacts and Waste Management. This detailed assessment has concluded that no unreasonable use of resources, affectation of environmental processes or prevention of the use of land for future generations would occur from the Proposed Development. Indeed the Proposed Development would improve the economies of the region through both substantial investment and new employment, thereby improving the inter-generational equity.

Conservation of Biological Diversity and Ecological Integrity

This EIS has commissioned overall detailed assessments of the Site's Flora and Fauna. These reports were carried out by Ecoplaning (2019) and have concluded that for the Proposed Development, there would be no significant impacts on any species or ecological communities contained within the locality. This is primarily because few species are currently present on the land and those species that exist are in a poor condition. The areas that are impacted are proposed to be offset by Biodiversity credits.

Improved Valuation, Pricing and Incentive Mechanisms

The Proposed Development would enable new cost efficiencies, through the timely provision of Warehouse, Logistics and Industrial Facilities Hub, with a total investment (including infrastructure and land) value for this SSD of some \$189,270,000 Million (excluding GST).

Environmental Management

The Proposed Development implements significant and elaborate measures that avoid, contain and address any possible air-quality impacts; noise impacts; waste and pollution; through avoidance; better design and management. This is exemplified through acoustic measures; waste management control practices; and erosion-and-sediment control measures, which will be implemented throughout both the construction and operational phases of the Proposed Development.

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Proposed Warehouse and Logistics Hub

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PART I CONCLUSION

The Proposed Development is defined as SSD pursuant to Schedule 1, Part 12 of SEPP (SRD) 2011. In developing the Site for a Warehouse, Logistics and Industrial Facilities Hub, including the nine (9) warehouses with ancillary offices, the Application fully satisfies all requisite provisions of qualification as SSD. The Proposed Development is a category defined within SEPP (SRD) 2011, namely a warehouse and distribution facility; it also has a CIV over \$50 Million. More specifically, the proposed warehouse, located on proposed Lot 6, alone has a CIV of \$72,990,000 Million "at one location related to the same operation".

The Proposed Development, for the purpose of a Warehousing, Logistics and Industrial Facilities Hub is considered to be entirely consistent with the Objects of the EP&A Act 1979 under Section 1.3, particularly, the notion of promoting the orderly and economic development of the land. The Proposed Development is considered to form a sequential (orderly) representation and formal extension to the already developed industrial and employment precincts of the WSEA. In this regard there are existing industrial developments already located north of the Subject Site. Additionally, in the promotion of employment-generating opportunities throughout the construction and operational phases, the Proposed Development further delivers on the rationale of full economic utilisation and proper and orderly development of the land for its intended purpose namely industrial and employment uses.

Based on the specialist studies and extensive investigations carried out for the Proposed Development, it is concluded:

1. **Strategic and Statutory Context** – The Proposal aligns with the strategic planning framework, namely *A Metropolis of Three Cities*, the *Western City District Plan* and the LUIIP. Consistency is achieved through the provision of employment, activation of land for open space and (adjoining South Creek) and implementation of sustainable development measures that contribute to create a new and leading-edge form of development.

In terms of the statutory context, the Proposal is entirely consistent with the Objects of the EP&A Act 1979 in that it represents an orderly and sequential development. The appropriateness of the Development is also demonstrated through full compliance with SEPP (WSEA) 2009 in that it achieves the employment generating outcomes envisaged for the Site with minimal impact on surrounding land uses.

2. **Planning Agreement and Development Contributions** - Frasers and Altis have made an offer to the Minister for Planning to enter into a VPA with respect to monetary contributions for the Development. Despite not being located within an Industrial Release Area under Clause 29 of SEPP (WSEA) 2009, the VPA would have the effect of meeting Satisfactory Arrangements.
3. **Suitability of the Site** - The Site is highly suitable for the Proposed Development as it can be serviced at No Cost to Government in the immediate term. It also presents an unconstrained platform for development in that it is relatively flat, is located within close proximity of key road infrastructure and it has limited constraints in terms of flooding, ecology and heritage.
4. **Community and Stakeholder Engagement** – A comprehensive community engagement strategy has been executed, which involved face to face meetings with the relevant government agencies and community members. All nearby residents were also notified of the Proposed Development with no objections received. All matters raised by the agencies have been comprehensively addressed throughout this EIS.

