Attachment 1 – The Department's Comment on the RTS

The suitability of the site for the development proposal

- The Applicant's justification for the proposed ARRC is it provides an environmentally sustainable and economically viable means to infill and rehabilitate the quarry void and is integral in achieving the intended future agribusiness/industrial land use across the wider site. Accordingly, an analysis of quarry infilling strategies is required to substantiate this. Please provide:
    - a description of the different filling options and a cost-benefit assessment considering engineering, environmental (including but not limited to bird-strike risk, traffic, and noise), aviation safeguarding and financial factors
    - a SWOT analysis of the different options at different filling rates (e.g. completion of infilling before the commencement of airport operations, 5-year filling strategy, 15-year infilling strategy, etc).
- Further to the above, a planning approval pathway must be established and confirmed with the consent authority to backfill the quarry void using non-recyclables to ensure the stated purpose and objective of the present development proposal can be achieved.

Consistency with the SEPP (Western Sydney Aerotropolis)

- It is noted that some level of assessment has been provided by the Applicant to address the draft planning instruments and draft precinct plans. However, it remains unclear how the short- and long-term planning and development outcomes proposed in the *Draft Western Sydney Aerotropolis Plan* and *Draft Aerotropolis Precinct Plan* have been addressed. The Department notes the Luddenham Land Consortium in its submission has indicated the proposed use of the site as a resource recovery facility for non-agribusiness uses is not a higher order land use. Council also notes the proposed development should be have a condition of consent applied so that it can decommissioned in a manner that is consistent with the Aerotropolis planning framework. The Department therefore requests a detailed assessment be provided addressing how the proposed development and its operations in the short- and longer-term align with the planning and development outcomes proposed in the *Draft Western Sydney Aerotropolis Plan, Draft Aerotropolis Precinct Plan* and *Draft SEPP (Western Sydney Aerotropolis)*. Where objectives and outcomes cannot be met, provide discussion on why the benefits of the proposed development outweigh the inconsistencies with the strategic vision for the Aerotropolis.
- In addition, the RtS indicates the rehabilitated quarry site is intended to be developed into a sustainable and high-tech agribusiness hub supporting food production, processing, freight transport, warehousing, and distribution. Please identify which specific agribusiness uses *under SEPP (Western Sydney Aerotropolis)* may be compatible with the proposed ARRC and its outdoor heavy vehicle operations, including consideration of relevant environmental impacts.
- Figure 22 of the *Draft Aerotropolis Precinct Plan* shows the immediate road network surrounding the subject property would be classified as local collector for which the consideration of environment and local life predominate, and improved amenity is encouraged over the use of vehicles on these roads. The length of Adams Road between Elizabeth Drive and Anton Road is also not identified as primary, secondary nor tertiary freight routes in the *Draft Western Sydney Aerotropolis Transport Planning and Modelling Stage 2 Report* (see Figure 7-29 within this technical report). The Department notes the suitability of Adams Road for the proposed traffic movements is a concern of the Luddenham Landowners Consortium. The Department further notes the neighbourhood hubs are designated in areas of high amenity and public transport according to the *Draft*

Aerotropolis Precinct Plan and may include childcare facilities and other retail and social infrastructure. Please provide a compatibility assessment of the proposed ARRC and its heavy vehicle operations with the Northern Gateway precinct open space and employment area as well as the Agribusiness precinct local collector road network, open space and neighbourhood hub near the Anton Road and Adams Road intersection. Where objectives and outcomes cannot be met, provide discussion on why the benefits of the proposed development outweigh the inconsistencies with the strategic vision for the Aerotropolis.

