Response to Submissions Report Proposed Warehouse, Logistics and Industrial Facilities Hub (SSD 9522)

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 Frasers Property Australia & Altis Property Partners

August 2020

Document Control Table

Document Reference:	WTJ18-209		
Date	**Version**	**Author**	**Checked By**
23/04/2020	1	T. Lythall	A. Cowan
01/05/2020	2	T. Lythall	A. Cowan
09/05/2020	3	T. Lythall	A. Cowan
11/05/2020	4	T. Lythall	A. Cowan
13/05/2020	5	T. Lythall	A. Cowan
29/05/2020	6	T. Lythall	A. Cowan
02/06/2020	7	T. Lythall	A. Cowan
08/06/2020	8	T. Lythall	A. Cowan
10/06/2020	9	T. Lythall	A. Cowan
03/08/2020	10	T. Lythall	A. Cowan
06/08/2020	11	T. Lythall	A. Cowan

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PART A INTRODUCTION

1.1 OVERVIEW

This Response to Submissions (RtS) has been prepared in accordance with Clause 82 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation, 2000) and relates to State Significant Development (SSD) Application (SSD 9522), for a proposed Warehouse, Logistics and Industrial Facilities Hub at 657-769 Mamre Road, Kemps Creek (the Site). The Site is comprised of five (5) allotments and has a total area of 118 hectares (ha).

The Proposed Development to which this RtS relates, has been identified as being SSD pursuant to Schedule 1, Part 12 of *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP (SRD) 2011) as the Capital Investment Value (CIV) exceeds $50 Million for Warehouse and Distribution Facilities.

The Proposed Development is an employment-generating development, which will deliver new employment commensurate with State Government employment objectives, for the Western City District. The Proposal will deliver 3,150 full time jobs, being 2,000 operational jobs and 1,150 construction jobs upon completion of the entire Estate, where as this SSD Application will deliver approximately 950 operational jobs and 700 construction jobs. Importantly, construction jobs would be in effect two (2) months after approval of this SSD Application.

The subject SSD Application was lodged with the NSW Department of Planning, Industry and Environment (DPIE) on 1st April 2019 and was publicly exhibited from the 7th June 2019 until the 8th July 2019. In total, 20 submissions were received in response to the public exhibition of the Environmental Impact Statement (EIS). Fifteen (15) submissions were received from Government Agencies including comments from the NSW DPIE and Penrith City Council (PCC). In total, only five (5) submissions were received from the General Public.

The Key Issues arising from the Submissions are addressed in **Table 1** of **Part D** of this Report and are as follows:

1. Strategic Justification.
2. Flooding Impacts / Proposed Filling.
3. Traffic Impacts and Extension of the Southern Link Road.
4. Green and Open Space Allocation.
5. Visual Amenity Impacts and the South Creek Interface.
6. Ecologically Sustainable Development Outcomes.
7. Infrastructure Services – Wastewater.

The revised Proposal has been prepared in direct response to the submissions received, consultation with NSW DPIE and consideration of the Aerotropolis Plan (December 2019) and the Mamre Road Precinct Structure Plan (June 2020). The Site is located within the Mamre Road Precinct of the Aerotropolis Plan (2019), which is zoned under the provisions of *State Environmental Planning Policy (Western Sydney Employment Area) 2009* (SEPP (WSEA) 2009). The recent rezoning with respect to the broader Mamre Road Precinct seeks to facilitate the creation of some 17,000 jobs over circa 800 ha of land. A portion of the Subject Site, being 26.69 ha (Lots 3-5 Stage 1 Subdivision) will also be contained within Wianamatta-South Creek Precinct, that will be zoned under the future Western Sydney Aerotropolis SEPP. This land is to remain void of any built form under this SSD Application.

The Site is zoned IN1 General Industrial and includes pockets of RE1 Public Recreation and RE2 Private Recreation under SEPP (WSEA) 2009. The Development for which consent is sought aligns with the zone boundaries and is therefore completely consistent with the strategic intentions of the Mamre Road Precinct. Careful consideration has been given to the revised

Proposal to ensure that all built form is located outside the 1% AEP flood extent. This ensures that there are no adverse flood impacts upstream or downstream during this event, and that designated open space areas are provided as envisaged under the Mamre Road Precinct Structure Plan.

The Urban Design principles employed in the amended Masterplan have been informed by the development of an Urban Design Framework which has been subject to extensive consultation with the NSW DPIE. A fundamental feature of the revised Proposal is in relation to permeability to South Creek, by way of building orientation and improved landscaping provisions.

All Submissions have been duly considered and are now fully reflected in the amended Masterplan and consultant reports for the Proposal. For full details of the Masterplan which illustrates the revised Proposal, refer to **Figure 1** of this Report.

1.1.1 Description of Proposed Development (as Amended)

The SSD Application to which this RtS relates, seeks approval for the construction, fit-out and operational use of ten (10) Warehouse buildings, including ancillary offices and bulk earthworks. A two-stage Torrens Title subdivision of the land is proposed and consists of Stage 1, comprising five (5) residue allotments; and Stage 2, comprising 17 allotments, including eight (8) development allotments for built form. Proposed Lots 1 to 8 will be designated for Warehouse development; Lots 9 & 10 will remain as a residue allotments for future Warehousing development (as part of separate Development Applications); Lots 11-13 for bio-retention basins; Lots 14-16 for RE1 Public Open Space; Lot 17 for RE2 Private Recreation; and Lots 3-5 (Stage 1 Subdivision), adjacent to South Creek, are to remain undeveloped. The Proposal includes a total of 166,225 m^2 GFA proposed across Lots 1-8.

With respect to the designation of future open space, the Proposal includes provisions for:

- 7.6 ha of RE1 Public Recreation (Open Space) land (proposed Lots 14-16).
- 1.2 ha of RE2 Private Recreation land (proposed Lot 17).
- 27 ha of land to remain undeveloped (located within the future Aerotropolis SEPP land – Wianamatta-South Creek Precinct on proposed Lots 3-5 (Stage 1 Subdivision)). All of this land is within the 1% AEP flood extent. This area will remain vegetated in its current state with no built form proposed.

It is noted, that the western portion of the Subject Site, has now been designated only for future open space and recreational land uses, in accordance with the Mamre Road Precinct Structure Plan and zone objectives of RE1 and RE2 land under SEPP (WSEA) 2009.

The updated Masterplan also accommodates future infrastructure planned for the locality and wider region. The Masterplan includes ample provision for the Mamre Road Widening; the Western Sydney Freight Line Corridor (60-m-wide corridor); and the widening of Bakers Lane / Southern Link Road (SLR).

The vision for the Proposed Development, is to design 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. The Estate's style is deliberately configured to be consistent with the architectural vernacular of the wider Industrial Precinct of the neighbouring Western Sydney Employment Area (WSEA). Importantly, the Proposed Development will showcase the next-generation of industrial Estate design, targeting State-of-the-Art, Six-Star-Green-Star-rated buildings, intended to set new standards in sustainability, social amenity and building quality for Warehouse and Industrial facilities. The Proposal accentuates the principles of Ecologically Sustainable Development (ESD) and is part of an overall vision and integrated design for a sustainable, low-energy-use future-built form.

It is noted that the western portion of the Subject Site, has now been designated only for open space land uses, in accordance with the Mamre Road Precinct Structure Plan (June 2020). Additionally, provisions for stormwater detention are to be implemented within the designated bio-retention basins in proposed Lots 11-13 (refer to the Masterplan Lot Layout in **Figure 1**). This will enable the Site to achieve the relevant pollutant reduction targets, in accordance with PCCs Water Sensitive Urban Design (WSUD) water quality control targets.

In responding to the submissions, this RtS Report is structured as follows:

- **Part A** Introduction
- **Part B** Consultation
- **Part C** Proposed Development
- **Part D** Applicant's Response to Key Issues
- **Part E** Strategic Context
- **Part F** Environmental Assessment
- **Part G** Planned Management and Mitigation Measures
- **Part H** Conclusion

PART B CONSULTATION

Preparation of a Community and Stakeholder Engagement Strategy is a requirement of the Secretary Environment Assessment Requirements (SEARs) issued on 14th September 2018.

For this SSD Application, considerable on-going consultation, has occurred post exhibition, aimed both at addressing the issues identified in the originally exhibited-proposal as well as those raised since. This has now occurred to the satisfaction of the NSW DPIE and all statutory authorities and the Masterplan has been suitably-amended to accommodate the result of the Consultation Process. The key stakeholders are:

1. Penrith City Council;
2. Greater Sydney Commission;
3. Roads and Maritime Services;
4. Transport for NSW;
5. Environment, Energy and Science Group (EES), formerly 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. NSW DPIE (internal teams), including Urban Design, Aerotropolis Authority Team and Infrastructure NSW; and
13. Surrounding local residents and stakeholders.

The information in **Table 1** overleaf, provides a full record of all consultation carried out post public exhibition and sets out all key outcomes arising from the Consultation Process that have been achieved. Comprehensive Consultation with all statutory authorities; and Subsequent plan amendments to the scheme, have been conducted over a 50-week period since initial discussions with the NSW DPIE in August 2019.

Table 1: Consultation Record		
Stakeholder	**Meeting/Correspondence Date**	**Meeting Discussion and Outcomes**
NSW Department of Planning, Industry & Environment (DPIE)	14.08.19	After the exhibition period, an additional submission was received from the DPIE Western Sydney Aerotropolis Activation Team. A meeting was held on 14th August 2019 between Altis/Frasers and DPIE. The main discussion points of the meeting are summarised as follows: ▪ Development under Clause 12 of SEPP (WSEA) 2009. ▪ Regional transport corridors (SLR and Western Sydney Freight Line) and the need to ensure adequate consultation occurs. ▪ Aerotropolis LUIIP and the absence of any Precinct Planning. ▪ Incompatibility with the objectives of the South Creek Precinct. ▪ South Creek Sector Review and cut and fill within the 1% AEP flood extent. It was also noted within this meeting by DPIE that the independent peer review of the submitted flood report was outstanding. At the time this meeting was held, the draft Mamre Road Precinct Structure Plan had not been released.
	23.08.19	DPIE issued the flooding peer review report completed by Advisian, along with further flooding comments from their Strategic Team. Altis/Frasers provided a detailed response to the Advisian peer review on 6th September 2019 addressing all points raised.
	20.09.19	Altis/Frasers wrote to the DPIE Assessments Team on 20th September 2019, providing a new Masterplan for the Site along with an accompanying explanatory letter detailing the main changes to the new scheme and how these changes addressed the key issues raised during exhibition. The changes outlined in this submission are summarised as follows: ▪ Nil disturbance to the natural landform adjoining South Creek. ▪ Reduction of the development footprint by 40% from that originally proposed. ▪ Maintaining 59 ha of land, as a buffer between the proposed Warehouse facilities and South Creek.

		▪ Provision of ample space for the NSW Water-Cycle-Management initiatives. ▪ Proposed parkland and recreational areas, consistent with the vision as proposed in the LUIIP for the Western Parkland City set out by the Grater Sydney Commission (GSC). ▪ Provision of road network changes requested by Penrith City Council and the NSW RMS. ▪ Provision of road infrastructure upgrades, that suitably cater for employment-generating development, with little adverse impact on the surrounding road network. Altis/Frasers also included an Urban Design Presentation as part of this submission to show the activation and treatment of the western edge of the Estate. The submission provided to the NSW DPIE is attached at **Appendix 32**.
	6.11.19	Following the informal submission of the revised Masterplan in September 2019, a meeting was held between Altis/Frasers and DPIE. The key discussion points and actions of this meeting are summarised as follows: ▪ DPIE noted flood results for the overall catchment will be released by mid next year. This focuses on land from Bringelly road up ▪ DPIE requested Altis/Frasers to provide scope of flood report/modelling - this is to be agreed to inform the final report for the SSD Application. ▪ DPIE noted that the size of the SLR intersection is yet to be determined and further consultation with TfNSW was required ▪ DPIE agreed to review the urban design presentation. ▪ DPIE agreed to work with Altis/Frasers on the flooding impacts of the Site, with the view to confirm acceptable criteria. ▪ DPIE Assessments Team agreed to accept an informal resubmission, noting that the flood investigation/studies would be ongoing in line with the strategic planning work that is pending.
	12.12.19	A meeting held on 12th December 2019 to discuss key matters pertaining to flooding, urban design and transport infrastructure in response to the Masterplan that was tendered to DPIE in September 2019. The items as discussed are summarised as follows:

		<u>Flooding</u> ▪ Altis/Frasers agreed to provide a response to the information request setting out the steps to be undertaken. This response would be reviewed by DPIE/EES/INSW and once the steps are confirmed as suitable. Altis/Frasers committed to prepare an updated report and flood model. Post Meeting the accepted flooding criteria was provided by DPIE 12th December 2019 and Altis/Frasers Flooding Response was provided 17th December 2019. **<u>Urban Design</u>** ▪ DPIE and Altis/Frasers agreed to meet for an urban design workshop before the shutdown period or in early January 2020. ▪ It was discussed that Council will also need to be consulted regarding urban design and activating the open space. ▪ The urban design Guiding Principles prepared by DPIE was provided to Altis/Frasers for reference. **<u>Transport Infrastructure</u>** ▪ DPIE advised that the current road design for the development may need to be revised with land located within the Transport Infrastructure Investigation Area deferred. Road connections to adjoining lots was also discussed and DPIE indicated it would be necessary for a connection to the south. ▪ Altis/Frasers indicated that it had provided an updated traffic impact assessment and modelling to DPIE for the review of the then RMS (now TfNSW). The review by TfNSW had not been completed at the time of the meeting. It is noted that at the time this meeting was held, that the draft Mamre Road Precinct Structure Plan had been released for public comment.
	7.01.20	A meeting was held with the NSW DPIE to discuss the Urban Design Guiding Principles established for the Site. It was agreed by both Altis/Frasers and DPIE that the plan provided for discussion

		generally satisfied the principles established by DPIE, however the outcomes were not clear on the design plans. The key actions from the meeting are summarised as follows: ▪ DPIE agreed to arrange a meeting with RMS to discuss the deferred area shown on the plan and SLR connection into the site. ▪ Altis / Frasers agreed to provide a plan and more detail on the western promenade being a shared zone for pedestrians and cars at certain times / days. ▪ Altis / Frasers agreed to investigate additional pedestrian connections between Warehouse building 4 and 6 and design of Warehouse building 12 to break up the long expanse. ▪ Altis / Frasers agreed to provide detail on ownership, maintenance and management of the western promenade, recreational areas and retail.
	11.02.20	Altis/Frasers wrote to DPIE following the meeting on 7th January 2020 responding to the matters raised. Specifically, the submission sought to reinforce that the revised Masterplan represented a place-led approach and had been prepared to deliver the GSCs South Creek Urban Design Principles for new business and industrial areas including: 1) Creek-facing employment hubs. 2) Re-aligned car parking. 3) Recreation space for workers. 4) Accessible plazas for people. 5) Pedestrian priority promenade. The submission included an urban design report prepared by Roberts Day and sought to reinforce: ▪ The Proposal is a transformative model for industrial estates delivering the adopted GSC urban design principles for South Creek. ▪ The Proposal contributes to the creation of Greener Places for industrial estates - a key priority of the NSW Premier. ▪ The Proposal contributes to the cultural growth of Western Sydney by providing a 'facade canvas' for the benefit of local artists to share their stories with the world. ▪ The Proposal activates the western edge of the estate with opportunity for a shared promenade with pedestrians and vehicles. This area provides safe and equitable opportunity

		for recreation within the estate by both the public and workers within the Warehouse buildings. ▪ The level of permeability achieved ensures passive recreation and sufficient through site links. ▪ The overall façade strategy provides for a high level of visual interest by incorporating colours and materials that integrate with the natural environment and set a desirable precedent for future development within the Mamre Road Precinct. The revised Masterplan that was tendered to DPIE was discussed on an iterative basis up until the next meeting on 28th February 2020. The submission provided to DPIE is attached at **Appendix 32**.
	28.02.20	In response to the preparation of a revised Masterplan and ongoing discussions since the written submission on 11th February 2020, a meeting was held between Altis/Frasers, DPIE and TfNSW. The key outcomes and actions are summarised below: ▪ DPIE and TfNSW noted that Intermodal Terminal location was undecided. The need to retain Cumberland Plain Woodland was noted as a constraining factor. It was noted that TfNSW were undertaking more investigative work at present. ▪ DPIE noted that the rezoning of the Mamre Road Precinct will seek to push industrial development further west on the subject site. ▪ DPIE noted that Council are generally not interested in acquiring large portions of land nor maintaining it for public recreation. ▪ DPIE identified that is proposing to reduce extent of open space under WSEA for the subject site ▪ DPIE indicated they have a desire for east-west orientated buildings ▪ DPIE noted that flood modelling needs to be revised where required due to development being allowed to the west. ▪ DPIE noted that Aerotropolis land (west of WSEA boundary) may stay in private ownership. ▪ DPIE requested that the overland flow report to be updated to address new layout. ▪ DPIE noted that consideration of additional fill required where road at the rear is proposed ▪ DPIE noted it would require further consideration with regard to the spread of buildings in the estate ▪ Altis/Frasers expressed a desire for a range of uses in the land beyond that zoned industrial (e.g. pubs, cafes, indoor/outdoor recreation facilities, breweries)

		▪ Altis/Frasers requested DPIE consider Additional Permitted Uses in the recreation zones to allow development for a pub or similar related development. This was acknowledged and to be considered duly given the amount of land that would be lost to dedication. ▪ Altis/Frasers agreed to update site plan for the upcoming TfNSW meeting ▪ Altis/Frasers and DPIE agreed that once the layout is agreed the Assessments Team, will advise what is required to resubmit EIS. ▪ DPIE advised they were happy with Altis/Frasers response to the accepted flooding criteria for the development. Following the meeting, DPIE provided an email on 28th February 2020 confirming NSW DPIE and Infrastructure NSW acceptance of the flooding criteria upon which the final overland flow report was based. It is noted that since this meeting, the revised Masterplan has been discussed by phone on an iterative basis and the layout and extent of development footprint is generally agreed between both parties.
	23.06.2020	A meeting was held with the NSW DPIE to discuss the strategic direction of the Subject Site in accordance with the revised Masterplan. The key outcomes and actions are summarised below: 1. Council indicated that its requirements for open space (RE1) are currently not known. This is dependent on the amount of existing open space that may be lost from the Outer Sydney Orbital (OSO) and the requirements of specific user groups. Council unable to provide a timeframe as to when these factors are known. 2. Council's preference is therefore to ensure that the RE1 land as shown on the zoning map is preserved, unencumbered so that it if it is required in the future it is available. 3. Council indicated that sporting fields in the Aerotropolis SEPP land may be an option, subject to understanding needs and strategic planning outcomes. 4. Council indicated that a new 7.12 plan for non-residential development will be adopted in July. This would serve to apply in the interim until the 7.12 plan for the Mamre Road Precinct is finalised. 5. DPIE indicated that the road network options would be tested in two weeks. This is being worked through with the Land Owners Group.

		6. DPIE indicated that the current masterplan internal road network is somewhat inconsistent with the indicative road layout put forward by the Land Owners Group. Altis/Frasers noted that the plan put forward by the Land Owners Group is very much high level. 7. DPIE/Council indicated that the preference is for the local road to the south is to intersect the Aerotropolis/RE1 land that would need to be bridged over. 8. Altis/Frasers indicated that the reason for the dog leg road was due to the requirement to provide 500m separation from the Bakers/Mamre intersection. 9. DPIE indicated that the preference is for the east/west estate road to run all the way to the RE1 land for continuity. 10. DPIE indicated that there would be opportunity for housekeeping amendments to the SEPP in the near future – there may be opportunity to shift the RE2 land if required. 11. Altis/Frasers indicated that the SSD could be amended to defer the buildings on the western portion of the site - this would allow Council/DPIE more time to finalise their requirements for this RE1 interface. Altis/Frasers indicated that earthworks would be completed up to the IN1 boundary and consideration would be given to accommodate a future ring road if required in the future. The basins would be on the Altis/Frasers IN1 land and they may be temporary in nature to accommodate the first cluster of buildings under the SSD. 12. Altis/Frasers indicated that there was a large user for the site and the above application strategy is required to ensure they can be accommodated without delay. 13. DPIE/Council queried relationship of earthworks levels with the RE1 interface. Altis/Frasers indicated that the relationship would allow for drainage outcomes etc. 14. DPIE/Council advised they are going to discuss road network preferences and send to Altis/Frasers for consideration this week.

Penrith City Council	14.06.19	Following the commencement of public exhibition, a meeting was held with Penrith City Council on 14th June 2019. The main points of discussion related to: ▪ Strategic planning progress / site-specific DCP. ▪ Proposed land use and Estate credentials: o Facility flexibility and provision for jobs in short-term; o Dedication of 11-ha of Open Space; and o Incorporation of the SLR and Freight Rail Corridor. ▪ Six-Star-Green-Star Estate. ▪ Internal road design and infrastructure. ▪ Traffic management. ▪ Stormwater and flooding. ▪ Water Sensitive Urban Design. ▪ Transfer of Crown Road Reserve to Council. It is noted that following this meeting, the formal response from Council was received as part of the exhibition process. These matters are addressed in this RtS Report and are generally redundant given the subsequent release of the draft Mamre Road Precinct Structure Plan and the revision of the development footprint outside the 1% AEP flood extent of the Site.

	27.09.19	On 27th September 2019, a further meeting was held with Penrith City Council to discuss the SSD Application at length, with respect to the revised Masterplan issued to the DPIE on 20th September 2019. The purpose of the meeting was to demonstrate how the revised Masterplan addressed all the issues outlined within the Council submission. The key discussion items and agreed outcomes are summarised below: **Urban Design** ▪ Altis/Frasers provided an overview of the Proposal, outlining the extent of the development footprint reduction and the fact that it is now entirely located outside 1% AEP flood extent, removal of the left in/left out Mamre Road intersection and the addition of a road link accessing land to the south, landscaping and visual impact. ▪ Altis/Frasers provided a visual presentation, including an urban design report prepared by Roberts Day, showcasing the promenade along the western edge of the Site. This presentation also outlined the amenity offerings and detailed how it aligns with the vision of the Western Parkland City. ▪ Council indicated support of the edge activation along the western elevation of the Warehouse buildings and the proposed boulevard. ▪ Council indicated support of the provision of amenities including café, food trucks, BBQ areas, outdoor seating, recreation oval and public art offering. ▪ Council requested that consideration be given to achieving increased permeability by providing a through link through the Warehouse building on Lot 11 if possible. ▪ Altis/Frasers indicated that there may be modifications in the future which could facilitate this – it is dependent on the user specific requirements. **Planning and Design** ▪ Council requested that a temporary turning head be provided at the end of the proposed link road to the south. The Applicant indicated that this could be investigated and shown on the updated plans. ▪ Council requested a landscape cross section be provided of the freight rail corridor to the north. Similarly, updated cross sections are required with Mamre Road to show the landscaped treatment including the accurate locations of buildings and car parking areas.

		▪ Council requested clarification that Section A-A of the landscape plan is accurate. Altis/Frasers advised that all sections would be reviewed to ensure that they are correct and align with architectural plans. Setbacks to the car parking / building areas to be confirmed. ▪ Council requested that Landscape Plan Section C-C to be considered with respect to batter grades. ▪ Council requested that consideration be given to landscaping/tree canopy with Warehouse lots (including car parking areas) to mitigate visual impact of the hard stand areas that face the internal road network. ▪ Council requested that a cut/fill plan to be provided to show the reduced scale of the development. ▪ Council requested that details be provided in relation to land ownership and ongoing maintenance of spaces that would be open to the public. The applicant noted that ownership and maintenance of proposed boulevard, sporting fields and café areas would be completed by the lot owners. ▪ Council requested that details are provided regarding the Southern Link Road / rail corridor, how this would be subdivided and transferred over the relevant Authority. ▪ Altis/Frasers advised that the freight rail corridor would be subdivided as part of the SSD Application. **Stormwater** ▪ In terms of stormwater drainage, Altis/frasers indicated that there would be on lot treatment with all stormwater from the road, Warehouse lots and upstream catchments draining to South Creek. The Site's stormwater is split into a northern and southern catchment, both systems have the piped system discharging into an open channel that drains to South Creek. The northern system is proposed to drain via the Crown Road Reserve, with the southern system via an open channel to South Creek over Lot 22 DP258244. ▪ Council indicated that Nathan Richie is the Councils Property officer. The Applicant indicated that they have ben liaising with Crown Lands and the intention of the Crown is to transfer the road reserve to Council so they can issue any consent to develop on this land portion. Council confirmed that they would liaise internally and advise the Applicant regarding the details of this transfer. **Summary**

		▪ Council indicated that the revised scheme appears to address the concerns raised in public submission, noting the development is proposed to be located entirely outside of the 1% AEP flood extent, with ample land adjacent to South Creek to achieve the objectives of Stage 2 LUIIP. Additionally, the extent of disturbance to the landform is significantly reduced. The edge activation and overall amenity offering provides a significant public benefit and would set a desirable precedent for future development in the Precinct. ▪ Council indicated it would provide a response to the revised (preliminary) scheme on letterhead prior to the Applicants meeting with DPIE in the next 2 weeks. It is noted that following this meeting, a letter of support was provided dated 2nd October 2019.

	18.06.2020	A meeting was held with the Penrith City Council to discuss the amended Masterplan, Architectural Plans, Landscape Plans and Urban Design Study in relation to the Proposal. The key outcomes and agenda items pertaining to the meeting held are summarised below: ▪ Development Assessment and Planning Matters; ▪ Flooding Matters; ▪ Traffic Management, Parking and Road Design Matters; ▪ Water Quality & Water Quantity Management Matters; and ▪ Strategic Planning Considerations.

	15.07.2020	A further meeting was held with the Penrith City Council to discuss the amended Masterplan, and supporting consultant reports in relation to the Proposal. The key outcomes and agenda items pertaining to the meeting held are summarised below: ▪ Wastewater Management; ▪ Water Quality Management; ▪ Biodiversity Considerations; and ▪ Engineering Comments.

Greater Sydney Commission (GSC)	07.08.19	Altis/Frasers met with GSC on 7th August 2019 to discuss the exhibited Masterplan. The key matters discussed are summarised as follows: ▪ GSC acknowledged that the 11ha of land being dedicated for public open space and recreation was in line with the objectives of the GSRP, the location of the South Creek Precinct boundary was yet to be determined and dependent on the findings of INSW studies. ▪ GSC acknowledged the issues relating to the lack of industrial employment land and committed to speak with INSW, request a meeting and further information relating to the type of studies and outcomes of those studies they are undertaking and timing of completion. ▪ GSC indicated that The Western City is proposing development that is not just "business as usual" with a strong focus on tree canopy, access throughout employment zones and cooling the city. The Proposed Development should incorporate these principles where practicable, given the type of employment proposed for the site.
	14.10.19	Altis/Frasers wrote to the GSC on 14th October 2019, providing a briefing regarding the updated Masterplan that was sent to DPIE on 20th September 2019. The GSC responded by email on 14th November 2019 commending Altis/Frasers for the amended Masterplan as it reduced the extent of the development footprint. The GSC also wrote to Altis/Frasers on 2nd December 2019, indicating that they support DPIE considering the revised Masterplan.
Planning Partnership (PP)	14.06.19	During the exhibition period, Altis/Frasers met with the PP to provide an overview of the Proposed Development that was submitted to DPIE. The PP advised at this meeting that the precinct boundaries were still under consideration. At this meeting it was indicated that the excision of the Mamre Road Precinct from the Aerotropolis SEPP was under consideration.
	05.08.19	Altis/Frasers wrote to the Planning Partnership of 5th August 2019 offering a meeting to discuss the SSD Application. No response was received.

	14.10.19	Altis/Frasers wrote to the PP on 14th October 2019 providing a briefing note and copy of the revised Masterplan that was submitted to DPIE in September 2019. A written response to this briefing note has not been received.
Transport for NSW (TfNSW) – formerly RMS	14.06.19	The key items discussed agreed actions between TfNSW and Altis/Frasers are summarised below: **<u>Mamre South</u>** ▪ TfNSW advised that there are currently two options being considered for connection West of Mamre Road to the Outer Sydney Orbital (OSO), including an extension of Erskine Park Road or the SLR extension West of Mamre Road ▪ DPIE had not provided guidance on the western extent of SLR, which currently has no status within TfNSW. TfNSW fee proposal was rejected, this will now be assessed in the overall Aerotropolis strategy. ▪ TfNSW confirmed that the Mamre Road Precinct is expected to be included in the WSEA. ▪ TfNSW indicated that DPIE has been working on the Mamre Road Precinct release ▪ TfNSW indicated that that SLR connection to OSO includes the following options: a) Extension of Lenore Drive, via Erskine Park Road i) Intersection spacing on OSO makes this option more attractive - equal distance between M4 and M12 b) Southern Link Road extension i) Less development ii) Less flood plain ▪ Both options are under consideration. ▪ TfNSW indicated that the SLR east of Mamre progressing ahead of Aerotropolis, which will be completed in stages. **<u>Mamre Road Precinct</u>** ▪ TfNSW indicated that DPIE are considering to include the land within the WSEA as this allows fast tracking ahead of Aerotropolis SEPP.

		▪ TfNSW indicated the SLR timing as follows: a) Gate 1 strategic business case - September 2019 b) Gate 2 final business case – funded but no timing available i) Complete business case ii) Concept design iii) EA determined c) Gate 3 delivery readiness i) Property acquisition etc. d) Gate 4 delivery i) Unknown timeframe... Likely ▪ TfNSW indicated they are seeking to consult with broader stakeholder group in next 2-3 weeks. ▪ TfNSW indicated SLR staging as follows: a) Stage 1 - Mamre to Old Wallgrove Road b) Stage 2 - Old Wallgrove to Wallgrove i) Option 1 via Gazcorp - similar to Aecom scheme ii) Option 2 straight east along Burley Rd ▪ It was confirmed that DPIE had requested a WSEA road strategy investigating roll-out of roads: a) Archbold Rd b) Mamre Road Upgrade ▪ TfNSW indicated it could build two lanes in the SLR in the interim to service access to Lots to minimise costs ahead of state funding for its ultimate construction.
	13.11.19	Prior to the release of the draft Mmare Road Precinct Structure Plan in November 2019, a meeting was held with the RMS (now TfNSW). The main discussion points and action items from this meeting are discussed below: ▪ TfNSW indicated that Mamre Road Widening – Stage 1 (M4 to Erskine Park Road) had been committed by the Liberal Government, with Stage 2 to follow at a later date. ▪ TfNSW indicated that the initial Aecom/Jacob's modelling being revised from Wallgrove Rd to the Outer Sydney Orbital or Luddenham Rd, with DPIE to commission RMS to commence

		▪ Altis/Frasers described how the current SSD will not impact the SLR route as from the Mamre Rd intersection, the SLR can continue west for ~200m then deviate north or south as will be determined by RMS. ▪ TfNSW advised DPIE still working on Mamre Road Precinct plan ○ Due out before Christmas 2019 ○ Possibility for grade separation at Bakers / Mamre Intersection ▪ TfNSW queried the 'control' in the stub interface in Sequence 2 proposed by Altis/Frasers ▪ Altis/Frasers indicated the stub was originally proposed to allow local landowners to turn around and turn left-in to land along Mamre Rd. i.e. To reduce impact of median on accessibility of lands ahead of consolidation of lots etc. ▪ TfNSW indicated it has concerns regarding signals "timing off" due to gaps in traffic from the detector and following traffic coming from internal 'give-way' line. ▪ TfNSW indicated it has no direction re SLR extension to the west. ▪ TfNSW indicated that the Aerotropolis might have something in Stage 2 LUIIP to govern roads planning moving forward ▪ TfNSW indicated that there is still uncertainty, hence SLR allows for 6-lane corridor. ▪ Altis/Frasers provided comment that advice from within the TfNSW previously advised that the spacing of SLR to M12 was too close It is noted that following this meeting, the Masterplan and considerations relevant to TfNSW were discussed on an iterative basis up until the meeting of 4th March 2020.
	4.03.20	The key items discussed and agreed actions between TfNSW, DPIE and Altis/Frasers are summarised as follows: ▪ **<u>Southern Link Road</u>** ○ TfNSW advised modelling for the SLR was advanced (via GHD) and review of the SLR / Mamre Road intersection was not expected to require changes to the required corridor / spatial requirements.

		○ Altis/Frasers presented the functional layouts for the proposed bakers lane intersection (stage 1), the SLR intersection connecting back to Bakers Lane (stage 2) and full SLR traversing through the site (Stage 3) ○ Altis/Frasers agreed to re-send PDF and CAD versions of the functional layouts for TfNSW review (completed 5/3/2020). ○ TfNSW agreed to send over their SLR / Mamre Road intersection plan for the proponent to overlay the functional layouts and building footprints ensuring no clashes. ○ TfNSW confirmed the 38m wide corridor allocated within the Altis/Frasers masterplan was adequate for a future western connection of the SLR into the site, including its alignment. ▪ **<u>Mamre Road Structure Plan</u>** ○ TfNSW Traffic modelling for the Mamre road precinct would commence once a final location of the Intermodal was confirmed. ○ TfNSW commented that the east-west Intermodal location was preferred, however the impacts on vegetation was an issue DPIE must manage and advise on. ○ TfNSW require updated SIDRA modelling of the precinct following confirmation of the above, noting the process will take a couple of weeks. ○ TfNSW and Altis/Frasers discussed AGV connectivity and it was noted connectivity on the eastern side of Mamre Road servicing this section of the precinct was appropriate. It is noted that following this meeting that TfNSW have provided a letter to Altis/Frasers dated 9th April 2020. The matters raised within this letter are addressed in this RtS Report in Part B and **Appendix 1**.
NSW Rural Fire Service (RFS)	12.03.20	The matters discussed and key resolutions in relation to the submission received to the exhibited SSD Application are summarised as follows: ▪ Altis/Frasers discussed the revised Masterplan and identified that the 50m APZ requirement specified by RFS can be negated through a Vegetation Management Plan and management of the defendable space across the Site.

		▪ Altis/Frasers noted that the hazardous bushfire prone areas across the Site are considered to be "low hazard" with respect to the associated Vegetation Category, whereby the revised Bushfire Assessment Report would be document with appropriate recommendations and mitigation measures ▪ RFS indicated the justification was supportable and the revised bushfire report would be considered when the RtS Report is referred to them. The Proposal as amended can be conditioned accordingly to comply with the requirements of the RFS.
Sydney Water	26.06.19	Sydney Water wrote to Altis/Frasers on 12th June 2019 in relation to the Option Service Report to service the development (refer **Appendix 30**). In this correspondence, Sydney Water advised: ▪ Sydney Water services for the Mamre Road Precinct is dependent on DPIE formal release advice and subject to Sydney Water's policy on developer accelerated servicing. Sydney Water indicated that there is a meeting scheduled to discuss this matter. Sydney Water also specifically advised: ▪ ***Wastewater*** *services to Mamre Road Precinct can be provided temporarily by St Marys STP for up to 3years, this is based on formal notification of the expected date of connection. Long-term we intend to provide wastewater services from the proposed Upper South Creek WRP to be completed by 2025/26.* ▪ ***Drinking water*** *services can be provided in the short term, we are working to deliver a trunk main along Mamre Road by 2024-25. We will be working with RMS to deliver trunk mains in Mamre Road during road upgrade, subject to funding approval based on risk for development timeframes. Developer delivered precinct trunk mains will also be required to service the precinct.* ▪ ***Recycled water*** *services are being investigated for the whole of the Western Sydney Aerotropolis Growth Area (WSAGA) including this Precinct. We are seeking information on*

		potential recycled water demands, types of use and will provide further advice later in the year. Consideration should be given to incorporating third pipe reticulation and recycled water plumbing connections during your planning stages. ▪ ***Stormwater*** *– Sydney Water is collaborating with the Western Sydney Planning Partnership Office, member Councils and agencies on typologies, flood and waterway health models for the whole South Creek Catchment, to inform WSAGA LUIIP 2 and the WSAGA Precinct Plans. Consideration should be given to managing flooding and stormwater runoff quality.*
	12.08.19	Sydney Water provided further correspondence (refer **Appendix 30**) dated 12th August 2019 advising that the proposed water and wastewater options for servicing the site have been assessed and potential solutions identified, which are summarised as follows: ***Water*** ▪ *Based upon the information provided, it is considered feasible that a proposed DN300extension along Mamre Road from the north could provide adequate flow and pressure to your development.* ***Wastewater*** ▪ *Interim – It is considered feasible that the subject site could be temporarily served by either a low-pressure sewer solution connecting to the St Marys network or a gravity solution terminating in an interim operating solution. The selected temporary option would be required to be designed and constructed to coordinate with our long-term permanent solution.* ▪ *Permanent – It is expected that the Mamre precinct will be serviced long term by anew STP situated within the wider aerotropolis area. Sub-regional work is currently being carried out to assess capacity requirements within the subject systems.* Sydney Water noted that any temporary solution would be developer funded and fast-tracking any Sydney Water assets or services is dependent on formal precinct release.