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5. **Urban Design and Visual Assessment** – As clearly demonstrated in the submitted Architectural Plans, the Proposed Development provides a superior urban design outcome that sets a desirable precedent for future development in the locality. The Visual Impact Assessment also confirms that there will be no unacceptable amenity impacts given the scale, form and overall positioning of warehouse and industrial buildings on the Site.
6. **Traffic and Transport** – Sufficient access and parking arrangements are provided for in the Proposed Development that ensure there will be no undue impact on the surrounding road network. All required intersections will be upgraded to accommodate the development at No Cost to Government so that it can operate successfully in perpetuity. This includes providing primary access from Bakers Lane (west) to the existing signalised intersection of Mamre Road and Bakers Lane, with appropriate upgrades to the Bakers Lane (west) approach and broader signalised operations.
7. **Flooding** – From a local and regional perspective, the flooding impacts associated with the proposed development have been assessed and fully accounted for. Both TUFLOW and MUSIC Modelling have been undertaken to inform the outcomes. The pre and post development scenarios shows that there will be minimal affectation upstream or downstream as a result of the Development. The finished earthworks levels have been designed to include a minimum level of 1% AEP plus 500mm freeboard to ensure that the Estate can operate and not be impeded by flooding.
8. **Soils and Water** – The Subject Site is unconstrained in terms of geotechnical conditions and contamination and is therefore deemed suitable for the Proposed Development. This is attributed to the underlying Site conditions and historical land use.

Water reuse and rainwater harvesting has been considered for the Proposed Development. Rainwater tanks will be provided for each warehouse/industrial building and will be sized to have a capacity of a minimum of 100,000kl.

The water cycle management strategies will include; water quantity; water quality; flooding; water supply; and erosion and sediment control. These measures provide an optimal stormwater management outcome for the Site.
9. **Biodiversity** – the BDAR concludes, that the Proposed Development is considered unlikely to reduce viability of any adjacent native vegetation and associated habitats due to edge effects, noise dust or light spill and / or disturbance to breeding habitats.

A total of 267 ecosystem credits are required to offset the Proposal. The total cost of ecosystem credits to be used to offset the potential impacts of the Proposed Development, have been estimated by EcoPlanning (2019) at \$5,618,336.66 for the entire Subject Site.
10. **Infrastructure Requirements** – The Service Infrastructure Assessment confirms that the Subject Site can be serviced at No Cost to Government. All essential services can be augmented for the Proposed Development. Sydney Water have provided endorsement in a letter dated the 8th of November to this effect.
11. **Heritage** – Both a Historic Heritage Impact Statement and ACHAR have been completed which confirm that the Site has low Aboriginal and Historical heritage significance:

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- Historical Heritage – There are no items of heritage significance which preclude the Development from proceeding; and
- Aboriginal Heritage – Following extensive field work and consultation with the RAPs, a series of recommendations were made which identified that there are no Aboriginal Cultural Heritage items located within the Subject Site.

12. **Noise and Vibration** – Noise monitoring carried out (attended and unattended) indicates that the Proposed Development can successfully co-exist with all surrounding land uses, subject to mitigation measures. In particular, the implementation of a 3m high acoustic barrier servicing warehouse 36 is proposed. Notwithstanding, the Development can operate on a 24-hour, 7-day basis consistent with First Estate and Erskine Business Park.

Construction noise and vibration is able to be suitably managed by way of conditions of consent and management plans.

13. **Hazards and Risks** – The Proposed Development does not propose to store dangerous goods; therefore SEPP 33 is not triggered. The uses sought within the facilities do not warrant further consideration in this respect under this Application.
14. **Bushfire** – The Subject Site is classified as bushfire prone land (category 2) which poses a relatively low risk to the built form proposed. Defendable spaces will be provided and fire-retardant materials to mitigate impacts in accordance with PBP 2006.
15. **Waste** – A Waste Management Plan has been provided which considers construction and operational waste measures to be undertaken for the Proposed Development. All buildings have considered the provision for waste management areas to ensure the effective management and disposal of waste can occur.
16. **Air Quality** – The Air Quality Impact Assessment, demonstrates that there is a low risk of health or nuisance impacts during construction works. However, a range of standard mitigation measures have been recommended to ensure that short term impacts associated with construction activities are minimised.