Traffic and transport

- Provide an updated haulage route options and detail the indicative timing, responsibility for delivery of the works and nature of all associated road upgrades to be carried out by the Applicant, Western Sydney Airport, Liverpool City Council and Transport for NSW. Please explore haulage route options in consultation with Transport for NSW, Council and Western Sydney Airport, including but not limited to where:
    - 100% of exiting vehicles from the proposed ARRC travel south towards the Northern Road or north towards the Elizabeth Drive
    - the southern portion of the Adams Road is not upgraded prior to the operation of the proposed facility.
- Provide further information on how the proposed no-right-turn restriction into Adams Road from Elizabeth Drive will be enforced.
- Provide details of all traffic types (such as light vehicles, 4.4t load capacity trucks and 30t load capacity trucks) and daily/nightly volumes likely to be generated along each transport route during operation. Traffic information need to be shown diagrammatically to a level of detail sufficient for easy interpretation.
- The RtS indicates the Addendum TIA considered two scenarios corresponding to (1) baseline traffic case (including surveyed/STFM adjusted traffic) and (2) cumulative subject property development traffic case (including baseline traffic, ARRC traffic, quarry reactivation and rehabilitation traffic). It is unclear how the new sub-arterial road connecting Elizabeth Drive and Adams Road at the junction of Anton Road as identified in the *Draft Aerotropolis Precinct Plan* has been factored into the Addendum TIA.