	08.11.19	On 8th November 2019 (refer **Appendix 30**), Sydney Water wrote to Altis/Frasers, indicating that to accelerate the servicing of Mamre Road South, it is required to complete the detailed options planning activities. Subsequently Altis/Frasers proceeded to prepare and submit an Interim Options Development Report as required. This was provided to Sydney Water on 23rd of November 2019.
	09.01.20	On 9th January 2020, Altis/Frasers received endorsement for the interim options Stage 1 for water and wastewater (refer **Appendix 30**). The Proposal as amended is subject to further consultation with Sydney Water post approval of the SSD Application.
WaterNSW	24.07.19	Altis/Frasers met with Water NSW to discuss the submission received following exhibition of the SSD Application. The discussion points and outcomes of the meeting are summarised as follows. **Site and Flooding Overview** ▪ Altis/Frasers provided a summary of the previous submission– noting the SSD site and both First Estate and Twin Creeks Golf Course residential Estate were also introduced as the comparison scenario. The SSD scenario showed the effect of the SSD site, and also impacts from previously constructed/ approved developments as required by Council and DPIE. ▪ The existing flooding of the pipelines prior to any development occurring was discussed. **Analysis of Proposal** ▪ Altis/Frasers indicated the current analysis is based on the scenario where the SSD site was introduced and both First Estate and Twin Creeks Golf Course residential Estate were used as existing as the comparison scenario. This separates out affectation relating only to the SSD site from that relating to previously approved and constructed development. ▪ Altis/Frasers indicated that water level increases of 15mm and 21mm only were a result of the Proposal.

		▪ Altis/Frasers indicated that minor increases in velocity in the order of 0.1m/s were changed however an isolated instance of 0.4m/s was also shown in the pipeline corridor. ▪ Altis/Frasers indicated that the increase in pressure has been assessed to be below 0.007kPa, or less than 0.02% change between pre and post development. ▪ Altis/Frasers indicated that the flow velocities are below velocities that cause grass to erode. ▪ Altis/Farsers indicated that flow changes are at a regional scale (ie when South Creek is in flood). ▪ Altis/Frasers indicated that the Proposed Development provides ~10,000cum of extra flood storage than existing. ▪ Alis/Frasers confirmed that the Proposed Development provided on site detention to ensure no worsening from flow increases for a local storm or regional storm (i.e. when South Creek is not in flood). There are no changes to water levels within South Creek or the pipeline corridor during local storm events. **<u>General Discussion</u>** ▪ Water NSW requested the peak flow velocity change within the pipeline was requested.Post Meeting this is advised as 0.5m/s. ▪ The timing of Council's 2014 flood study was discussed as the initial basis of the flood model with parameter adjustments undertaken following the Advision review and agreement with Penrith Council – this is the base model adopted for this iteration of the flood model and reporting. ▪ It was discussed that the Penrith/ Worley Parsons (Advisian) flood studies have accuracies (absolute) of +/-0.2m and the change proposed was a maximum of 0.02m and this is very minor when reviewed in context. ▪ Post meeting it was noted by Altis/Frasers that the change of depth in terms of flow was less than 0.8%. It is considered that the Proposal as amended results in no impact on the WaterNSW corridor.
	14.10.19	Following the preparation of a revised Masterplan for the Site, Altis/Frasers notified Water NSW of the amended design noting that the development is located outside the 1% AEP flood extent.

		Water NSW responded on 23rd October 2019 confirming the new plan had been received and advised that unless it was identified how the new scheme now addresses all previous issues raised, that Water NSW would comment on the scheme during the formal referral period from DPIE.
Crown Lands	26.02.20	Crown lands wrote to Altis/Frasers on 22nd February 2020 providing a copy of NSW Gazette No 36 of 21st February 2020 (folio 647-648) for transfer of unnamed road adjoining north boundary of Lot 1 DP 1018318 at Kemps Creek to Penrith City Council.
	28.02.20	Penrith City Council wrote to Altis/Frasers on 24th April 2020 providing landowners consent for Lot 1 DP 1018318.
Endeavour Energy	21.06.19	Altis/Frasers met with Endeavour Energy on 21st June 2019. At this meeting the Proposal in overview was discussed and Endeavour Energy advised: ▪ That initial power would be provided from the Mamre Road Zone Sub (MRZS) and would be underground to Erskine Park road, then overhead to the site. ▪ Initial power would be in the vicinity of 3MVa – 4.5MVa ▪ Further power connections could be obtained from the MRZS, or depending on timing, the proposed new South Erskine Park Zone Substation (90MVa) located on the Oakdale West site. ▪ The proposed South Erskine Park Zone Substation would be completed within the next 3-4 years, with the land transfer completed. Endeavour acknowledged receipt of the SSD Application and advised they would respond during the exhibition phase.
	23.10.19	Altis Frasers met with Endeavour Energy on 23rd September 2019 to discuss the revised Masterplan that had been prepared and submitted to DPIE for comment. Endeavour Energy noted the following with respect to the amended scheme and generally:

		▪ There is one feeder supplying 4.5MVA had been allocated for the development, however noted that analysis of the network showed ample spare capacity in the event additional power was required. ▪ The possibility of future 132KVA line connecting from the Aerotropolis to the MZS and proposed Erskine Park South zone substation, which may traverse the site. Both Altis/Frasers and Endeavour Energy agreed the most likely location would be within the Bakers Lane road reserve (30.6m) which had space for underground infrastructure. It is considered that the Proposal as amended has given due consideration of these comments and meets the requirements of Endeavour Energy.

PART C PROPOSED DEVELOPMENT AS AMENDED

3.1 DEVELOPMENT FOR WHICH CONSENT IS SOUGHT

Development Consent is sought for the construction, fit-out and operational use of ten (10) Warehouse buildings, including ancillary offices and bulk earthworks. A two-stage Torrens Title subdivision of the land is proposed and consists of Stage 1, comprising five (5) residue allotments; and Stage 2, comprising 17 allotments, including eight (8) development allotments for built form. Proposed Lots 1 to 8 will be designated for Warehouse development; Lots 9 & 10 will remain as a residue allotments for future Warehousing development (as part of separate Development Applications); Lots 11-13 for bio-retention basins; Lots 14-16 for RE1 Public Open Space; Lot 17 for RE2 Private Recreation; and Lots 3-5 (Stage 1 Subdivision), adjacent to South Creek, are to remain undeveloped. The Proposal includes a total of 166,225 m^2 GFA proposed across Lots 1-8.

There are no Warehouse buildings proposed at the western interface within the RE1 Public Recreation and RE2 Private Recreation zoned land; however, approval for bulk earthworks is being sought within these areas. Development (excluding bulk earthworks) of this portion of the Site has been deferred under this SSD Application while some of the strategic planning outcomes for the Mamre Road Precinct are finalised.

The main attributes of the Proposed Development are described below in **Sections 3.1.1 – 3.1.6** below, detailing the particulars in relation to anticipated timing for completion and general order in which the respective components of the development would be carried out:

3.1.1 Stage 1 Subdivision to Create Five (5) Residual

It is proposed to create create five (5) Torrens Title residual allotments (refer to **Table 2** for proposed allotment areas and **Figure 2** for the proposed layout).

Service easements / rights of carriageway (for roads) will burden Lot 1 and benefit Lot 2 (to be documented on the future Section 88b Instrument).

3.1.2 Bulk Earthworks and Civil Works (to be undertaken concurrently with the Stage 1 Subdivision)

Bulk earthworks are proposed to be carried out across proposed Lots 1-17, to establish the building pads on the Subject Site, which will facilitate built form development (and future open space land uses), as well as balance any required cut and fill accordingly. Bulk Earthworks are required to:

- Create a suitable platform for future Warehouse buildings (-60,350 m^3 (cut) and +2,072,750 m^3 (fill)).
- Construction of internal Estate roads to service the proposed allotments which are to contain buildings (Lots 1-8).
- Construction of Estate basins (proposed Lots 11-13).
- Balance the Site in accordance with the development allotments through minor filling (Lots 14-17).
- Provision of infrastructure services to all allotments (potable water, wastewater, gas, telecommunications and electricity).
- Landscaping within the verges will be provided as the Estate roads are completed.

It is considered that bulk earthworks and associated Compliance Certificates can be issued for parts of the development as and when required by customer demand. An agreed number of conditions will be satisfied prior to the issue of the bulk earthworks Construction Certificate to

allow this to occur. Accordingly, prior to the issue of a Construction Certificate for bulk earthworks, the following documentation would be provided to the appointed Principal Certifying Authority (PCA):

- Construction Certificate Application.
- Detailed (and Stamped Approved) bulk earthworks plans demonstrating cut and fill requirements, sections and specifications.
- Fill Importation Protocol, detailing import controls and tracking of material (VEMN validation certificates).
- Erosion and Sediment and Control Plans (ESCP) included in a Soil and Water Management Plan (SWMP).
- Compliance with post-approval documentation including Construction Environment Management Plan, Construction Traffic Management Plan, Construction Noise and Vibration Management Plan and Environmental Management Plan.

3.1.3 Stage 2 Subdivision to Create Development and Dedicated Open Space Allotments

The purpose of the Stage 2 Subdivision is to create 17 Torrens Title allotments (refer to **Table 2** for proposed allotment areas and **Figure 3** for the proposed layout). Within the Stage 2 Subdivision, dedication of roads to the relevant roads' authority would be undertaken following completion of the relevant construction stages.

The Stage 2 Subdivision is intended to allow for the development of allotments in no particular order to be created, leaving residual land at the end of each Subdivision, allowing for the market demand to determine which lots are extracted and subdivided as customers are identified and catered for.

Each development lot is required to be fully serviced prior to the releasing of a Subdivision Certificate ensured by the issuing of a Sydney Water – Section 73 Certificate; Endeavour Energy – Notice of Arrangements; NBN – Provisioning Certificate and Civil Accredited Certifier – Compliance Certificate for roads and stormwater.

With respect to the designation of future open space, the Proposal includes provisions for:

- 7.6 ha of RE1 Public Recreation (Open Space) land (proposed Lots 14-16).
- 1.2 ha of RE2 Private Recreation land (proposed Lot 17).
- 27 ha of land to remain undeveloped (located within the future Aerotropolis SEPP land – Wianamatta-South Creek Precinct on proposed Lots 3-5 (Stage 1 Subdivision)). All of this land is within the 1% AEP flood extent. This area will remain vegetated in its current state with no built form proposed.

It is noted, that the western portion of the Subject Site, has now been designated only for future open space land uses, in accordance with the Mamre Road Precinct Structure Plan. Access will be provided to these allotments under this SSD Application; however, built form will be subject to separate Development Consent. It is noted, that there is minor filling proposed on these allotments as part of the bulk earthworks proposed across the Site.

3.1.4 Bakers Lane/Mamre Road - Intersection Works

Intersection works are required to allow the Proposed Development to operate at a satisfactory Level of Service (LoS) are proposed as follows:

- **Sequence 1a:** Interim upgrade at Mamre Road / Bakers Lane intersection, which is proposed to accommodate traffic associated with the first 166,225 m^2 of GFA. This

would be undertaken prior to the issue of any Occupation Certificate pertaining to the proposed Warehouse buildings (Lots 1-8) on the Site.

Estate entry signage is proposed to be erected at the completion of Sequence 1a intersection works as shown in **Appendix 16** of this RtS Report.

- **Sequence 1b:** Further upgrading of Mamre Road (4-lanes along the frontage of the Site, extending north to Distribution Drive). This upgrade is expected to be fully delivered by 2025. Occupation of the balance of the Warehouse and Industrial buildings can occur once sequence 1b is complete. The development proposed under this SSD Application would not trigger these works given the amount of GFA proposed.

It is noted that further sequences (Sequence 2 and 3) contained within the Traffic Impact Assessment (refer to **Appendix 16**) relate only to the provision of land for the SLR and to demonstrate, that should the eastern and/or western SLR be constructed in the future, full traffic and access integration to the Estate is possible. There are no works proposed under this SSD Application for these identified Sequences, nor is there any intention to complete these works.

3.1.5 Warehouse buildings

Warehouse buildings are to be constructed as follows:

- Eight (8) Warehouse buildings (comprising ten (10) potential tenancies) and ancillary offices on the development lots as shown on the Masterplan (refer to **Figure 1** & **Appendix 6**, which comprises approximately of 166,225 m^2 GFA.
- Associated hardstand and car parking (744 spaces in total for the Estate).

Prior to any buildings being occupied, all services, intersection works, roads and associated detention and water quality facilities will be provided.

It is intended that construction of each individual building can be undertaken in no particular order once compliance with an agreed number of conditions are satisfied. The Construction and Occupation Certificates will be issued on a building by building basis.

The individual use of buildings will be for the purpose of Warehousing and Distribution, in accordance with the below definitions bestowed under the Standard Instrument:

> **"warehouse or distribution centre** *means a building or place used mainly or exclusively for storing or handling items (whether goods or materials) pending their sale, but from which no retail sales are made."*

3.1.6 Landscaping

Prior to occupation of the relevant Warehouse buildings, all landscaping works associated with the development allotment will be completed in accordance with the Landscape Plans for the Proposed Development (refer to **Appendix 10**).

Landscaping provisions (re-vegetation statistics) for the Site include the following:

- 1,250 new trees planted;
- 141,250 m^2 of new tree canopy; and
- 91,700 m^2 of new soft landscape.

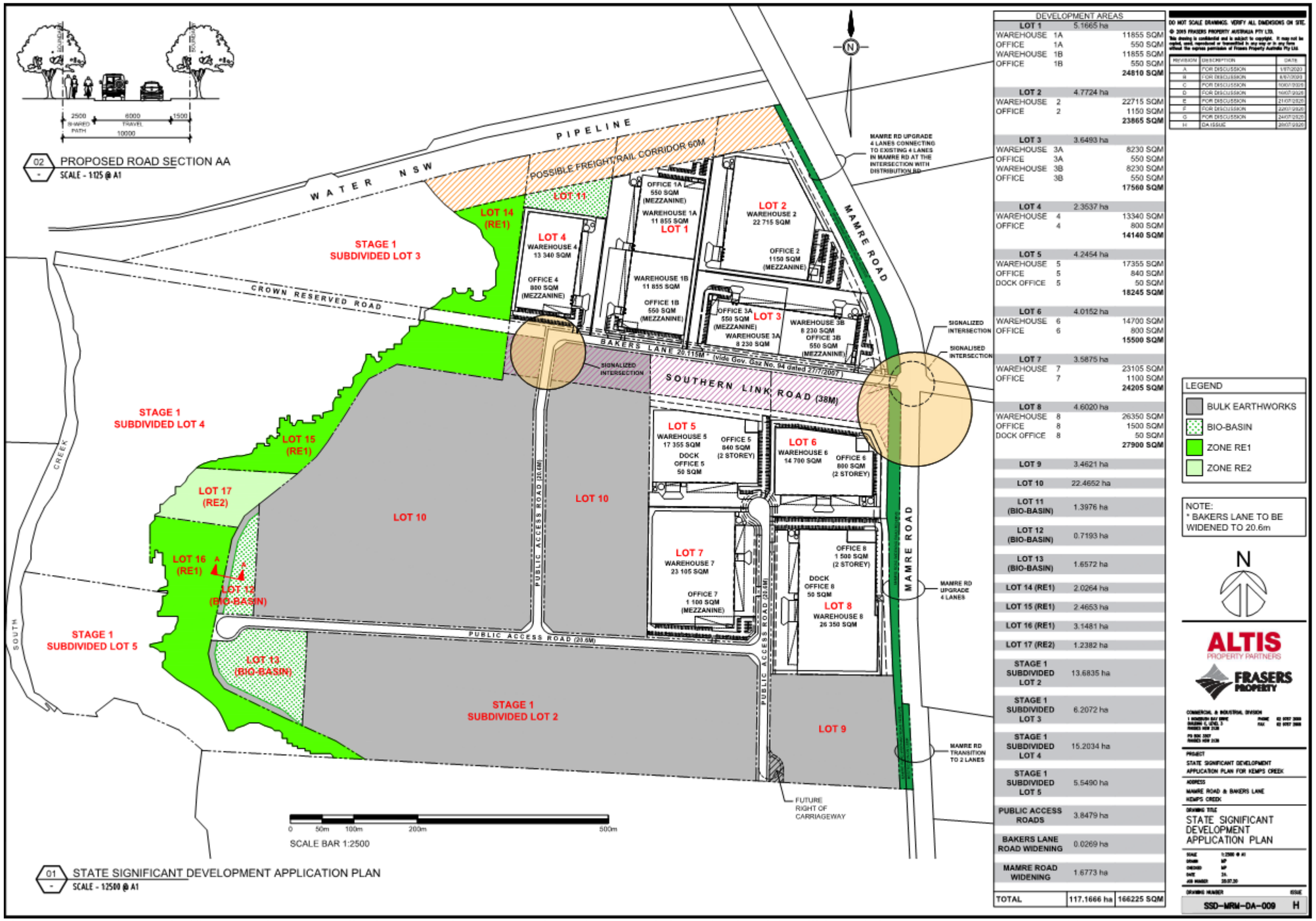

Figure 1 Proposed State Significant Development Application Masterplan – Proposed Warehouse, Logistics and Industrial Facilities Hub (Source: Frasers Property & Altis Property Partners, 2020)

The proposed subdivision of the Subject Site is outlined below in **Table 2**.

Table 2: Proposed Subdivision of the Subject Site	
Lot Number as per Proposed Subdivision Plan	**Area (m^2)**
Stage 1 (Residual Allotments)	
1	709,714
2	136,835
3	62,072
4	152,034
5	55,490
Mamre Road Widening	16,773
Bakers Lane Widening	269
Stage 2 (Development Allotments)	
1	51,665
2	47,724
3	36,493
4	23,537
5	42,454
6	40,152
7	35,875
8	46,020
9	34,621
Part 10 (Residue Lot)	72,223
Part 10 (Residue Lot)	152,429
11 (Retention Bio-Basin)	13,976
12 (Retention Bio-Basin)	7,193
13 (Retention Bio-Basin)	16,572
14 (RE1)	20,264
15 (RE1)	24,653
16 (RE1)	31,481
17 (RE2)	12,382
Stage 1 Subdivided Lot 2	136,835
Stage 1 Subdivided Lot 3	62,072
Stage 1 Subdivided Lot 4	152,034
Stage 1 Subdivided Lot 5	55,490
Public Access Roads	38,479
Bakers Lane Road Widening	269
Mamre Road Widening	16,773
Total Area: 1,171,666 m^2 (117.9 Hectares)	

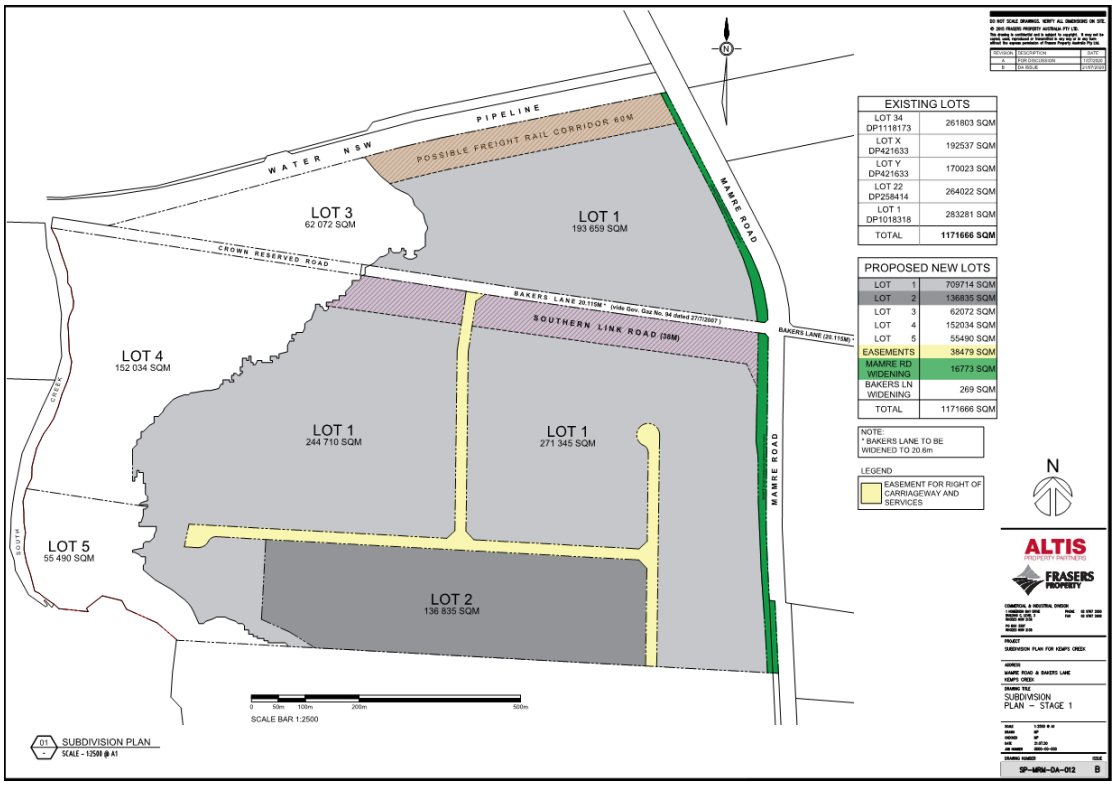

Figure 2 Proposed Subdivision Stage 1 for including Residual Allotments for the Subject Site (Source: Frasers Property, 2020)

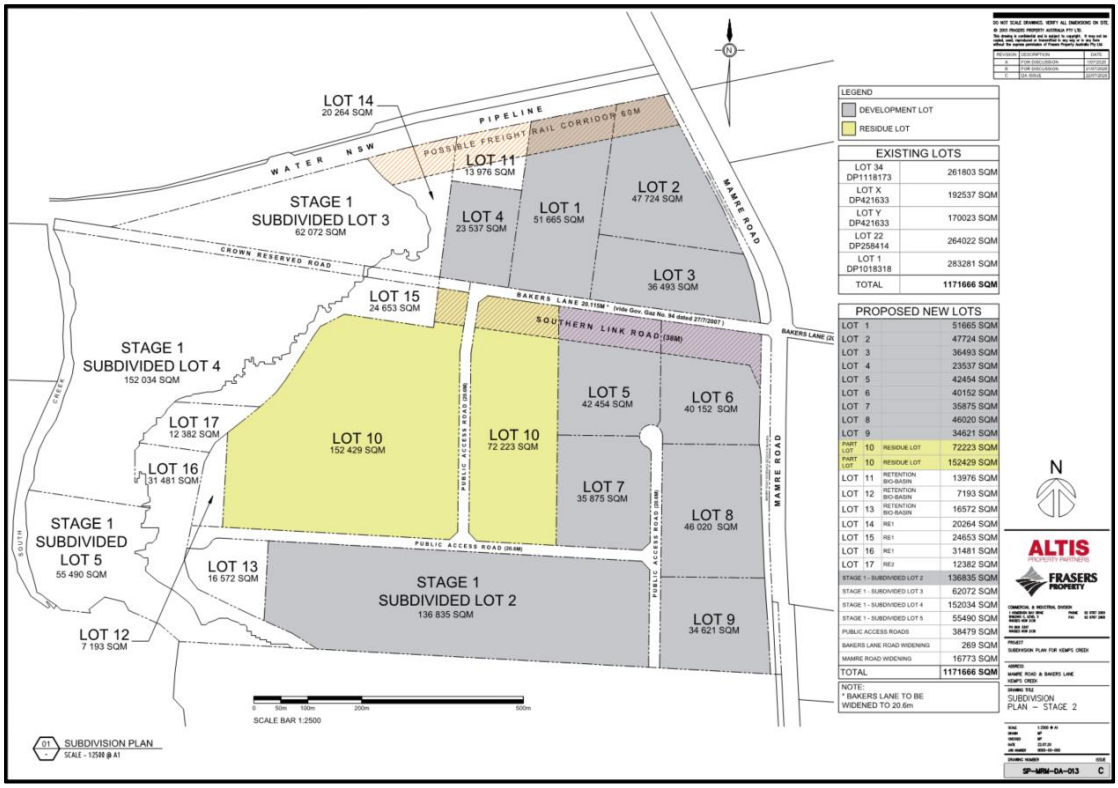

Figure 3 Proposed Subdivision Stage 2 for Development Allotments for the Subject Site (Source: Frasers Property, 2020)

3.2 PROPOSED AMENDMENTS TO ORIGINALLY EXHIBITED SCHEME

Following extensive consultation with the NSW DPIE, PCC and all State Agencies, several amendments have been made to the original scheme pursuant to Clause 55 of the EP&A Regulation, 2000.

A summary of the key changes between the Masterplan Exhibited in 2019 and the Masterplan which forms part of this RtS is outlined in **Table 3** below.

Table 3: Summary of Amendments between Masterplans		
Project Element	**Masterplan Exhibited 2019**	**Amended Masterplan 2020**
Site Area	118 ha	118 ha
Developable Area	30.63 ha (Stage 1 Construction of Building's only).	89.495 ha (construction of all roads and buildings).
Development Gross Floor Area	163,671 m^2	166,225 m^2
Built Form	Six (6) Warehouse buildings (comprising nine (9) potential tenancies), including ancillary offices, hardstand, car parking area and associated landscaping.	Eight (8) Warehouse buildings (comprising 10 potential tenancies), including ancillary offices, hardstand, car parking area and associated landscaping.
Primary Land Uses	▪ General Industry and Warehousing	Lots 1-13 (including Stage 1 Subdivided Lot 2): ▪ General Industry; and ▪ Warehousing and Distribution. ▪ **Note:** Lots 11-13 comprise the proposed OSD basins. Lots 14-17: ▪ Public Recreation and Private Recreation.
Employment Generation	1,300 full time jobs (Stage 1). ▪ 800 operational jobs (Stage 1) ▪ 500 construction jobs (Stage 1)	**SSD Application:** 1,650 full time jobs, comprising: ▪ 950 operational jobs ▪ 700 construction jobs **Note:** The Proposal will deliver 3,150 full time jobs, being 2,000 operational jobs and 1,150 construction jobs upon completion of the entire Estate.
Subdivision	33 lot Torrens Title Subdivision comprising three (3) stages: Stage 1: ▪ Six (6) developable allotments; and ▪ Nine (9) allotments proposed. Stage 2: ▪ Nine (9) allotments proposed.	17 lot Torrens Title Subdivision comprising two (2) stages: Stage 1: ▪ Five (5) residual allotments proposed. Stage 2: ▪ 17 development allotments proposed.

	Stage 3: ▪ 15 allotments proposed.	
Landscaping	▪ 615 new trees	▪ New Vegetation Area: 91,700 m^2; ▪ Number of New Trees: 1,250; and ▪ Approximate Canopy Cover (average): 141,250 m^2.
Earthworks	▪ Cut: -126,300 m^3; ▪ Detailed Excavation: -135,000 m^3; ▪ Fill: +2,514,200 m^3; and ▪ Balance: +2,252,900 m^3 (Import required).	▪ Cut: -60,350 m^3; ▪ Detailed Excavation: -109,600 m^3; ▪ Fill: +2,072,750 m^3; and ▪ Balance: +1,902,800 m^3 (Import required).
Car Parking	▪ 754 car parking spaces.	▪ 744 car parking spaces.
Native Vegetation Clearing	14.41 ha of Native Vegetation identified on-site: ▪ 11.40 ha proposed to be cleared.	14.41 ha of Native Vegetation identified on-site: ▪ 9.29 ha proposed to be cleared.

PART D APPLICANT'S RESPONSE TO KEY ISSUES

Following exhibition of the SSD Application between 7th June 2019 and 8th July 2019, the following key stakeholder submissions were evaluated. A summary of responses to submissions are set out in **Table 4** overleaf. These cover the issues raised by 1. DPIE; 2. PCC; 3. GSC; 4. RFS; 5. NSW RMS (now TfNSW); 6. Sydney Water; 7. TfNSW; 8. WaterNSW; 9. EES Group; 10. FRNSW; 11. NSW DPIE – Lands, Water, INSW and DPI; and 12. Members of the Public and Community Groups.

4.1 NSW DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT RESPONSE TO SUBMISSIONS / AGENCIES / COUNCIL / PUBLIC SUBMISSIONS

Following NSW DPIE's request for a RtS in a letter dated the 19th July 2019, a response has been provided on each matter raised. The Response Matrix that is attached to this Report (refer to **Appendix 1**). **Table 4** overleaf combines the Key Issues raised and provides a summary response to each item.

Table 4 covers the key issues which are 1. Strategic Justification; 2. Flood Impacts and Proposed Filling; 3. Traffic; 4. Southern Link Road; 5. Biodiversity; 6. Site Planning; 7. Urban Design. This table also includes a summary of individual issues raised by the public.

Table 4: Summary of Key Issues Raised by Authorities and the Public		
Summary of Key Issues Raised		**Response**
1. <u>Strategic Justification (NSW DPIE & Penrith City Council)</u>		
A.	Strategic Justification for the proposed development is required and to demonstrate how it is consistent with the Stage 1 LUIIP and the long-term role of South Creek	Since the RtS letter was received from NSW DPIE, the draft Mamre Road Precinct Structure Plan and Stage 2 of the LUIIP was released for public comment. The Stage 2 LUIIP includes amended precinct boundaries of both the South Creek Precinct and Mamre Road Precinct, which generally aligns to the 1% AEP flood extent and designates the Mamre Road Precinct as an "initial precinct", for which it has recently been zoned under the provisions of SEPP (WSEA) 2009 following the release of the Mamre Road Precinct Finalisation Report (June 2020), which included the finalised Mamre Road Precinct Structure Plan. The Proposed Development is now entirely contained within the Mamre Road Precinct, which designates the Site as IN1 General Industrial and includes pockets of both RE1 Public Recreation and RE2 Private Recreation. The Proposal as shown on the Masterplan aligns with the zoning, uses and objectives of the Mamre Road Precinct, providing significant employment (950 operational jobs and 700 construction jobs) open space and access to the Wianamatta-South Creek Precinct. The long-term role of South Creek as the "green spine" of the Western Parkland City has been thoroughly considered in the Proposed Development. Whilst no built form is proposed in the South Creek Precinct, the Masterplan provides vital public connections to the future "green spine" to the west, north and south of the Site. This connection is currently not provided and is a key linkage required for the NSW Government to realise the objectives and strategic direction earmarked under the Western District Plan and Aerotropolis Plan. With its ability to achieve the objectives of the Mamre Road Precinct, an initial precinct of the Aerotropolis Plan and considering land within the South Creek Precinct will be

		preserved as green open space (with connections) the Proposed Development is considered consistent and suitable for approval.
B.	The location of the Site within the South Creek Precinct is a concern and the shortfall of envisaged non-urban land.	Since the RtS letter was received from NSW DPIE, the draft Mamre Road Precinct Structure Plan and Stage 2 of the LUIIP was released for public comment. The Stage 2 LUIIP includes amended precinct boundaries of both the South Creek Precinct and Mamre Road Precinct, which generally aligns to the 1% AEP flood extent and designates the Mamre Road Precinct as an "initial precinct", for which it has recently been zoned under the provisions of SEPP (WSEA) 2009 following the release of the Mamre Road Precinct Finalisation Report (June 2020), which included the finalised Mamre Road Precinct Structure Plan. The Proposed Development is now entirely contained within the Mamre road Precinct and as such no works will be undertaken in the South Creek Precinct. The proposed green spine envisaged under the Aerotropolis Plan is therefore preserved under this Proposal as ample space is provided for future recreational land uses and associated infrastructure adjacent the creek edge and any previous strategic planning concerns are now appeased by the revised Proposal.
C.	Demonstrate consistency with Objectives 25, 26, 27, 31 and 32 under the Greater Sydney Region Plan: A Metropolis of Three Cities 2018 and the Sustainability Planning Priorities under the Draft Western City District Plan.	Each relevant objective outlined in the adjoining submissions item is satisfactorily addressed below, including: ▪ **Objective 25:** *The coast and waterways are protected and healthier* South Creek is classified as a 5th Order stream under the Strahler Stream Ordering System and therefore, a 40 m vegetated riparian zone at the two locations of stormwater discharge to South Creek are required to be implemented in accordance with the requirements of the *NSW Water Management Act 2000*. From the investigations undertaken, terrestrial and aquatic groundwater dependent ecosystems are present in the Subject Site; however, their distribution across the Subject Site is considered to be confined to the South Creek area and adjoining riparian zone, which lies completely outside of the Proposed Development footprint.

		Accordingly, the condition of the riparian vegetation and creek channel along this reach of South Creek adjoining the Site is considered to range between poor and fair. Historical and current land use practices at the Subject Site (and within the upper catchment), have resulted in significant degradation to the waterway (South Creek tributary) and the surrounding vegetative communities along the riparian corridor. The Proposed Development will not have any significant impacts on groundwater dependent, aquatic and / or riparian ecosystems. Rather, improvement to these ecosystems will occur if the following recommendations are implemented: ▪ Establish an appropriately buffered Vegetated Riparian Zone; ▪ Develop an appropriate Vegetation Management Plan; and ▪ Develop an appropriate Construction Environmental Management Plan (CEMP). By implementing appropriate stormwater management outcomes across the Site in accordance with the relevant principles and requirements concerning WSUD, the potential for runoff would be reduced through improved drainage conditions and provisions for Stormwater Detention to be implemented within the designated bio-retention basin in proposed Lots 11-13; and the implementation of Stormwater Treatments Measures (STMs) across the Site such as filters and pollutant traps, would enable the Site to achieve the relevant pollutant reduction targets in accordance with Penrith City Council's water quality control targets for achieving WSUD. Accordingly, the Proposed Development would not impose any significant impacts to the adjoining South Creek tributary and identified waterway, due to the revised Development completely avoiding works along the South Creek Corridor. CT Environmental (2020) conclude, that it is unlikely the Proposed Development will directly impact on riparian, aquatic and / or groundwater dependent ecosystems as they are outside the major development footprint (refer to *Assessment of Riparian and Groundwater Dependent Ecosystems* prepared by CT Environmental at **Appendix 27**). Notwithstanding, the Proposal is considered to be consistent with **Objective 25** of *A Metropolis of Three Cities*, as it would not cause any adverse environmental impacts to

		nearby waterways, rather, the Proposed Development has the opportunity to revitalise the Subject Site, in accordance with the strategic direction intended for the area. ▪ **<u>Objective 26:</u>** *A cool and green parkland city in the South Creek corridor* The Proposed Development includes generous and strategically comprehensive, aesthetically pleasing architectural landscape design which will contribute to a cool working and recreational environment, by reducing the Proposed Development's contribution towards the Urban Heat Island Effect and ameliorating the work space environment for employees, visitors and the general public, accessing the Site. This landscaping and overall design approach to deliver a cool and green industrial development is considered to satisfactorily address, not only Objective 26 of *A Metropolis of Three Cities*, but the subsequent, *Western City District Plan*, which notates the following aim and objective: *"Mitigating the heat island effect and providing cooler places, by extending urban tree canopy and retaining water in the landscape."* Accordingly, the Proposed Development includes provisions for a strategically designed dichotomous mix of mature native and endemic species, that utilise and retain water, positively complementing the overall WSUD strategy of water storage and re-use across the Site. This is particularly evident within the western portion of as the Subject Site, which has been designated for open space land uses in accordance with the recreational land use zones (Lots 14-17) along the western portion of the Site. The Proposal now provides approximately 1,250 new trees planted, which includes approximately 91,700 m^2 of new vegetation and a canopy cover of approximately 141,250 m^2. Additionally, the portion of the Site identified within the South Creek Precinct (proposed Lots 3-5 Stage 1 Subdivision) will remain undeveloped (26.96 ha of undeveloped land), which includes identified threatened species which would be retained by the Proposal. Additionally, the micro-climate experienced across the Site would be significantly 'cooler', than a typical industrial

		estate; thereby, resulting in a reduction to the overall potential for the Urban Heat Island Effect to occur, which is significantly mitigated by the strategic landscape design proposed for the Site. The measures proposed to be incorporated in the overall design, are considered to satisfactorily address, mitigate and reduce potential adverse impacts, for which Objective 26 of *A Metropolis of Three Cities* is considered to be satisfied. ▪ **Objective 27:** *Biodiversity is protected, urban bushland and remnant vegetation is enhanced* The revised masterplan has reduced the development footprint from the originally exhibited plan, protecting significant flora and fauna and reducing biodiversity impacts. The revised Biodiversity Development Assessment Report (BDAR) prepared by Ecoplanning (2020), now identifies only one (1) threatened species (fauna) under the *Commonwealth Environment Protection Biodiversity Conservation Act 1999* (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 and as such further surveys were required. During the detailed site inspection, no Flying Fox camps were identified as being present on the Subject Site and as such, impacts on these species is considered to be negligible. Additionally, similar results pertain to the Green and Gold Bell Frog, for which the Proposal is considered to be negligible with respect to habitat impacts on this species in accordance with the Subject Site. Furthermore, the condition of the existing flora onsite, including Cumberland Plain Woodland – a Critically Endangered Ecological Community (CEEC) – listed under the EPBC Act on the Subject Site, is in poor condition and does not meet the condition criteria to be considered a Matter of National Environmental Significance (MNES). Consequently, referral to the Commonwealth is not required. Accordingly, Sections 5.2 and 6.2 of the BDAR prepared by Ecoplanning (2020), identifies, that no "undue biodiversity impacts" were anticipated as a result of the Proposed Development.

