



DOC20/976143

Senders ref: SSD 10448 (Penrith)

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Industry Assessments
Planning and Assessment Group
NSW Department of Planning, Industry and Environment
4 Parramatta Square
12 Darcy Street
PARRAMATTA NSW 2150

Dear Mr Zhang,

Subject: Notice of Exhibition – Aspect Industrial Estate, Lots 54-58 DP 259135 Mamre Road, Kemps Creek (SSD10448)

Thank you for your e-mail dated 5 November 2020, inviting Environment, Energy and Science Group (EES) in the Department of Planning, Industry and Environment (DPIE) to comment on the Notice of Exhibition for the Aspect Industrial Estate, Lots 54-58 DP 259135 Mamre Road, Kemps Creek.

EES has reviewed the relevant documentation and make the following comments;

Biodiversity

EES makes no further comments in relation to Biodiversity.

Flooding

The consultant needs to revisit the flood impact assessment to provide sound information for the developed scenario. The developed scenario maps should be updated to present the ultimate developed scenario.

Comments on the Flood Risk Assessment and Flood Impact Assessment (Cardno, October 2020)

The site is in the Kemps Creek catchment but located outside the probable maximum flood extent of Kemps Creek mainstream flooding. The site is impacted by local overland flow.

EES comments on Cardno's assessments are generally confined to the methodology used for the assessment.

- For the base case conditions discussed in the Flood Risk Assessment report, it is not clear why the consultant undertook multiple scenarios and comparisons for a simple local overland flow study instead of using the properly verified existing up-to-date hydrological flood model.
- The Flood Risk Assessment report refers to the updated Flood Prone Land Package as approved and being in action. It should be noted that the package was on public exhibition as a draft for consultation and it has not been finalised. The current planning circular, guideline, LEP flood clauses and planning direction under section 9.1 of the Environmental Planning and Assessment Act 1979 remain relevant.
- The Flood Impact Assessment report needs to adequately describe the Stage 1 development and the ultimate developed conditions including the proposed development, earthworks and proposed drainage system.

Comments on developed conditions maps

- The developed scenario maps present local overland flow for Stage 1 which comprises of two industrial lots on the northern part of the site. However, from a flow management perspective, an overland flow study should consider the ultimate developed scenario of the site instead of considering each progressive development independently.
- All maps for developed conditions should properly depict the layout of the development, locations of proposed constructed channels and the location of the proposed detention basin.

Comments on the EIS

Drainage design consideration

1st paragraph states ‘*The design of the stormwater system for AIE aims to match post-development flows as close as possible to pre-development flows across the site to ensure that downstream catchments will not be adversely affected in terms of flooding.*’

The use of the term flooding ‘*In terms of flooding*’ is inaccurate, it should be ‘in terms of runoff’ because a stormwater system alone cannot mitigate flood impacts. The site is partially affected by local overland flow. Section 5.7.5 of the EIS indicates that the major/minor drainage system would be designed to accommodate runoff produced from rainfall events up to and including the 1% AEP event in the ultimate developed scenario (i.e. runoff produced in the existing scenario plus excess runoff due to the increase in imperviousness). The major/minor drainage system is not designed to manage overland flooding for events greater than the 1% AEP up to the full range of flooding (PMF).

Key standard requirements

Dot point 5 states “*OSD is to mitigate post development flows to pre-development flows for peak Average Reoccurrence Interval (ARI) events*”. The dot point should specify the limit of OSD capacity is up to and includes the 1% AEP event.

Dot point 6 states “*All OSD basins have been designed with a 3.0m wide stabilised*”. This dot point indicates there would be multiple basins which is inconsistent with the Flood Impact report and with previous dot points of this Section, which specify that one OSD basin is proposed to serve as estate-based measure and to be designed for the ultimate developed scenario.