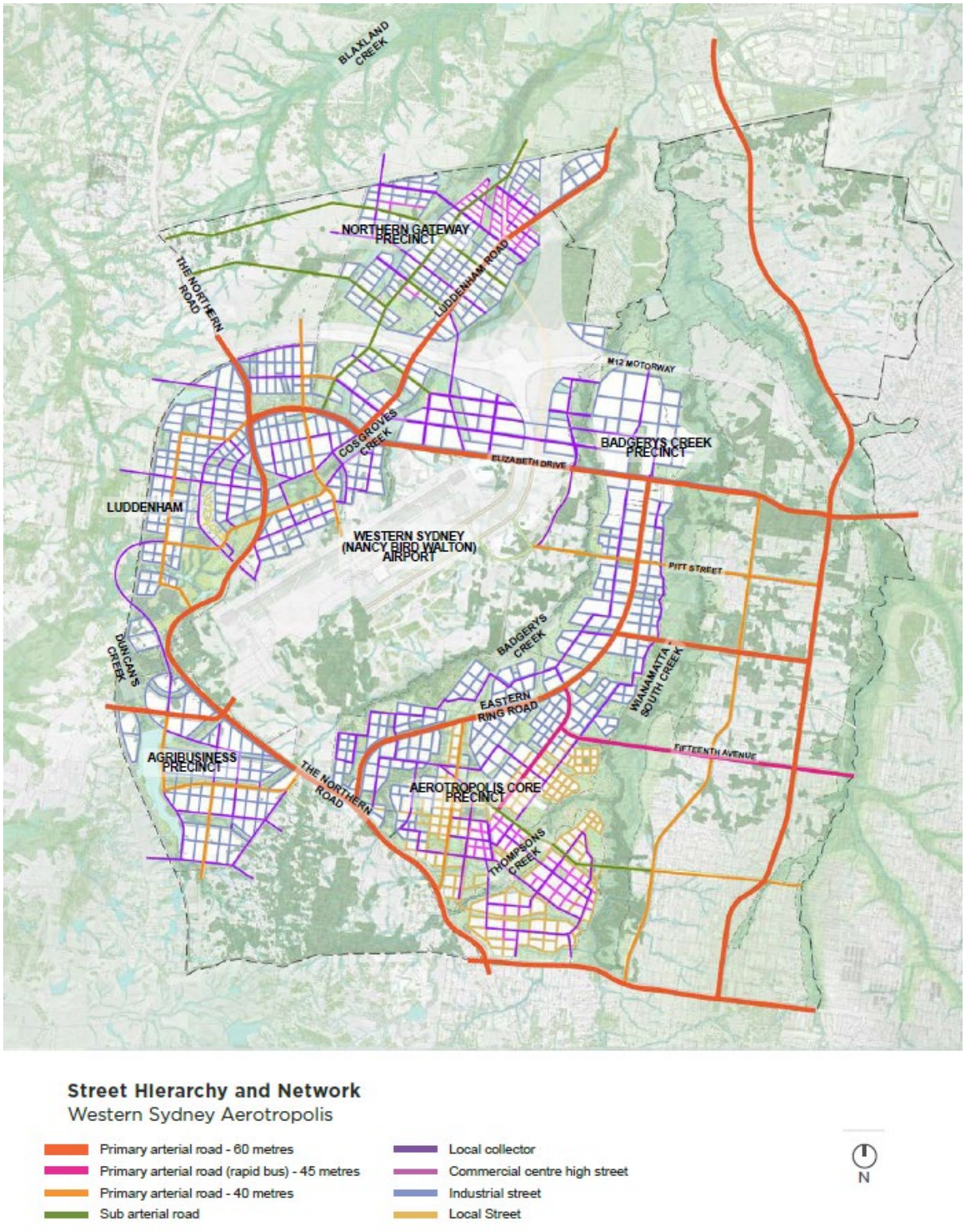

Figure 22: Street hierarchy and network plan (Draft Aerotropolis Precinct Plan)

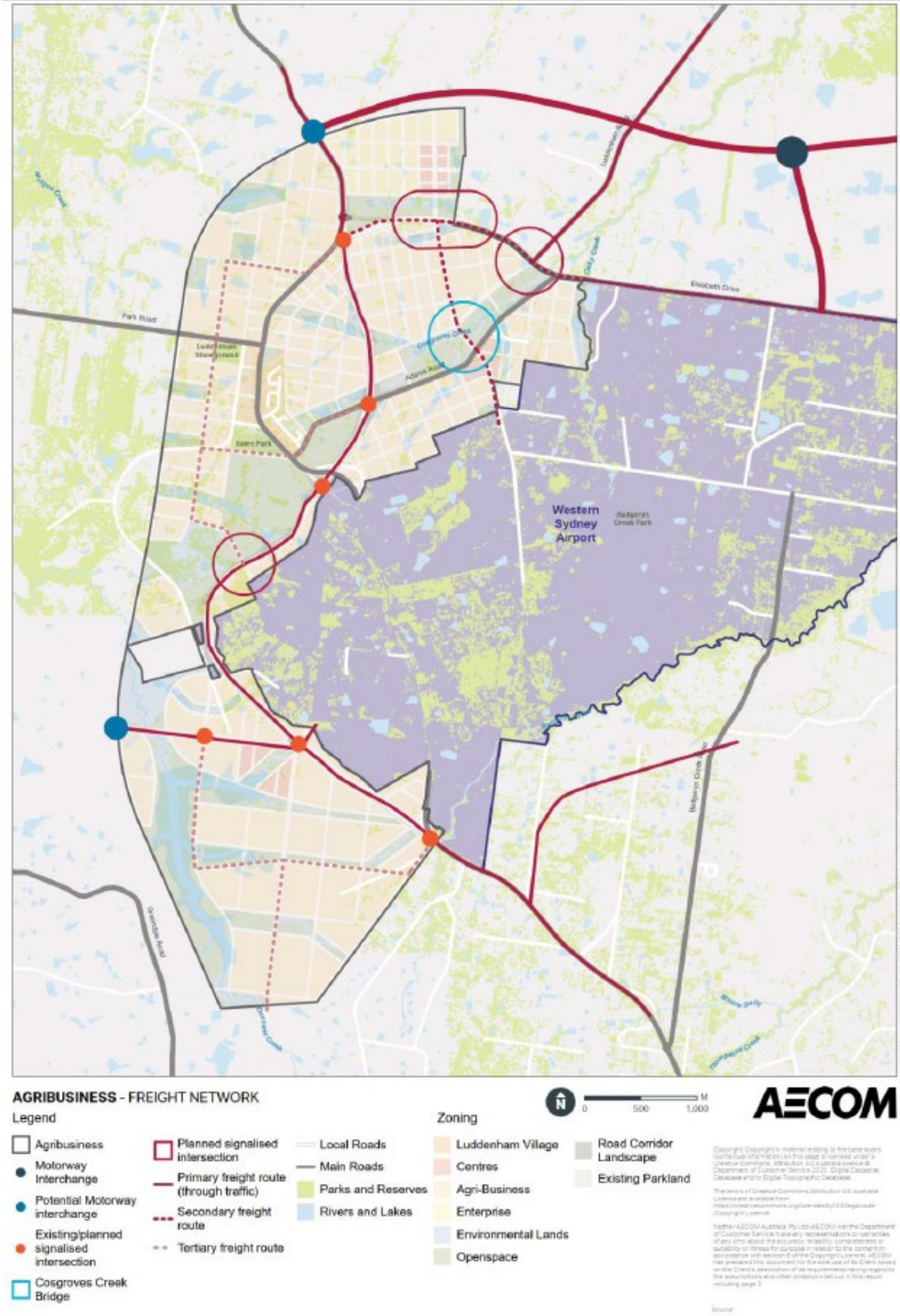

Figure 7-29: Agribusiness proposed freight network (Draft Western Sydney Aerotropolis Transport Planning and Modelling Stage 2 Report)