		Any minor impacts anticipated to remnant vegetation on the Subject Site, for which retention is not possible would be subject to ecosystem credits. A total of 226 ecosystem credits are required to offset the Proposal. In accordance with the Biodiversity Assessment Methodology (BAM) pursuant to the *Biodiversity Conservation Act 2016* (BC Act), the Site's potential biodiversity impacts are deemed acceptable. Through the abovementioned offsets, as well as a comprehensive landscape strategy proposed across the Subject Site, the Proposed Development is considered consistent with **Objective 27** of *A Metropolis of Three Cities.* ▪ **Objective 31:** *Public open space is accessible, protected and enhanced* The Proposed Development also ensures the provision of public open space and recreational opportunities along the western portion of the Estate, which will ultimately contribute to improve the wellbeing of local residents and workers and enhance the natural environment. Potential future land uses at this interface include: ▪ Ancillary retail premises (such as Cafes, childcare); ▪ Recreation facilities, including proposed park, sporting fields, gym's, outdoor dining; ▪ High-tech Warehouse facilities; and ▪ Collaboration and start-up space. A fundamental outcome of the Proposed Development is not only to provide open space, it is to provide opportunity for 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. ▪ **Objective 32:** *The Green Grid links parks, open spaces, bushland and walking and cycling paths*

		As detailed within the Architectural Plans, submitted as part of the SSD Application, the revised Masterplan includes ample provisions for activated open space land uses that are consistent with the recreational land use requirements envisaged within the *A Metropolis of Three Cities*, the *Western City District Plan*, the Aerotropolis Plan and the Mamre Road Precinct Structure Plan (June 2020). These passive and active provisions will greatly assist in realising the recreational value and potential of South Creek, both in the short and long term. With public access to the proposed recreational open space within the development this Development adheres to Objective 32.
2. <u>Flood Impacts and Proposed Filling (NSW DPIE; Penrith City Council; WaterNSW; Public Submissions)</u>		
A.	A comprehensive flood assessment as a result of the Proposal must be undertaken, which considers the pre- and post-development scenarios.	The Proposed Development, as a result of the revised Masterplan extent does not involve any built form development within the 1% AEP flood extent; hence the DCP criteria and agreements between the NSW DPIE and Council are considered to have been satisfied. It is noted, that Advisian (2019) have completed a peer review of the Proposed Development layout in parallel with their review of the revised Overland Flow Report, for which their review items are outlined in **Table 9** of this RtS Report. The revised flood assessment prepared by Costin Roe (**Appendix 14**) provides a comprehensive analysis of the flooding impacts for all applicable storm events against the NSW Floodplain Management Manual 2005, The Penrith Council DCP and addresses the comments identified by Advisian in their Peer review.
B.	Flood behaviour for both upstream and downstream areas must be considered.	Given the built form is now located wholly outside of the 1% AEP flood extent, flood impacts in the 1% AEP event are now considered to be NIL, for which all previous concerns with respect to upstream and downstream impacts are considered to be ameliorated.
C.	Determine the cumulative impacts with regard to flooding as a result of the Proposal.	The comparison of development between pre-development conditions with Twin Creeks and First Estate was included in the modelling at a direct request from PCC. Updated modelling includes a direct comparison between the Proposed Development and the

		existing conditions (including the constructed First Estate (SSD 7173) and Twin Creeks residential area). The results of the pre and post development analysis has confirmed that the Site will not contribute to a cumulative impact because the Proposal does not result in any incremental increase in peak flood levels offsite and other areas. If other future developments provide for similar relative impacts and management measures (including flood storage compensation) as required by the *Penrith Development Control Plan 2014* (PDCP2014), the overall cumulative impact within the South Creek Corridor would be effectively managed. An additional scenario assessment has also been included for the PMF event at the request of the NSW DPIE as set out in within the revised Overland Flow Assessment Report (refer to **Appendix 14**) as recommended to make a distinction between the current development and overall precinct development. Impacts under the PMF scenario are not considered to be significant, noting the PMF is not considered a development flood planning control under this assessment.
D.	Detail proposed floor levels for all proposed habitable structures on-site with consideration to the full range of flood events.	Costin Roe Consulting (2020) note, that 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. The adopted flood planning level is consistent with nearby industrial estates (including First Estate and Erskine Business Park) and Council's adopted policy. It is further noted, that the Proposed Development levels are higher than the PMF flood event.
E.	The proposal will provide for substantive cut and fill throughout the Subject Site. Further justification with regard to the proposed variances to existing ground contours is required, including potential visual impacts.	The civil engineering design and subsequent earthworks design has been completed with a balance of regrading to suit large format buildings, drainage via inground pipes to the legal point of discharge (i.e. South Creek), and street presence of the Estate toward Mamre Road. The design accommodates existing overland flow paths and includes provisions for conveyance of upstream overland flow via dedicated inground and overland flow routes throughout the Subject Site.

		Additionally, the visual impact as a result of proposed cut and fill is considered to be minimal. Accordingly, filling through the centre of the Subject Site is noted to deviate from between 3-4 m respectively. Although there would be local filling to a depth of up to 4-5 m, which would be confined to gullies and existing basins on-site. At the interface locations, level differences along the southern (and south western) boundary are at or less than 2 m. The level differences will be appropriately managed through proposed landscaping with a combination of batters and retaining walls to ensure good visual amenity outcomes. Furthermore, in relation to visual amenity from Mamre Road, the vista will comprise a fall away from the road at an average of 1%, which is expected to integrate transitionally with the existing landform. This is confirmed within the Landscape and Visual Impact Assessment prepared by Geoscapes (refer to **Appendix 11**).
3. <u>Traffic (NSW DPIE; Penrith City Council; RMS; TfNSW; Public Submissions)</u>		
A.	The left in left out not supported with all access to and from the site must be from the signalised access point at Bakers Lane.	The revised Masterplan (refer to **Appendix 6**) has removed the left-in / left-out connection on Mamre Road.
B.	A connection from the local road is to be provided to the south.	The revised Masterplan (refer to **Appendix 6**) has allowed for the connection to the southern lots.
C.	Modelling for the proposed Mamre Road / Bakers lane intersection is required to address intersection performance, including queue lengths and degree of saturation.	Ason Group has completed a revised Traffic Impact Assessment (TIA), which includes detailed SIDRA modelling to ascertain intersection performance, queue lengths and the degree of saturation. This report confirms the intersection design and Mamre Road upgrades that form part of the development will operate at a satisfactory level of service and not unreasonably impact the current network. The anticipated level of service for the relevant sequences is summarised as follows: **Sequence 1a:** will operate at an satisfactory LoS (LoS C) during both AM and PM peak hour immediately post occupation of the development under this SSD Application, with a sum of

		approximately 166,225 m^2 GFA and will continue to work satisfactorily by the design life of 2025. The PM operation improves the current LoS F, with the proposed upgrades reducing que lengths, the degree of saturation and provides for a safe pedestrian crossing. **Sequence 1b:** The upgraded intersection of Bakers Lane / Mamre Road will continue performing at a satisfactory LoS C with / without the additional traffic estimated from the Southern Lots during both AM and PM peak hours. **Sequence 2 & 3:** The Mamre Road / SLR signalised intersection will generally operate at an overall LoS C under Sequence 2 and Sequence 3 when considering the SSD Application traffic. The further details of this report are discussed in Sections 5.5-5.7 of the TIA and the revised TIA is included in **Appendix 16**.
D.	Sequence 1A Intersection Design i. Confirmation is required as to what phasing arrangement is proposed. ii. Updated drawings are to be provided to include the swept path of the longest vehicle (26 metre B-double) entering and exiting the subject site, as well as manoeuvrability through the site, in accordance with AUSTROADS.	A sequenced intersection scheme has been submitted to TfNSW and is within the updated Traffic Impact Assessment that models the signalised intersection and demonstrates a satisfactory Level of Service is achieved. In summary the Sequences are as follows: **Sequence 1a:** interim upgrade at Mamre Road / Bakers Lane intersection, which is proposed to accommodate traffic associated with the first 166,225 m^2 of GFA. **Sequence 1b:** Further upgrading of Mamre Road (4-lanes along the frontage of the Site, extending north to Distribution Drive). This upgrade is expected to be fully delivered by 2025. Occupation of the balance of the Warehouse buildings can occur once sequence 1b is complete. **Sequence 2:** Is for the future scenario when the SLR intersection at Mamre Road is built by TfNSW and will be delivered and terminated into a cul-de-sac at the access for the Site. **Sequence 3:** Shows the ultimate configuration of the SLR is built by TfNSW in the future and when it is extended west through the Site.

		It is noted, that Section 5 of the revised TIA at **Appendix 16** reviews the relevant performance of the surrounding road network under each access sequence option and includes a swept path analysis of 26 m B-Double Vehicles entering and exiting each proposed intersection sequence.
E.	Sequence 2 Intersection Design i. The proximity of the U-turn bay to the Mamre would cause other vehicles turning right from Mamre Road to get stuck as there would be insufficient space to clear the movement. ii. Even if a vehicle isn't undertaking a U-turn, a large truck would be required to decelerate after turning into the Southern Link Road (SLR) stub in order to weave into Bakers Lane. This can result in similar queueing problem at the Mamre Road intersection, with vehicles unable to clear the phase. iii. As the geometry requires a 'right-left' weave for vehicles to enter Bakers Lane from the SLR stub, vehicles exiting Bakers Lane may not be clear on whether a vehicle travelling west is entering Bakers Lane or undertaking a U-turn manoeuvre. Noting that whilst a trucks movement are easy to gauge, a light vehicle may undertake a quick U-turn without indicating. The vehicles movement could confuse a driver exiting Bakers Lane onto the SLR stub and could result in a collision.	The sequences proposed are noted above. Ason Group (2020) note, that a revised Sequence 2 (attached within Appendix C of the revised TIA located within **Appendix 16**) has been prepared to address the concerns raised. As can be seen from the revised Sequence 2, infrequent U-Turns will no longer be possible at the previous location and the vehicles (as necessary) will undertake U-Turns at a cul-de-sac now proposed at the eastern corner of the re-aligned Bakers Lane. This provision demonstrates adequate additional space to eliminate any potential queueing issues with respect to the Mamre Road / Southern Link Road signal at sequence 2. Furthermore, it is important to highlight that this movement (if any) would be quite infrequent to not warrant material impact; however, the redesign of sequence 2 has aimed to fully resolve any further concern. Furthermore, all vehicles will now be required to undertake U-turns at the Bakers Lane cul-de-sac, via a more standardised intersection with a short-dedicated turn bay; hence, ameliorating further concern.
4. Southern Link Road (NSW DPIE; Penrith City Council; NSW RMS; TfNSW; and Public Submissions)		

A.	The development assumes an alignment for the western extension of the SLR. The western extension of the SLR does not form part of the Transport and Arterial Road Infrastructure Map in the SEPP WSEA and it is premature to design a subdivision until an alignment is finalised. Additionally, due to the flood affectation of the site, consideration is to be given to the infrastructure required for a crossing over South Creek.	It is noted, that the NSW RMS (now TfNSW) have since removed their comments in relation to the trajectory of the SLR extending west of Mamre Road. Ason Group note, that this was based upon further consultation being undertaken with TfNSW where they acknowledge the revised Masterplan, which provides flexibility for the SLR beyond the development extent. Accordingly, in terms of planning, the trajectory of the proposed Southern Link Road (SLR) has been strategically informed by a comprehensive and extensive level of consultation undertaken with relevant State Agencies, including TfNSW and NSW DPIE. The alignment proposed under this SSD Application, as previously identified within the original EIS prepared by Willowtree Planning (2019), includes the following three (3) potential options: 1. Option 1: includes a relatively straight alignment, which provides efficiency in relation to the required amount of bridge structures, as well as avoiding conflicts with existing rural-residential properties. This option also aligns well with the future Western Sydney Freight Line (WSFL) Corridor. 2. Option 2: includes a curved alignment, which would significantly impact upon the Twin Creeks Golf Course and surrounding residential properties located within the Twin Creeks residential estate. This option would require multiple bridge structures to be constructed, as the alignment passes both South Creek and Cosgroves Creek. 3. Option 3: includes a curved alignment, which would cross both the proposed WSFL Corridor and the existing WaterNSW Pipeline Corridor, as well as intersecting an extensive portion of the 1% AEP flood extent. Option 1 is considered to be the most suitable and logical option, with regard to potential environmental impacts, as well as costs incurred with respect to compulsory acquisition, should the proposed SLR go through the residential suburbs of both Luddenham and Twin Creeks. It is noted that that alignment also accords with the draft Mamre Road Precinct Structure Plan. It is important to note and reiterate from the conclusions drawn from the revised Traffic Impact Assessment (TIA), that the alignment suggested, remains flexible and can be adjusted accordingly in the future, should the NSW DPIE or TfNSW decide on and prefer

		an alternate alignment option. Beyond the first stage of built-form proposed under this SSD Application, there is considerable flexibility able to be accommodated to alter the preferred alignment option, which would not impact on built-form proposed. Notwithstanding the abovementioned information, in the submission made by TfNSW, they note, that the current strategic development of the future SLR only extends to Mamre Road.
5. <u>Biodiversity (NSW DPIE; Penrith City Council; EES Group)</u>		
A.	No impacts have been avoided in the development area other than the area designated as a riparian corridor which contains and OSD Basin to the West and the Riparian Corridor and the Freight Corridor to the North.	The Proposed Development would not impose any significant impacts to the adjoining South Creek tributary and identified waterway, due to the revised Masterplan completely avoiding works within the South Creek Precinct. Additionally, based on the assessment undertaken by Ecoplanning (2020), the revised Masterplan will retain more native vegetation than previously proposed. This is due to a reduction in proposed native vegetation clearing. Accordingly, the Masterplan as previously proposed and exhibited, would have impacted on some 11.40 ha of native vegetation. The revised Masterplan by comparison proposes to clear only 9.29 ha. This represents a reduction from approximately 79.1% of native vegetation being cleared to approximately 64.5% which demonstrates that due consideration has been given to reduce the overall impact in this respect.
B.	It is disagreed that the development will not negatively impact the aquatic ecosystem in South Creek regarding flow regime changes as a result of hardstand through the proposed development.	From the investigations undertaken, terrestrial and aquatic groundwater dependent ecosystems are present in the Subject Site; however, their distribution across the Subject Site is considered to be confined to the South Creek area and adjoining riparian zone, which lies completely outside of the Proposed Development footprint as shown on the updated Masterplan. Whilst there are no works proposed within the South Creek Precinct and importantly within any riparian areas along South Creek, a Stream Erosion Impact Assessment (SEI) was undertaken by Costin Roe to identify impacts from stormwater from the Site discharging int South Creek. This SEI showed that due to the extensive WSUD initiatives proposed for the Site and extensive trunk bioretention basins this level was significantly below the

		guidelines set out by Penrith City Council. This SEI is contained in page 31 & 32 of the Costin Roe report located in **Appendix 13**.
C.	There has been no attempt to avoid loss of threatened ecological communities across the proposed development, with all vegetation being proposed to be cleared outside of the required riparian zone for South Creek and offset.	The revised Masterplan (refer to **Appendix 6**) significantly reduces the amount of vegetation that will be impacted by the Proposed Development. Based on the assessment undertaken by Ecoplanning (2020), the revised Masterplan will retain more native vegetation than previously proposed. This is due to a reduction in proposed native vegetation clearing. Accordingly, the Masterplan as previously proposed and exhibited, would have impacted on some 11.40 ha of native vegetation. The revised Masterplan by comparison proposes to clear only 9.29 ha. This represents a reduction from approximately 79.1% of native vegetation being cleared to approximately 64.5% which demonstrates that due consideration has been given to reduce the overall impact in this respect Vegetation clearing that is unavoidable will be offset by the Proponent's paying biodiversity credits.
D.	<u>Inconsistencies - BDAR</u> i. The description of the proposal in the BDAR and contradicts some of the GIS data. ii. The surveys undertaken to inform the BDAR were not undertaken in accordance with the BAM and expert reports have not been provided in lieu adequate survey. iii. The information required by 10.2.2. of the BAM with respect to serious and irreversible impacts has not been provided.	The revised BDAR includes an updated layout with respect to the Proposed Development, as well as all GIS data being revised where necessary. All areas within the shapefiles have been updated and are now consistent with the BDAR (refer to **Appendix 17**).
6. <u>Site Planning (NSW DPIE; and Penrith City Council)</u>		

A.	Built form proposed on Lot 21 and lack of articulation.	The revised Masterplan includes provisions for proposed Lots 6 & 8 (former Lot 21 as per Council's comment), with appropriate articulation towards the streetscape in terms of materiality and modulation. The design as amended adequately addresses the interface and provides activation of the Estate. This is further demonstrated within the revised Masterplan, Architectural Plans and Landscape Plans, which are located within **Appendix 6, 7** & **10** of this RtS Report.
B.	Adequacy of landscaped setbacks to allow deep soil planting in relation to: i. Mamre Road ii. The water NSW Pipeline iii. Side boundaries iv. Internal local roads	Landscaping setbacks across the Site have been informed and are consistent with comparable DCPs for existing industrial estates recently approved, including Mamre West, Erskine Business Park and Oakdale. The landscaping setbacks of 10 m for Mamre Road and the future Southern Link Road, 5 m for the rear boundaries and 4 m for the internal road network will allow for deep soil planting and the plant species selected for these areas will have sufficient screening foliage, heights and canopy extents to achieve the outcomes in relation to mitigating visual impacts of Warehouse buildings and car parking areas. Additionally, the water pipeline adjoins the buffer designated for the Western Sydney Freight Line which ensures impact under this Development is minimised.
C.	Carparking areas and general presentation at key nodal points within the Estate, namely at the Mamre Road and Bakers Lane junction.	All car parking areas have been appropriately sited throughout the Subject Site, which include dense landscaping provisions screening car parking areas, particularly along the Mamre Road and Bakers Lane / Southern Link Road frontage (refer to Landscape Drawings L06, L07 & L09 of **Appendix 10**).
D.	Visual impacts from Mamre Road and views to the Blue Mountains. It is required to address the Greater Sydney Regional Plan Objective 28, which states that scenic and cultural landscapes are to be protected.	The Site is located on the lowest area of the South Creek Basin and is not protected by any State Heritage provisions. The Site is not part of the scenic hills area, is not protected under any local environmental plan and does not have scenic vistas. Accordingly, the Landscape and Visual Impact Assessment prepared by Geoscapes (2020) in **Appendix 11** is an accurate representation of the Proposed Development in line with the relevant guidelines, advising visual impacts to Mamre Road and the Blue mountains are minor in nature.
7. <u>Urban Design (NSW DPIE and Penrith City Council)</u>		

A.	Investigate ways to increase the permeability of the estate layout and increase the visibility of South Creek for both pedestrians and vehicular traffic.	The revised Masterplan now includes 2 major east west road corridors providing key linkages and sight lines to South Creek providing direct access for pedestrians and vehicular traffic (refer to the masterplan in **Appendix 6**). In the Architectural Plans and Landscape Plans prepared, it is noted, that the revised Masterplan has been developed through analysis and response to existing on-site conditions as well as incorporating the urban design principles outlined in the *Western City District Plan*. The principles driving the design process of the Proposal include: 1. Connect to the Creek. 2. Create a Street Network. 3. Building a walking environment. 4. Legible street design.
B.	Provide a plan and further detail regarding the façade strategy.	The revised Masterplan is clear and concise with a logical hierarchy of landscaped main streets and secondary boulevards leading to the activated South Creek. When viewed at street level, the repetitive line of Warehouse building volumes stretch into the distance and form the built edge as well as the backdrop to the office components. The office, either single or two storey volume assists in way-finding and acts as the 'front door' to each facility. Deep entrance awnings provide all weather protection and green star rated sustainability credentials are visually expressed by the use of solar panels, large water tanks that read more like sculpture and green facades that provide sought after shade. Neutral tones of warm greys and off-white cladding in a combination of subtle patterns with raw concrete dado have been utilised on all Warehouse building walls to both minimise impact on the local environment and create visual interest. Signature feature red detailing elements draw the eye toward the office component of each site and the 'front door'. Offices have been designed to provide contrast and visual punch from the Warehouse buildings beyond and utilise energy efficient glazing, metal cladding and natural finishes, including raw concrete and timber to enhance the user experience and provide a warm human scale often lacking in industrial estates. Recycled paving and exposed steel elements will enhance the raw urban feel of the Estate.

		It is considered that the overall strategy for façade treatment is consistent throughout the Estate to ensure that all buildings adequately address and activate the local road network, while showcasing a high level of architectural merit. The revised Architectural Plans and corresponding Architectural Design Report are located in **Appendix 7** & **9** of this RTS Report.
C.	Provide a clearer demonstration of the proposed landscaping (street trees and buffer planting), cross-sections and building setbacks, ensuring the submitted material is reflecting the design intent.	The revised Masterplan, Architectural Plans (elevations and sections) and Landscape Plans are completely consistent with one another and represent the design and outcomes intended by the Proposal (refer to **Appendix 6, 7** & **10**). Additional sections have been introduced into the landscaping plans on Drawings L06-L09 to clearly articulate the design intent of each frontage, side and rear boundaries. All landscaping and architectural treatments present harmoniously to provide a high level of visual amenity afforded within the Estate.
8. <u>Public Submissions</u>		
A.	Zoned land within the WSEA remains undeveloped and the subject proposal should not proceed.	The Proposed Development is now entirely consistent with the zoning of the land pursuant to the release of the Mamre Road Precinct Structure Plan and the amendments to the zoning provisions of SEPP (WSEA) 2009. The rezoning of the Mamre Road Precinct is in direct response to the identification by the State Government and industry that there is presently insufficient zoned and serviced employment lands in Western Sydney.
B.	SSD-9522 does not adequately consider the adjoining environmental land uses to the west.	The Proposed Development would not hinder the objectives of the E4 Environmental Living zone which applies to the land to the west of the Subject Site beyond South Creek, particularly given the separation which is achieved and the distinct physical barrier of South Creek separating the Site. There is also the adjoining parcel (proposed Lots 3-5 Stage 1 Subdivision) to the west of the developable site area, which would remain undeveloped (26.96 ha), as an additional physical barrier to ensure there is no land use conflict.
C.	The proposal if approved, will create an isolated industrial site disconnected from the broader WSEA.	The Subject Site is located within the Mamre Road Precinct which has been rezoned for employment purposes under SEPP (WSEA) 2009. The broader Precinct equates to 800 ha

		in land area, that will be developed sequentially over time for similar purposes as proposed under this SSD Application. The Subject Site is also located within close proximity of existing zoned lands, being First Estate and Erskine Business Park. It represents a highly suitable location that can be serviced immediately.
D.	The proposal will place pressure on the existing service infrastructure, and require upgrades or new infrastructure to sufficiently service the surrounding area.	Reference is made to the responses Sydney Water (October 2019) and Endeavour Energy (July 2018) have provided, that are outlined in the Service Infrastructure Assessment prepared by Land Partners and Sydney Water Approval of the water and wastewater option assessment (refer to **Appendix 14** and **30**). It is acknowledged and accepted that new service utility infrastructure will be installed to service the Proposed Development, however no capacity issues have been identified by the various service utility authorities The Site can be serviced immediately, based on extending existing approved infrastructure at the neighboring Altis First Estate. The total cost of delivering roadworks, sewer, water and power to the Site forms part of a total commitment of $18 Million of infrastructure and will be borne by the Proponent in full. All infrastructure will be sized to accommodate future servicing of land within the Aerotropolis and will be constructed in the early stages of the project.
E.	The strategic merits of the proposed "spot" rezoning have not been sufficiently considered as required by due planning process.	As noted above, the Proposed Development is now entirely consistent with the intended zoning of the land pursuant to the release of the draft Mamre Road Precinct Structure Plan, whereby the Subject Site has been earmarked by the NSW DPIE for both industrial-related and open space land uses.
F.	The SSDA Land is subject to the LUIIP which is still in the process of being finalised.	Since the exhibition of the SSD Application, the NSW Government released Stage 2 of the LUIIP (Aerotropolis Plan), which listed the Mamre Road Precinct as an "initial precinct". Pursuant to the release of the Structure Plan for the Mamre Road Precinct (June 2020), the Subject Site has been rezoned under SEPP (WSEA) 2009 by the NSW DPIE for both industrial-related (IN1 General Industrial) and open space land uses (RE1 Public Recreation and RE2 Private Recreation). Therefore, the Proposed Development is considered to be completely consistent with the provisions outlined within SEPP (WSEA) 2009 and represents orderly development.

G.	Traffic congestion on the road network caused by the traffic generated from the development.	Traffic modelling completed by Ason Group confirms that mitigation measures should be implemented during the construction phase of the Proposal, including provisions for a Construction Traffic Management Plan (CTMP), which should include measures pertaining to: ▪ Traffic control would be required to manage and regulate traffic movements into and out of the Site during construction. ▪ Disruption to road users would be kept to a minimum by scheduling intensive delivery activities outside of peak network hours. It is noted, that upgrades to the road network have been identified to satisfactorily mitigate any impacts of the increased development traffic.

PART E STRATEGIC CONTEXT & LEGISLATIVE FRAMEWORK

5.1 DRAFT WESTERN SYDNEY AEROTROPOLIS PLAN

Following the formal exhibition of the draft *Western Sydney Aerotropolis Land Use Infrastructure Implementation Plan 2018* (LUIIP, 2018) (and the Submissions received), the Western Sydney Planning Partnership released an updated plan, titled the *Draft Western Sydney Aerotropolis Plan* (Aerotropolis Plan) (December, 2019) for exhibition and public comment.

The latest Aerotropolis Plan, has now been amended by the NSW DPIE to take cognisance of both the Submissions received from the draft LUIIP, 2018 and includes a summary of the overarching planning principles; distribution of land uses; the phasing of precincts; and further identification of the envisaged transport and infrastructure framework associated with the vision for the new Aerotropolis.

Since the exhibition of the LUIIP in 2018 and Aerotropolis Plan, the Subject Site has been located primarily within the Mamre Road Precinct as shown in both the Aerotropolis Initial Precincts Plan and corresponding Structure Plan (June 2020) (refer to **Figures 4** & **5** below). The Mamre Road Precinct (of which the majority of the Site is situated) has now been identified as part of the Initial Precincts earmarked as a "first release" by the NSW DPIE and clearly demonstrating its planning significance, as a large job-generating Precinct within the LUIIP. Under SEPP (WSEA) 2009, the Mamre Road Precinct has been rezoned to achieve the proposed employment generation outcomes envisaged.

Accordingly, as a result of the recently exhibited Aerotropolis Plan, the South Creek Precinct Boundary has been amended to follow the 1% AEP flood extent, which is now the border of the Mamre Road Precinct and the Wianamatta-South Creek Precinct. The Proposed Development is now entirely contained within the Mamre Road Precinct, with all built form outside the 1% AEP flood extent. Previous concerns raised with regard to extensive filling and future development within the Wianamatta-South Creek Precinct and the floodplain are no longer valid.

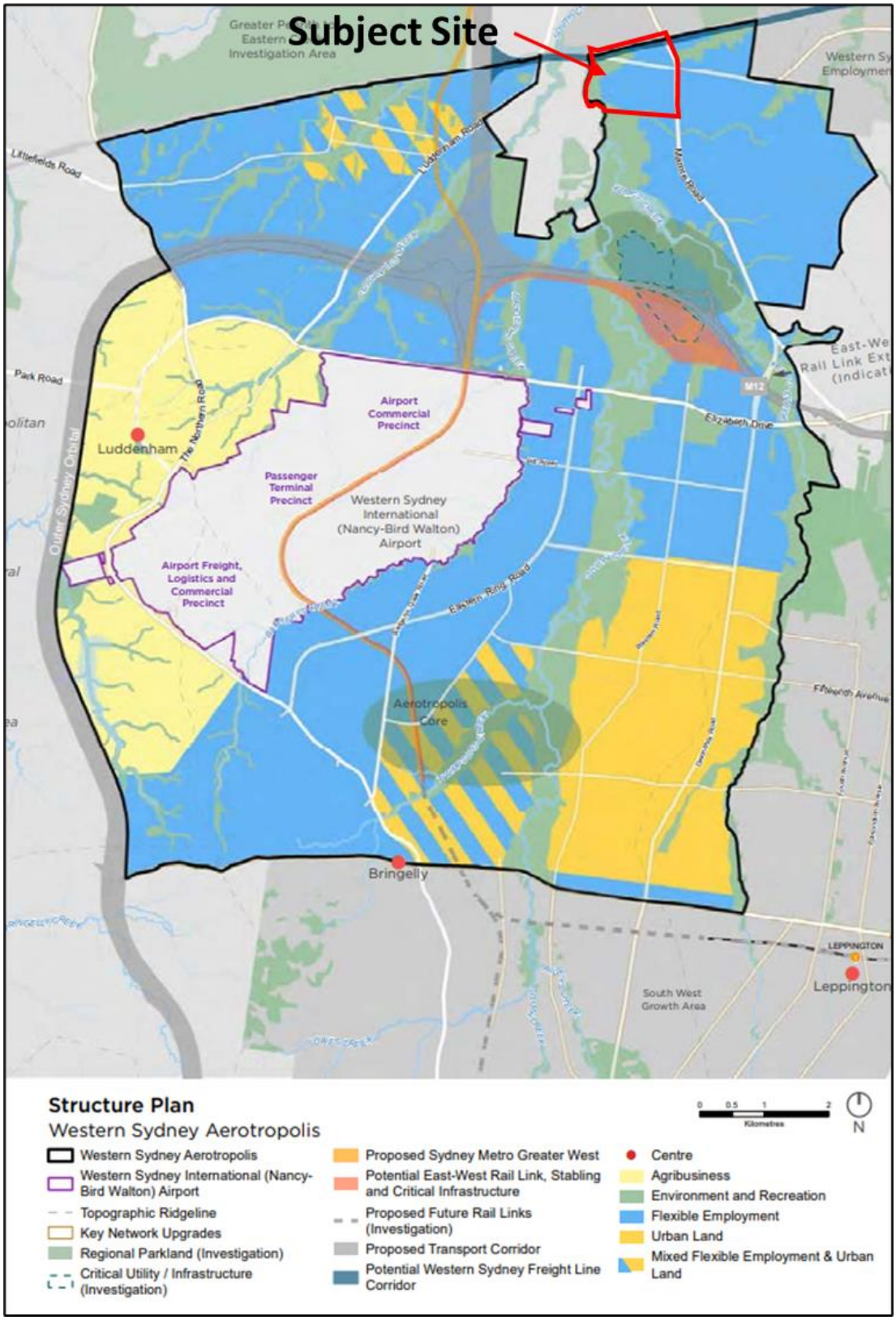

Figure 4 Western Sydney Aerotropolis: Structure Plan (Source: Western Sydney Planning Partnership, 2020)

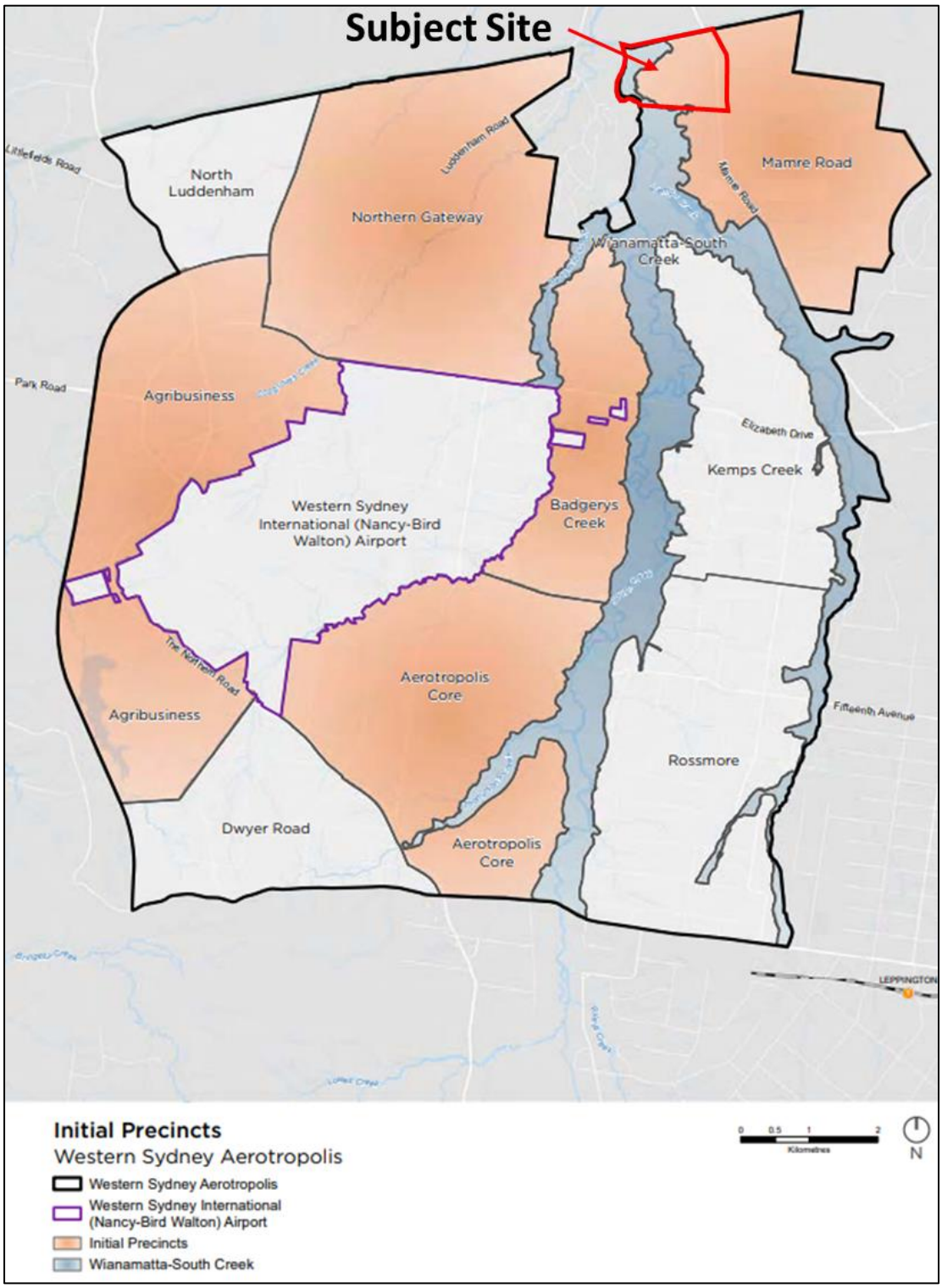

Figure 5 Western Sydney Aerotropolis: Initial Precincts Plan (Source: Western Sydney Planning Partnership, 2020)

The revised Masterplan submitted in conjunction with this RtS Report with its new siting, layout and design, has considered the key interfaces and contextual relationships between both the Mamre Road Precinct and the Wianamatta-South Creek Precinct.