Waterway health

In its submission on the SEARs for this SSD (dated 9 April 2020), EES recommended a number of water and soil environment assessment requirements which included a requirement in relation to the OEH/EPA *Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions* <http://www.environment.nsw.gov.au/research-andpublications/publications-search/risk-based-framework-for-considering-waterwayhealth-outcomes-in-strategic-land-use-planning>.

In accordance with *Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions*, EES has developed the NSW Government water quality and flow related objectives (Tables 1 and 2 below) for the Wianamatta-South Creek catchment to achieve the vision for Western Sydney Parkland City. The water quality and flow related objectives were provided to key stakeholders at a workshop on 19 October 2020 and have been included in the Draft Aerotropolis Precinct Plan currently on exhibition. EES has also worked with DPIE PDPS in developing the draft Mamre Road Precinct DCP that is currently on exhibition and it is expected that the interim objectives in Section 2.6 in exhibited draft Mamre Road Precinct DCP will be superseded by tables 1 and 2 below as follows:

- Page 26, Section 2.6 Integrated Water Cycle Management: Following description of flow components the new Table 1 (below) will be added and referred to. Also, ‘and baseflow requirements’ in the last/following sentence will be deleted.

Table 1 Ambient stream flows and requirements of waterways and water dependent ecosystems in the Mamre Rd Precinct

Flow Related Objectives		
	1-2 Order Streams	3 rd Order Streams or greater
Median Daily Flow Volume (L/ha)	71.8 ± 22.0	1095.0 ± 157.3
Mean Daily Flow Volume (L/ha)	2351.1 ± 604.6	5542.2 ± 320.9
High Spell (L/ha) ≥ 90 th Percentile Daily Flow Volume	2048.4 ± 739.2	10091.7 ± 769.7
High Spell - Frequency (number/y)	6.9 ± 0.4	19.2 ± 1.0
High Spell - Average Duration (days/y)	6.1 ± 0.4	2.2 ± 0.2
Freshes (L/ha) ≥ 75 th and ≤ 90 th Percentile Daily Flow Volume	327.1 to 2048.4	2642.9 to 10091.7
Freshes - Frequency (number/y)	4.0 ± 0.9	24.6 ± 0.7
Freshes - Average Duration (days/y)	38.2 ± 5.8	2.5 ± 0.1
Cease to Flow (proportion of time/y)	0.34 ± 0.04	0.03 ± 0.007
Cease to Flow – Duration (days/y)	36.8 ± 6	6 ± 1.1

- Page 30, Section 2.6.2 Stormwater Quality: Table 6 will be replaced with the new Table 2 below.

Table 2 Ambient water quality of waterways and waterbodies in the Mamre Rd Precinct

Water Quality Objectives	
*Total Nitrogen (TN, mg/L)	1.72
Dissolved Inorganic Nitrogen (DIN, mg/L)	0.74
Ammonia (NH ₃ -N, mg/L)	0.08
Oxidised Nitrogen (NO _x , mg/L)	0.66
*Total Phosphorus (TP, mg/L)	0.14
Dissolved Inorganic Phosphorus (DIP, mg/L)	0.04
Turbidity (NTU)	50
Total Suspended Solids (TSS, mg/L)	37
Conductivity (µS/cm)	1103
pH	6.20 - 7.60
Dissolved Oxygen (DO, %SAT)	43 - 75
Dissolved Oxygen (DO, mg/L)	8

* when showing compliance towards TN and TP through industry models, the DIN and DIP performance criteria should be instead to recognise that stormwater discharges of nutrients are mostly in dissolved form

EES acknowledges that the objectives were developed after the SEARs were issued but they were developed using the ***Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions*** which is referenced in the SEARs.

Should you have any queries regarding this matter, please contact Bronwyn Smith Senior Conservation Planning Officer on 9873 8604 or Bronwyn.smith@environment.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink that reads "S. Harrison". The signature is written in a cursive, flowing style.

17/12/20

SUSAN HARRISON
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Biodiversity and Conservation Division