In terms of operational impacts, these are considered minimal given the low impact nature of the warehousing, industrial and logistics uses. It is noted that vehicle usage will be reduced where feasible and practical.

17. **Social Impact** – It is concluded in the Social Impact Assessment that the potential for negative impacts to arise from construction, noise and increased traffic have been identified; however, these impacts are able to be appropriately managed and mitigated through management plans.
18. **Economic Impacts** – Conclusions drawn from the Economic Impact Assessment, indicate that the Proposed Development would result in economic growth due to the provision of substantial employment generating opportunities during the construction and operational phases. The Proposed Development is therefore well suited for its intended use.
19. **Agricultural Impacts** – The Land Use Conflict Risk Assessment indicates that the likelihood of potential conflict is considered to be low and that current agricultural land use on surrounding properties with regard to the Subject Site could continue to operate with minimal impact anticipated.

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20. **Greenhouse Gas and Energy Efficiency** – The Proposed Development can be constructed and operated so as to not prejudice the sustainability of the built form, and to minimise impacts upon the environment (both direct and indirect emissions have been considered).
21. **Ecologically Sustainable Development** – The Proposed Development would aim to achieve a Six-Star-Green-Star (NABERS) Rating by applying ecologically sustainable development principles. The principles incorporated in the design include; indoor environment; energy; water; materials; emissions.

Based on the findings of this EIS, it is concluded that the Proposed Development supports the continued development of jobs in the Western Sydney Region. The Proposal contributes to the retention and growth of warehouse and logistics businesses, across both NSW and Australia. The Proposed Development is therefore considered suitable from both a local and regional context and is both orderly and appropriate, based on social, cultural, economic and environmental considerations. It also satisfies all requisite regulatory requirements for flooding, traffic, and noise impacts.

Given all of the above reasons and the satisfaction of both of the Objects of the Act and the aims of WSEA, it is recommended that the Proposed Development, for the purposes of a Warehouse, Logistics and Industrial Facilities Hub, be supported by the NSW DP&E, as appropriate and orderly employment-generating development.

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Appendix 1 Secretary's Environmental Assessment Requirements

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Appendix 2 Quantity Surveyors Report

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Appendix 3 Survey Plan

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Appendix 4 Subdivision Plan

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Appendix 5 Stage 1 SSD Application Form

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Appendix 6 Architectural Plans

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Appendix 7 Design Report

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Appendix 8 Landscape Plans

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Appendix 9 Visual Impact Assessment

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Appendix 10 Civil Plans and Design Report

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Appendix 11 Overland Flow Report

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Appendix 12 Service Infrastructure Assessment

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Appendix 13 Hazard and Risk Assessment

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Appendix 14 Geotechnical Report

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Appendix 15 Phase 1 Contamination Report

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Appendix 16 Phase 2 Contamination Report

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Appendix 17 Site Salinity Assessment Report

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Appendix 18 Traffic Impact Assessment

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Appendix 19 Biodiversity Assessment Report

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Appendix 20

Riparian and Groundwater Dependent Ecosystems Assessment

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Appendix 21 Air Quality Impact Assessment

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Appendix 22 Economic Impact Assessment

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Appendix 23 Social Impact Assessment

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Appendix 24 Historical Heritage Impact Statement

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Appendix 25 Noise Impact Assessment

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Appendix 26 Archaeological Report

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Appendix 27 Aboriginal Cultural Heritage Assessment Report

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Appendix 28 Greenhouse Gas Assessment

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Appendix 29 Ecologically Sustainable Development Report

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Appendix 30 Waste Management Report

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Appendix 31 Bushfire Report

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Appendix 32 Community Consultation Report

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Appendix 33 Agricultural Impact Assessment

Environmental Impact Statement

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Appendix 34 Land Use & LUIIP

Environmental Impact Statement

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Appendix 35 Sewer Lead-In Advice

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Appendix 36 Strategic Justification Report

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Appendix 37 Architectural Design Report

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Appendix 38**Mamre South Precinct Development Control Plan 2019**

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Appendix 40

Satisfactory Arrangement Correspondence