More specific consideration of the relationship between the built form at Subject Site and the adjoining South Creek Corridor are more fully outlined in **Section 6.2** & **7.1** of this RtS Report.

5.2 MAMRE ROAD PRECINCT STRUCTURE PLAN

The majority of the Subject Site is now located within the Mamre Road Precinct Structure Plan. This Plan clearly seeks to provide the framework to amend SEPP (WSEA) 2009, so as to include an additional 800 ha of land for employment and open space development. This is entirely consistent with the intentions for the Subject Site, aiming to deliver some 950 operational jobs, once fully constructed.

Now that the Subject Site has been rezoned as IN1 General Industrial and pockets of RE1 Public Recreation and RE2 Private Recreation under SEPP (WSEA) 2009 (refer to **Figure 6** below), the Site is clearly suited for its proposed land uses, for which this SSD Application seeks Development Consent for.

The above changes are significant for the Site because all Warehouse facilities are now confined to be outside the 1% AEP flood extent, which has been adopted under the Mamre Road Precinct Structure Plan as the built form barrier / planning control to appropriately manage and mitigate development outside of the floodplain. Accordingly, the development footprint is consistent with this and would not be impacted, nor would it cause impacts to the floodplain.

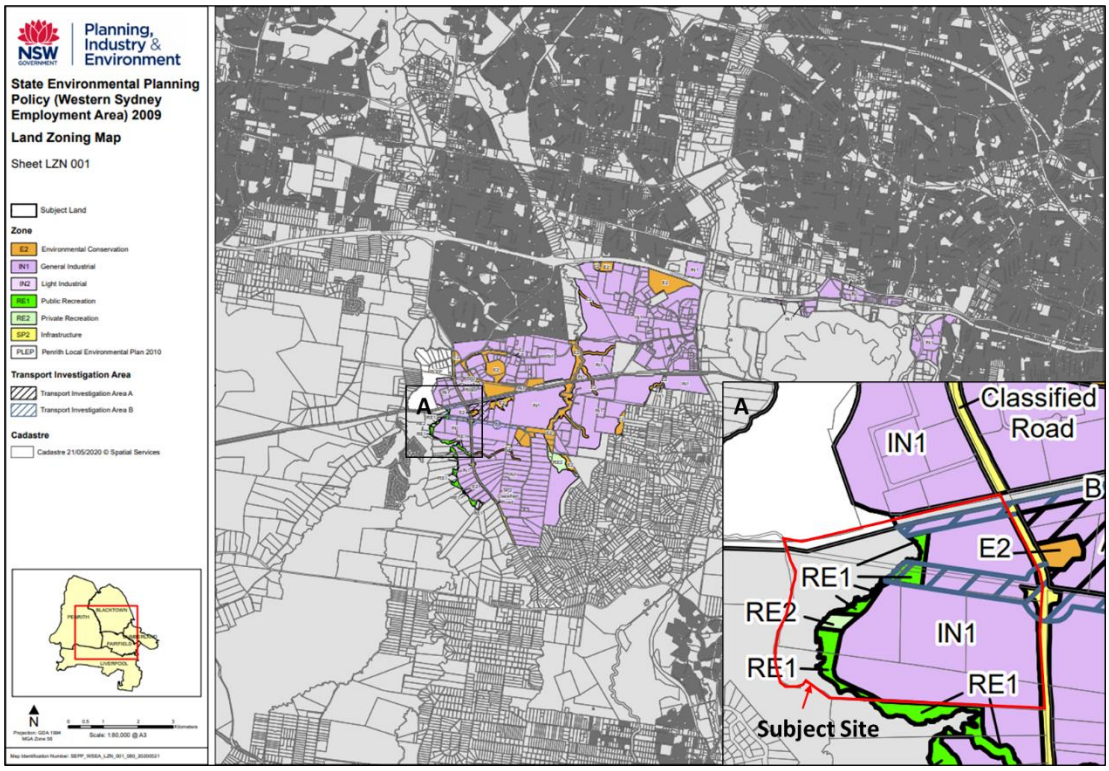

Figure 6 Land Zoning Map Applicable to the Mamre Road Precinct (Source: NSW Legislation, 2020)

In relation to **Figure 6** illustrated above, this shows the Mamre Road Precinct Boundary adjusted to be consistent with the revised 1% AEP flood extent, for which the Proposed built form footprint does not encroach.

In accordance with the Discussion Paper accompanying the draft Mamre Road Precinct Structure Plan prepared by the NSW DPIE (November 2019), it is noted that the vision for the Mamre Road Precinct, is to "*provide industrial sized floorplates which are necessary for freight and logistics uses*." The aims for the Mamre Road Precinct are identified by the NSW DPIE Discussion Paper and are outlined in **Table 5** as follows:

Table 5: Mamre Road Precinct – Aims and Objectives	
Aims	**Proposed Development Outcomes**
Delivers industrial land supply integrated with the existing zoned WSEA.	The Subject Site has been recently rezoned for industrial-related and open space land uses pursuant to the amendments made to SEPP (WSEA) 2009. The Proposed Development is considered consistent with this objective, as it provides an employment-generating development through both its construction and operational phases (700 construction jobs and 950 operational jobs). In delivering new employment on industrially-zoned land, this Proposal delivers land uses such as warehousing and distribution that integrate perfectly with similar land uses in WSEA and stimulate the NSW economy.
Supports the development of the Western Sydney Aerotropolis.	New employment only 8 km from the Aerotropolis, will be complimentary to the future Western Sydney Airport and its functions, as it provides, 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, delivering future health, education and high technology uses proposed within the Aerotropolis.
Protects areas of environmental value including existing creeks and areas of vegetation.	Six-Star-Green-Star Ecologically Sustainable Development design measures targeted for the Site, will significantly reduce the urban footprint. By providing activated open space and the creation of a new public and private open space for workers and visitors, the Site seeks to preserve the natural character of the existing and proposed landscape setting. It also improves greatly the quality of stormwater runoff into South Creek. Activation and reservation of the western portion of the Site (proposed Lots 14-17) will be solely dedicated for activated open space. This will include increased and densified landscape planting, which will create a new site aesthetic, that is visually and socially pleasing, as well as further reducing the potential impacts of the Urban Heat Island Effect. The Site's landscaping and replanting of 1,250 trees; new canopy cover of 141,250

	m^2; and 91,700 m^2 of new vegetation area, will undoubtedly, create a more vibrant and positive environment at the Site. Additionally, the portion of the Site identified within the South Creek Precinct (proposed Lots 3-5 Stage 1 Subdivision) will remain undeveloped (26.96 ha of undeveloped land), which includes identified threatened species which would be retained by the Proposal.
Creates a suitable transition to adjoining rural residential communities.	The adjoining rural-residential receivers will be further ameliorated given the recent rezoning of the Mamre Road Precinct for industrial-related and open space land uses. Accordingly, the Subject Site would be completely transitional with respect to the adjoining land uses, allowing significant landscaping setbacks to adjoining rural residential and compatible with the strategic direction intended by the NSW DPIE for both the locality and the wider WSEA.
Preserves critical transport corridors and an opportunity for an intermodal terminal.	This Development will be important both to the functioning of the Aerotropolis and future planned infrastructure that will support efficient connectivity throughout Western Sydney. The Proposed Development has made full provision for all road, freight and rail upgrades, planned both regionally and at the Mamre Road Precinct. This includes a 10 m corridor for widening of Mamre Road, a 38 m wide corridor for the future western extent of the Southern Link Road and a 60 m wide corridor for the planned Western Sydney Freight Line. Additionally, the Proposed 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 both bus and rail, for all employees. The Estate 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.
Responds to Australian standards relating to noise sensitive uses.	The revised Noise Impact Assessment prepared by Acoustic Works (2020), confirms that compliance will be achieved for the proposed 24-hour operation of the Subject Site under the revised Masterplan, provided that the recommendations and mitigation measures, are implemented across the

	Subject Site. These will also be Site-specific Management and Mitigation Measures, which will be formally adopted as part of the Development Consent for the Site's operations.
Activates the South Creek-Wianamatta environment.	The Proposed Development does not include any built-form or works under this SSD Application, within the South Creek Precinct or in close proximity of South Creek itself. Whilst the revised Masterplan has removed any extensive works from the South Creek Precinct, the Proposed Development will create visual and physical connections to South Creek, by facilitating access to the future "green spine" of the Western Parkland City along proposed Lots 14-17, which would be subject to separate DAs. Public access to the South Creek Precinct not currently provided and the proposed development will facilitate activation, delivering this major objective of the Mamre Road Precinct Structure Plan. Further, the area reserved around the creek's edge identified as a Riparian Buffer, pursuant to the Mamre Road Precinct Structure Plan, will remain untouched in terms of built form by this SSD Application. This reinforces the Proposal's consistency with the advertised strategic vision for South Creek.

As shown in **Table 5** above, the Site fully complies with all of the objectives set out by the NSW DPIE for the Mamre Road Precinct. Through the recent rezoning of the Mamre Road Precinct, the NSW DPIE allows for the provision of employment through warehousing development throughout Western Sydney, particularly the WSEA. This will in turn have positive social, economic and cultural benefits, not only to the immediate, but to the wider localities and community groups in the Penrith LGA and beyond. The Proposed Development, in its design and siting, is completely consistent with the recent rezoning of the Subject Site.

It is important to note that functionally, the Mamre Road Precinct, will remain a fundamental part of the wider Western Sydney Aerotropolis, zoned for employment and aimed at supporting the future Western Sydney Airport and wider Aerotropolis. Notwithstanding, as the Mamre Road Precinct has been zoned pursuant to the provisions of SEPP (WSEA) 2009, the Precinct demonstrates a great ability to complement both WSEA (and its current functions) as well as the Aerotropolis and its intended future functions. **Figure 6** above, illustrates the appropriateness of the Site's zoning, and the wider Mamre Road Precinct. This is demonstrated through the proximity of the new employment lands to both existing and future employment-generating land areas immediately to the North and North East. **Figure 7** represents the Structure Plan (June 2020) in its entirety and the location of the Site within the Structure Plan. It demonstrates both the Site's sensitivity to South Creek, as well as its compatibility with industrial uses to the north and north-east of the Site.

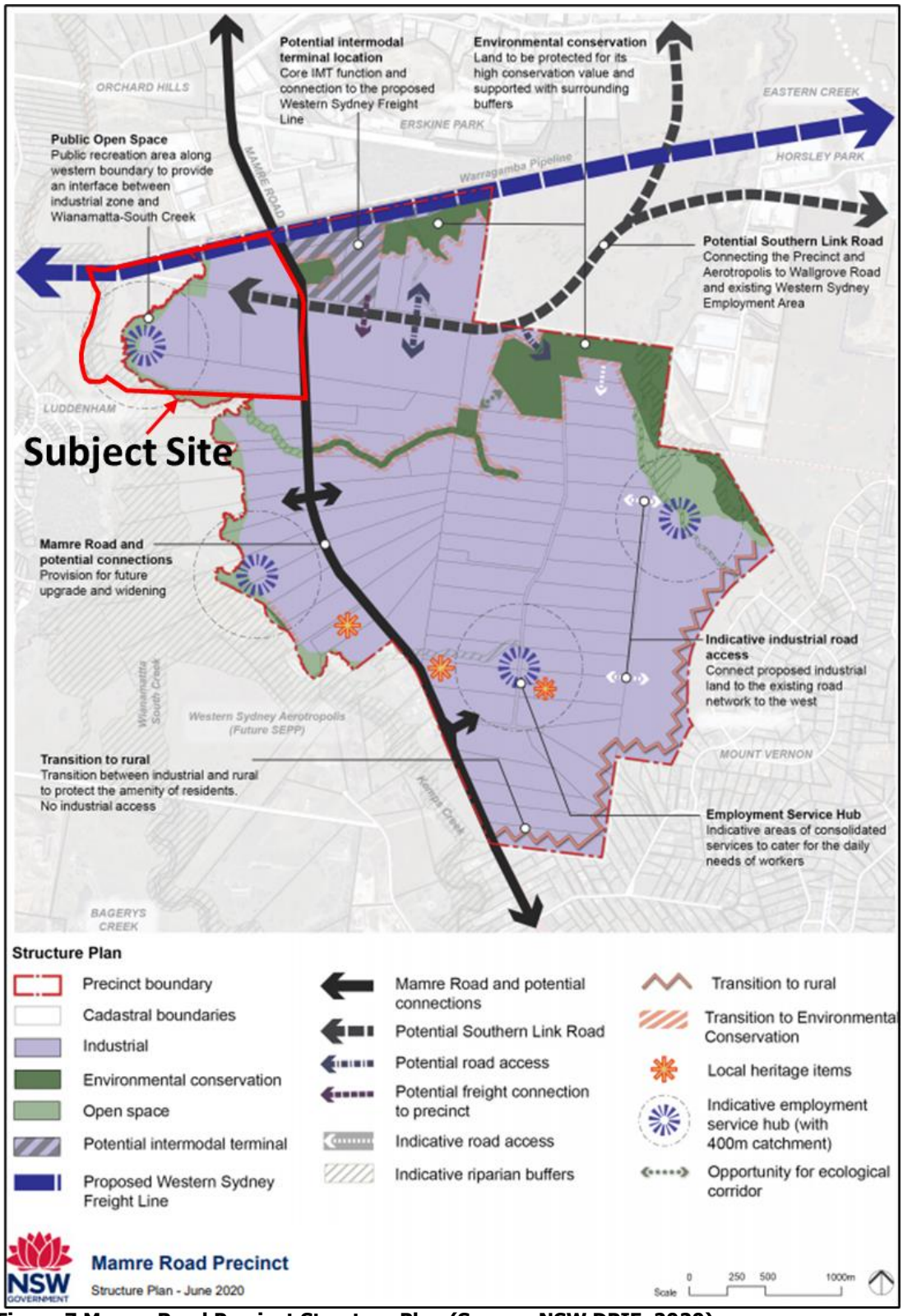

Figure 7 Mamre Road Precinct Structure Plan (Source: NSW DPIE, 2020)

As seen in **Figure 7** above, the Proposed Development is totally consistent with both the aims and provisions of the Mamre Road Precinct Structure Plan, which contains areas allocated for both industrial-related as well as open-space land uses. The Proposed Development, in demonstrating clear consistency with the Mamre Road Precinct Structure Plan (2020), also

caters for all planned State and Federal future infrastructure assets including the widening of Mamre Road, the Southern Link Road and Western Sydney Freight Line Corridor. By delivering 950 operational jobs and 700 construction jobs, the SSD Application for the Site, provides employment outcomes which designates the Subject Site as future employment and service hub. The revised Masterplan is located within **Figure 1** of this RtS Report.

Adjoining the Subject Site is Mamre Road, which is zoned SP2 Infrastructure. It earmarks Mamre Road as land for reservation and acquisition, to allow for future upgrades, proposed to Mamre Road in the future. The Proposed Development includes a 10 m setback along the entire eastern boundary of Mamre Road that is consistent with this SP2 zoned area, to account for the future widening of Mamre Road. This has already been discussed with and endorsed by the NSW Roads and Maritime Services (now part of Transport for NSW).

In terms of flood affectation and following the release of the Mamre Road Precinct Structure Plan (June 2020), the Proposed Development has subsequently amended its design and layout for all buildings on-site, to be completely outside of the 1% AEP flood extent and only contained within the Mamre Road Precinct. An overlay of the Proposed Development footprint with respect to the 1% AEP flood extent is shown in **Figure 8** overleaf.

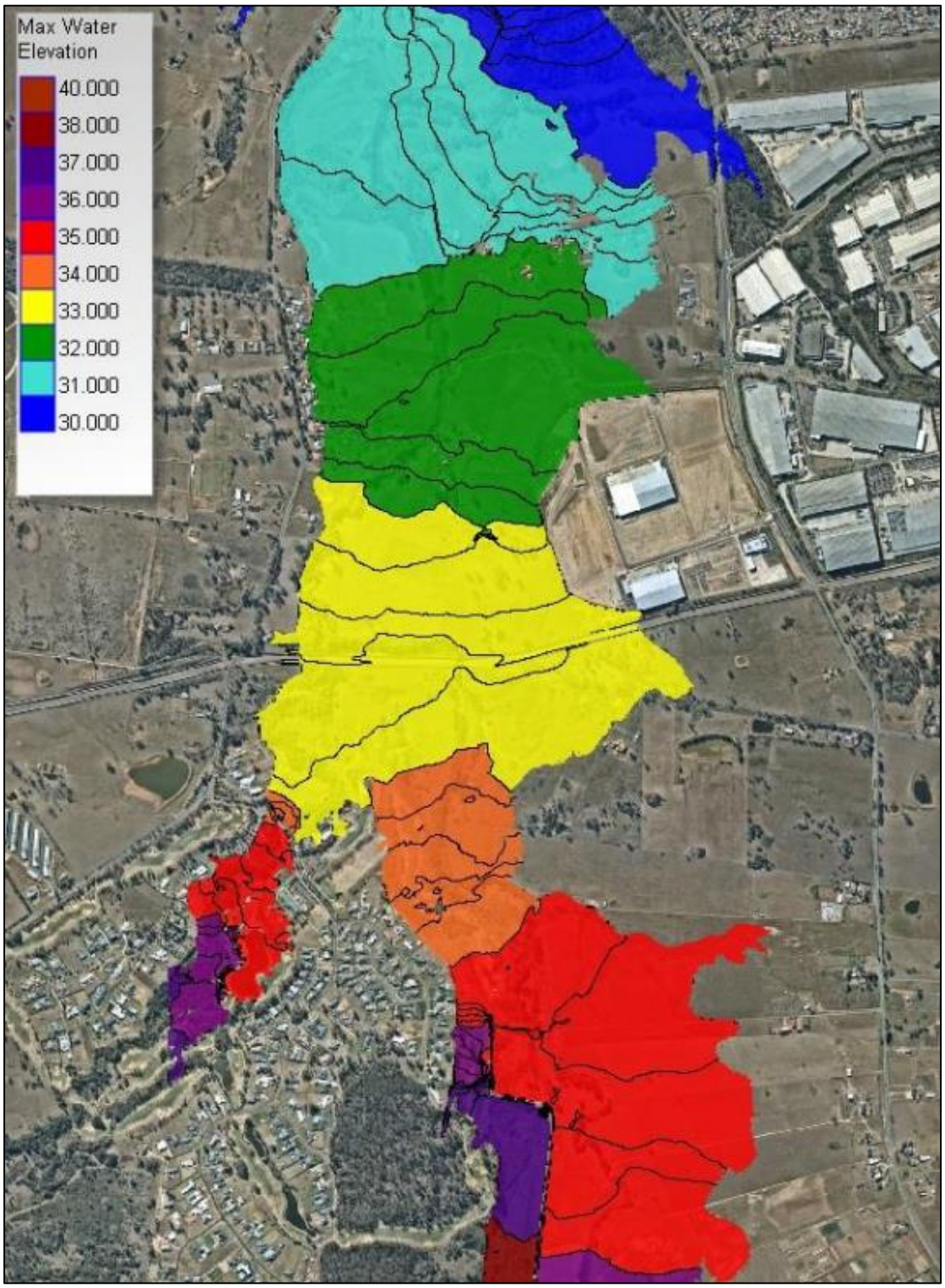

Figure 8 1% AEP Flood Levels (Pre-Development) (Source: Costin Roe Consulting, 2020)

As may be noted from **Figures 8, 9** and **10**, there are portions of the Subject Site that are affected by both the PMF flood extent and the 1% AEP flood extent. Costin Roe Consulting (2020) have considered both the pre-and-post-development scenarios for these flood events. Parameters for Site flood assessment, have included both local and regional cumulative impact flood studies, as well as the impacts of filling at the Subject Site. The above studies for the Site, all show that the Proposed Development can be undertaken without exhibiting any

adverse flood impacts on the immediate or wider localities. This is true with respect to both filling across the Site, as well as any long-term impacts, which may be experienced as a result of flooding from the post-development scenarios investigated. Thus, with respect to the amendments made in relation to SEPP (WSEA) 2009, the Site design has now been reconfigured to account for all future scenarios envisaged by the Structure Plan with respect to flooding.

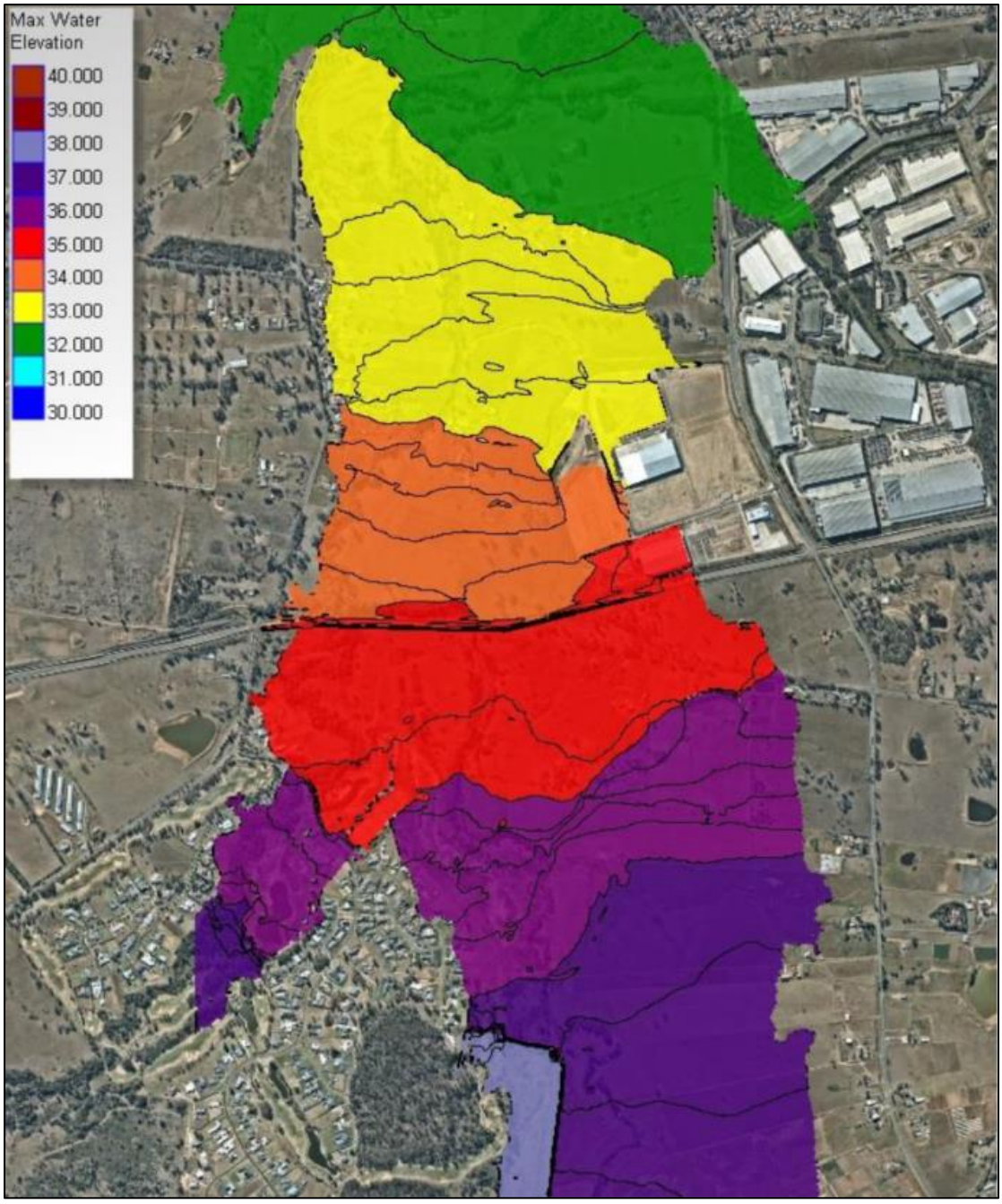

Figure 9 PMF Flood Levels (Pre-Development) (Source: Costin Roe Consulting, 2020)

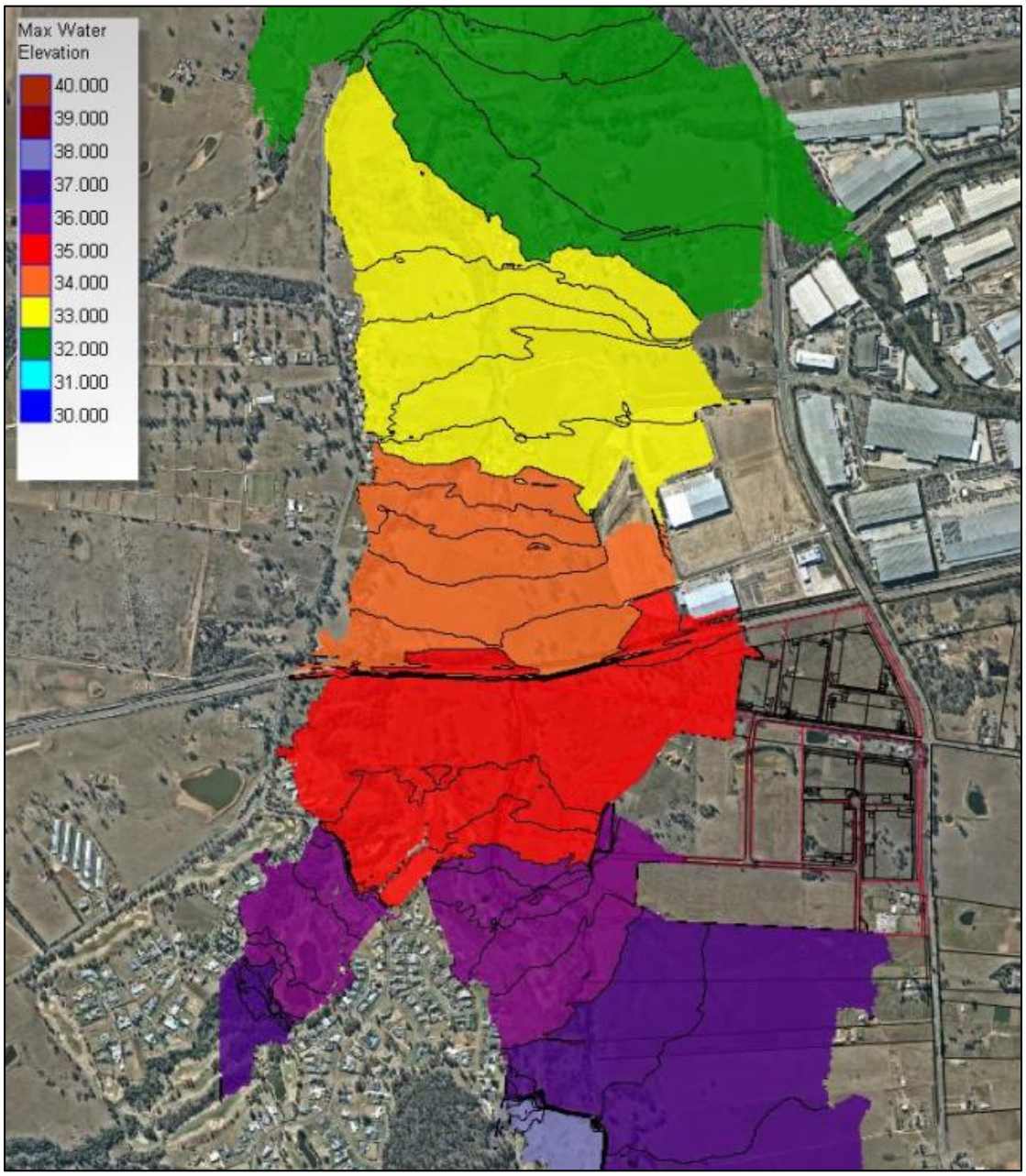

Figure 10 PMF Flood Level (Post-Development) (Source: Costin Roe Consulting, 2020)

After much redesign and re-modelling, it is now considered, that the revised Masterplan, with all built form outside the 1% AEP flood extent, will be fully consistent with the Mamre Road Precinct Structure Plan. Particular emphasis has been given in the revised Masterplan, to potential flood affectations. This includes a comprehensive plan for Emergency Flood Evacuation. The Proposed Development, as shown in the revised Masterplan, will thus deliver on all the land-use zones rezoned by NSW DPIE for the Site and the Mamre Road Precinct (June 2020). The Proposed Development will satisfy all relevant flood criteria set out within the Mamre Road Precinct Structure Plan; the Aerotropolis Plan; Council Engineering Guidelines; the proposed SSD 9522 Development Control Plan 2020 and the NSW Floodplain Manual 2005. These are all referenced within the revised Civil Engineering Report, prepared by Costin Roe Consulting (2020), which is located in **Appendix 13** of this RtS Report.

The revised Masterplan intentionally locates future built form (proposed Lots 1-13, see Masterplan in **Figure 1**), wholly within the Mamre Road Precinct and also incorporates future

activated open and green spaces (including enhanced landscaping provisions), within proposed Lots 14-17 (see Masterplan in **Figure 1**), which demonstrates the Site's Sensitivity to key interfaces along the South Creek Corridor with future open space development. Additionally, proposed Lots 3-5 Stage 1 Subdivision (see Masterplan in **Figure 1**) would remain undeveloped, for which they are located within the Wianamatta-South Creek Precinct providing adequate setback controls from the Proposed Development along the South Creek Corridor.

5.3 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 Area, Precinct 12 – Mamre Road 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 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."*

Response: The proposal will support future employment generation with regard to the Warehouse, Logistics and Industrial Facilities Hub proposed under this SSD Application.

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

Response: The proposal represents a logical and rational development with respect to the vision for both the WSEA and Aerotropolis with regard to industry and employment lands. In this respect, the same scale and form of development is proposed for the Subject Site in a coordinated and orderly manner. This logical extension proposed contributes to the provision of employment, in line with the aims of SEPP (WSEA) 2009. It is an appropriate form of development as the Mamre Road Precinct transitions from rural to industrial.

The broader Aerotropolis Precinct and Western Sydney Airport would not be affected by the Proposal, given its location; and all planning for this broader area could proceed as planned and not impact on the operation proposed under this Application.

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

Response: Following the release of the Finalisation Report (June, 2020), the Mamre Road Precinct was rezoned pursuant to the provisions of SEPP (WSEA) 2009, for which the Proposed Development represents a permissible industrial-related land use for employment purposes. The proposed development does not affect the RE1 Public Recreation and RE2 Private Recreation zoned land (proposed Lots 14-17).

> *"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 within the WSEA, as well as an orderly and logical extension, via means of extension of existing industrial development to the north and northeast of the Site. The scale of development proposed is deemed entirely consistent with the employment lands, that are in relatively close proximity to the Site, in terms of overall built-form, and intensity of operations.

> *"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: A site-specific Development Control Plan (DCP) has been prepared for this Site and concurrently submitted for assessment and adoption within this SSD Application. Prior to this SSD Application being 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 site-specific DCP. Importantly, the site-specific DCP has been designed to be cognisant of adjoining rural-residential development (identified within the Wianamatta-South Creek Precinct – Lots 3-5 Stage 1 Subdivision), whilst transitioning into industrial-related development on the Site.

The site-specific DCP is located within **Appendix 2** of this RtS Report.

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

Response: Areas of biodiversity will not be impacted by the Proposal as a result of the Proposed Development. Aboriginal Cultural Heritage will also be mitigated accordingly. Planned management and mitigation measures are outlined in **Part F** of this RtS Report.

5.3.1 Permissibility under the SEPP

With respect to the Proposed Development, under SEPP (WSEA) 2009, the Subject Site is identified as IN1 General Industrial zoned land. Additionally, the western portion of the Subject Site comprises pockets of RE1 Public Recreation and RE2 Private Recreation zoned land; however, for the purposes of the Proposal, there is not built form proposed within these identified areas (proposed Lots 14-17) under this SSD Application.

Below in **Table 6**, is a summary of all SEPP (WSEA) 2009 provisions (Clauses 11 – 34), as they apply to the Proposed Development. It is noted, that Industry (Light Industry and General

Industry) and Warehouse and Distribution Centres are permissible under the SEPP, for which the Proposal would remain consistent with.

Table 6: SEPP (WSEA) 2009 Provisions	
Clause	**Comment**
Clause 11: Zone objectives and land use table	*(2) The consent authority must have regard to the objectives for development in a zone when determining a development application in respect of land within the zone.* ***Zone IN1 General Industrial*** ***1 Objectives of Zone*** ▪ *To facilitate a wide range of employment-generating development including industrial, manufacturing, warehousing, storage and research uses and ancillary office space.* **Response:** The proposal includes provisions for the construction and operational use of a Warehouse, Logistics and Industrial Facilities Hub within a zone designated for employment generation. ▪ *To encourage employment opportunities along motorway corridors, including the M7 and M4.* **Response:** The Subject Site is suitably located in close proximity to key infrastructure corridors including the M4 and M7 Motorways, as well as being located alongside Mamre Road, which is due to be upgraded as part of the TfNSW Mamre Road Widening project. Additional infrastructure such as of the Southern Link Road will better service the Subject Site encouraging improved access for employees. ▪ *To minimise any adverse effect of industry on other land uses.* ▪ *To facilitate road network links to the M7 and M4 Motorways.* **Response:** The Proposal would support industry and other land uses by distributing a localised products from a range on end users that provides economic growth and support in the immediate and wider localities. Additionally, the proposed development has been set back from Mamre Road to allow for future road widening. ▪ *To encourage a high standard of development that does not prejudice the sustainability of other enterprises or the environment.* **Response:** There would be no adverse impacts on adjoining land uses or the environment as a result of the Proposed Development. The Proposal includes provisions for the construction and operational use of a Warehouse, Logistics and Industrial Facilities Hub which is considered commensurate with surrounding industrial development within the wider WSEA.