Negotiated agreement and engagement with noise-affected community

- The EPA has advised some level of negotiated agreement will be required between the owners/occupants of noise-affected dwellings and the Applicant to manage unacceptable night-time noise impacts. Please provide a community engagement report, including:
    - identification of all noise-sensitive receivers that warrants for negotiated agreement
    - characterisation of on-site and off-site generated noise impacts and potential noise management options
    - details of the process and methodology for establishing negotiated agreement and dispute resolution
    - Feedback from owners/occupants of noise-affected dwellings and identification of any refinement required to the option/process/method for future engagement.

Operational noise assessment

1. Noise assessment criteria

- Residential receivers affected by noise from the proposed development should be afforded rural zoning for noise assessment purposes. The Department requires the addendum Noise and Vibration Impact Assessment (NVIA) be updated to assess on-site operational noise emissions against the night-time project amenity noise level of LAeq,15min 38 dB(A) for rural residential receivers in accordance with Section 2.4 of the Noise Policy for Industry.
- The original and addendum NVIA adopted the road traffic noise criteria for existing roads of LAeq,15h 60 dB(A) for daytime and LAeq,9h 55 dB(A) for night-time. The Department requires the cumulative traffic noise impact assessment adopt the new road criteria of LAeq,15h 55 dB(A) for daytime and LAeq,9h 50 dB(A) for night-time at residential receivers affected by traffic noise from Adams Road.

2. Operational noise modelling

- The Department requires all operational modelling assumptions be clearly identified and justified in the addendum NVIA, including but not limited to source height, vehicle speed profile, duration of noise emission and representative frequency spectrum. The operational noise model developed to support the proposed development must consider each distinct outdoor operation including heavy vehicles idling, passing by, accelerating and reversing (if applicable). Noise generated by heavy vehicles during acceleration and by the use of air brakes and engine compression brakes need to be considered in the addendum NVIA for assessment against both the LAeq and LAmax noise criteria. All of the aforementioned considerations are particularly important when assessing noise impacts from longer and heavier trucks.
- The Department notes that the specific 'US EPA Federal Highway (FHWA) Method (1996)' referred to in the addendum NVIA could not be found. Traffic noise modelling method should be selected in line with the advice given in Appendix B4 of the *NSW Road Noise Policy* and its use justified according to the circumstances of the proposal. Unless otherwise justified, consideration should be given to methods listed in the *NSW Road Noise Policy*, including but not limited to the US FHWA STAMINA and TNM models. How noise emissions under accelerating and decelerating conditions have been modelled should form the justification for this particular project in the selection of an appropriate traffic noise calculation method.
- The assumption that 103 dB(A) is a representative value of sound power level for large truck prime movers must be substantiated with reference to verifiable data. The Department notes the DEFRA noise database reproduced in the *BS 5228-1:2009+A1:2014* reported heavy vehicle sound power levels that are in the range of 104

dB(A) to 118 dB(A) for 20t to 41t trucks. Additionally, the Department notes the US FHWA TNM model referred to in the *NSW Road Noise Policy* uses the following sound power levels to compute motor vehicle noise levels:

- 100 dB(A) for medium trucks (two axles) travelling at speeds of lower than 20 km/h during normal pass-by
- 106 dB(A) for medium truck travelling at speeds of lower than 20 km/h during acceleration
- 106 dB(A) for heavy trucks (three or more axles) travelling at speeds of lower than 20 km/h during normal pass-by
- 111 dB(A) for heavy trucks travelling at speeds of lower than 20 km/h during acceleration.

The Department requires the addendum NVIA be updated to include a revised noise emission inventory that accurately describe how noise would be generated by the operation of the development.