	▪ *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.* **Response:** As mentioned above, the Proposal includes provisions for the construction and operational use of a Warehouse, Logistics and Industrial Facilities Hub within a zone designated for employment generation. The Proposal would be appropriately co-located in close proximity to existing industrial developments which generate significant employment outcomes throughout the WSEA.
Clause 18: Requirements for Development Control Plans	A site-specific DCP has been prepared for this Site and concurrently submitted for assessment and adoption within this SSD Application. Prior to this SSD Application being 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 site-specific DCP. Importantly, the site-specific DCP has been designed to be cognisant of adjoining rural-residential development (identified within the Wianamatta-South Creek Precinct – Lots 3-5 Stage 1 Subdivision), whilst transitioning into industrial-related development on the Site. The site-specific DCP is located within **Appendix 2** of this RtS Report.
Clause 20: Ecologically Sustainable Development	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 RtS Report including the revised Civil Engineering Report (refer to **Appendix 12**) provides explicit measures for both reducing water consumption and greenhouse gas emissions. The Proposed Development includes the provisions 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.
Clause 21: Height of Buildings	There is no height limit prescribed under SEPP (WSEA) 2009; however, the Proposed Development has considered the objectives of Clause 21, by adhering to heights that are consistent with the topography of the Site offering an unconstrained platform for development, whilst managing potential visual impacts and maintaining consistency with built form in conjunction with surrounding industrial-related development within the wider WSEA. The built form proposed under this SSD Application includes the following maximum building heights: **Building 1A:** 13.7 m **Building 1B:** 13.7 m **Building 2:** 26.37 m **Building 3A:** 13.7 m **Building 3B:** 13.7 m

	Building 4: 13.7 m **Building 5:** 13.7 m **Building 6:** 13.7 m **Building 7:** 13.7 m **Building 8:** 13.7 m
Clause 22: Rainwater Harvesting	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. 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. 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 L at this stage, is deemed appropriate.
Clause 23: Development adjoining residential land	The Site does not adjoin land zoned primarily for residential purposes, although is located within 250 m of a rural-residential land portion located to the west of the Site. In consideration of Clause 23 of SEPP (WSEA) 2009, a Visual Impact Assessment has been carried out for the Site and the Proposed Development by Geoscapes (refer to **Appendix 11**). It has considered all resultant visual impacts, assessed (where possible) from adjoining residential properties. Furthermore, the Proposed Development has been assessed against the provisions of Clause 23 of SEPP (WSEA) as follows: *a) wherever appropriate, proposed buildings are compatible with the height, scale, siting and character of existing residential buildings in the vicinity.* **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: ▪ Building heights under the Proposed Development 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. ▪ Setbacks to all boundaries, that allow for visual separation and deep-soil planting. *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.* **Response:** 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. *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* **Response:** Given the separation distances currently planned for the Proposed Development overall, including the considerable setback to the rural/residential properties to the west, 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 (refer to **Appendix 7**). 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 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. These measures have been integrated into the design of all warehouse and industrial facilities. *d) the development would provide adequate off-street parking, relative to the demand for parking likely to be generated.*

	Response: 744 car parking spaces are proposed along with the built-form in this SSD 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 2** of this RtS Report. *e) the Site of the Proposed Development would be suitably landscaped, particularly between any building and the street alignment.* **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, 1,250 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.
Clause 24: Development involving subdivision	The Proposal includes subdivision of the Site, creating a 17 lot Torrens Title Subdivision comprising two (2) stages: Stage 1: ▪ Five (5) residual allotments proposed. Stage 2: ▪ 17 development allotments proposed. The Proposed Subdivision satisfies Clause 24 of SEPP (WSEA) 2009 as: ▪ 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	A Service Infrastructure Assessment 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: **Potable Water: (refer to Section 2.1.1 of Appendix 14)** ▪ Sydney Water have advised that potable water will be supplied from the Erskine Park reservoir system, which has capacity to service the Proposed Development. **Waste Water: (refer to Section 2.1.2 of Appendix 14)**

	▪ 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. **Electrical Supply: (refer to Section 4.0 of Appendix 14)** ▪ Power supply from the Subject Site would be obtained from the zone substation at John Morphett Place, Erskine Park. ▪ Existing feeders providing services to the Mamre West Precinct to the north will be extended to serve the initial Proposed Development. **Telecommunications: (refer to Section 3.0 of Appendix 14)** ▪ 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. **Gas: (refer to Section 5.0 of Appendix 14)** ▪ The Existing Jemena network main (110 mm, 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.
Clause 26: Development on or in vicinity of proposed transport infrastructure routes	The Site is within proximity of a proposed transport infrastructure route (being the Southern Link Road). The Proposed Development allows for the Southern Link Road and has based its alignment on the designs prepared for the NSW DPIE 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 alignment is consistent with the Mamre Road Precinct Structure Plan.
Clause 27: Exceptions to development standards	There are no exceptions to Development Standards proposed under this SSD Application.
Clause 28: Relevant acquisition authority	The Subject Site accounts for additional setbacks along Mamre Road in accordance with the future Mamre Road Widening envisaged adjoining the Site, which is zoned SP2 Infrastructure.
Clause 29: Industrial Release Area satisfactory arrangements for the provision of regional transport infrastructure facilities	The Site is identified within an Industrial Release Area pursuant to Clause 29 of SEPP (WSEA) 2009. 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.

	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. 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.
Clause 31: Design Principles	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: ***Provision 31 (a):*** *the development is of a high-quality design, and* **Response:** 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. ***Provision 31 (b):*** *a variety of materials and external finishes for the external facades are incorporated, and* **Response:** 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 located and positioned, so as to create a sense of visual interest and address the public domain. ***Provision 31 (c):*** *high-quality landscaping is provided, and* **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. It is considered that the landscape treatment of the Site also exemplifies a high level of design merit for the following reasons: ▪ New Vegetation Areas measuring some: 91,700 m^2; ▪ New Trees Planted of over: 1,250; and ▪ New Canopy Cover (average) of some: 141,250 m^2. ***Provision 31 (d):*** *the scale and character of the development is compatible with other employment-generating development in the precinct concerned.* **Response:** The overall scale of the Proposed Development will serve as a transition from similar and existing development, of which the Development is compatible in terms of built form and scale. The scale of the Site allows for a range of employment-generating land uses and future development that are adaptable and able to respond to shifting economic conditions, given the final

	Structure Plan under Aerotropolis Plan maintains the Mamre Road Precinct for employment lands.
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 1,250 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.
Clause 33B: Development of land within or adjacent to transport investigation area	Concurrence has been undertaken with TfNSW to discuss the alignment of the future SLR in accordance with the Proposal.
Clause 33C: Development within the Mamre Road Precinct	Due to the CIV for the Proposed Development being for more than $200,000, concurrence with Transport for NSW would be required.
Clause 33D: Development in areas subject to aircraft noise	The Subject Site is located outside of the Western Sydney Airport Aircraft Noise Exposure Forecast (ANEF) 2030 contours. In accordance with the data extrapolated in Tables 11 & 12 in the revised Noise Impact Assessment (refer to **Appendix 19**), the highest predicted impact of L_{max} 72 dBA, no further treatment to the building façade would be required to comply with AS 2021:2015 internal assessment requirements.
Clause 33E: Airspace operations	Acoustic Works (2020) note, that Table 3.3 of AS 2021:2015 sets limits for noise intrusion when a new development is located in an area within the ANEF contour 20 and 25. Accordingly, the Site is located outside of the 20-25 ANEF contour with respect to Western Sydney Airport; therefore, satisfying Clause 33D of SEPP (WSEA) 2009.
Clause 33F: Development of land adjacent to Airport	The proposed development is for the purposes of a Warehouse, Logistics and Industrial Facilities Hub and is not likely to attract birds or animals in numbers that are likely to increase hazards of operating an aircraft. Therefore, further consideration with regard to Clause 33F is not considered to be required.
Clause 33G: Water Recycling and Conservation	The proposed development does not comprise a water recycling facility, nor are there provisions for a water recycling facility to service the Site requiring further consideration.
Clause 33H: Earthworks	*(1) The objectives of this clause are as follows—* *(a) to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land,* *(b) to allow earthworks of a minor nature without separate development consent.* *(2) Development consent is required for earthworks unless—* *(a) the work is exempt development under this Policy or another applicable environmental planning instrument, or* *(b) the work is ancillary to other development for which development consent has been given.*
	(3) Before granting development consent for earthworks, the consent authority must consider the following matters—

	(a) The likely disruption of, or detrimental effect on, existing drainage patterns and soil stability in the locality, **Response:** A detailed flood assessment has been prepared by Costin Roe Consulting (2020) and is detailed within the Overland Flow Report with **Appendix 13** of this RtS Report. Accordingly, the Proposal includes management of site runoff and upstream drainage paths managing the quantity and quality; and ensuring acceptable impacts are incurred as a result of the Proposed Development in accordance with various Council and NSW Government Policy. Additionally, consideration has been given to stability of soil during and post construction of the Subject Site. *(b) The effect of the proposed development on the likely future use or redevelopment of the land,* **Response:** The Proposed Development is consistent with the land zoning applicable to the Subject Site, for which future redevelopment of the Site would be able to be undertaken pursuant to the earthworks proposed under this SSD Application. *(c) The quality of the fill or the soil to be excavated, or both,* **Response:** Both geotechnical and environmental assessments have been undertaken for the Site, which investigates the suitability for use as engineered fill; foundations; and other development requirements. The reports demonstrate that with due consideration to the design requirements that the Proposed Development would be able to be completed over the proposed development footprint via an unconstrained platform for development. *(d) The effect of the proposed development on the existing and likely amenity of adjoining properties,* **Response:** Adjoining properties to the north, south and east are noted to comprise similar zoning attributes, hence similar amenity to these frontages is achieved by the Proposal. The areas to the west of the Proposed Development are noted to comprise pockets of RE1 and RE2 zoned land for which access would be facilitated to these allotments (proposed Lots 14-17). *(e) The source of fill material and the destination of excavated material,* *(f) The likelihood of disturbing relics.* **Response:** The investigations undertaken by Biosis confirm the Site will not impact on identified items of Aboriginal Cultural Heritage (refer to **Appendix 22** & **23**). Where potential impacts have been identified, recommendations will be implemented accordingly to appropriately manage any potential impacts that may occur.

	(g) The proximity to and potential for adverse impacts on a waterway, drinking water catchment or environmentally sensitive area, **Response:** A detailed flood assessment has been prepared by Costin Roe Consulting (2020) and is detailed within the Overland Flow Report with **Appendix 13** of this RtS Report. Assessments pertaining to discharge to water has been made in the BDAR (refer to **Appendix 17**). *(h) Appropriate measures proposed to avoid, minimise or mitigate the impacts of the development,* **Response:** Appropriate mitigation measures would be implemented during and following earthworks being undertaken on the Site, which would also include the implementation of an Erosion and Sediment Control Plan. *(i) The proximity to and potential for adverse impacts on a heritage item, an archaeological site, or a heritage conservation area,* **Response:** The investigations undertaken by Biosis confirm the Site will not impact on identified items of Environmental Heritage significance (refer to **Appendix 21**). *(j) The visual impact of earthworks as viewed from the waterways.* **Response:** There will be no visual impacts to adjoining waterways such as South Creek as a result of proposed earthworks as confirmed by Geoscapes in the Visual Impact Assessment (refer to **Appendix 11**).
Clause 33I: Development on flood prone land	*(1) This clause applies to development requiring consent that is carried out on flood prone land.* *(2) Consent is not to be granted to the carrying out of development to which this clause applies unless the consent authority has taken into consideration whether or not—* *(a) the development will adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties, and* **Response:** The modelling completed and presented in the Overland Flow Report (refer to **Appendix 13**) demonstrates that there are no adverse impacts to upstream downstream or adjoining properties, including consideration to cumulative impact in accordance with the recommendations of South Creek Floodplain Management Plan, Councils DCP and agreed impact criteria with the NSW DPIE. *(b) the development will alter flow distributions and velocities to the detriment of other properties or the environment of the floodplain, and*

	Response: Modelling undertaken demonstrates there is no significant alteration to flow distribution or velocities. Further, the modelling shows any minor flow distribution changes are not to the detriment of other properties or the environment of the floodplain. *(c) the development will enable safe occupation of the flood prone land, and* **Response:** A detailed assessment of occupant safety has been completed within Section 10 of the Overland Flow Report (refer to **Appendix 13**). The assessment demonstrates that reasonable time for evacuation is available through the utilization of various triggers throughout a flood event, as well as on-site refuge being available above the PMF flood level. *(d) the development will detrimentally affect the floodplain environment or cause avoidable erosion, siltation, salinity, destruction of riparian vegetation or a reduction in the stability of the riverbank/watercourse, and* **Response:** The Proposed Development does not propose any works within riparian corridors. The flood modelling shows that the Proposal will not adversely alter flow paths or velocities, hence there would be no increased potential for erosion, siltation or reduction in the stability of riverbanks or watercourses. In relation to the Proposed Development itself, during construction a detailed Erosion and Sediment Control Plan will be implemented to mitigate potential for siltation during construction. During the operational phase, stormwater detention and water quality measures will be required to address the potential for impact associated with the increased impervious land surfaces. These measures would be subject to future DAs and associated supporting documents. *(e) the development will be likely to result in unsustainable social and economic costs to the flood affected community or general community, as a consequence of flooding, and* **Response:** The Proposal is not considered likely to result in unsustainable social and economic costs relating to flooding. The modelling and information presented in the Overland Flow Report shows all impacts to be local to the proposed works area only and to not adversely affect upstream downstream or adjoining properties (refer to **Appendix 13**). *(f) the development is compatible with the flow conveyance function of the floodway, and* **Response:** The Subject Site is located adjacent to South Creek. Filling within the floodway is noted to be within areas of flooding above the 1% AEP flood extent. The flood function of South Creek is confirmed to be maintained post development with negligible flow and velocity changes and no

	change in the ability for the peak flows to be conveyed within the floodplain. The IN1 zoning is considered to be compatible to the flood hazard of the land, noting each building will be sparsely populated (when compared to other land uses like residential), populated with minimal youth or elderly and frail persons, and due consideration to egress and safety has been made. *(g) the development is compatible with the flood hazard, and* *(h) in the case of development consisting of the excavation or filling of land, the development—* *i. will detrimentally affect the existing drainage patterns and soil stability in the locality, and* *ii. will adversely impact or alter flood behaviour.* **Response:** The Subject Site is located adjacent to South Creek. Filling within the floodway fringe (areas above the 1% AEP) is proposed. The IN1 rezoning is considered to be compatible to the flood hazard of the land, noting each building will be sparsely populated (when compared to other land uses like residential), populated with minimal youth or elderly and frail persons, and due consideration to egress and safety has been made.
Clause 33J: Heritage conservation	*(1) **Objectives** The objectives of this clause are as follows –* *(a) To conserve the environmental heritage of the Western Sydney Employment Area,* *(b) To conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,* *(c) To conserve archaeological sites,* *(d) To conserve Aboriginal objects and Aboriginal places of heritage significance.* **Response:** To ensure maximum conservation of significance of the Subject Site, Biosis outlined the following recommendations: The results of the Aboriginal Cultural Heritage Assessment Report for the original Masterplan by Biosis (2019) (ACHAR) remain unchanged. However, for consistency and completeness, Biosis (2020) have provided recommendations based on the revised Masterplan. These 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 at AHIMS sites 45-5-5184/MSP-01, MSP-07 and MSP-08 as a part of SSD Approval** Biosis recommend that further archaeological work be conducted for AHIMS sites 45-5-5184/MSP-01, 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 Consent, subject to approval. **Recommendation 2: Further archaeological work in the form of salvage excavation of AHIMS site as a part of SSD Approval** Biosis recommend that further archaeological works be conducted for AHIMS site 45-5-5188/MSP-02 in the form of salvage excavation to recover any subsurface artefacts which will be impacted as a part of the Proposed Development. Biosis recommend that subsurface salvage of this Site be undertaken as a condition of SSD Approval. This would provide further information in relation to the artefact typology and material type, as well as the nature of the activities taking place at AHIMS site 45-5-5188/MSP-02. **Recommendation 3: No further archaeological work is required for sites 45-5-3028/EPTA3, 45-5-3032/EPTA10 and 45-5-3033/EPTA11** Biosis note, that as the previously recorded AHIMS sites, 45-5-3028/EPTA3, 45-5-3032/EPTA10 and 45-5-3033/EPTA11 were incorrectly georeferenced at the time of recording, they are not located within the study area. Therefore, Biosis recommend, that no further archaeological investigations are required for Aboriginal sites EPTA3, EPTA10 or EPTA11 prior to development impacts. **Recommendation 4: 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 as the proposed works will not impact on these sites. It is noted, that if the Proposed Development footprint is altered at a later date, further assessment may be required. **Recommendation 5: Avoidance of MSP 11** MSP 11 is located outside of the development footprint. Biosis recommend, that temporary fencing is erected around this site during construction to avoid potential impacts to the identified site. **Recommendation 6: Update AHIMS site cards for AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02 and 45-5-5189/MSP-03 and lodge AHIMS site cards for newly identified sites MSP-05, MSP-06 and MSP-07, MSP-08, MSP-09, MSP-10, and MSP-11** Biosis recommend that the AHIMS site cards for previously identified AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02, 45-5-5189/MSP-03 be updated to reflect the revised site descriptions following the test excavations discussed within the ACHAR.

	They also recommend that AHIMS site cards are 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 7: 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, MSP-10 and MSP-11** 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, MSP-10 and MSP-11 within four (4) months following completion of development impacts or as otherwise stated in SSD approval conditions. **Recommendation 8: Unexpected finds** Discovery of Unanticipated 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: 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.
Clause 33K: Consent for clearing native vegetation	Based on the assessment undertaken by Ecoplanning (2020), the revised Masterplan will retain more native vegetation than previously proposed. This is due to a reduction in proposed native vegetation clearing. Accordingly, the Masterplan as previously proposed and exhibited, would have impacted on some 11.40 ha of native vegetation. The revised Masterplan by comparison proposes to clear only 9.15 ha. This represents a reduction from approximately 79.1% of native vegetation being cleared to approximately 64.5% which demonstrates that due consideration has been given to reduce the overall impact in this respect.
Clause 33L: Stormwater, water quality and water sensitive design	*(1) The objective of this clause is to avoid or minimise the adverse impacts of stormwater on the land on which development is to be carried out, adjoining properties, riparian land, native bushland, waterways, groundwater dependent ecosystems and groundwater systems.* **Response:** The proposed development includes a satisfactory stormwater management cycle which includes a Water Sensitive Urban Design (WSUD) strategy which achieves Council's stormwater and pollution reduction targets across the Site.
	(2) Before granting development consent to development on land to which this Policy applies, the consent authority must take into consideration whether— *(a) water sensitive design principles are incorporated into the design of the development, and* **Response:** The proposed development includes a satisfactory stormwater management cycle which includes a Water Sensitive Urban Design (WSUD) strategy which achieves Council's stormwater and pollution reduction targets across the Site. *(b) riparian, stormwater and flooding measures are integrated, and* **Response:** The Site includes appropriate drainage and landscaping measures to satisfactorily capture runoff and adverse flooding conditions. The on-site stormwater detention basin would act as an appropriate Stormwater Treatment Measure for the Site. *(c) the stormwater management system includes all reasonable management actions to avoid adverse impacts on the land to which the development is to be carried out, adjoining properties, riparian land, native bushland, waterways, groundwater dependent ecosystems and groundwater systems, and* **Response:** All reasonable and feasible recommendations and mitigation measures including landscaping provisions; construction of the retaining wall; and incorporation of erosion and sediment controls would satisfactorily avoid adverse impacts on adjoining properties and demonstrate and environmentally sustainable development.

	(d) if a potential adverse environmental impact cannot be feasibly avoided, the development minimises and mitigates the adverse impacts of stormwater runoff on adjoining properties, riparian land, native bushland, waterways, groundwater dependent ecosystems and groundwater systems, and **Response:** There are no environmental impacts anticipated as a result of the proposed development, for which **Part F** of this SEE satisfactorily demonstrates. *(e) the development will have an adverse impact on—* *i. the water quality or quantity in a waterway, including the water entering the waterway, and* *ii. the natural flow regime, including groundwater flows to a waterway, and* *iii. the aquatic environment and riparian land (including aquatic and riparian species, communities, populations and habitats), and* *iv. the stability of the bed, banks and shore of a waterway, and* **Response:** As mentioned above, the proposed development includes a satisfactory stormwater management cycle which includes a Water Sensitive Urban Design (WSUD) strategy which achieves Council's stormwater and pollution reduction targets across the Site. There are no adverse impacts anticipated to the water quality or downstream flows as a result of the proposed development. *(f) the development includes measures to retain, rehabilitate and restore riparian land.* **Response:** The Subject Site does not adjoin a riparian corridor. Notwithstanding, landscaping provisions have been included across the Site, for which the Urban Heat Island Effect commonly experienced across the Western Sydney Region will be managed for the proposal's microclimate.

PART F ENVIRONMENTAL ASSESSMENT

In response to the SEARs that were issued for this Site on 14th September 2018 (SSD 9522), the following Environmental Assessment has been carried out to determine the overall impacts of the amended Proposal and to demonstrate that all impacts are able to be adequately mitigated by way of condition or specified design measure.

6.1 URBAN DESIGN

The Site is subject to the provisions of the *Western City District Plan* which identifies a range of key Planning Priorities. In particular, the *Western City District Plan* outlines a range of design principles and informs the direction for creating a new transformative urban model for employment lands within the catchment of the South Creek Corridor.

The Proposed Masterplan has been informed by the development of an Urban Design Framework prepared by Roberts Day with consideration to create a next generation, Six-Star Green Star industrial community that capitalises on its unique location and proximity to South Creek. In particular, the amended Masterplan responds to the specific objectives as expressed in Planning Priority W13 in the *Western City District Plan*- "Creating a Parkland City Urban Structure and Identity with South Creek".

The design principles expressed in the *Western City District Plan* are key drivers and have been implemented through the design process. The principles are:

1. Re-orientate Urban Systems towards the Creek Corridor;
2. Naturalise Stormwater Runoff via Blue and Green Grids;
3. Create "Place" by providing a higher range and open spaces within a walkable network;
4. Mitigate Urban Heat Island Effect; and
5. Consolidate and Manage Parking.

Accordingly, the Urban Design framework has contributed to influence the amended Masterplan that includes the following key features:

1. Individual lots are serviced through a network of internal streets, designed to enable circulation of large vehicles whilst providing a legible walking and cycling environment;
2. The street network proposes a street design that enables the planting of over 1,250 trees and lush vegetation providing an average canopy cover of 141,250 m^2, which comprises approximately 91,700 m^2 of landscaping to limit the Urban Heat Island Effect;
3. With respect to Lots 14-17 a total of 8.88 ha of open space has been allocated, which has been deferred under this SSD Application. Notwithstanding, two (2) separate road connections have been provided to facilitate access to these allotments, as well as bulk earthworks (comprising minor filling) on the western boundary of the Site, for which future built form would be subject to separate Development Applications.

Following extensive consultation with the NSW DPIE in relation to the *Guiding Principles for the Mamre Road Precinct* (December 2019) which pertain to the Subject Site, **Table 7** outlined below considers the revised Masterplan in accordance with each of the Principles.

Table 7: Guiding Principles for the Mamre Road Precinct	
Principle	**Proposal**
Allow for Future Road Works:	
1. Allow for Mamre Road widening – consult with TfNSW / RMS.	The revised Masterplan accounts for the future Mamre Road Widening by

	incorporating a 10 m Mamre Road widening setback, along with a 10 m landscape and 20 m building setback. Consultation has been undertaken with the NSW RMS (now TfNSW) to confirm the proposed setback controls. The setbacks proposed have also been incorporated within the proposed SSD 9522 Development Control Plan 2020.
2. Allow for freight rail corridor – consult with TfNSW.	The revised Masterplan accounts for the potential Western Sydney Freight Line Corridor by incorporating a 60 m corridor setback, along the northern boundary of the Site. Consultation has been undertaken with TfNSW to confirm the proposed setback controls, as well as TfNSW further highlighting this within the submissions received following exhibition of SSD 9522.
Road Network	
3. Southern Link Road may extend west, road width and intersection to be determined by RMS. Area to be deferred.	Pursuant to consultation with TfNSW, a 38 m wide road corridor has been provided to account for the future SLR, including potential future capability for extending it to the west of the Site. Adequate provision has therefore been made in this respect.
4. Extend the main entrance road into a loop to form a public road interface with the South Creek Corridor.	The western portion of the Site is deferred under this SSD Application. Notwithstanding, there would be the ability provide landscaping along the western edge of the Site by providing a physical barrier between future built form and the indicative activated open space land uses throughout the Subject Site. This is considered to satisfy the criteria established.
5. Extend the loop to Mamre Road for possible left in / left out. Consult with RMS.	The Left In / Left Out access along the southern portion of the Site (as previously proposed) has since been removed due to this item not being supported by both the TfNSW and PCC. An access road to the south has been provided to the southern lots to account for any access requirements in the future.
6. Design to have a grid road network to increase permeability and connectivity to land further south.	The road design proposed has been cognisant of future connections to the south by proposing a connection, which is made visible within the revised Masterplan.
7. Refine movement network to minimise conflicts between heavy vehicles and local traffic.	The road design proposed has been prepared based on other industrial estates within close proximity to the Subject Site, which consist of similar internal configurations. The revised Masterplan is considered to satisfactorily consider and address potential conflicts between light and heavy vehicular movements anticipated throughout the Subject Site, including provisions for separate car and truck points

	of ingress and egress for each Warehouse building.
Landscaping	
8. Increase permeable surfaces and visual amenity – wide landscaping, integrated parking and landscaping.	Substantial landscaping is proposed throughout the Estate, increasing permeability through a tree lined boulevard along the Southern Link Road, Freight Rail Corridor, the Mamre Road corridor as well as extensive boundary landscaping throughout the internal road network. This will be the first fully designed Six-Star-Green-Star estate incorporating all sustainable measures included within the Green Star rating tool. Some examples include endemic species of plant, rainwater collection and reuse and solar panels installation on all buildings. The landscaping strategy is to maximise larger trees in setbacks to the Site and individual Warehouse buildings. Where infrastructure has a potential conflict with trees, we use smaller tree species or taller species with reduced canopy spread. With 1,250 new trees prosed throughout the masterplans approximately 91,700 m^2 of new vegetation will be delivered, resulting in a canopy cover of approximately 141,250 m^2. The new vegetation combined with significant proposed open space of 8.88 ha provides increased permeable surfaces, a cool landscaped environment and integrated parking allowing connectivity throughout the estate, delivering on the objectives of the Mamre Road Precinct.
9. Provide a minimum landscaped setback to Mamre Road of 20 metres.	Along Mamre Road, a 10 m landscape setback has been allowed for, which includes significant planting, including species that will satisfactorily screen future built form. It is considered that the species selection will mature over time to create a highly desirable landscaped setting that sets a desirable precedent for future development along Mamre Road. The 10 m setback along Mamre Road is entirely consistent with recently approved developments surrounding the site, including First Estate, Erskine Business Park and Oakdale West.

WSUD	
10. Investigate the provision of integrated WSUD throughout landscaping and for water treatment / bio-retention. Potential for land to be zoned open space with public facilities.	The revised Masterplan includes provisions for bioretention basins (proposed Lots 11-13) to treat any stormwater captured on-site, prior to discharge. Recycled and reuse strategies will be implemented to further achieve Council's WSUD targets. This will also include provisions along Bakers Lane and the portion of the East-West Access Road for a bio-basin integrated within the proposed landscape setting.
Built Form Outcomes	
11. Orient buildings to the creek corridor, with office components taking advantage of the outlook to South Creek.	All buildings along the western edge of the Site have been deferred under this SSD Application. The design of buildings in this location in the future will address this requirement.
12. Co-locate office and high amenity areas and provide for common landscaped areas.	Adequate landscaping and open space areas have been provided across the Site, which are considered sufficient and complies with comparable DCPs for existing industrial estates, including Mamre West, Erskine Business Park and Oakdale. It is noted that there will be access to the designated open space areas from all Warehouse facilities to ensure opportunity for recreation.
13. Where possible co-located service areas and heavy vehicle access points.	Heavy vehicles will enter the Site from Mamre Road and individual vehicle crossings for the allotments are located according to safe and feasible sight lines and manoeuvring. The proposed arrangement in this respect represents the optimal outcome to ensure efficiency and safety of all vehicular movement.
14. Facades and open space fronting main roads and key loop roads to be designed as front of house areas to address the street with quality design and materials (including Mamre Road, Southern Link Road and the creek boundary road).	Land surrounding the development is designated for both employment and open space under the strategic planning policies, specifically the Aerotropolis Plan and draft Mamre Road Precinct Structure Plan, for which the Proposed Development and future development planned for the Subject Site would provide a complimentary and appropriate outcome. The Proposal places particular emphasis on orientation of the western most Warehouse allotments, ensuring that the office components face South Creek with a high degree of articulation on the buildings. The buildings to all other roads (SLR and Mamre Road) provide a direct activation by the orientation of offices and provision of

	materiality and landscaping that creates an aesthetically pleasing environment.

Additionally, the proposed development allotments have been reviewed against the SSD 9522 DCP for consistency, as outlined in **Table 8** & **9** below.

Table 8: Lot Sizes and Frontages		
Control	**Requirement**	**Proposed Development**
Industrial Lots		
Minimum Lot Size	2,500 m^2	All lots comply
Minimum Frontage	20 metres	All lots comply
Ancillary Lots		
Minimum Lot Size	2,500 m^2	All lots comply
Minimum Frontage	20 metres	All lots comply, except Lot 11 (Retention Bio-Basin) which will be accessible via proposed Lot 4.

Whilst compliance is not achieved with regard to the minimum frontage to proposed Lot 11, access to this allotment would be mitigated for access and maintenance purposes only, for which the minor contravention is not considered to impact the proposed allotment, or adjoining allotments.

Table 9: Lot Sizes and Frontages		
Setback Type	**Setback Distance**	**Proposed Development**
Building Setbacks		
Mamre Road	20 metres	All lots comply
Subdivision Road	7.5 metres	All lots comply
Rear and Side Setbacks	5 metres	All lots comply
Water Supply Pipeline Corridor Boundary	5 metres	All lots comply
Landscape Setbacks		
Landscape Setback (Mamre Road)	10 metres	All lots comply
Landscape Setback	4 metres	All lots comply
Landscape Setback (Freight Line Corridor)	5 metres	All lots comply

6.2 LANDSCAPE

6.2.1 Amendments to Landscaping

In response to the issues raised during the exhibition phase, the following changes have been made to the Landscape Masterplan. The main changes and corresponding rationale with respect to the landscape outcomes, are summarised below. The revised Landscape Masterplan by Habit8 (2020) is shown in full in **Appendix 10**.

The main changes in relation to landscaping are:

- New Vegetation Areas measuring some: 91,700 m^2;
- New Trees Planted of over: 1,250;
- New Canopy Cover (average) of some: 141,250 m^2;

- Additional sections AA-FF demonstrate side and rear setback landscaping design solutions, which are compliant with respect to the proposed DCP for the Site and consistent with similar industrial estates throughout; and
- Species and Plant Schedule informed by Council's DCP.

The revised Landscape Masterplan, which clearly illustrates the proposed landscape works, will be carried out over the developable site area to create a greener and more vibrant and highly amenable World Class Industrial Estate. Landscaping provisions would provide visual screening between building's and car parking areas, as well as deep soil landscaping planting throughout the Subject Site, providing shading and enabling a more natural aesthetic, contributing to an attractive visual experience for workers and visitors. All of which, would be implemented by an aesthetically pleasing architectural landscaped design.

The landscape design has also enabled the establishment of natural connections between the various built form elements proposed. Additionally, planting adjacent to the Site boundaries will assist in protecting neighbouring amenity by providing vegetative visual screening and further assisting any noise mitigation. Extensive vegetation planting, comprising deep soil planting throughout the Site would improve the biodiversity and tree canopy cover across the Site, particularly given that in its current state, the Subject Site comprises predominantly of exotic grasslands. The landscape approach would also mitigate potential impacts arising from the Urban Heat Island Effect.

The revised Landscape Masterplan's thematic focus, can be summarised in the four (4) sections below:

A. **Revegetation Strategy:**

- The strategy for revegetating the Subject Site, focuses on introducing canopy-tree planting to further mitigate and reduce the Urban Heat Island Effect. As a result, Habit8 have proposed a carefully-selected mix of endemic, native and exotic trees, both to strengthen the Site's urban design principles and meet current sustainability guidelines. Street verges; buffer tree planting to boundaries; and all road setbacks now include provisions for dense planting with canopy trees. Apart from their obvious aesthetic value, there will be 6-15 m in height and are designed to encourage canopy spread.

  Additionally, car parking areas and hardstand surfaces are designed to include shading provisions by tree planting between spaces. Cycleways and path systems, will also include canopy tree plantings. Extensive WSUD principles, including soft engineering through bio-swales, detention basins and grey water reuse, will all be employed to assist in maintaining and managing all revegetated areas across the Site. Accordingly, the revegetation numbers comprise:

  i. New Vegetation Areas measuring some: 91,700 m^2;
  ii. New Trees Planted of over: 1,250; and
  iii. New Canopy Cover (average) of some: 141,250 m^2.

B. **South Creek Corridor:**

- The South Creek Corridor will become a future recreation zone and is designed to provide a focal point to the Development. Whilst no built form works are proposed within the South Creek Corridor, the masterplan now allows for access to these areas.

C. **Complete Streets:**

- All streets within the new Estate, as shown in the Masterplan, have been designed to be multifunctional and to provide safe and fluid connectivity throughout the Estate for vehicles, pedestrians and cyclists. The streets will form the main "green spines" throughout the Proposed Development and will ultimately link the South Creek Corridor with the future built form of the Subject Site. It is noted that both the streets and Estate Access Roads, have been designed to satisfy the provisions of Penrith City Council's Public Domain Policy (2011). The main features of the public domain street design are to:

  1. Provide tree canopy cover and reduce the Urban Heat Island Effect.
  2. Provide safe and comfortable transit for pedestrians and cyclists.
  3. Strengthen canopy connectivity through the Estate.
  4. Visually link the South Creek Corridor to the Estate and Blue Mountains beyond.
  5. Allow multi-functionality through the revisions of various transit lands such as heavy vehicles, cars, pedestrian footpaths and cycleways.
  6. Soften and screen the bulk of the warehouses.
  7. Help create a cooler microclimate around buildings and along pedestrian routes.
  8. Provide multiple opportunities to create an address for each warehouse.
  9. Integrate lighting for safety.
  10. Allow safe passage for visitors and workers to experience the South Creek Corridor interface.
  11. Strengthen the connection from Mamre Road through the Estate to the South Creek Corridor environment.
  12. Incorporate WSUD principles into the streetscape including water quality bio-swales and vegetated detention basins.

A full set of the Site's revised Landscape Plans are located in **Appendix 10** of this Report.

6.2.2 Proposed Landscape Design

The revised Landscape Masterplan as amended remains consistent with the four (4) principles articulated within the draft NSW Green Places Policy, prepared by the Government Architect NSW (2017), which includes:

- **Principle 1: Integration**
  - The Proposed Development includes provisions for a multi-purposes infrastructure strategy that mimics nature; provides critical ecosystem services; and promoted healthy and active living throughout the Subject Site. Accordingly, the Proposed Development aims to combine green space with urban development and grey infrastructure.

- **Principle 2: Connectivity**
  - The Proposed Development aims to create a network of high quality open spaces that connect with the Warehouse and office components, as well as the public transport hubs, South Creek Corridor and surrounding rural-residential areas. The network includes a combination of physical and functional connections that benefit both people and wildlife, creating a vibrant and harmonious nature and open space setting across the Site.

- **Principle 3: Multifunctionality**
  - The proposed green space infrastructure is designed to be high quality and high performing, collectively producing ecological, social, environmental and economic benefits. The multifunctionality of the Proposed Development's landscape design allows for the Site's green infrastructure to deliver multiple ecosystem, environmental and other services simultaneously, whilst facilitating the overall objectives of the Proposal.

- **Principle 4: Participation**
  - The process (design and consultation) incurred thus far, has been open to all, including the NSW DPIE, Council, State Agencies and the wider community, which has been transparent and incorporates the knowledge and needs of all interested and diversified parties involved.

It is considered that the landscape treatment of the Site also exemplifies a high level of design merit for the following reasons:

- New Vegetation Areas measuring some: 91,700 m^2;
- New Trees Planted of over: 1,250; and
- New Canopy Cover (average) of some: 141,250 m^2.

The landscaping strategy proposed has been carefully selected to achieve the landscaping provisions envisaged by State and Local Government Policy, whilst facilitating the dawn of a new age for industrial development, which the Proposal would seek to establish a precedent for future industrial development, throughout the Mamre Road Precinct, the wider WSEA and the State.

6.3 FLOODING

6.3.1 Amendments to Flooding

The revised *Overland Flow Report* prepared by Costin Roe Consulting (2020) considers the Proposed Development's potential impacts with regard to flooding and considers the west portions of the study area which were identified in Penrith City Council's *Updated South Creek Flood Study (rp6033rg_crt150128-Updated South Creek Flood Study (FINAL – Volume 1))* as being affected by overland flow associated with the adjoining South Creek (refer to **Appendix 13**).

Accordingly, the assessment undertaken (which is identified on the eastern bank of South Creek) has been completed using Penrith City Council's TUFLOW modelling to assess both the pre-and post-development overland flow conditions for a range of storm events. Scenario testing has been completed within the bounds and requirements of the specific criteria set out in *PDCP2014 – Part C3 Water Management*, *NSW Floodplain Development Management Manual 2005*, and ongoing consultation with PCC and the NSW DPIE.

The revised masterplan has reduced the development footprint so that all built form is outside the 1% AEP flood extent. This is significant in that works within the flood plain are no longer proposed and the offsite impacts are considered neglible – nil.

The detailed results pertaining to potential flood impacts as a result of the revised Masterplan are detailed within **Section 6.3** below and the revised Overland Flow Assessment Report is location within **Appendix 13** of this RtS Report.

6.3.2 Flood Assessment

The revised *Overland Flow Report* prepared by Costin Roe Consulting considers the Proposed Development's potential impacts with regard to flooding and considers the west portions of the study area which were identified in Penrith City Council's *Updated South Creek Flood Study (rp6033rg_crt150128-Updated South Creek Flood Study (FINAL – Volume 1))* as being affected by overland flow associated with the adjoining South Creek.

Accordingly, the assessment undertaken has been completed using Penrith City Council's TUFLOW modelling to assess both the pre-and post-development overland flow conditions for a range of storm events. Scenario testing has been completed within the bounds and requirements of the specific criteria set out in *PDCP2014 – Part C3 Water Management*, *NSW Floodplain Development Management Manual 2005*, and ongoing consultation with Penrith City Council and the NSW DPIE.

Following consultation with both the NSW DPIE, INSW and Council, a set of assessment criteria have been agreed and responded to through Section 9 of the revised Overland Flow Assessment Report (refer to **Appendix 13**). In line with these criteria, the Proposed Development extent has been reduced to ensure that there is no built form within the 1% AEP flood extent.

The Proposed Development, as a result of the revised Masterplan extent does not involve any built form development within the 1% AEP flood extent; hence the DCP criteria and agreements between the NSW DPIE and Council are considered to have been satisfied. It is noted, that Advisian (2019) have completed a peer review of the Proposed Development layout in parallel with their review of the revised Overland Flow Report, for which their review items are outlined in **Table 10** below. The parameters Advisian consider include modelling extent (upstream and downstream boundary locations – 2 km and levels), flow hydrographs, surface roughness and land use types, inclusion of hydraulic restrictions and the methodology for data extraction and presentation.

Table 10: Findings Related to Review of Flood Modelling and Results			
ID	**Finding**	**Proposed Action by Advisian (2019)**	**Costin Roe Consulting (2020) Response**
A1	*The South Creek TUFLOW inflow boundary lies within both the South Creek Dam and adjacent Kemps Creek channel. Comparison of RMA and TUFLOW 1% AEP peak flood levels shows that this results in significantly lower (1.3 m) TUFLOW peak flood levels within South Creek Dam and indicates that a greater proportion of flow is being directed into Kemps Creek than in the RMA model.*	*The South Creek TUFLOW inflow boundary should arguably be moved further upstream to ensure flow behaviour is properly resolved in the vicinity of the South Creek Dam and Kemps Creek confluence, however relatively low differences in flood level upstream of the proposed development site indicate that this may not be critical.*	The previously modelled upstream boundary was provided at a distance of 2.5 times the modelled width of flow as per previous discussion and modelling assessments completed by Advisian, NSW DPIE and Penrith City Council. Notwithstanding, the modelling undertaken has been updated to consider the upstream boundary at 2 km from the Subject Site. This is consistent with the distance requested by Penrith City Council in the Response to Submissions and will provide sufficient upstream distance to ensure modelled behaviour between upstream inflow and the Site is resolved. Based on previous similar sensitivity testing Costin Roe (2020) agree with Advisian's (2019) comments and this has been included in the revised Overland Flow Report.
A2	*The post-development scenario has not accounted for changes in land use and Manning's 'n' associated with new and proposed commercial/industrial development. While the post-development terrain is predominantly above the 1% AEP peak flood level, the changes in land use may affect larger floods such as the 0.5% AEP and PMF.*	*Post-development modelling to include changes in land use and corresponding changes in Manning's 'n'.*	Costin Roe (2020) note, that the updated modelling includes lower (smoother) 'Manning n' values over the developed area. A value of 0.025 has been adopted for the assessment. It is noted, that this will have a minor difference to the PMF event (Scenario 2) only (as 0.5% AEP event is less than 1% AEP +0.5 m freeboard) and the Site (as a result of the revised Masterplan) is above the PMF level.

Table 10: Findings Related to Review of Flood Modelling and Results			
ID	**Finding**	**Proposed Action by Advisian (2019)**	**Costin Roe Consulting (2020) Response**
A3	*Section 6.1 of the Overland Flow Report states that TUFLOW modelling adopted a 7 m grid size. Review of the provided TUFLOW geometry control file reveals that a model grid size of 8.5 m was adopted. Reporting to reflect true TUFLOW model grid size.*	*Reporting to reflect true TUFLOW model grid size.*	The TUFLOW model has been updated with the 5 m grid size as suggested.
A4	*The 8.5 m model grid size is considered coarse, particularly for a relatively small model extent where model run times do not place any significant constraint on grid size. This contributes to poor topographic representation of the proposed OSD basin (refer Finding A5) .*	*It is recommended that future modelling adopt a grid size of not more than 5 m.*	The TUFLOW model has been updated with the 5 m grid size as suggested.
A5	*Review of the post-development model terrain indicates that the OSD basin embankment and crest level is poorly defined. Without any further information within the Overland Flow Report or any indication of a'breakline' used within the provided TUFLOW files, it appears that the modelling does not adequately define the basin and the obstruction it could cause to floodwaters*	*"2d_zsh" lines should be used to enforce topographic elevations of hydraulically important features such as the OSD basin embankment crest and overflow weir that may not otherwise be reliably captured by the TUFLOW grid.*	The submitted mdoelling has included 2d_zsh lines around the perimeter of the detention basins. It is noted that, given the Proposal no longer includes built form within the 1% AEP flood extent, post development modelling which affects the basin will be for events greater than the 1% AEP.
A6	*The Overland Flow Report (refer Table 9.1, Criteria 5) states that the OSD basin was modelled as 80% full on the basis that the peak of local flows into the basin would be unlikely to align with the peak of flooding in South Creek. The post-development model terrain adopted a level of 32.5 mAHD to represent this 80% full condition. From the available information it could not be confirmed how this level was determined. Drawing DA414 suggests that an 80% full*	*Additional justification of the 80% full initial basin condition should be provided along with calculation of the corresponding RL.*	The submitted model has been produced under conditions where the basins have been modelled as being full at the peak of the 1% AEP local runoff event.

Table 10: Findings Related to Review of Flood Modelling and Results			
ID	**Finding**	**Proposed Action by Advisian (2019)**	**Costin Roe Consulting (2020) Response**
	condition would equate to an RL of at least 32.72 mAHD.		
A7	*In addition to the proposed Mamre South Precinct development, the post-development scenario adopted by Costin Roe includes two recently constructed developments (Twin Creeks and First Estate Stage 1) and another unapproved development subject to a separate Development Application (First Estate Stage 2). This presents difficulties in assessing the flood impacts that are directly attributable to the proposed Mamre South Precinct development. Similarly, the pre-development scenario does not include the now constructed Twin Creeks and First Estate Stage 1 developments.*	*To allow flood impacts directly attributable to the subject development to be assessed, it is recommended that:* *- The pre-development scenario include recently constructed developments (Twin Creeks and First Estate Stage 1)* *- The post-development scenario include the above and the proposed Mamre South Precinct development* *- Any unapproved developments not included in this DA (e.g. First Estate Stage 2) be included only in scenarios investigating the cumulative impact of development.*	The comparison of development between pre-development conditions with Twin Creeks and First Estate was included in the modelling at a direct request from PCC. Updated modelling includes a direct comparison between the Proposed Development and the existing conditions (including the constructed First Estate (SSD 7173) and Twin Creeks residential area). The additional scenario assessments have also been included for the PMF event as set out in within the revised Overland Flow Assessment Report (refer to **Appendix 13**) as recommended to make a distinction between the current development and overall precinct development.
Findings related to Review of Council; DCP (2014) Requirements			
A8	*Chapter C3 Section 3.5 of the Penrith City DCP (2014) states that "Council will not grant consent to filling of floodways or high hazard areas. Parts of the proposed OSD basin are located within areas that are designated as both "floodway" and "high hazard". The embankments of the proposed basin would raise the topography above the existing level, obstruct flood flows and potentially reduce flood storage. Accordingly, this would be considered filling of a floodway area and would not be permitted under the DCP.*	*The proposed design should not have any fill, including that associated with the OSD basin, encroach upon areas designated as "floodway" or "high hazard.*	There are no proposed works within the floodway or high hazard areas. It is noted, that the revised Masterplan does not include any built form, including detention systems, within the 1% AEP flood extent. Accordingly, all proposed works are clear of the floodway and high hazard zone. This comment is no longer relevant to the assessment.

Table 10: Findings Related to Review of Flood Modelling and Results			
ID	**Finding**	**Proposed Action by Advisian (2019)**	**Costin Roe Consulting (2020) Response**
A9	*There are difficulties assessing the proposed development against the merit-based criteria under Chapter C3 Section 3.5 of the Penrith City DCP (2014) as flood impacts directly attributable to the subject development are not known. Offsite flood level impacts exceed the 0.01 to 0.02 m criterion set by Council and DPIE, and any assertion that these impacts are related to other developments would need to be substantiated.*	*It is recommended that future modelling follow the guidance presented under **Finding A7**. This would be required to determine whether flood level impact requirements for the development as set by the DCP, Council and DPIE are met.*	Refer to the "A7" response detailed above.
A10	*Additional assessment of the potential for cumulative impacts of possible filling proposals in the surrounding area is recommended.*	*The following is recommended:* *- That the recommendations of Finding A7 be implemented to assess those impacts directly attributable to the proposed development* *- That a 'cumulative impact' scenario be assessed including the proposed development, other proposed development on the eastern floodplain (i.e. First Estate Stage 2), and filling of properties on the western floodplain to above the 1% AEP peak flood level outside of the floodway corridor and high hazard areas.*	The recommendations of *Finding A7* have been adopted in this throughout the revised Overland Flow Assessment Report (refer to **Appendix 13**). Assessment of impact from both the 1% AEP and 0.2% AEP have been assessed for the current DCP Part C3 criteria. In addition, the recommended DCP Part C3 criteria changes included in the DRAFT South Creek Floodplain Management Plan have also been reviewed and addressed in the revised report prepared by Costin Roe (2020).
A11	*The Costin Roe report states that proposed filling associated with the development causes a displaced storage volume of 75,000 m3 and that compensatory flood storage of 87,800 m3 is provided along the southwest corner and north-west corner of the proposed development within the floodplain. This suggests that additional flood storage is provided. However, it is noted the storage calculations are sensitive to the proportion of the OSD basin storage which is considered active (i.e. the proportion of storage that remains empty and available for flood*	*OSD basin made in overall flood storage volume calculations should be provided along with justification for these assumptions.* *Storage calculations should also provide a reference against which they are based. It is recommended that any calculations of pre and post-development storage be undertaken for elevations up to and including the 1% AEP flood and the PMF.*	The revised Masterplan no longer includes built form within the 1% AEP flood extent. The modelling of the OSD basins (for events greater than the 1% AEP event) has been completed based on the basin being at the peak 1% AEP local runoff flood level. The PMF event has been analysed post-development, for the extent of South Creek both 2 km upstream and downstream. This assessment has identified minor changes in modelled water levels (in the order of 200 mm) within the bounds of the study area. The lost PMF

Table 10: Findings Related to Review of Flood Modelling and Results			
ID	**Finding**	**Proposed Action by Advisian (2019)**	**Costin Roe Consulting (2020) Response**
	storage at the time that flooding from South Creek occurs). It is also not clear to what elevation or design flood event these calculations apply.		flood storage is regained through the higher level of flood water and is considered satisfactory for the PMF flood event and does not contradict the NSW Flood Plain Management Manual 2005, Penrith Council DCP or industry practice.
A12	*Cut and re-grading works are proposed to offset the loss of flood storage associated with the proposed filling. The proposed areas of cut and re-grading include a significant area of riparian vegetation. While the works affecting the vegetation do not technically constitute "filling", it is evident that these trees would be affected by the proposed development and it is not clear why this criterion would not be applicable*	*It is recommended that the proposed development avoid disturbance of riparian vegetation.*	The revised Masterplan no longer includes works within the 1% AEP flood extent, nor regrading works for flood storage compensation. This comment is no longer relevant to the assessment.
A13	*A review of the criteria presented in Chapter 3.3 of the DCP (2014) indicates that the proposed Mamre South Precinct development would not meet various criteria relating to the riparian corridor.*	*All requirements under Chapter 3.3 of the DCP (2014) relating to the riparian corridor are to be considered in the proposed design.*	The revised Masterplan no longer includes works within the 1% AEP flood extent or the riparian corridor. This comment is no longer relevant to the assessment.
Findings related to Review of Mamre South DCP (2019) Requirements			
A14	*Part 5.2 Stormwater Quality Management describes the requirements for development from a stormwater quality perspective. Control (f) under this chapter confirms that "where stormwater treatment measures are located in riparian corridors, they must be installed in a manner consistent with the requirements of the NSW Office of Water".*	*Controlled activity approval under the Water Management Act 2000 would be required for any excavation, removal of material including vegetation, or deposition of material within the 40m riparian corridor from the top of the eastern bank of South Creek.*	The revised Masterplan no longer includes stormwater management systems or other development works within the 1% AEP flood extent or within the riparian corridor. Works within riparian corridors consider drainage discharge points only (noting not relevant to flood assessments) and would be subject to separate approvals during

Table 10: Findings Related to Review of Flood Modelling and Results			
ID	**Finding**	**Proposed Action by Advisian (2019)**	**Costin Roe Consulting (2020) Response**
			Construction Certificate phase of the development. Accordingly, this comment is no longer relevant to the assessment.
A15	*Figure 2 of the Mamre South DCP (2019) shows site constraints which includes the presence of land classified as 'Threatened Species (High Condition)' within the riparian corridor of the site.*	*The proposed development should consider any additional requirements that may arise from this.*	The revised Masterplan no longer includes works within the 1% AEP flood extent and areas of Threatened Species of High Condition had been avoided in the revised scheme. This comment is no longer relevant to the assessment.
A16	*Figure 5 of the Mamre South DCP (2019) shows that the "Future Southern Link Road" passes through the site. Additionally, a possible future freight rail corridor passes along the northern boundary of the site. The proposed development includes cut and re-grading within the possible future freight rail corridor and road reserve, and this cut volume is used to offset flood storage lost to filling of the site.*	*Council and/or the Department of Planning, Industry and Environment should determine whether areas of cut within the possible future freight rail corridor and road reserve can be considered as an offset to lost flood storage. That is, that the provided cut volume would not later be lost associated with any future freight rail or Southern Line Road development.*	The revised Masterplan no longer includes works (cutting or filling) within the 1% AEP flood extent or within the future rail corridor. This comment is no longer relevant to the assessment. Reference should be made to Sections 9.3 and 10 of the revised Overland Flow Assessment Report (refer to **Appendix 13**) for further details clarifying PMF extent and egress.
Findings related to Review of Flood Safety and Evacuation			
A17	*Section 10.2, Paragraph 3 provides commentary on peak velocity-depth product and the relative safety of such values for pedestrian egress. While the quoted values appear to be in the correct order of magnitude, no velocity-depth product mapping is provided to confirm this.*	*To help confirm flood safety and evacuation constraints, it is recommended that hazard mapping per the combined general hazard curves presented in Book 6, Chapter 7 of Australian Rainfall and Runoff 2019 (ARR2019) be prepared for the PMF. These hazard categories are intended to indicate the relative vulnerability of pedestrian, vehicles and buildings to flood conditions. The hazard can*	The Site is noted to be clear of both 1% AEP and PMF flood events. Flood hazard mapping has been prepared for the 1% AEP and PMF events and included in Section 10.5 of the revised Overland Flow Assessment Report (refer to **Appendix 13**). The flood hazard mapping has been completed as per ARR2019 Hazard Categories (included in Section 3.2.2, Figure 3.1 of **Appendix 13**).

Table 10: Findings Related to Review of Flood Modelling and Results			
ID	**Finding**	**Proposed Action by Advisian (2019)**	**Costin Roe Consulting (2020) Response**
		be directly output from TUFLOW (output type 'ZAEM1').	Accordingly, the Site is noted to be clear of all flooding events including low hazard events.

6.3.3 Regional and Cumulative Flood Impacts

Costin Roe (2020) note, that the outcomes of the modelling undertaken confirms flood displacement from the recently constructed Twin Creeks residential development (west beyond South Creek) can be accommodated with the Proposed Development, as well as the outcomes of the First Estate (SSD 7173) which would be maintained. Further commentary and other key considerations relating the Proposed Development and the regional context are summarised as follows:

- The modelling confirms the outcomes of the flood assessments completed and approved for First Estate (north of the Subject Site) under SSD 7173 are maintained.
- The Proposal does not result in any incremental increase in peak flood levels offsite and other areas. If other future developments provide for similar relative impacts and management measures (including flood storage compensation) as required by the PDCP2014, 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 development landform levels over the Site are proposed at great than 500 mm above the 1% AEP storm event, which allows several hours of flood warning response time. Additionally, 100% of the developable site area will be above the PMF flood event. Given the Site will not be affected by the PMF event, on-site refuge could be taken for all occupants of the development during all flood and major storm events.
- A flood emergency evacuation plan has been prepared by Costin Roe Consulting (2020), which can be utilised to formulate more detailed flood response plans for specific stages of the Site, or individual developments in the Estate.
- The modelling undertaken confirms that there is no offsite effect to flood waters associated with the Proposed Development under the 1% AEP flood event and effects under the 1:500 year flood event are negligible and are confined to a small area locally within the developable site area. On this basis there is no effect on the proposed Western Sydney Airport, which is more than 5 km upstream of the future Airport, with no such effects on surrounding landowners.
- There are no effects anticipated on the Nepean River in relation to the Proposed Development, which is more than 20 km downstream of the Proposal.

Costin Roe (2020) note, that additional modelling and assessment has been included to address the actions from consultation undertaken with the NSW DPIE on 12th December 2019. This additional modelling (including further assessment) pertains to the 0.2% AEP, output of key parameters (levels and peak flows) for the 1%, 0.5% and 0.2% AEP and PMF event at key points throughout the study area, climate change sensitivity assessments for the 1% AEP and 0.2% AEP events and mapping showing cut and fill on the Site. **Table 11** outlined below includes a summary of the potential impacts and consideration pertaining to the revised Masterplan in relation to the various flood events mentioned above, which have been assessed.

Table 11: Flood Event Summary	
Event	**Comments**
1% AEP	▪ The Proposed Development built form does not encroach on or impact the 1% AEP flood extent. ▪ The proposed levels of the Proposal meet flood planning requirements and are higher than the 1% AEP level plus 0.5 m freeboard. ▪ The flood impact assessment confirms that all of Penrith City Council DCP Part C3 criteria have been met. ▪ The flood impact assessment confirms that all of Penrith City Council recommended changes to their DCP Part C3 criteria, included in the

	Exhibition Draft South Creek Floodplain Risk Management Plan, have been met. ▪ The Proposed Development is outside of, or within Hazard Category H1, generally safe for people vehicles and buildings, as per criteria set out in the *Australian Rainfall and Runoff (2019), A Guide to Flood Estimation – Book 6 – Flood Hydraulics*. ▪ All items included in the Advisian (*Mamre South Precinct Peer Review of the Overland Flow Report Stage 1* (Rev A), dated August 2019 have been addressed as part of the assessment. ▪ Climate change assessments show acceptable outcomes in relation to flood impact, safety of people within the development site and no impacts offsite relating to the Proposed Development.
0.2% AEP	▪ The Proposed Development proposes a minor encroachment on the 0.2% AEP flood event. ▪ The Flood Impact Assessment confirms a very minor change in flood levels (0.03 m) and velocity (0.03 m/s) locally adjacent to the west / north-west of the development extent, within the property study area and not extending offsite in any instance. ▪ The Flood Impact Assessment confirms that all of Penrith City Council DCP Part C3 criteria have been met for a storm event (0.2% AEP) over and above the intended DCP assessment storm (1% AEP). ▪ The Flood Impact Assessment confirms that all of Penrith City Council recommended changes to their DCP Part C3 criteria, included in the *Exhibition Draft South Creek Floodplain Risk Management Plan*, have been met for a storm event (0.2% AEP) over and above the intended DCP assessment storm (1% AEP). ▪ The Proposed Development is outside of, or within Hazard Category H1, generally safe for people vehicles and buildings, as per criteria set out in the *Australian Rainfall and Runoff (2019), A Guide to Flood Estimation – Book 6 – Flood Hydraulics*. ▪ All items included in the Advisian (*Mamre South Precinct Peer Review of the Overland Flow Report Stage 1* (Rev A), dated August 2019 have been addressed as part of the assessment. ▪ Climate change assessments show acceptable outcomes in relation to flood impact, safety of people within the development site and no impacts offsite relating to the Proposed Development.
PMF	▪ The Proposed Development includes some encroachment within the PMF flood event. ▪ The influence of the development on the PMF is shown to be local to the development footprint extending only a short distance upstream and downstream of the development site. This is noted to confirm there is no effect on sensitive areas upstream of the development (including the Badgerys Creek Airport) or downstream of the development (including the Hawkesbury-Nepean River Floodplain). ▪ The development site is noted to be above the PMF flood level and will be free from all flood event. As such, in relation to occupant safety, on-site refuge is available. ▪ Flood behaviour and flood timing information, and potential egress routes have been included to inform future occupants of information pertaining to various flood events and safety considerations.

Costin Roe (2020) conclude, that the Proposed Development can be developed without impacting upstream, downstream and adjacent properties and which meets the specific criteria set out in the PDCP2014 – Part C3, and the *NSW Floodplain Development Manual*. It is noted, that the development extent is clear of and does not propose any built form within areas

affected by the 1% AEP flood extent in South Creek. Furthermore, impact assessments undertaken in relation to 0.2% AEP confirm that acceptable flood management outcomes are achieved for the Proposed Development. Furthermore, the requirements of *South Creek Floodplain Risk Management Plan* are achieved.

6.4 CIVIL ENGINEERING

Costin Roe (2020) have prepared a revised Civil Engineering Report which includes the following key amendments with respect to the design and engineering strategy as a result of the revised Masterplan (refer to **Appendix 12**).

6.4.1 Amendments to Civil Engineering Design

6.4.1.1 Development Layout

The revised Masterplan incorporates allowances for the Southern Link Road, Western Sydney Freight Line Corridor and Mamre Road upgrades. The revised Masterplan has been adjusted to locate the built form outside the 1% AEP flood extent associated with South Creek.

6.4.1.2 Erosion and Sediment Control

During the construction phase of the development, an Erosion and Sediment Control Plan will be implemented to minimise water quality impacts. The proposed erosion and sediment control measures are based on the guidelines contained in the Landcom document Managing Urban Stormwater, Soils and Construction – The Blue Book (1998) and Penrith Council specifications. A detailed Erosion and Sediment Control Plan will be adopted during the construction phase. The Plan will include measures such as temporary sediment basins, silt fences, cut-off drains for polluted stormwater and diversion channels for clean stormwater run-off.

6.4.1.3 Design Amendments – Road Works and Intersection Design

The road cross section (carriageway and road reserve geometry) and pavement details remain consistent with the previously exhibited arrangement. Differences between the exhibition drawings and resubmission are noted as follows:

- Updated geometry to suit new masterplan layout;
- Adjustment from two intersections from Mamre Road to one. The single entry point being aligned with Bakers Lane; and
- A series of intersection phases has been provided to show how the development can be integrated with future SLR construction and Mamre Road upgrades has been included.

It is noted, that final resolution of the road reserve widths for the Site and the broader warehouse and industrial sites in this vicinity will be subject to the overarching precinct-wide traffic modelling currently being undertaken by Ason Group (2020). However, in the interim and in response to the NSW DPIE, TfNSW and Council's request, the Proposal intends to provide a 20.6 metres wide north-south (NS) spine road from Bakers Lane cul-de-sac to the southern east-west public road.

The design standard of the proposed NS spine road will include a solid central median to separate the north and southbound traffic movements. Ason Group have completed a detailed swept path analysis for these roads in **Appendix 16**, confirming efficient and safe movements for 26m B Double vehicles. Final resolution of the road reserve widths for the Site and the broader warehouse and industrial sites in this vicinity will be subject to the overarching precinct-wide traffic modelling currently being undertaken by Ason Group. Currently DPIE and TfNSW

have proposed 30.7m, which will be reviewed and confirmed via detailed traffic modelling to be provided.

6.4.1.4 Design Amendments – Earthworks

The key changes to earthworks relate to the adjustment to the development layout. The proposed civil and earthworks design prepared by Costin Roe Consulting (refer to **Appendix 12**) is considered to maintain the existing scenic landscapes experienced surrounding the development, considering flood planning and drainage requirements to be considered with respect to future planning within the Mamre Road Precinct. The filling level is proposed to enable large flat buildings pads, to set the building pads above the 1% AEP level plus 0.5 m freeboard; and to enable drainage by gravity within a piped system to South Creek.

The drainage of the Site, and associated road and pad levels considers future buildings to require drainage of recess docks, having pipes set with suitable cover for truck and future warehouse uses, which would have sufficient driving head for detention systems, enabling discharge of site runoff drainage to water quality raingardens and through undeveloped land west of the Subject Site towards South Creek.

With reference to drawing Co13362.00-DA480 located in **Appendix 12**, Costin Roe Consulting provide the following summary and comments pertaining to the proposed filling and visual amenity as a result of the Proposal:

- Landscaped batters are proposed on the Mamre Road frontage.
- A combination of landscaped batters and retaining walls are proposed on the northern and southern landscape setback area. There are also substantial areas on these property frontages where only landscaped batters, without walls, are proposed.
- Landscaped batters of 1:3 or flatter are proposed on the western boundary.
- The proposed filling is noted to provide a gradual fall away from Mamre Road of 0.4% (1:250) when averaged across the pads. The existing levels and ground profile also grades away from Mamre Road at a marginally steeper grade of 0.5% (1:200) (on average). Although there is filling through the Proposed Development footprint, the differences in overall grading from Mamre Road and resulting scenic scape are marginal and considered appropriate to industrial development.
- Proposed filling volumes are considered satisfactory, for which adjoining sites towards the southern and eastern interfaces would be required to fill to the same levels to establish compliant flood planning controls for future built form, including building pads, as well as roads.

Reference should be made to drawing Co13362.00-DA480 within **Appendix 12**, which shows sections at the property interfaces and drawings Co13362.00-DA351 to DA356, which show sections through the overall property including existing and proposed levels. It is noted that the sections included in drawings DA351 to DA356 include a vertical exaggeration of five (5) times horizontal for visualisation purposes.

On Face value the level difference between existing and the Proposed Development could initially be viewed as large; however, when placed in the context of the surrounding landscape, industrial development and adjoining industrial precincts the changes in levels are considered consistent with Council and the NSW DPIE planning requirements. The proposed filling and interfacing arrangements are noted to be significantly less obtrusive than many of the existing nearby developments, namely those on Erksine Park Drive and Lenore Lane, and Eastern Creek. It is noted that various industrial precincts have 10-15 m high level difference between building sites (e.g. Greystanes Employment Lands, Eastern Creek) and similar cut to fill differences. The proposal is therefore considered consistent with similar development sites and certainly many approved sites within Penrith LGA.

6.4.1.5 Design Amendments – Stormwater Management

The proposed drainage layout and stormwater management measures are shown on drawings Co13362.00-DA400, DA410 to DA420, DA450, DA455 and DA460. Drawing Co13362.00-DA420 is noted to provide a holistic overview of the stormwater management for the development. The differences in the drainage strategy between the resubmission design and exhibition design are as follows:

- Adjusted drainage layout to facilitate the new Masterplan Layout, road alignment and lot configuration;
- Adjusted layout of the estate stormwater management basin to suit revised masterplan geometry, including relocation of the two basins to be clear of the 1% AEP flood extent;
- Overall catchments draining from upstream catchments and diversion paths remain consistent, including existing catchments from upstream catchments which drain along the northern property boundary within the proposed freight corridor.
- The key stormwater management measures being transferred from a combination of on-lot measures and estate measures, to being wholly provided via estate management basins.
- There are two estate basins proposed as combined on-site detention and water quality basins. Basin 1 is proposed to service the catchment South of Bakers Lane and Basin to management the catchment north of Bakers Lane. The whole of the 89 ha development is proposed to be managed for water quality and quantity.
- Water quality is to be managed:
    - Primary treatment via end of line gross pollutant trap (GPT) provided upstream of Basins 1 and 2. The GPT will target litter, oils and hydrocarbons, coarse sediment and some nutrients;
    - Tertiary treatment is to be provided by bio-retention provided within Basins 1 and 2;
- Estate Basins and GPT's are proposed to be dedicated to council along with roads and associated public infrastructure;
- Individual lot stormwater management measures will require provision of rainwater reuse tanks to reduce demand on potable water supply.

The revised *Civil Engineering Report Incorporating Water Cycle Management Strategy* prepared by Costin Roe Consulting (2020) includes an assessment of the civil engineering characteristics of the Subject Site and technical considerations of the following aspects pertaining to the Proposal (refer to **Appendix 12**):

- Earthworks and geotechnical considerations;
- Roads and access; and
- Water Cycle Management Strategy.

6.4.2 Earthworks

By virtue of the revised Masterplan, the revised earthworks volume estimates are noted as follows (refer to **Table 12** below):

Table 12: Earthworks Volumes Estimate

Parameter	Volume
Topsoil Cut	-175,000 m^3
Cut	-61,800
Fill	+2,076,600 m^3
Detailed Excavation (1,250 m^3/ha)	-109,600 m^3
Balance	+1,905,200 m^3

6.4.3 Stormwater Quantity Management

As a result of the revised Masterplan, attenuation of stormwater runoff from the whole of the Proposed Development is proposed to be managed through one of three (3) Estate bio-retention basins located at the western extent of the Estate (proposed Lots 11-13). Accordingly, individual allotments will not require OSD systems to be provided. Sizing of the Estate basin has been completed using DRAINS modelling software in accordance with the Penrith City Council Policy for the 50% AEP to 1% AEP storms for various durations.

AEP	Design Storm (min)	Peak Flow (m^3/s)		
		Undeveloped	Developed	
		Site	Site (no atten.)	**Site (+ atten.)**
50%	30	1.89	9.38	**1.84**
	60	2.83	9.88	**2.07**
	120	**3.25**	**9.40**	**2.18**
	180	2.49	7.81	**2.16**
	360	2.99	5.79	**2.22**
5%	30	7.45	16.64	**2.49**
	60	10.02	18.01	**2.87**
	120	**10.07**	**16.76**	**3.04**
	180	8.07	13.99	**3.07**
	360	8.40	10.41	**3.11**
1%	30	11.68	21.64	**2.91**
	60	14.92	22.67	**5.01**
	120	**14.40**	**22.13**	**6.46**
	180	11.57	17.46	**6.21**
	360	10.83	12.77	**6.60**

Figure 11 Overall Estate Hydrology (Source: Costin Roe Consulting, 2020)

AEP	Pre-developed Flow (m^3/s)	Post Developed Flow (m^3/s)				Storage (m^3)	Depth (mm)
		Un-attenuated	Attenuated				
			Low Flow	High Flow	Total		
50%	2.48	7.18	1.68	0	1.68	12906	1130
5%	7.71	12.80	2.35	0	2.35	24773	1920
1%	11.00	16.20	2.60	2.43	5.03	30150	2200

Figure 12 Detention System Hydraulic – Basin 1 (Source: Costin Roe Consulting, 2020)

AEP	Pre-developed Flow (m^3/s)	Post Developed Flow (m^3/s)				Storage (m^3)	Depth (mm)
		Un-attenuated	Attenuated				
			Low Flow	High Flow	Total		
50%	0.77	2.22	0.50	0	0.50	3473	1030
5%	2.36	3.96	0.69	0	0.60	6746	1750
1%	3.40	5.03	0.78	0.65	1.43	8465	2110

Figure 13 Detention System Hydraulic – Basin 2 (Source: Costin Roe Consulting, 2020)

It is noted, that **Figure 11** above demonstrates the overall hydrology of the Estate, whilst **Figures 12** & **13** demonstrates details for the pre- and post-development flows for storage for the two (2) detention systems for the Proposed. Costin Roe note, that the critical storm duration for 50% AEP to 1% AEP storms is 2-hours and flows and storages are provided for this storm.

The modelling undertaken by Costin Roe (2020) demonstrates, that with provisions of a storage volume of 30,150 m^3, within Basin 1, and 8,465 m^3 in Basin 2, that stormwater flows from the Proposed Development will be attenuated to pre-development flows.

Furthermore, the Stream Erosion Index (SEI) has been recalculated for the revised Masterplan. The 50% AEP (2-year ARI) flow for the catchment is approximately 18,.993 m^3/s. The critical flow for the receiving waters for the 50% AEP, being 25% of the 50% AEP, has been estimated at 4.748 m^3/s, based on a time of 18 minutes concentration. Additionally, a pre-developed model was set up based on the Site being modelled as 100% undeveloped forest. The pre-development runoff volume, above the critical flow, based on the calibrated MUSIC model was calculated at 11.3 ML/yr. The post-development runoff volume, above the critical flow, based on the post-developed MUSIC model was calculated at 20.8 ML/yr. Accordingly, the corresponding SEI was calculated at approximately 1.84, which is considered well below the target of 3.5.

6.4.4 Stormwater Quality Management

As a result of the revised Masterplan, developed impervious areas of the Estate, including roof, hardstand, car parking, roads and other extensive impervious areas are required to be treated by Stormwater Treatment Measures (STMs). The STMs shall be sized according to the whole catchment area of the Proposed Development. Components of the treatment train for the Estate are as follows:

- All development allotments will be required to meet Council's pollution reduction targets, which include:
  - Gross Pollutants: 90%
  - Total Suspended Solids: 85%
  - Total Phosphorus: 60%
  - Total Nitrogen: 45%
  - Total Hydrocarbons: 90%
  - Free Oil and Grease: 90%

- Primary treatment of the whole of the Proposal will be made via one (1) of two (2) Gross Pollutant Traps (GPTs). GPTs will be located at the downstream of the Proposed Development and immediately upstream of the stormwater management basins.
- Tertiary treatment of the whole of the Proposal will be made via the bio-retention system within the Estate stormwater management basins. Treatment will also be provided during the construction phase of the Proposed Development through sediment and erosion control measures incorporated within the Estate Erosion and Sediment Control Plan (ESCP).
- Stormwater from the upstream catchments will bypass treatment systems and are not included in the modelling undertaken by Costin Roe (2020). Undeveloped areas of the overall property within floodplains or the SLR corridor are also excluded from the models.
- A portion of the future building roofs will also provide a level of treatment via rainwater reuse and settlement within the building rainwater tanks.

6.5 INFRASTRUCTURE

Land Partners (2020) have prepared a revised Site Infrastructure Assessment (SIA) Report, which includes an evaluation of the overall infrastructure requirements for the Site. This was a direct response to the amendments implemented in the revised Masterplan. Land Partners (2020) have calculated the revised Masterplan Gross Floor Area, as may be required to determine the demand requirements on utility service infrastructure at the Site. The changes have not affected the conclusions previously drawn, as per the initial assessment by Land Partners in 2018.

In addition, Sydney Water provided approval for the water and wastewater options assessment in Feb 2020, confirming acceptable connection options. A copy of this is included in **Appendix 30**.

Accordingly, the amendments made to the Masterplan, do not necessitate any utility or service infrastructure amendments to support the new development in the Proposed Masterplan.

6.6 BIODIVERSITY

6.6.1 Amendments to Biodiversity Development Assessment Report

Ecoplanning (2020) have prepared a revised Biodiversity Development Assessment Report (BDAR), which includes both a qualitative and quantitative assessment of the potential ecological impacts, as a result of the revised Masterplan. A summary of the BDAR's quantitative review of the amendments to the Masterplan, are shown in **Figure 14** below.

Plant Community Type	Condition	Study Area (ha)	Masterplan 1		SSD-MRM-DA-008-B	
			Impact area (ha)	%*	Impact area (ha)	%*
835 - Forest Red Gum - Rough Barked Apple grassy woodland	Disturbed	1.66	0.10	6.0	0.10	6.0
	DNG	4.04	4.04	100	4.04	100
	Underscrubbed	8.26	7.01	84.9	4.76	57.6
849 - Grey Box - Forest Red Gum grassy woodland	Underscrubbed	0.44	0.25	56.8	0.25	56.8
Total native vegetation		**14.41**	**11.40**	**78.2**	**9.15**	**63.5**
-	Dam	2.58	2.47	95.7	2.41	93.4
-	Cleared land / infrastructure	99.09	89.13	89.9	74.06	74.7
-	Plantings	0.72	0.72	100	0.72	100
Total impact area		**116.84**	**103.72**	**88.8**	**86.33**	**73.9**

* percent of study area to be impacted by the proposal

Figure 14 Comparison of Impacts between Masterplan 1 and the Revised Masterplan (Source: Ecoplanning, 2020)

Based on the assessment undertaken by Ecoplanning (2020), the revised Masterplan will retain more native vegetation than previously proposed. This is due to a reduction development extent and proposed native vegetation clearing. As summarised in **Figure 14** above, the Masterplan as previously proposed and exhibited, would have impacted on some 11.40 ha of native vegetation. The revised Masterplan by comparison proposes to clear only 9.29 ha. This represents a reduction from approximately 79.1% of native vegetation being cleared to approximately 64.5%.