- The representative speed profiles for each heavy vehicle type and for each distinct operation also need to be specified. For example, heavy vehicles are unlikely to reach 40 km/h instantly when traversing the site access road and that truck and dogs and B-doubles would generally require a longer time to accelerate than lighter vehicles.
- The RtS states the ARRC warehouse entrances will remain open during operations and it is unclear how noise egress through these openings have been assessed in the operational noise assessment.
- Table 4-3 of the RtS indicates the maximum number of heavy vehicles on site at the same time could be up to 10 trucks in a 13.5-minute window. What is the maximum number of trucks in any 13.5-minute window during the night-time period?
- Appendix A of the Addendum NVIA provides the details of source locations and input levels. However, the following information is missing:
  - Sound power level for point sources
  - Sound power level per metre for line sources
  - Sound power level per square metre for area sources.

3. <u>Sleep disturbance assessment</u>

- The addendum NVIA dismissed any exceedances of the sleep disturbance screening criterion at residential receivers by referring to the declarative statement made in the *NSW Road Noise Policy* that maximum internal noise levels of 50-55 dBA are unlikely to awaken people. The threshold for sleep disturbance has been known for over a decade to be lower than maximum indoor noise levels of 50 to 55 dB(A). Important new studies and World Health Organization (WHO) guidelines have become available since the inception of the sleep disturbance summary provided in the *Environmental Criteria for Road Traffic Noise* and later reproduced in the *NSW Road Noise Policy*.

  The Department requires the addendum NVIA be revised to include a detailed maximum noise level event assessment and consider the current scientific literature regarding the impact of maximum noise level events at night in line with the advice provided in the *Noise Policy for Industry*. Specifically, the NVIA need to consider the WHO's *Night Noise Guidelines for Europe* (2009) and the *Environmental Noise Guidelines for the European Region: A systematic Review on Environmental Noise and Effects on Sleep* (2018). Further guidance is also provided in the *NSW Road Noise Policy* with reference to enHealth 'as a rule for planning for short-term or transient noise events, for good sleep over 8 hours the indoor sound pressure level measured as a maximum instantaneous value should not exceed approximately 45 dB(A) LAmax more than 10 or 15 times per

night'. The detailed assessment should consider all feasible and reasonable noise mitigation measures with a goal of achieving the noise trigger levels as per the *Noise Policy for Industry*, including but not limited to negotiated agreement.

4. Modifying correction for intermittent noise

- The addendum NVIA claims that site noise emission is unlikely to vary by 5 dB or more within any 15-minute assessment time period as all plant and equipment were modelled with 100% utilisation. However, when Table 5.1 (LAeq,15min levels) and Table 5.2 (maximum noise levels) of the Addendum NVIA are evaluated together, it can be deduced that the difference between minimum and maximum sound pressure levels over the worst-case 15-minute period would be greater than 5 dB(A). This deduction is on the basis that the difference between LAmax and LAeq,15min levels is already 5 dB(A) at the most-affected receiver location.

  Based on the above, the Department considers the application of a +5 dB modifying correction for intermittent noise to be warranted unless otherwise justified. The Department's view is supported by the *ISO1996-1:2016 on description, measurement and assessment of environmental noise* which considers motor vehicle noise under conditions of small traffic volume to be intermittent. The WHO notes that the intermittency of a time-varying sound can be determined by quantifying the number of noise events as well as examining the difference between the maximum sound level and background sound level. Noise management and mitigation measures for night-time operations should be designed with a goal of minimising specific noise characteristics. The Department requires a feasible and reasonable mitigation decision-making matrix be included within the addendum NVIA in line with the advice provided in Section 3.4 of the *Noise Policy for Industry*.

5. Best-achievable noise level and mitigation measures

- The best-achievable noise levels from the proposed development need to be presented after all feasible and reasonable source and pathway controls have been considered in the operational noise assessment. An outline of all noise control options considered in the design process and a discussion of what is feasible need to be provided in the addendum NVIA. See Table 3.1 of the *Noise Policy for Industry* which shows an example of 'feasible and reasonable' mitigation decision-making matrix for inclusion within an environmental noise impact assessment.