Additionally, as a result of the revised Masterplan:

- The Proposal will no longer impact the *Grevillea juniperina subsp. juniperina* habitat identified within the northern portion of the study area (refer to **Figure 15** below).
- The revised Masterplan will reduce the removal of hollow bearing trees, to only one (1) individual, located along Bakers Lane.

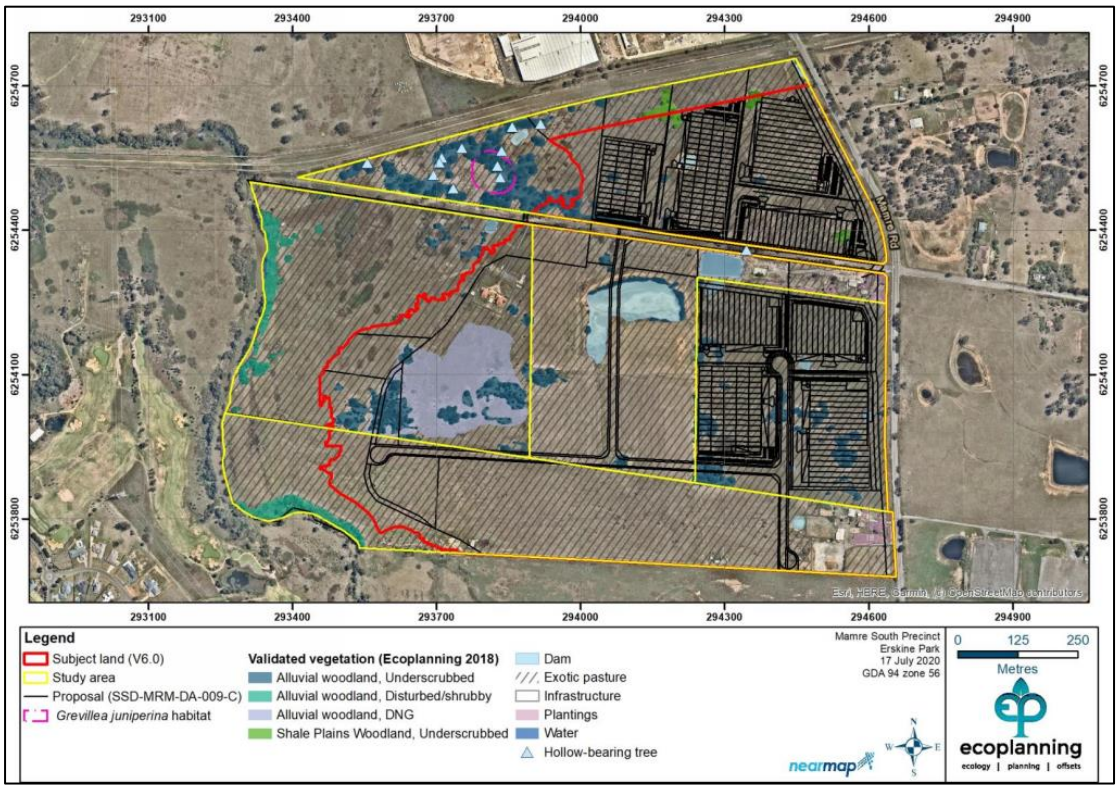

Figure 15 Revised Masterplan over Validated Vegetation Mapping (Source: Ecoplanning, 2020)

6.6.2 Biodiversity Assessment

A Biodiversity Development Assessment Report (BDAR) has been undertaken for the Proposed Development by Ecoplanning (refer to **Appendix 17**). 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 85 flora species were identified within the Subject Site during a field survey (conducted on the 30th of April 2018). Some 49 were identified as native species and 35 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 13** 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 16**).

Table 13: 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	-

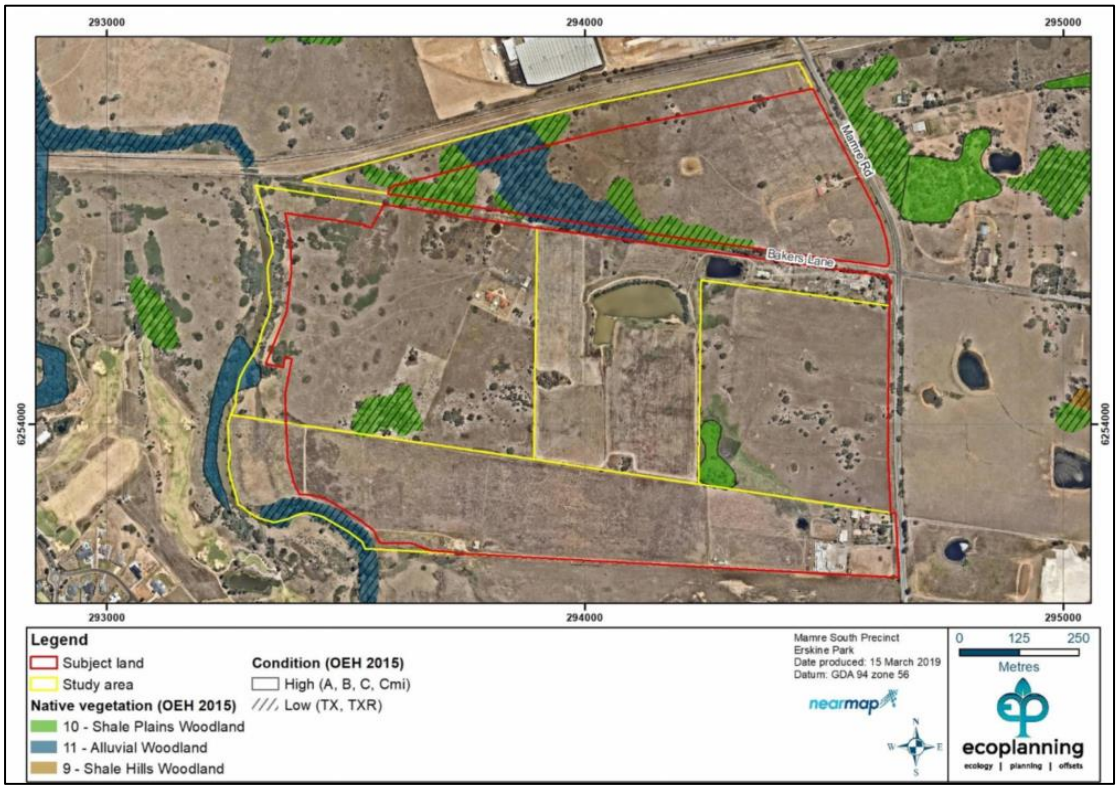

Figure 16 Vegetation Types Identified by Ecoplanning from NSW OEH Mapping (2015) Applicable to the Subject Site (Source: Ecoplanning, 2020)

Ecoplanning (2020) 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 (2020) 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 Construction Environmental Management Plan (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.

The 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.

Furthermore, the ecosystem credits required to offset the new Proposed Masterplan are outlined in **Table 14** below. Accordingly, 230 ecosystem credits (previously 290) are now required to offset the Proposed Development. The Developer intends to satisfy this criteria in full.

Table 14: Ecosystem Credits Price for Payment into the Biodiversity Conservation Fund			
Plant Community Type	**Price Per Credit**	**Total Credits**	**Total Credits Price (ex GST)[1]**
PCT 835 - Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion	$18,914.98	230	$4,350,445.00

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 16** above.

6.7 TRAFFIC

6.7.1 Amendments to Traffic Impact Assessment

A new Ason Group Traffic Impact Assessment (2020) has been performed to consider the potential traffic impacts, as a result of the revised Masterplan (refer to **Appendix 16**). The left in / left out access on Mamre Road has since been removed and provisions for a connection to the southern allotments has been provided as a result of the revised Masterplan. The previous TIA was prepared prior to information relating to the Detailed Sequence Plans and Site Access Strategies for Mamre Road, covering each stage of the Proposed Development (refer to **Figure 17** below). This therefore completes previous work performed by Ason Group, which had only included the First Stage of the Proposed Development, for which an indicative development schedule had been provided for the purposes of undertaking a qualitative and quantitative traffic assessment.

Stages	Previous Proposal	Latest Proposal
Development Schedule		
Sequence 1A	163,671 m^2	166,225 m^2 (SSD Submission)
Sequence 1B	Not Applicable	421,820 m^2
Sequence 2	Not Applicable	421,820 m^2
Sequence 3	Not Applicable	421,820 m^2
MSP	**511,871 m^2 (Indicative; not part of the SSD)**	**421,820 m^2 (Indicative; not part of the SSD)**
Site Access Strategy on Mamre Road		
Sequence 1A	Primary access: Mamre Rd x Bakers Lane (SLR) Intersection Secondary Access: Left in / Left out access at the southern end of the Site	Mamre Rd x Bakers Ln (SLR) Intersection
Sequence 1B	Not Applicable	Mamre Rd x Bakers Ln (SLR) Intersection
Sequence 2	Not Applicable	Mamre Rd x SLR Intersection
Sequence 3	Not Applicable	Mamre Rd x SLR Intersection
MSP	To be confirmed	Mamre Rd x Bakers Lane (SLR) Intersection

Figure 17 Comparison of Development Schedule and Site Access Strategy (Source: Ason Group, 2020)

Figure 17 illustrated above, includes a comparative analysis with respect to the built form outcomes (development schedule) in accordance with the proposed sequence plans and associated access strategy for the Site. A sequenced intersection scheme has been submitted to TfNSW and is included within the revised Traffic Impact Assessment (2020) prepared by Ason Group (refer to **Appendix 16**). The TIA (2020) by Ason Group that models the signalised intersection and clearly demonstrates that a satisfactory Level of Service is achieved.

In summary the Sequences are as follows:

Sequence 1a: interim upgrade at Mamre Road / Bakers Lane intersection, which is proposed to accommodate traffic associated with the first 166,225 m^2 of GFA.

Sequence 1b: Further upgrading of Mamre Road (4-lanes along the frontage of the Site, extending north to Distribution Drive). This upgrade is expected to be fully delivered by 2025. Occupation of the balance of the Warehouse buildings can occur once sequence 1b is complete.

Sequence 2: Is for the future scenario when the SLR intersection with Mamre Road will be delivered by TfNSW and terminated into a cul-de-sac at the access for the Site.

Sequence 3: Shows the ultimate configuration of the SLR in the future and when it is extended west through the Site. Under this scenario, Bakers Lane will turn into a cul-de-sac at Mamre Road.

Sequence 2 and 3 require no physical works to be carried out under this SSD Application, rather they relate to the allocation of land only.

Additionally, Ason Group (2020) now confirm that SIDRA modelling for the future baseline scenario, has been undertaken for the revised Masterplan, with its revised proposed layout of the Mamre Road / Bakers Lane (including the Southern Link Road) intersection. This has been done for each sequence identified for Mamre Road and Bakers Lane, as indicated by the NSW RMS (now TfNSW).

In assessing the revised Masterplan and giving consideration to both PCC's and TfNSW's requests to include the likely traffic generation of the southern allotments within the road network, new analysis has been carried out by Ason Group within the revised TIA (2020). Accordingly, a sum of 20,000 m^2 GFA has now been allowed for in the modelling, to account for potential future development to the south of the Subject Site.

Ason Group (2020) note that original trip generation rates have not been changed. Due to the provision of more detailed sequence plans for the Site however, and the additional allowance for the southern allotments, the total trip generation associated with the Proposal has been reduced. As **Figure 18** below shows both the am and pm peak generation rates have been reduced by about 100 vehicle per hour

Time Period	Previous Proposal		Latest Proposal	
	(Sequence 1A GFA only) (without Potential Southern Lots)	(Potential MSP total) (without Potential Southern Lots)	(Sequence 1A GFA only 166,225 m^2) (without Potential Southern Lots)	(Potential MSP total, 421,820 m^2) (with Potential Southern Lots)
AM Peak	405	1,266	411	1,042
PM Peak	297	931	303	768
Daily	4,322	13,581	4,388	11,136

Figure 18 Traffic Generation Comparison Previous MP vs Revised MP (Source: Ason Group, 2020)

In the previous TIA relating to the previous exhibited Masterplan, the operational traffic impacts only considered the following two (2) scenarios:

1. Interim Scenario: Existing baseline + SSD Application (sequence 1A only).
2. Sensitivity Test: Future baseline + Potential MSP total.

The new, revised TIA prepared by Ason Group (2020) now includes a total of five (5) traffic scenarios, modelled in addition to the 2018 existing baseline case scenario, as illustrated in **Figure 19** below.

Scenario	Year		Access Strategy Phase				Includes Southern Lots
	2025	2026	Sequence 1A[4] (Bakers Ln)	Sequence 1B (Bakers Ln)	Sequence 2 SLR	Sequence 3 SLR (with extension)	
0[1]	☑		☑				
1	☑			☑			
1	☑			☑			☑
2		☑			☑		
2		☑			☑		☑
3		☑				☑	
3		☑				☑	☑

Note: 1) Undertaken as part of the original SSDA. Sensitivity testing for isolated SIDRA has been undertaken for 2025.

Figure 19 Summary of Modelling Scenarios (Source: Ason Group, 2020)

6.7.2 Traffic Impact Assessment

In the revised *Traffic Impact Assessment* prepared by Ason Group, they consider the potential traffic impacts on the road network as a result of the revised Masterplan (refer to **Appendix 16**).

6.7.2.1 Traffic Generation

Application of the traffic generation rates to the SSD Application yield, results in the following AM, PM and daily traffic (refer to **Figure 20** below).

Site	Development Yield (m^2)	AM Peak (veh/hr)	PM Peak (veh/hr)	Daily (veh/day)
MSP (this SSDA)	166,225	411	303	4,388
MSP (Indicative Ultimate MP)	421,820	1,042	768	11,136
Southern Lots	20,000	49	36	528

Figure 20 Anticipated Traffic Generation as a Result of the Proposal + Southern Allotments (Source: Ason Group, 2020)

Accordingly, the adopted trip distribution for this SSD Application and the southern allotments is summarised as follows:

- 70% inbound / 30% outbound during AM peak hour; and
- 30% inbound / 70% outbound during PM peak hour.

Accordingly, the following total AM and PM peak hour inbound vs. outbound have been estimated:

- AM Peak: 764 veh/hr inbound / 327 veh/hr outbound; and
- PM Peak: 241 veh/hr inbound / 563 veh/hr outbound.

It is noted, that the revised TIA includes a complete review and modelling undertaken to assess potential traffic impacts to / from the Subject Site (including the southern allotments).

Based on the SIDRA Network results and the revised sequence scenarios the following predictions are summarised by Ason Group (2020):

- Having regard for the Mamre Road Upgrades, all intersections would work satisfactorily under the SSD Application and respective SSD Application + southern allotments options in 2026.
- Importantly, the Mamre Road / SLR signalised intersection will generally operate at an overall LOS 'C' under both Sequence 2 and Sequence 3 when considering the SSD Application traffic.

6.7.2.2 Car Parking

All proposed Warehouse buildings would provide car parking in accordance with the RMS-Guide rates for car parking (adopted by the SSD 9522 DCP). 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 m^2 of Warehouse GFA; and
- One (1) space per 40 m^2 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.

A review of the parking requirements (RMS Guidelines & SSD 9522 DCP) for this SSD Application demonstrates that the proposed car parking provisions sufficiently satisfy the NSW RMS parking requirements. Accordingly, the total car parking requirement for the Site is 738, for which this SSD Application includes a total car parking provision of approximately 744 car parking spaces, with sufficient car parking spaces within each developable allotment (refer to **Figure 21** below). Ason Group note, that the additional 6 car parking spaces provided for the entire Estate is not expected to have any material traffic impacts on the surrounding road network.

Lot Number	GFA (sqm)			Car Parking Requirement (spaces)	Car Parking Provision (spaces)
	Warehouse	Office	Total		
Lot 1A	11,855	550	12,405	53	54
Lot 1B	11,855	550	12,405	53	54[1]
Lot 2	22,715	1,150	23,865	104	105
Lot 3A	8,230	550	8,780	41	42[2]
Lot 3B	8,230	550	8,780	41	42
Lot 4	13,340	800	14,140	64	65
Lot 5	17,355	890	18,245	80	81
Lot 6	14,700	800	15,500	69	69
Lot 7	23,105	1,100	24,205	105	105
Lot 8	26,350	1,550	27,900	127	127
Total	**157,735**	**8,490**	**166,225**	**738**	**744**

Figure 21 Car Parking Provisions for the Proposed Development (Source: Ason Group, 2020)

6.7.2.3 Preliminary Construction Traffic Management Plan

Formulating a Construction Traffic Management Plan (CTMP) for the Site is standard practice.

A CTMP would be provided as part of detailed construction planning. For the purposes of this RtS Report, the following general principles for managing construction traffic have been assumed and provide an understanding of the likely 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 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 two (2)lanes in both directions along Mamre Road is considered.

6.7.2.4 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.

1. <u>Road Widths</u>

As mentioned in **Section 6.4.1.3**, it is noted, that final resolution of the road reserve widths for the Site and the broader warehouse and industrial sites in this vicinity will be subject to the overarching precinct-wide traffic modelling currently being undertaken by Ason Group (2020). However, in the interim and in response to the NSW DPIE, TfNSW and Council's request, the Proposal intends to provide a 20.6 metres wide north-south (NS) spine road from Bakers Lane cul-de-sac to the southern east-west public road.

The design standard of the proposed NS spine road will include a solid central median to separate the north and southbound traffic movements. Ason Group have completed a detailed swept path analysis for these roads in **Appendix 16**, confirming efficient and safe movements for 26m B Double vehicles. Final resolution of the road reserve widths for the Site and the broader warehouse and industrial sites in this vicinity will be subject to the overarching precinct-wide traffic modelling currently being undertaken by Ason Group. Currently DPIE and TfNSW have proposed 30.7m, which will be reviewed and confirmed via detailed traffic modelling to be provided.

The road alignment shown in the attached Masterplan (refer to **Appendix 6**) provides an efficient and safe travel route for vehicles throughout the Estate, that takes into consideration a future connection to the Southern Link Road and provides access to the lands south of the Proposed Development. Specifically, the road design includes

1. An alignment that avoids flood affected or recreational areas and allows for an efficient spine road to development lands to the south of the Estate. This is important as it allows efficient development on either side of the road and avoids unnecessary lower order access roads, effectively lowering development costs and maintaining maximum employment in the area.
2. Adequate road widths to accommodate the anticipated traffic through the precinct, allowing safe and efficient turns as demonstrated by the swept path analysis completed by Ason Group (refer to **Figure 22** below).
3. Traffic control for the cul de sac roads to prioritise traffic in the north – south direction, maintaining efficiency of this through-connection to employment lands south of the Proposed Development (refer to **Figure 22** below).
4. Safe management of vehicle speeds throughout the Estate and wider precinct, mitigating issues with light and heavy vehicles travelling through the north – south connection at speeds exceeding the posted limit.

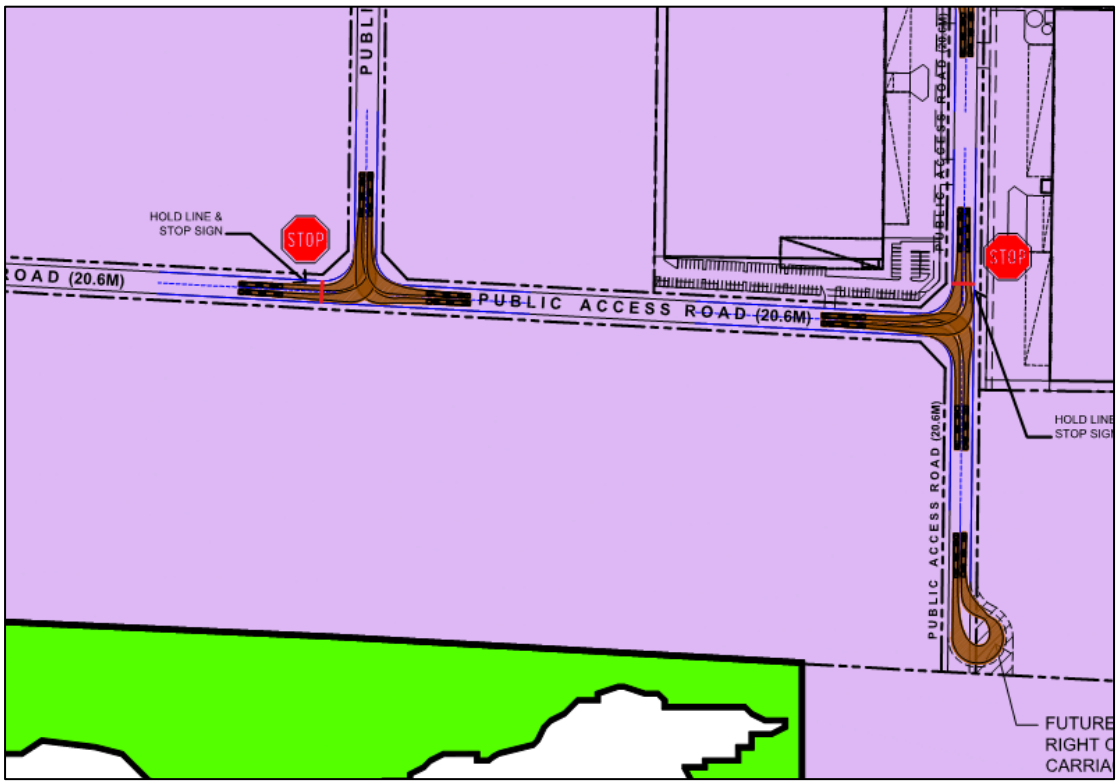

Figure 22 Traffic Controls Pertaining to the Estate Access Roads (Source: Frasers Property, 2020)

2. Site Access Arrangements

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 roads;
- All vehicles will enter and exit the Warehouse buildings in a forward direction;
- Each Warehouse building 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 16** of this RtS Report; 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.

3. 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 2.4 m and located adjacent to a shared area of 2.4 m minimum width; and
- Relevant swept path analysis is provided on plans attached in **Appendix 16** of this RtS Report, which demonstrate compliance with relevant standards.

4. 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 (2020) 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.

Ason Group conclude, that the revised Masterplan is supportable and would not have any unacceptable traffic or parking impacts. Upgrades to the road network have been identified to satisfactorily mitigate any impacts of the increased development traffic anticipated from the Proposal.

6.8 NOISE AND VIBRATION

The *Noise Impact Assessment* prepared by Acoustic Works (2020) 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 23**:

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;
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.

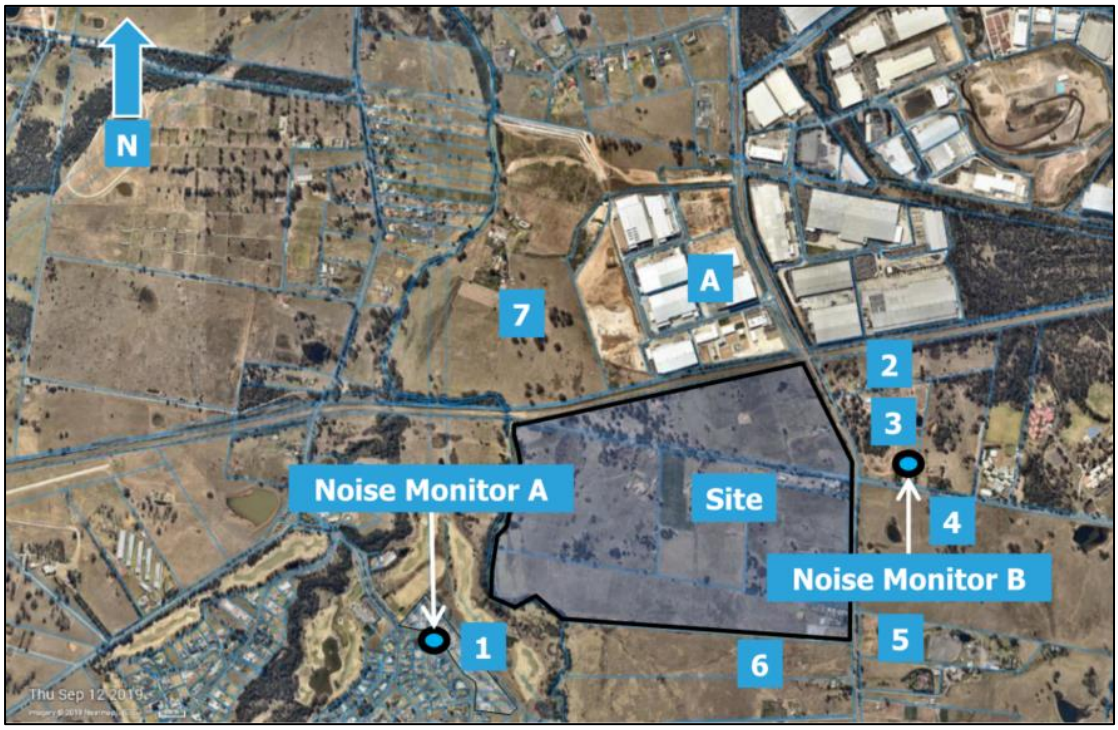

Figure 23 Receiver and Noise Monitoring Locations (Source: Acoustic Works, 2020)

6.8.1 Operational Noise

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 15**), which was measured in accordance with the NSW Noise Policy for Industry.

Table 15: 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

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 16**, specifically, the nighttime back level for Receiver 1 is below the minimum Rating Background Noise Level (RBL); therefore, an RBL of 30 dBA 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 16** displays the data measured with regard to intrusiveness noise criteria, and pursuant of this **Table 17** analyses the amenity noise levels from the applicable receivers in the immediate vicinity.

Table 16: Intrusiveness Noise Levels

Time Period	Receiver 1	Receivers 2-7	Receiver A
	Criteria $L_{eq(15\ min)}$ dB(A)	Criteria $L_{eq(15\ min)}$ dB(A)	Criteria $L_{eq(15\ min)}$ 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 17: Amenity Noise Levels

Time Period	Receiver 1	Receivers 2-7	Receiver A
	Criteria $L_{eq(15\ min)}$ dB(A)	Criteria $L_{eq(15\ min)}$ dB(A)	Criteria $L_{eq(15\ min)}$ 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 18** below.

Table 18: Proposed Development Project Criteria

Time Period	Receiver 1	Receivers 2-7	Receiver A
	Criteria $L_{eq(15\ min)}$ dB(A)	Criteria $L_{eq(15\ min)}$ dB(A)	Criteria $L_{eq(15\ min)}$ 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:

- LA_{eq}, 15 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.

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 19** applies.

Table 19: 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 24** 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 and café 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.

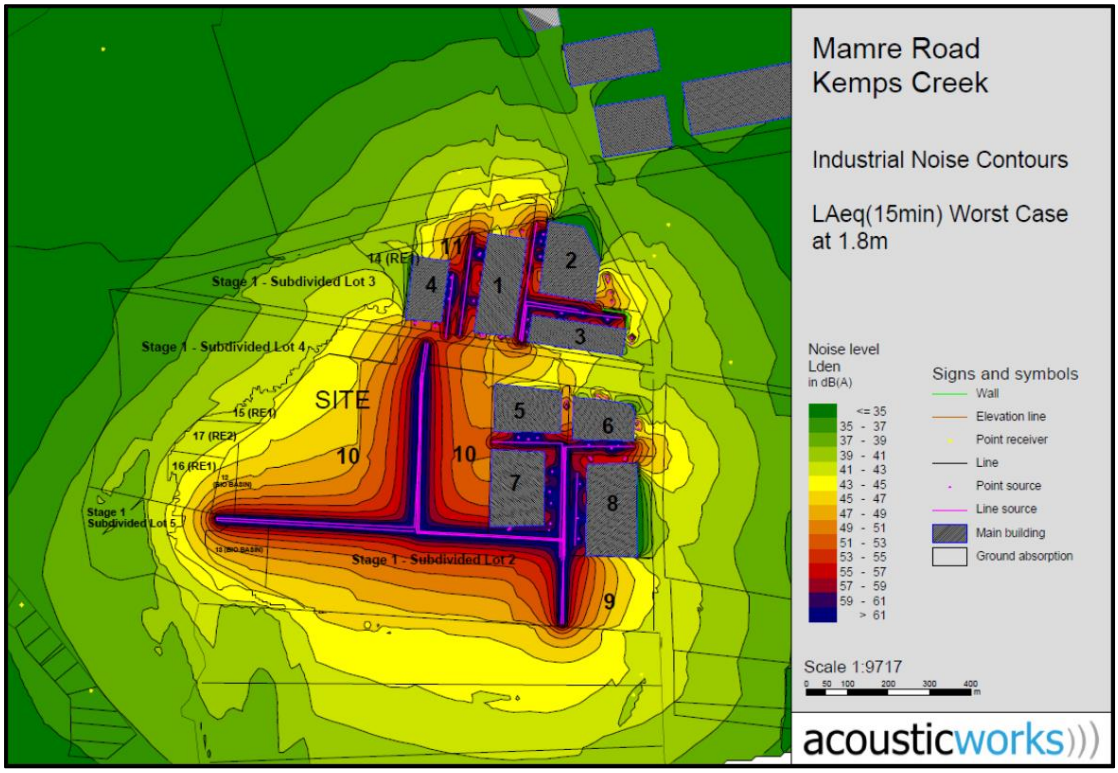

Figure 24 Noise Contours from Typical Warehouse Activities to Surrounding Sensitive Receivers – Day/Evening/Night (Source: Acoustic Works, 2020)

Accordingly, the predicted noise impacts at the receiver locations during the operational phases of development are outlined as follows (refer to **Table 20** below):

Table 20: Predicted Noise Impacts			
Receiver	**$L_{eq(15\ min)}$ dB(A)**	**Criteria (Day / Evening/ Night)**	**Complies (Yes / No?)**
1. Medinah Avenue	30	41/38/35	Yes
2. 654-674 Mamre Road	32	48/43/38	Yes
3. 676-702 Mamre Road	34	48/43/38	Yes
4. 706-752 Mamre Road	31	48/43/38	Yes
5. 754-770 Mamre Road	27	48/43/38	Yes
6. 771-781 Mamre Road	35	48/43/38	Yes
7. 579 Mamre Road	24	48/43/38	Yes
A: Industrial / Warehouses (north)	35	70	Yes

Accordingly, compliance is predicted to be achieved for the Proposed Development from an operational standpoint for 24/7 operations across the Site.

6.8.2 Road Noise Traffic

The Noise Impact Assessment Report by Acoustic Works (2020) 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, Logistics and Industrial Facilities Hub is anticipated to produce up to an additional 4,388 vehicle movements per day at its fullest developed capacity.

Therefore, the predicted increase in daily $LAeq_{(15hr)}$ for receivers near Mamre Road is calculated to be 0.86 dB(A) due to traffic generation by the Proposed Development, which complies with the criterion of +12 dB(A).

6.8.3 Construction Noise

Additionally, a Construction Noise and Vibration Management Plan has been prepared by Acoustic Works (2020) in accordance with the *NSW Interim Construction Guideline* (refer to **Appendix 20**).

With respect to vibration, the relevant criteria for continuous and impulsive vibration are as follows (refer to **Table 21** below):

Table 21: Preferred Weighted RMS Vibration Acceleration Values						
Type	**Location**	**Assessment Period**	**Preferred Values (m/s^2)**		**Maximum Values (m/s^2)**	
			Z-Axis	**X and Y Axes**	**Z-Axis**	**X and Y Axes**
Continuous Vibration	Critical Areas	Day or nighttime	0.005	0.0036	0.01	0.0072
	Residences	Day time	0.01	0.0071	0.02	0.014
		Nighttime	0.007	0.005	0.014	0.01
	Offices, schools, educational institutions and places of worship	Day or nighttime	0.02	0.014	0.04	0.028

	Workshops	Day or nighttime	0.04	0.029	0.08	0.058
Impulsive Vibration	Critical Areas	Day or nighttime	0.005	0.0036	0.01	0.0072
	Residences	Day time	0.3	0.21	0.6	0.42
		Nighttime	0.1	0.071	0.2	0.14
	Offices, schools, educational institutions and places of worship	Day or nighttime	0.64	0.46	1.28	0.92
	Workshops	Day or nighttime	0.64	0.46	1.28	0.92

Additionally, the relevant criteria for vibration dose values in accordance with intermittent vibration were assessed and are noted as follows:

Table 22: Vibration Dose Values for Intermittent Vibration

Location	Daytime		Nighttime	
	Preferred Value ($m/s^{1.75}$)	Maximum Value ($m/s^{1.75}$)	Preferred Value ($m/s^{1.75}$)	Maximum Value ($m/s^{1.75}$)
Critical areas	0.10	0.20	0.10	0.20
Residences	0.20	0.40	0.13	0.26
Offices, schools, educational institutions and places of worship	0.40	0.80	0.40	0.80
Workshops	0.80	1.60	0.80	1.60

It is noted, that where noise from construction works is above the 'noise affected' criteria, the Proponent should implement all practical and reasonable work practices to mitigate and minimise noise. The Proponent should also undertake consultation with potentially affected parties of the activities to be carried out; the expected noise impacts; and the total duration of the works. If any of the following activities are to be undertaken, they should be factored into the quantitative assessment by adding approximately 5 dB to the predicted noise levels:

- Use of 'beeper' style reversing or movement alarms;
- Use of power saws;
- Steel work;
- Grinding metal, concrete or masonry;
- Rock drilling;
- Line drilling;
- Vibratory rolling;
- Rail tamping and regulating;
- Bitumen milling or profiling;
- Jackhammering, rock hammering or rock breaking; and
- Impact piling.

Acoustic Works note, that for the majority of the proposed works, it is expected that noise will generally comply with the highly noise affected criteria limit of up to and including 75 dB(A) $LA_{eq(15\ min)}$ for residential receivers. It is noted, that there is the potential for the works to exceed

the noise affected limit of 54 dB(A) $LA_{eq(15\ min)}$. In particular, noise from concrete trucks and pumps are calculated to have the highest potential impact to receiver locations. Therefore, continual noise and vibration monitoring should be undertaken with respect to nearby sensitive receivers.

Conclusions and Recommendations

The Noise Impact Assessment indicates that 24-hour operation of the Subject Site is supportable with the following recommendations:

- The Construction Noise and Vibration Management Plan implemented prior to the issuance of a Construction Certificate, in accordance with the *NSW Interim Construction Guideline*. This includes the following recommendations:
    - Recommended construction hours would be as follows:
        - Monday to Friday: 7am to 6pm;
        - Saturday: 8am to 1pm; and
        - No work on Sundays or public holidays.
- *Construction of an acoustic barrier (approximately 3 m high) at the eastern end of the loading dock area for Warehouse 3B on proposed Lot 3. 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/m^2. The barrier will be free of gaps and holes to limit noise emissions* (refer to **Figure 25**)*;*

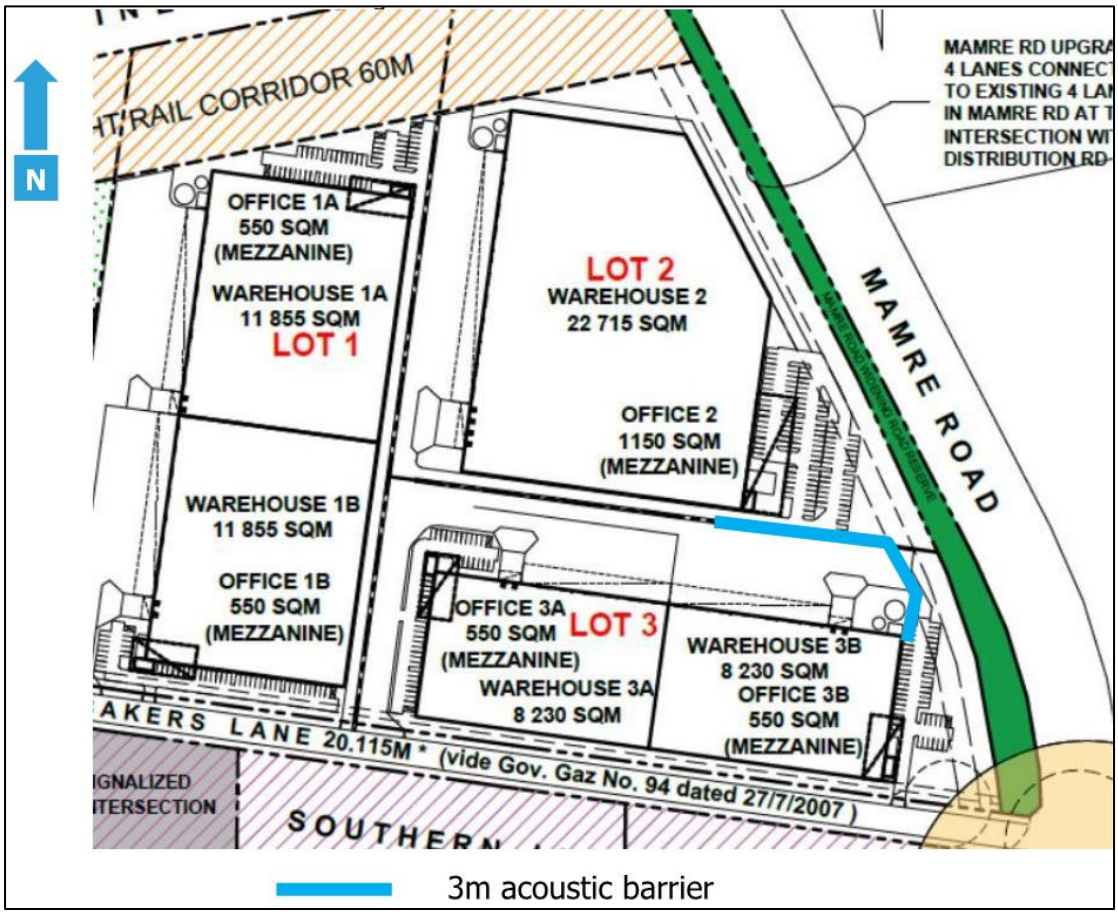

Figure 25 Proposed Acoustic Barrier for Warehouse 3B (Source: Acoustic Works, 2020)

- Any plant should be located at the furthest possible distance in conjunction with each facility 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.

In summary, the results of the noise impact assessment considered the proposed SSD Application 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.

6.9 AIR QUALITY AND ODOUR

The *Mamre Road South Precinct, 657-769 Mamre Road, Kemps Creek – State Significant Development – Air Quality Impact Assessment* (Northstar, 2020) considered the potential air quality impacts of the Proposed Development (refer to **Appendix 18**).

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.

6.9.1 Air Quality During the 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.

Tables 23 & **24** below provide further detail in respect of the location of sensitive receptors at surrounding properties.

Table 23: 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	1,623	1,624
R11	9 Medinah Avenue, Luddenham	Residential	969	1,665	1,666
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 23**, sensitive receptors are noted to be within the screen distance boundaries, these are further tabulated in **Table 24** below.

Table 24: 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 25** below. The Air Quality Impact Assessment Report by Northstar (2020) 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 25: 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

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 PM_{10} 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 IAQM[1] 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 18** will be implemented by the Proposed Development in the Construction Environmental Management Plan (CEMP).

6.9.2 Air Quality During the 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.

[1] Institute of Air Quality Management (Northstar, 2018)

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/NO_2) 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).

Trip-generation rates for each Warehouse facility have been calculated using data adopted within the Traffic Impact Assessment. These indicate that an average of 2.64 vehicle trips per 100 m^2 of gross floor area per day, is likely to be generated by the Proposed Development.

A total of 110 loading bays across eight (8) Warehouse and Industrial facilities, have been calculated to be associated with the Proposed Development. The likelihood that all 110 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 110 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 26-29** below).

Table 26: 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 27: 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})**
Trucks idling in bays at warehouse facilities	Various (see **Table 50**)(A)	Veh hr^{-1}	PUD	24	(USEPA, 2008)	3.705	-	-
			B-Double	24		33.763	1.196	1.1
			Average	24		24.746	0.837	0.77

Note: (A) = Vehicles assumed to be idling for a 10-minute period each hour.

Table 28: 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)**
1A	11,855	297	1,199	356.5	13.1	2.5	0.6
1B	11,855	297	1,149	341.6	12.6	2.4	0.6
2	22,715	570	902	513.9	18.9	3.6	0.9
3A	8,230	206	1,110	229.1	8.4	1.6	0.4
3B	8,230	206	706	145.7	5.4	1.0	0.2
4	13,340	335	1,495	500.2	18.4	3.5	0.9
5	23,105	579	1,242	719.7	26.5	5.1	1.2
6	26,350	661	1,362	900.1	33.2	6.4	1.5
7	17,355	435	1,139	495.8	18.3	3.5	0.8
8	14,700	369	1,387	511.4	18.8	3.6	0.9

Note: (A) = VKT and emissions presented as two-way totals.

Table 29: 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)**
1A	9	312.2	10.6	9.7
1B	9	312.2	10.6	9.7
2	16	554.9	18.8	17.3
3A	9	312.2	10.6	9.7
3B	11	381.5	12.9	11.9
4	12	416.2	14.1	13.0
5	11	381.5	12.9	11.9
6	20	693.7	23.5	21.6
7	11	381.5	12.9	11.9
8	11	381.5	12.9	11.9

Annual Average TSP, PM_{10} and $PM_{2.5}$

The predicted annual average particulate matter concentrations (as TSP, PM_{10} and $PM_{2.5}$) resulting from the Proposed Development's operations are provided in **Table 30** below. The results indicate that predicted incremental concentrations of TSP, PM_{10} 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 PM_{10} 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 PM_{10} 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 ≤0.1 µg 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 (2020)).

Table 30: Predicted Annual Average TSP, PM_{10} and $PM_{2.5}$ Concentrations

Receptor	Annual Average Concentration (µg 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, PM_{10} or $PM_{2.5}$ are presented in **Table 29**, given the minor contribution from the Proposed Development at the nearest relevant sensitive receptors.

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 PM_{10} and $PM_{2.5}$

Table 31 below presents the maximum 24-hour average PM_{10} and $PM_{2.5}$ concentrations predicted to occur at the nearest receptors, as a result of the operations concerning the Proposed Development. **Note: Table 31** does not include background concentrations.

Table 31: 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 PM_{10} and $PM_{2.5,}$ is demonstrated to be minor. At the receptor where the maximum incremental 24-hour PM_{10} and $PM_{2.5}$ impact is expected to occur (R8), the operation of the Proposed Development contributes 3.8% to the 24-hour PM_{10} criterion and 2.8% of the 24-hour $PM_{2.5}$ criterion, at Receptor R6.

The above analysis by Northstar (2020) demonstrates that no exceedances of the 24-hour average impact assessment criteria for PM_{10} 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.

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 NO_2 and nitric oxide (NO), conversion of NO_x predictions to NO_2 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 NO_2 concentrations, the annual average ozone concentration measured at St Marys AQMS, has been used. In the assessment of maximum 1-hour concentrations of NO_2, the daily maximum ozone concentration across the year, has been used within the OLM calculation (refer to **Table 32** below).

Table 32: Predicted 1 Hour and Annual Average Nitrogen Dioxide Concentrations

Receptor	Nitrogen Dioxide (NO_2) Concentration (µg m^{-3})					
	1 Hour			Annual Average		
	Increment	Background	Cumulative	Increment	Background	Cumulative
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
Criterion	-	246		-	62	

The results above show, that predicted incremental concentrations of combustion-pollutants (characterized by NO_2), 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 NO_2), predicted increments are demonstrated to be less than 19% of the relevant criterion, as a result of the Proposed Development.

The Northstar (2020) 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 (2020) is provided at **Appendix 18**.

6.10 VISUAL IMPACTS

Geoscapes in their Landscape and Visual Impact Assessment (2020) Report on the revised Masterplan, note that the additional Warehouse buildings and further extent of the development footprint (to the west), will not significantly alter the visual impacts previously identified by Geoscapes in their Landscape and Visual Impact Assessment (refer to **Appendix 11**).

Geoscapes (2020) note that the landscape value of the Subject Site itself has been assessed based on upon local planning designations, landscape ecological value and the character and context in which it is located. The revised Landscape and Visual Impact Assessment (2020) concludes that the significance of the impact upon the landscape at the Subject Site is minor. Whilst 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, is industrial-zoned land, which creates a landscape character that has been heavily influenced by industrial and commercial development.

Geoscapes (2020) conclude, that the Proposed Development will create short term visual impacts for several user groups who will experience views of the Subject Site. These visual impacts are predominantly for people who are located in close proximity to the Proposed Development. Accordingly, the visual impact of the proposed earthworks has been considered together with the built form. This will be mitigated with the use of landscaping so that any raised embankments are screened from view.

6.11 BUSHFIRE

The revised Bushfire Impact Assessment by Conacher Consulting (2020) for the revised Masterplan notes that the bushfire attack hazard from the grassland / woodland vegetation to the south and west of the Site is able to 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 20 m. This can comprise roadways, car parking areas or internal access driveways (refer to **Appendix 26**).

The following recommendations are provided by Conacher (2020) in relation to the revised Masterplan, with regard to reducing the potential for loss of life and property from bushfire impacts:

- Implement a 10 metre (minimum) area of defendable space adjoining the and western and southern lots where these lots adjoin grassland / woodland vegetation.
- Use cladding materials for the external surfaces of the development which are fire retardant materials such as metal sheeting, pre-cast cement panels or masonry.
- Undertake regular inspections and maintenance of the Managed Lands or curtilage / landscaped areas / hard standing areas within the proposed development is to be undertaken by the owners (or their agents) according to PBP (RFS, 2019).
- Maintain of any retained areas of Managed Lands or curtilage / gardens within the development as an Inner Protection Area (IPA) in accordance with PBP (RFS 2019).
- Ensure that future landscape plantings within the site are in accordance with the requirements of Appendix 4 of Planning for Bushfire Protection (RFS 2019).

By adhering to the recommendations provided above, Conacher Consulting (2020) conclude, that the overall aims and objectives for *Planning for Bushfire Protection* (RFS, 2019) can be achieved in full for the revised Proposal.

6.12 HAZARDS AND RISKS

An assessment of the Proposed Development against the provisions of *State Environmental Planning Policy No. 33 (Hazardous and Offensive Development)* (SEPP 33) was made. An analysis of SEPP 33 was conducted with respect to the Proposed Development, as amended. The analysis undertaken was based on a limited quantity of Dangerous Goods (DGs) stored and handled at each Warehouse building. This also accounted for the fact that the revised Proposed Development allows future potential Warehouse tenants to store and handle limited DGs as part of their future operations.

The objectives of the assessment undertaken by RiskCon Engineering (2020) (See full report in **Appendix 18**) gave a technical assessment of the quantities of Dangerous Goods (DGs) proposed for storage at the various Warehouse buildings as proposed. They also assessed if and when these exceeded the relevant SEPP 33 DGs storage threshold values, for which a Preliminary Hazard Analysis would be required. This was carried out for each specific Warehouse building proposed under this revised SSD Application.

The analysis undertaken stipulates that the quantity of DGs proposed within each Warehouse building, is not able to exceed the storage threshold levels listed in "Applying SEPP 33". Based on the relatively low-quantity of DGs anticipated to be stored and handled at the proposed Warehouse buildings (and the type of operations proposed), it was concluded by RiskCon Engineering (2020) that it was unlikely that the maximum permissible transport quantity and number of vehicle operations listed in "Applying SEPP 33" would be exceeded.

RiskCon (2020) stipulate that if future tenants require storage of DGs at quantities exceeding those assessed pursuant to the assessment undertaken, it is recommended that a review of the application of SEPP 33 be undertaken and where required, a Preliminary Hazard Analysis be performed.

In assessing the Revised Masterplan, RiskCon concluded that a Preliminary Hazard Analysis is not required for the Proposed Development (refer to **Appendix 15**).

6.13 ABORIGINAL CULTURAL HERITAGE

The results of the Aboriginal Cultural Heritage Assessment Report for the original Masterplan by Biosis (2019) (ACHAR) remain unchanged. However, for consistency and completeness, Biosis (2020) have provided recommendations based on the revised Masterplan. These 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 at AHIMS sites 45-5-5184/MSP-01, MSP-07 and MSP-08 as a part of SSD Approval

Biosis recommend that further archaeological work be conducted for AHIMS sites 45-5-5184/MSP-01, 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 Consent, subject to approval.

Recommendation 2: Further archaeological work in the form of salvage excavation of AHIMS site as a part of SSD Approval

Biosis recommend that further archaeological works be conducted for AHIMS site 45-5-5188/MSP-02 in the form of salvage excavation to recover any subsurface artefacts which will be impacted as a part of the Proposed Development. Biosis recommend that subsurface salvage of this Site be undertaken as a condition of SSD Approval. This would provide further

information in relation to the artefact typology and material type, as well as the nature of the activities taking place at AHIMS site 45-5-5188/MSP-02.

Recommendation 3: No further archaeological work is required for sites 45-5-3028/EPTA3, 45-5-3032/EPTA10 and 45-5-3033/EPTA11

Biosis note, that as the previously recorded AHIMS sites, 45-5-3028/EPTA3, 45-5-3032/EPTA10 and 45-5-3033/EPTA11 were incorrectly georeferenced at the time of recording, they are not located within the study area. Therefore, Biosis recommend, that no further archaeological investigations are required for Aboriginal sites EPTA3, EPTA10 or EPTA11 prior to development impacts.

Recommendation 4: 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 as the proposed works will not impact on these sites. It is noted, that if the Proposed Development footprint is altered at a later date, further assessment may be required.

Recommendation 5: Avoidance of MSP 11

MSP 11 is located outside of the development footprint. Biosis recommend, that temporary fencing is erected around this site during construction to avoid potential impacts to the identified site.

Recommendation 6: Update AHIMS site cards for AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02 and 45-5-5189/MSP-03 and lodge AHIMS site cards for newly identified sites MSP-05, MSP-06 and MSP-07, MSP-08, MSP-09, MSP-10, and MSP-11

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

They also recommend that AHIMS site cards are 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 7: 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, MSP-10 and MSP-11

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, MSP-10 and MSP-11 within four (4) months following completion of development impacts or as otherwise stated in SSD approval conditions.

Recommendation 8: Unexpected finds

Discovery of Unanticipated 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:

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.

6.14 HISTORIC (EUROPEAN) HERITAGE

The results of the Statement of Heritage Impact prepared by Biosis (2020) remain unchanged; however, for consistency and completeness, Biosis (2020) have provided recommendations, which respond specifically to the wishes of the Registered Aboriginal Parties (RAPs). 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 it cultural significance.

Recommendation 1: No Further Assessment Required

The assessment undertaken within the Statement of Heritage Impact (Biosis, 2020) 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 21** of this RtS Report.

According to the Biosis (2020) Assessment of the revised Masterplan, no additional measures are required to be undertaken.

6.15 GREENHOUSE GAS AND ENERGY EFFICIENCY

The *Mamre Road South Precinct, 657-769 Mamre Road, Kemps Creek – SSD Application – Greenhouse Gas Assessment* (Northstar, 2020) 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 (2020) 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 33** below).

Table 33: 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 0.0034% of the NSW 2017 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 0.0034% of total NSW GHG emissions and less than 0.0009% of total Australian GHG emissions in 2016. Thus, the Development, as a whole, is highly-supportable on sustainability grounds.

The comprehensive Greenhouse Gas Assessment is provided in full in **Appendix 24**.

6.16 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

The *Ecologically Sustainable Development Report* (Fraser Property, 2020), 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 34**.

Table 34: 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 building 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 Building	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* (Frasers Property, 2020) outlines the initiatives that will be considered for every Warehouse building proposed under this SSD Application. These findings are summarised in **Tables 35** & **36** below.

Table 35: Summary of Sustainable Design Strategies to be Incorporated by the Proposed Development	
Project Aspect	**Recommendations**
1. Transport	To reduce the reliance on private vehicles and relieve any traffic pressures on nearby roads and local communities, the following approaches should be investigated: ▪ Secure bicycle parking facilities.

	▪ Extension of existing bus routes or the provision of a regular bus service from the Proposed Development to nearby public transport facilities. ▪ Promote car-pooling / car sharing initiatives.
2. Stormwater	Develop a stormwater management plan that incorporates WSUD such as: ▪ Infiltration trenches and bio-retention basins. ▪ Bioswales. ▪ Rain gardens. ▪ Gross Pollutant Traps (GPTs). ▪ Rainwater tanks. These initiatives reduce the quantity and quality of stormwater runoff, protect waterways and ecosystems, minimise drainage infrastructure costs and enhance liveability.
3. Materials	▪ Endeavour to use material with minimal Carbon Dioxide Equivalent (CO2e) emissions and embodied energy during the construction and operation of the Project. ▪ All timber products used at the site should be procured from certified sustainably harvested resources. No timber should be specified from rainforest or old growth forest. ▪ Use insulation and refrigerants with zero ozone depleting potential. ▪ Use of all paints, carpets, adhesives and sealants that have low Volatile Organic Compounds (VOCs) during the construction and operation phase. ▪ Use low emission Formaldehyde composite wood products during the development of the Project. ▪ Promote the use of regional or local manufacturers.
4. Management	▪ Adopt an independent consultant to provide tuning and maintenance for fire, mechanical, electric and hydraulic services to ensure all aspects are running to their design specification as efficient as possible. ▪ These strategies are recommended to be implemented via a Site Management Plan or equivalent.
5. Water	▪ Implement rainwater harvesting techniques to minimise potable water use by using rainwater collected from warehouse and/or office roofs for non-potable uses such as toilet flushing and irrigation. If implemented during the construction stage, rainwater harvesting could be used to mitigate dust generation. ▪ Adopt a landscaping plan that promotes the use of plants that are drought resistant and have low water requirements. ▪ Use water efficient fixtures with high WELS rating. ▪ Timely maintenance of fixtures and fittings.
6. Indoor Environment Quality	Consider a design to optimise occupant satisfaction in accessibility, usability, air quality and public space utility by adopting a high level of indoor environmental quality. This can be achieved by: ▪ Optimising natural light in work environment through clear roof sheeting in the warehouse. ▪ Optimising fresh air ventilation by increase outdoor air into conditioned spaces. ▪ Optimising thermal comfort through passive solar design such as insulation, air conditioning, glazing, curtains, external

	louvers/eves, high performance glass and a reflective roof or 'cool roof'. ▪ Minimising internal noise transference between warehouse tenants by: o Using noise absorbent fillers to reduce any reverberation. o Installing walls with a high acoustic transmission loss value. o Using door seals. ▪ Installing eco-certified workstations within the office space.
7. Noise	Consider a warehouse wall and roofing design that limits internal noise transmission to nearby neighbourhood residences. This can be accomplished by using: ▪ Concrete walls. ▪ Double sheeted zincalume roofing with insulation. ▪ Door seals.
8. Energy Efficiency	▪ Investigate the possible viability of the following energy sources to reduce bought electricity: o Solar water heating with gas boost. o Solar panels (photovoltaics) or future proofing building for future installation. ▪ Adopt the use of the air conditioning design features to minimise the associated bought electricity. ▪ Adopt the use of energy efficient appliances and equipment used within the office and warehouse space.
9. Waste	▪ Ensure the bulk earthworks on-site balance cut and fill where possible. ▪ Construction contractor develops and implements a Waste Management Plan.
10. Land Use and Ecology Impact	▪ Use indigenous planting appropriate to the area. ▪ Design external lighting to avoid releasing light into the night sky or beyond the site boundary. ▪ Adopt the use of water sensitive urban design (WSUD) described above. ▪ Employ specialist advice to develop an independent ecological report to identify any protected local flora and fauna.

Table 36: 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	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: ▪ 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. ▪ External louvers/eves 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	Investigate the viability of the following energy sources to reduce bought electricity: ▪ Solar water heating with gas boost. ▪ Solar panels (photovoltaics) or future proofing building for future installation.
Air Conditioning Design	Adopt the use of the following air conditioning design features to minimise the associated bought electricity. This can be achieved through implementing: ▪ 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	Use LED lighting strategies with advanced controls systems to dim or turn off lights when not in use.
	Optimise natural light in Warehouse buildings by using clear roof sheeting to reduce lighting costs.
Appliances and Equipment	Adopt the use of energy efficient appliances and equipment used within the office and Warehouse building space.

In the revised *Ecologically Sustainable Development Report* prepared by Frasers Property (2020), that the proposed Ecologically Sustainable Development (ESD) principles identified within the ESD Report will reduce overall energy demand and Greenhouse Gas Emissions by 81%. The new Masterplan will minimise water consumption to approximately 39 kL per day, which compares with 165 kL per day without these measures (refer to **Appendix 25**).

These are consistent aims for both the original Masterplan and the Revised Masterplan.

To create a standard in the ESD process, the approach and measures proposed in the new Masterplan will be benchmarked against the Green Building Council of Australia's Green Star Rating Scheme. With a 6-Star-Green-Star rating, targeted for this industrial development, specific initiatives may be varied slightly from building to building. This is to ensure that the ESD Strategy is tailored to each Warehouse and office facility, helping each to achieve the designed 6-Star-Green-Star rating.

PART G PLANNED MANAGEMENT AND MITIGATION MEASURES FOR THE PROPOSED DEVELOPMENT

By:	Frasers 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, Industry and Environment
EIS	Environmental Impact Statement
EP&A Act 1979	*Environmental Planning and Assessment Act 1979*
Frasers Property	Frasers Property Australia
Project	The Proposed Development as described in this RtS Report
Secretary General	Secretary General of the Department (or delegate)
Site / Subject Site	Land to which the Proposal applies
WorkCover	NSW WorkCover

7.1 ADMINISTRATIVE COMMITMENTS

Commitment to Minimise Harm to the Environment

1. Frasers 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.

Subdivision Certificates

2. Frasers Property and Altis Property Partners will ensure that a staged approach will be taken to obtain relevant Subdivision Certificates with respect to the respective allotments, prior to construction and formal registration of the individual allotments with the NSW Land Registry Services.

Occupation Certificate

3. Frasers Property and Altis Property Partners will ensure that a staged Interim and Final Occupation Certificate, are obtained prior to the occupation of each individual facility.

Terms of Approval

4. Frasers Property and Altis Property Partners would carry out the project generally in accordance with the:

    a) Environmental Impact Statement;
    b) Masterplan prepared by Frasers Property;
    c) Drawings prepared by Frasers Property and Altis Property Partners; Nettleton Tribe; Habit8; and Costin Roe Consulting;
    d) Management and Mitigation Measures; and
    e) Any Conditions of Approval.

5. If there is any inconsistency between the above, the Conditions of Approval shall prevail to the extent of the inconsistency.

6. Frasers Property and Altis Property Partners would ensure compliance with any reasonable requirement(s) of the Secretary-General of the Department of Planning, Industry 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

7. 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

8. 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

9. Frasers Property and Altis Property Partners would ensure that a Construction Traffic Management Plan is prepared and submitted to DPIE. 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 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.

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 building 3B, located on proposed Lot 3, consistent with recommendations of the Noise and Vibration Impact Assessment (Acoustic Works, 2020).

15. Further mitigation measures outlined within the Construction Noise and Vibration Management Plan prepared by Acoustic Works (2020) would be undertaken to ensure all acoustic criteria thresholds are complied with during the construction phase of the Proposed Development.

Construction Traffic

16. 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

17. 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.
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	Cleared vegetation, demolition materials and other combustible waste material will not be burnt on-site. 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.
Wind Blown Dust Sources	
Disturbed Areas	▪ 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	▪ 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)	▪ 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	▪ Roads and trafficked areas will be watered down using a water cart and/or sprinkler 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. ▪ 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	▪ 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	▪ Apply water sprays to trucks and loading points for dust suppression.
Loading and Dumping	▪ Stockpiles will be minimised wherever possible.
Plant and Equipment	▪ 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	▪ Employ additional water spraying / water carts. ▪ Further reduce speed on haul roads during high winds. ▪ Halt traffic movements.
Stockpiles	▪ Treat stockpiles with appropriate measures to avoid dust.

Waste Management

18. 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

19. 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

20. 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.
21. Frasers Property and Altis Property Partners will implement pre-clearance protocols.
22. Frasers Property and Altis Property Partners will provide on-site supervision of habitat tree felling and relocation of fauna.
23. Frasers Property and Altis Property Partners will implement a soft felling operation.
24. Frasers Property and Altis Property Partners will implement a Construction Environmental Management Plan.

Aboriginal Cultural Heritage

25. **Recommendation 1: Further archaeological work in the form of surface salvage at AHIMS sites 45-5-5184/MSP-01, MSP-07 and MSP-08 as a part of SSD Approval**

Biosis recommend that further archaeological work be conducted for AHIMS sites 45-5-5184/MSP-01, 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 Consent, subject to approval.

26. **Recommendation 2: Further archaeological work in the form of salvage excavation of AHIMS site as a part of SSD Approval**

Biosis recommend that further archaeological works be conducted for AHIMS site 45-5-5188/MSP-02 in the form of salvage excavation to recover any subsurface artefacts which will be impacted as a part of the Proposed Development. Biosis recommend that subsurface salvage of this Site be undertaken as a condition of SSD Approval. This would provide further information in relation to the artefact typology and material type, as well as the nature of the activities taking place at AHIMS site 45-5-5188/MSP-02.

27. **Recommendation 3: No further archaeological work is required for sites 45-5-3028/EPTA3, 45-5-3032/EPTA10 and 45-5-3033/EPTA11**

Biosis note, that as the previously recorded AHIMS sites, 45-5-3028/EPTA3, 45-5-3032/EPTA10 and 45-5-3033/EPTA11 were incorrectly georeferenced at the time of recording, they are not located within the study area. Therefore, Biosis recommend, that no further archaeological investigations are required for Aboriginal sites EPTA3, EPTA10 or EPTA11 prior to development impacts.

28. **Recommendation 4: 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 as the proposed works will not impact on these sites. It is noted, that if the Proposed Development footprint is altered at a later date, further assessment may be required.

29. **Recommendation 5: Avoidance of MSP 11**

MSP 11 is located outside of the development footprint. Biosis recommend, that temporary fencing is erected around this site during construction to avoid potential impacts to the identified site.

30. **Recommendation 6: Update AHIMS site cards for AHIMS sites 45-5-5187/MSP-01, 45-5-5188/MSP-02 and 45-5-5189/MSP-03 and lodge AHIMS site cards for newly identified sites MSP-05, MSP-06 and MSP-07, MSP-08, MSP-09, MSP-10, and MSP-11**

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

They also recommend that AHIMS site cards are 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.

31. **Recommendation 7: 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, MSP-10 and MSP-11**

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, MSP-10 and MSP-11 within four (4) months following completion of development impacts or as otherwise stated in SSD approval conditions.

32. **Recommendation 8: Unexpected finds**

Discovery of Unanticipated 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:

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.

Historic Heritage

33. **Recommendation 1: No Further Assessment Required**

The assessment undertaken within the Statement of Heritage Impact (Biosis, 2020) 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.

34. **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.

Protection of Infrastructure – Water NSW

35. Frasers Property and Altis Property Partners will carry out the following as part of the development:

a) **Access Consent**: WaterNSW have separate access to the pipeline corridor. The Proposed Development would ensure it does not alter this;
b) **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);
c) **Stormwater**: ensure that any stormwater from the corridor is not impeded and is accommodated within the development site's stormwater system;
d) **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,
e) **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

36. 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 water at the Site away from landfill.

6. Emission Principles
- Fit the buildings with new-age technology away from such devices as cooling towers, thereby reducing workers exposure to airborne aliments such as legionella.

Bushfire Protection

37. 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).
c) Gas services are to be installed and maintained in accordance with AS/NZS 15962008.
d) Implement a 20 metre (minimum) area of defendable space adjoining the western lots where these lots adjoin grassland / woodland vegetation.
e) Implement a five (5) metre building setback from the 6 metre wide access trail along the southern edges of proposed Lots 15-18.
f) Use cladding materials for the external surfaces of the development which are fire retardant materials such as metal sheeting, pre-cast cement panels or masonry.
g) Undertake regular inspections and maintenance of the Managed Lands or curtilage / landscaped areas / hard standing areas within the proposed development is to be undertaken by the owners (or their agents) according to PBP (RFS, 2019).
h) Maintain of any retained areas of Managed Lands or curtilage / gardens within the development as an Inner Protection Area (IPA) in accordance with PBP (RFS 2019).
i) Ensure that future landscape plantings within the site are in accordance with the requirements of Appendix 4 of Planning for Bushfire Protection (RFS 2019).

Hazards and Risks

38. If future tenants require storage of Dangerous Goods at quantities exceeding those assessed pursuant to the assessment undertaken by RiskCon Engineering, then RiskCon recommend that a review of the application of SEPP 33 be undertaken and where required, a Preliminary Hazard Analysis be performed.

PART H CONCLUSION

All Key Issues previously raised as part of the Response to Submissions process have been duly considered and satisfactorily addressed, as confirmed within this RtS Report, as well as the RtS Matrix identified within **Appendix 1** of this RtS Report. This includes full supporting copies of all revised Consultant Reports and Plans.

The Key Issues distilled from the referral Submissions and addressed throughout this RtS Report and corresponding RtS Matrix (refer to **Appendix 1**) are summarised as follows:

1. Strategic Planning

The Amended Masterplan shows a large reduction in the extent of development proposed within the South Creek Precinct. This is compared with that previously proposed in the initial Materplan. Accordingly, the Proposal is now wholly located within the Mamre Road Precinct Structure Plan. The Mamre Road Precinct Structure Plan earmarks the Site for both industrial-related and open space land uses. The revised Masterplan will provide flexibility for the vision contained within the Aerotropolis Plan, to be realised, for which the Mamre Road Precinct has been identified as an initial Precinct. It also allows for the Western Sydney Aerotropolis' South Creek Corridor outcomes to remain unaffected by the Proposal, whilst allowing development to proceed. The Site's Masterplan now fully aligns with the future zoning intended for the Site under the Mamre Road Precinct Structure Plan achieving permissibility, whilst further minimising and mitigating all potential environmental impacts.

The Proposal will further realise the strategic vision intended for the Site and wider locality, by incorporating and applying both water-cycle management within the South Creek Catchment, and a range of flexible land uses in the area immediately adjacent (located within the Mamre Road Precinct) to South Creek.

2. Flooding Impacts / Proposed Filling

The development footprint has been revised so that built form is entirely outside of the 1% AEP flood extent This results in a significant reduction in fill required on-site. With respect to the revised Masterplan, there is now no such built form within the floodplain. Accordingly, the existing landform identified within the South Creek Corridor will remain unchanged and unaffected by the Proposal, thus maintaining its natural integrity. By providing a "green spine" to the Estate, this allows the Masterplan to maintain consistency with the strategic vision set out by the Greater Sydney Commission for the Western Parkland City by protecting and enhancing South Creek, as well as mitigating the potential impacts of the urban heat island effect.

Furthermore, in relation to the Peer Review undertaken by Advisian (dated August 2019), the revised Masterplan has satisfactorily considered all comments raised, which are addressed in **Part F** of this RtS Report.

3. Traffic Impacts and Extension of the Southern Link Road

Following detailed consultation with both Penrith City Council and the NSW Roads and Maritime Services (RMS), now TfNSW, the revised Masterplan includes the following three (3) key changes, namely:

1. Upgrade of Mamre Road to four (4) lanes from the Southern boundary, north to the Distribution Drive intersection;
2. Removal of the southern Left-In-Left-Out-Intersection; and
3. Provision of an access road to the lands directly south of the Site.

Notwithstanding, the above changes have also been modelled to include the employment lands located to the south of the Site. The modelling confirms the satisfactory operation of the sequenced estate intersections (Bakers Lane initially, then Southern Link Road) confirming that the amended Proposal does not detrimentally impact the local road network.

4. Green and Open Space Allocation

All ambiguity with respect to works identified around the area immediately surrounding South Creek and within the South Creek Precinct have now been removed, as the extent of the development footprint has been reduced and is now wholly contained within the Mamre Road Precinct.

The green spaces proposed as part of the revised Masterplan are clearly illustrated within the aesthetically-pleasing architectural landscape design prepared by Habit8 (refer to **Appendix 10**), that clearly articulates and demonstrates a "green grid" throughout the entire Estate, which includes provisions for large open space areas and extensive landscaping, offering amenity to both workers and the public, in a modernised new concept of Industrial Estates in Australia.

5. Ecologically Sustainable Development Outcomes

All Warehouse buildings proposed on the Site will target a Six-Star Green-Star energy efficiency rating, which is considered World's Best Practice. This is rare in industrial construction, and the Site will be one of only two (2) such estates in Australia. All plans have been updated to highlight the Proposed Development's substantial sustainability credentials. Features such as green walls have been clearly marked, and all specialist reports have been updated to be consistent in terms of this targeted Ecologically Sustainable Development undertaking.

6. Infrastructure Services – WasteWater

Sydney Water has provided correspondence dated 12th August 2019, 8th November 2019 and 9th January 2020, which confirms that it is feasible for adequate flow and pressure to be supplied to the Subject Site to support the Proposed Development. In terms of wastewater, the following solutions have also been accepted by Sydney Water and are presented as follows:

- Interim Wastewater Arrangements: The Subject Site is able to be serviced temporarily, either by a low-pressure sewer system, connected to the St Mary's network; or a gravity-solution, terminating in an Interim Operation Solution. Any Interim Solution will be designed and constructed to coordinate with the eventual long-term permanent solution for the Subject Site.

- Permanent Wastewater Arrangements: It is expected that the Mamre Precinct, will be serviced long-term by a new STP, situated within the wider Aerotropolis area. Sub-regional work, is currently being carried out to assess capacity requirements within the subject systems.

It can be demonstrated, that water and wastewater services can be provided for the entire Development, allowing employment to be supplied on Site within 1-2 years of approval.

Accordingly, the findings of this RtS Report (including supporting documentation), identifies that the Proposed Development can be accommodated without generating impacts that are considered unacceptable to the environment and surrounding land uses.

Following receipt of the Submissions during the exhibition period, both Frasers Property and Altis Property Partners have undertaken ongoing consultation with landowners; community

groups; the NSW DPIE; Penrith City Council; and relevant State Agencies to work through and address the Key Issues raised as part of the formal RtS. Accordingly, Frasers and Altis have worked collectively with the various community groups and key stakeholders, to resolve and further address any concerns raised with respect to the Proposal.

As a result of the Key Issues identified, all recommendations and mitigation measures will be implemented across the Subject Site. This will take place, as is always the case, throughout both the Proposed Development's construction and operational phases. Mitigation measures range from administrative commitments from the Proponents, as well as a combination of environmental management commitments, which have been drawn from the relevant environmental disciplines.

It is considered that this Report now provides NSW DPIE with all the necessary information related to the Proposed Development in its amended form, and as subject to this SSD Application. This now, enables the assessment to be finalised and the Proposal determined.

Appendix 1
Consolidated Agency Response to Submissions

Appendix 2
SSD 9522 Development Control Plan 2020

Appendix 3
QS Report

Appendix 4
Stage 1 Subdivision Plan

Appendix 5
Stage 2 Subdivision Plan

Appendix 6
SSD Application Masterplan

Appendix 7
Architectural Plans

Appendix 8
Architectural Design Statement

Appendix 9
Architectural Design Report

Appendix 10
Landscape Plans

Appendix 11
Landscape and Visual Impact Assessment

Appendix 12
Civil Engineering Report and Plans

Appendix 13
Overland Flow Assessment Report

Appendix 14
Service Infrastructure Assessment

Appendix 15
Hazards and Risk Assessment

Appendix 16
Traffic Impact Assessment

Appendix 17
Biodiversity Development Assessment Report

Appendix 18
Air Quality Impact Assessment

Appendix 19
Noise Impact Assessment

Appendix 20
Construction Noise and Vibration Management Plan

Appendix 21
Historical Heritage Impact Statement

Appendix 22
Archaeological Report

Appendix 23
Aboriginal Cultural Heritage Assessment Report

Appendix 24
Greenhouse Gas Assessment

Appendix 25
Ecologically Sustainable Development Report

Appendix 26
Bushfire Assessment Report

Appendix 27
Groundwater Dependent Aquatic Ecosystem Assessment

Appendix 28
Building Surveying Letter

Appendix 29
VPA Letter of Offer Correspondence

Appendix 30
Sydney Water Correspondence

Appendix 31
Crown Road Reserve Owner's Consent

Appendix 32
NSW DPIE Submission